



616 Maxine NE
Albuquerque, NM 87123
505-299-5201
www.aqainc.net

Subject: Data Validation for Lab Report E1101152
Radford Army Ammunition Plant

From: Linda Thal
Data Validator, AQA

To: Mary Lou Rochotte
Kemron Environmental Services, Inc.

OVERVIEW

Columbia Analytical Services, Houston, Texas, received 10 field samples associated with the project work described in the *Radford Army Ammunition Plant Final SWMU 40 (RAAP-009) Landfill Nitro Area IMWP* (August 2011) (project QAPP) on November 20, 2011. The field samples were assigned laboratory sample delivery group (SDG) number E1101152 and included four normal water samples, one field duplicate water sample, one matrix spike pair, two equipment blanks and one field blank. The samples were analyzed for polychlorinated dibenzodioxins and polychlorinated dibenzofurans by HRGC/HRMS using EPA method 8290, *Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by High-Resolution Gas Chromatography/High-Resolution Mass Spectrometry (HRGC/HRMS)* (Revision 0, 1992).

SUMMARY

The samples were analyzed according to the quality control (QC) criteria of the applicable analytical method. The data for these samples were found to be compliant with the requirements of the project QAPP and/or EPA Region III's *Innovative Approaches to Data Validation* (June 1995) and *Dioxin/Furan Data Validation Guidance* (March, 1999) (Region III NFG, collectively), as applicable, and the results for all target analytes are considered usable.

MAJOR PROBLEMS

(Refer to Appendix B – Data Qualifier Summary)

- No major problems were noticed with the data package during validation.

MINOR PROBLEMS

(Refer to Appendix B – Data Qualifier Summary)

- 40MW7GW112011: OCDD 27.4 (B)
- 40MW5GW112011: OCDD 43.7 (B)
- 40DUPGW112011: OCDD 18.3 (B)
- 40112011 FB: OCDD 13.8 (J)
Total tetra furans 1.79 (B)
- 40EQR112011: OCDD 12.0 (J)
- 40MW6GW112111: OCDD 22.3 (B)
Total tetra furans 2.44 (B)
OCDF (UJ)

- 40EQR112111: 1,2,3,4,6,7,8-HpCDD 2.75 (J)
OCDD 15.4 (J)
- 40LFMW01GW112111: 1,2,3,4,6,7,8-HpCDD 6.17 (B)
Total tetra furans 8.50 (B)
OCDD 162 (J)
OCDF (UJ)

NOTES

(Refer to Appendix D – Support Documentation)

Sample Chain of Custody (COC) Records

- The samples were listed on COC #3546. Data were reported for all required analyses.
- One of two containers for sample 40EQR112011 was received broken, and the lid on the remaining container was broken. One container for sample 40MW5MSGW112011 and both containers for samples 40EQR112111 and 40LFMW01GW112111 were received with broken lids. Dioxins and furans are very stable compounds with low volatility at room temperature, and for tetra- through octa-chlorinated congeners (the target compounds), volatilization is of much less concern. The vapor pressure for each level of increasing chlorination decreases by roughly an order of magnitude, and all of the vapor pressures for these compounds are very low. Given this information, AQA believes that volatilization is not a substantial concern in this situation, particularly since the samples were kept cool. As far as cross-contamination is concerned, each sample jar was placed in an individually sealed plastic bag, thereby preventing any potential sample cross-contamination. It is therefore believed that the integrity of the samples was not compromised, and no data were qualified based on professional judgment.

Preservation and Holding Times

- The samples were correctly preserved and were analyzed within the method-specified holding time.

Instrument Tune

- The instrument tunes for the applicable analyses were within the criteria specified in the project QAPP and the Region III NFG.

Initial Calibration (ICAL)

- The ICAL percent relative standard deviations (%RSDs) and/or correlation coefficients, as applicable, for all analyses were within the criteria specified in the project QAPP and the Region III NFG.

- It should be noted that the instrument was not calibrated quarterly as specified in the QAPP.

Initial Calibration Verification (ICV)/Continuing Calibration Verification (CCV)

- There was no evidence in the data package that an ICV was performed.
- The CCV relative retention times (RRTs), ratios and percent differences (%Ds), for all target analytes were within the criteria specified in the project QAPP and the Region III NFG.

Field Blanks

- OCDD was detected in the equipment blanks and field blank. All associated sample results, excluding sample 40LFMW01GW112111, were detects <10X the highest blank concentration and, therefore, were **qualified B**. The OCDD result for sample 40LFMW01GW112111 was a detect >10X the highest blank concentration and, therefore, was not qualified
- 1,2,3,4,6,7,8-HPCDD was detected in both equipment blanks. The associated result for sample 40LFMW01GW112111 was a detect <5X the associated equipment blank concentration and was **qualified B**. The remaining associated sample results were non-detects and were not qualified.
- Total hepta dioxins were detected in the equipment blank, sample 40EQR112011. The associated results for the samples collected on 11/20/2011 were non-detects and were not qualified.

Laboratory Method Blanks

- Total tetra furans were detected in the method blank. The associated results for samples 40112011 FB, 40MW6GW112111 and 40LFMW01GW112111 were detects <5X the method blank concentration and were **qualified B**. The remaining associated sample results were non-detects and were not qualified.

Laboratory Calibration Blanks

- A method blank was performed in lieu of a calibration blank.

Laboratory Control Sample (LCS)

- The LCS recoveries met project QAPP- and Region III-specified QC acceptance criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

- One MS/MSD pair was analyzed on sample 40MW5GW112011 and the recoveries met project QAPP- and Region III-specified QC acceptance criteria.

Laboratory Sample Duplicate

- An MSD was analyzed as the laboratory duplicate and met project QAPP- and Region III-specified QC acceptance criteria.

Field Sample Duplicate

- Sample 40MW5GW112011 was collected and analyzed in duplicate and the RPDs between the sample and duplicate results were within the project QAPP-specified control limits.

Analyte	40MW5GW112011		40DUPGW112011		RPD	>35%
	Result	RL	Result	RL		
OCDD	43.7	54.3	18.3	53.2	<RL	

Internal Standard/Recovery Standard Recoveries

- Internal and recovery standards were added to all field samples and were within the project QAPP-specified control limits with the following exceptions.

The ^{13}C -OCDD recoveries were < the QAPP-specified acceptance limit for samples 40MW6GW112111 and 40LFMW01GW112111. The associated OCDD results were detects and were **qualified J**. The associated OCDF results were non-detects and were **qualified UJ**.

Sample Results

- The samples were analyzed for the method requested on the COC. Estimated detection limits (EDLs) and method reporting limits (MRLs) were reported for all analyses. The EDLs are sample specific noise based estimates. The MRLs were slightly > than those listed in the QAPP due to limited sample volume.
- The ion abundance ratios for OCDD were >15% but <25% for samples 40MW5GW112011, 40112011 FB, 40EQR112011 and 40EQR112111. The associated sample results were **qualified J**. The ion abundance ratio for 1,2,3,4,6,7,8-HpCDD was >25% for sample 40EQR112111; therefore, the estimated possible concentration (EMPC) was reported by the laboratory.

Action Level Notification

- Action levels were not specified for dioxins/furans in the Region III NFG.

Usability Statement

- There were 200 field sample data points associated with the data package for SDG E1101152. Of these field sample data points, 185 (92.5% of the total) were assessed and

left unqualified, 8 (4.0% of the total) were assessed and qualified B, 5 (2.5% of the total) were assessed and qualified J and 2 (1% of the total) were assessed and qualified UJ.

- The field sample data points that were qualified B can be categorized as definitive data with a potentially falsely identified analyte whose concentration is only an estimate due to QC deficiencies, the field sample data points that were qualified J can be categorized as definitive data with positively identified analyte concentrations that are only estimates due to QC deficiencies and the field sample data points that were qualified UJ can be categorized as definitive data with nondetectable analyte concentrations that are only estimates and may be biased low due to QC deficiencies.
- The unqualified field sample data points can be categorized as definitive data with no associated QC deficiencies.

Report Content Statement

This report has been formatted for consistency with Appendix B, Region III Standard Operating Procedures for Data Validation Reports, contained in the guidance *EPA Region III Modifications to the National Functional Guidelines for Organic Data Review* (September 1994). The laboratory data were reviewed in accordance with the EPA Region III's *Innovative Approaches to Data Validation* (June 1995) and *Dioxin/Furan Data Validation Guidance* (March, 1999) (Region III NFG, collectively), the *Radford Army Ammunition Plant Final SWMU 40 (RAAP-009) Landfill Nitro Area IMWP* (August 2011) (project QAPP), and the applicable SW-846 methods. This report only addresses those problems and issues that may affect data usability.

Attachments

Appendix A – Glossary of Data Qualifiers

Appendix B – Data Qualifier Summary

Appendix C – Laboratory Report Results/Data Summary

Appendix D – Support Documentation

Appendix A – Glossary of Data Qualifiers

Data Qualifier Codes

Codes Related to Identification

- U Not detected. The associated number indicates the approximate sample concentration necessary to be detected.
- B Not detected substantially above the level reported in laboratory or field blanks.
- N Analyte is tentatively identified.
- R Unusable result. Analyte may or may not be present in the sample.

Codes Related to Quantitation

- I PCDPE interferences exist.
- J Analyte present. Reported value may or may not be accurate or precise.
- UJ Not detected. Quantitation limit may be inaccurate or imprecise.

Appendix B – Data Qualifier Summary

Data Qualifier Summary

Note: The results listed in this table are detects and qualified non-detects only. Unqualified non-detects are not listed.

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40MW7GW112011 E1101152-001	OCDD	B	J	Blank contamination; result >EDL but <MRL
40MW5GW112011 E1101152-002	OCDD	B	JK	Blank contamination; result >EDL but <MRL
40DUPGW112011 E1101152-003	OCDD	B	J	Blank contamination; result >EDL but <MRL
40112011 FB E1101152-004	OCDD Total tetra-furans	J B	JK J	Ion abundance ratio >15% but <25%; result >EDL but <MRL Blank contamination; result >EDL but <MRL
40EQR112011 E1101152-005	OCDD 1,2,3,4,6,7,8-HpCDD Total hepta-dioxins	J J J	JK J J	Ion abundance ratio >15% but <25%; result >EDL but <MRL Result >EDL but <MRL Result >EDL but <MRL
40MW6GW112111 E1101152-006	OCDD	B	J	Blank contamination; result >EDL but <MRL; internal standard < lower acceptance limit
	OCDF	UJ	U	Internal standard < the lower acceptance limit
	Total hepta-dioxins	J	J	Result >EDL but <MRL
	Total tetra-furans	B	J	Blank contamination; result >EDL but <MRL
	OCDD	J	JK	Ion abundance ratio >15% but <25%; result >EDL but <MRL
40EQR112111 E1101152-007	1,2,3,4,6,7,8-HpCDD 1,2,3,4,6,7,8-HpCDD	KJ B	JK J	Ion abundance ratio >25%; result >EDL but <MRL Blank contamination; result

B-1

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
				>EDL but <MRL
40LFMW01GW112111 E1101152-008	Total hepta-dioxins	J	J	Result >EDL but <MRL
	Total tetra-furans	B	J	Blank contamination; result >EDL but <MRL
	OCDD	J		Internal standard > the upper acceptance limit
	OCDF	J	U	Internal standard > the upper acceptance limit

Appendix C – Laboratory Report Results/Data Summary

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW7GW112011
Lab Code: E1101152-001

Service Request: E1101152
Date Collected: 11/20/11 1205
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 880mL
Data File Name: U227538
ICAL Date: 04/21/11

Date Analyzed: 12/9/11 1313
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: db5
Blank File Name: U227560
Cal Ver. File Name: U227529

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.28	11.4			1
1,2,3,7,8-PeCDD	ND	U	1.61	28.4			1
1,2,3,4,7,8-HxCDD	ND	U	1.89	28.4			1
1,2,3,6,7,8-HxCDD	ND	U	1.89	28.4			1
1,2,3,7,8,9-HxCDD	ND	U	1.87	28.4			1
1,2,3,4,6,7,8-HpCDD	ND	U	2.36	28.4			1
OCDD	27.4	J	6.70	56.8	0.81	1.000	1
2,3,7,8-TCDF	ND	U	1.59	11.4			1
1,2,3,7,8-PeCDF	ND	U	0.983	28.4			1
2,3,4,7,8-PeCDF	ND	U	1.03	28.4			1
1,2,3,4,7,8-HxCDF	ND	U	1.43	28.4			1
1,2,3,6,7,8-HxCDF	ND	U	1.33	28.4			1
1,2,3,7,8,9-HxCDF	ND	U	1.79	28.4			1
2,3,4,6,7,8-HxCDF	ND	U	1.51	28.4			1
1,2,3,4,6,7,8-HpCDF	ND	U	1.89	28.4			1
1,2,3,4,7,8,9-HpCDF	ND	U	2.39	28.4			1
OCDF	ND	U	5.61	56.8			1
Total Tetra-Dioxins	ND	U	2.28	11.4			1
Total Penta-Dioxins	ND	U	1.61	28.4			1
Total Hexa-Dioxins	ND	U	1.89	28.4			1
Total Hepta-Dioxins	ND	U	2.36	28.4			1
Total Tetra-Furans	ND	U	1.59	11.4			1
Total Penta-Furans	ND	U	1.03	28.4			1
Total Hexa-Furans	ND	U	1.33	28.4			1
Total Hepta-Furans	ND	U	1.89	28.4			1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW7GW112011
Lab Code: E1101152-001

Service Request: E1101152
Date Collected: 11/20/11 1205
Date Received: 11/22/11
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 880mL
Data File Name: U227538
ICAL Date: 04/21/11

Date Analyzed: 12/9/11 1313
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: db5
Blank File Name: U227560
Cal Ver. File Name: U227529

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	733.350	73		40-135	0.79	1.007
13C-1,2,3,7,8-PeCDD	1000	782.492	78		40-135	1.58	1.157
13C-1,2,3,6,7,8-HxCDD	2500	1485.748	59		40-135	1.27	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1613.313	65		40-135	1.05	1.070
13C-OCDD	5000	2590.110	52		40-135	0.91	1.158
13C-2,3,7,8-TCDF	1000	677.421	68		40-135	0.77	0.981
13C-1,2,3,7,8-PeCDF	1000	740.961	74		40-135	1.58	1.122
13C-1,2,3,4,7,8-HxCDF	2500	1480.441	59		40-135	0.54	0.973
13C-1,2,3,4,6,7,8-HpCDF	2500	1397.119	56		40-135	0.44	1.046
37Cl-2,3,7,8-TCDD	800	583.700	73		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW7GW112011
Lab Code: E1101152-001

Service Request: E1101152
Date Collected: 11/20/11 1205
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	2.28	11.4	1	1	1.14
1,2,3,7,8-PeCDD	ND	1.61	28.4	1	1	0.805
1,2,3,4,7,8-HxCDD	ND	1.89	28.4	1	0.1	0.0945
1,2,3,6,7,8-HxCDD	ND	1.89	28.4	1	0.1	0.0945
1,2,3,7,8,9-HxCDD	ND	1.87	28.4	1	0.1	0.0935
1,2,3,4,6,7,8-HpCDD	ND	2.36	28.4	1	0.01	0.0118
OCDD	27.4	6.70	56.8	1	0.0003	0.00822
2,3,7,8-TCDF	ND	1.59	11.4	1	0.1	0.0795
1,2,3,7,8-PeCDF	ND	0.983	28.4	1	0.03	0.0147
2,3,4,7,8-PeCDF	ND	1.03	28.4	1	0.3	0.155
1,2,3,4,7,8-HxCDF	ND	1.43	28.4	1	0.1	0.0715
1,2,3,6,7,8-HxCDF	ND	1.33	28.4	1	0.1	0.0665
1,2,3,7,8,9-HxCDF	ND	1.79	28.4	1	0.1	0.0895
2,3,4,6,7,8-HxCDF	ND	1.51	28.4	1	0.1	0.0755
1,2,3,4,6,7,8-HpCDF	ND	1.89	28.4	1	0.01	0.00945
1,2,3,4,7,8,9-HpCDF	ND	2.39	28.4	1	0.01	0.0120
OCDF	ND	5.61	56.8	1	0.0003	0.000842
Total TEQ						2.82

2005 WHO TEFs, ND = 0.5*DL

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW5GW112011
Lab Code: E1101152-002

Service Request: E1101152
Date Collected: 11/20/11 1525
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 920mL
Data File Name: U227594
ICAL Date: 04/21/11

Date Analyzed: 12/17/11 1859
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227591

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	7.84	10.9			1
1,2,3,7,8-PeCDD	ND	U	9.85	27.2			1
1,2,3,4,7,8-HxCDD	ND	U	4.39	27.2			1
1,2,3,6,7,8-HxCDD	ND	U	3.86	27.2			1
1,2,3,7,8,9-HxCDD	ND	U	3.92	27.2			1
1,2,3,4,6,7,8-HpCDD	ND	U	4.78	27.2			1
OCDD	43.7	JK	9.77	54.3	1.03	1.000	1
2,3,7,8-TCDF	ND	U	5.23	10.9			1
1,2,3,7,8-PeCDF	ND	U	5.76	27.2			1
2,3,4,7,8-PeCDF	ND	U	6.12	27.2			1
1,2,3,4,7,8-HxCDF	ND	U	2.68	27.2			1
1,2,3,6,7,8-HxCDF	ND	U	2.39	27.2			1
1,2,3,7,8,9-HxCDF	ND	U	3.23	27.2			1
2,3,4,6,7,8-HxCDF	ND	U	2.74	27.2			1
1,2,3,4,6,7,8-HpCDF	ND	U	2.98	27.2			1
1,2,3,4,7,8,9-HpCDF	ND	U	4.03	27.2			1
OCDF	ND	U	8.46	54.3			1
Total Tetra-Dioxins	ND	U	7.84	10.9			1
Total Penta-Dioxins	ND	U	9.85	27.2			1
Total Hexa-Dioxins	ND	U	3.86	27.2			1
Total Hepta-Dioxins	ND	U	4.78	27.2			1
Total Tetra-Furans	ND	U	5.23	10.9			1
Total Penta-Furans	ND	U	6.12	27.2			1
Total Hexa-Furans	ND	U	2.39	27.2			1
Total Hepta-Furans	ND	U	2.98	27.2			1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW5GW112011
Lab Code: E1101152-002

Service Request: E1101152
Date Collected: 11/20/11 1525
Date Received: 11/22/11
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 920mL
Data File Name: U227594
ICAL Date: 04/21/11

Date Analyzed: 12/17/11 1859
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227591

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	687.657	69		40-135	0.77	1.007
13C-1,2,3,7,8-PeCDD	1000	827.766	83		40-135	1.65	1.159
13C-1,2,3,6,7,8-HxCDD	2500	1647.711	66		40-135	1.25	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1834.272	73		40-135	1.09	1.070
13C-OCDD	5000	2647.694	53		40-135	0.92	1.154
13C-2,3,7,8-TCDF	1000	772.121	77		40-135	0.80	0.980
13C-1,2,3,7,8-PeCDF	1000	753.051	75		40-135	1.64	1.122
13C-1,2,3,4,7,8-HxCDF	2500	1685.669	67		40-135	0.52	0.972
13C-1,2,3,4,6,7,8-HpCDF	2500	1992.629	80		40-135	0.45	1.045
37Cl-2,3,7,8-TCDD	800	548.399	69		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW5GW112011
Lab Code: E1101152-002

Service Request: E1101152
Date Collected: 11/20/11 1525
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	7.84	10.9	1	1	3.92
1,2,3,7,8-PeCDD	ND	9.85	27.2	1	1	4.93
1,2,3,4,7,8-HxCDD	ND	4.39	27.2	1	0.1	0.220
1,2,3,6,7,8-HxCDD	ND	3.86	27.2	1	0.1	0.193
1,2,3,7,8,9-HxCDD	ND	3.92	27.2	1	0.1	0.196
1,2,3,4,6,7,8-HpCDD	ND	4.78	27.2	1	0.01	0.0239
OCDD	43.7	9.77	54.3	1	0.0003	0.0131
2,3,7,8-TCDF	ND	5.23	10.9	1	0.1	0.262
1,2,3,7,8-PeCDF	ND	5.76	27.2	1	0.03	0.0864
2,3,4,7,8-PeCDF	ND	6.12	27.2	1	0.3	0.918
1,2,3,4,7,8-HxCDF	ND	2.68	27.2	1	0.1	0.134
1,2,3,6,7,8-HxCDF	ND	2.39	27.2	1	0.1	0.120
1,2,3,7,8,9-HxCDF	ND	3.23	27.2	1	0.1	0.162
2,3,4,6,7,8-HxCDF	ND	2.74	27.2	1	0.1	0.137
1,2,3,4,6,7,8-HpCDF	ND	2.98	27.2	1	0.01	0.0149
1,2,3,4,7,8,9-HpCDF	ND	4.03	27.2	1	0.01	0.0202
OCDF	ND	8.46	54.3	1	0.0003	0.00127
Total TEQ						11.4

2005 WHO TEFs, ND = 0.5*DL

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40DUPGW112011
Lab Code: E1101152-003

Service Request: E1101152
Date Collected: 11/20/11 1525
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 940mL
Data File Name: U227561
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 0845
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.66	10.6			1
1,2,3,7,8-PeCDD	ND	U	2.25	26.6			1
1,2,3,4,7,8-HxCDD	ND	U	1.49	26.6			1
1,2,3,6,7,8-HxCDD	ND	U	1.31	26.6			1
1,2,3,7,8,9-HxCDD	ND	U	1.33	26.6			1
1,2,3,4,6,7,8-HpCDD	ND	U	1.81	26.6			1
OCDD	18.3	J	4.37	53.2	0.99	1.001	1
2,3,7,8-TCDF	ND	U	1.54	10.6			1
1,2,3,7,8-PeCDF	ND	U	1.27	26.6			1
2,3,4,7,8-PeCDF	ND	U	1.35	26.6			1
1,2,3,4,7,8-HxCDF	ND	U	1.19	26.6			1
1,2,3,6,7,8-HxCDF	ND	U	1.06	26.6			1
1,2,3,7,8,9-HxCDF	ND	U	1.43	26.6			1
2,3,4,6,7,8-HxCDF	ND	U	1.21	26.6			1
1,2,3,4,6,7,8-HpCDF	ND	U	1.30	26.6			1
1,2,3,4,7,8,9-HpCDF	ND	U	1.75	26.6			1
OCDF	ND	U	4.09	53.2			1
Total Tetra-Dioxins	ND	U	1.66	10.6			1
Total Penta-Dioxins	ND	U	2.25	26.6			1
Total Hexa-Dioxins	ND	U	1.31	26.6			1
Total Hepta-Dioxins	ND	U	1.81	26.6			1
Total Tetra-Furans	ND	U	1.54	10.6			1
Total Penta-Furans	ND	U	1.35	26.6			1
Total Hexa-Furans	ND	U	1.06	26.6			1
Total Hepta-Furans	ND	U	1.30	26.6			1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40DUPGW112011
Lab Code: E1101152-003

Service Request: E1101152
Date Collected: 11/20/11 1525
Date Received: 11/22/11
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 940mL
Data File Name: U227561
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 0845
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	727.520	73		40-135	0.80	1.007
13C-1,2,3,7,8-PeCDD	1000	784.158	78		40-135	1.61	1.158
13C-1,2,3,6,7,8-HxCDD	2500	1604.171	64		40-135	1.24	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1617.704	65		40-135	1.05	1.070
13C-OCDD	5000	2249.735	45		40-135	0.92	1.156
13C-2,3,7,8-TCDF	1000	738.118	74		40-135	0.79	0.981
13C-1,2,3,7,8-PeCDF	1000	759.774	76		40-135	1.63	1.123
13C-1,2,3,4,7,8-HxCDF	2500	1704.649	68		40-135	0.54	0.973
13C-1,2,3,4,6,7,8-HpCDF	2500	1475.046	59		40-135	0.46	1.046
37Cl-2,3,7,8-TCDD	800	570.688	71		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40DUPGW112011
Lab Code: E1101152-003

Service Request: E1101152
Date Collected: 11/20/11 1525
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	1.66	10.6	1	1	0.830
1,2,3,7,8-PeCDD	ND	2.25	26.6	1	1	1.13
1,2,3,4,7,8-HxCDD	ND	1.49	26.6	1	0.1	0.0745
1,2,3,6,7,8-HxCDD	ND	1.31	26.6	1	0.1	0.0655
1,2,3,7,8,9-HxCDD	ND	1.33	26.6	1	0.1	0.0665
1,2,3,4,6,7,8-HpCDD	ND	1.81	26.6	1	0.01	0.00905
OCDD	18.3	4.37	53.2	1	0.0003	0.00549
2,3,7,8-TCDF	ND	1.54	10.6	1	0.1	0.0770
1,2,3,7,8-PeCDF	ND	1.27	26.6	1	0.03	0.0191
2,3,4,7,8-PeCDF	ND	1.35	26.6	1	0.3	0.203
1,2,3,4,7,8-HxCDF	ND	1.19	26.6	1	0.1	0.0595
1,2,3,6,7,8-HxCDF	ND	1.06	26.6	1	0.1	0.0530
1,2,3,7,8,9-HxCDF	ND	1.43	26.6	1	0.1	0.0715
2,3,4,6,7,8-HxCDF	ND	1.21	26.6	1	0.1	0.0605
1,2,3,4,6,7,8-HpCDF	ND	1.30	26.6	1	0.01	0.00650
1,2,3,4,7,8,9-HpCDF	ND	1.75	26.6	1	0.01	0.00875
OCDF	ND	4.09	53.2	1	0.0003	0.000614
Total TEQ						2.74

2005 WHO TEFs, ND = 0.5*DL

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40112011 FB
Lab Code: E1101152-004

Service Request: E1101152
Date Collected: 11/20/11 1750
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 960mL
Data File Name: U227562
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 0933
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.48	10.4			1
1,2,3,7,8-PeCDD	ND	U	2.65	26.0			1
1,2,3,4,7,8-HxCDD	ND	U	2.11	26.0			1
1,2,3,6,7,8-HxCDD	ND	U	1.85	26.0			1
1,2,3,7,8,9-HxCDD	ND	U	1.88	26.0			1
1,2,3,4,6,7,8-HpCDD	ND	U	2.45	26.0			1
OCDD	13.8	JK	5.15	52.1	1.11	1.000	1
2,3,7,8-TCDF	ND	U	1.32	10.4			1
1,2,3,7,8-PeCDF	ND	U	1.45	26.0			1
2,3,4,7,8-PeCDF	ND	U	1.54	26.0			1
1,2,3,4,7,8-HxCDF	ND	U	1.13	26.0			1
1,2,3,6,7,8-HxCDF	ND	U	1.01	26.0			1
1,2,3,7,8,9-HxCDF	ND	U	1.36	26.0			1
2,3,4,6,7,8-HxCDF	ND	U	1.16	26.0			1
1,2,3,4,6,7,8-HpCDF	ND	U	1.41	26.0			1
1,2,3,4,7,8,9-HpCDF	ND	U	1.90	26.0			1
OCDF	ND	U	4.77	52.1			1
Total Tetra-Dioxins	ND	U	1.48	10.4			1
Total Penta-Dioxins	ND	U	2.65	26.0			1
Total Hexa-Dioxins	ND	U	1.85	26.0			1
Total Hepta-Dioxins	ND	U	2.45	26.0			1
Total Tetra-Furans	1.79	J	1.32	10.4	0.88		1
Total Penta-Furans	ND	U	1.54	26.0			1
Total Hexa-Furans	ND	U	1.01	26.0			1
Total Hepta-Furans	ND	U	1.41	26.0			1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40112011 FB
Lab Code: E1101152-004

Service Request: E1101152
Date Collected: 11/20/11 1750
Date Received: 11/22/11
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 960mL
Data File Name: U227562
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 0933
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	742.987	74		40-135	0.81	1.007
13C-1,2,3,7,8-PeCDD	1000	820.915	82		40-135	1.60	1.157
13C-1,2,3,6,7,8-HxCDD	2500	1648.279	66		40-135	1.27	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1593.537	64		40-135	1.09	1.070
13C-OCDD	5000	2263.634	45		40-135	0.91	1.157
13C-2,3,7,8-TCDF	1000	765.495	77		40-135	0.80	0.981
13C-1,2,3,7,8-PeCDF	1000	782.151	78		40-135	1.62	1.122
13C-1,2,3,4,7,8-HxCDF	2500	1779.578	71		40-135	0.53	0.973
13C-1,2,3,4,6,7,8-HpCDF	2500	1452.950	58		40-135	0.46	1.046
37Cl-2,3,7,8-TCDD	800	568.425	71		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40112011 FB
Lab Code: E1101152-004

Service Request: E1101152
Date Collected: 11/20/11 1750
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	1.48	10.4	1	1	0.740
1,2,3,7,8-PeCDD	ND	2.65	26.0	1	1	1.33
1,2,3,4,7,8-HxCDD	ND	2.11	26.0	1	0.1	0.106
1,2,3,6,7,8-HxCDD	ND	1.85	26.0	1	0.1	0.0925
1,2,3,7,8,9-HxCDD	ND	1.88	26.0	1	0.1	0.0940
1,2,3,4,6,7,8-HpCDD	ND	2.45	26.0	1	0.01	0.0123
OCDD	13.8	5.15	52.1	1	0.0003	0.00414
2,3,7,8-TCDF	ND	1.32	10.4	1	0.1	0.0660
1,2,3,7,8-PeCDF	ND	1.45	26.0	1	0.03	0.0218
2,3,4,7,8-PeCDF	ND	1.54	26.0	1	0.3	0.231
1,2,3,4,7,8-HxCDF	ND	1.13	26.0	1	0.1	0.0565
1,2,3,6,7,8-HxCDF	ND	1.01	26.0	1	0.1	0.0505
1,2,3,7,8,9-HxCDF	ND	1.36	26.0	1	0.1	0.0680
2,3,4,6,7,8-HxCDF	ND	1.16	26.0	1	0.1	0.0580
1,2,3,4,6,7,8-HpCDF	ND	1.41	26.0	1	0.01	0.00705
1,2,3,4,7,8,9-HpCDF	ND	1.90	26.0	1	0.01	0.00950
OCDF	ND	4.77	52.1	1	0.0003	0.000716
Total TEQ						2.95

2005 WHO TEFs, ND = 0.5*DL

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40EQR112011
Lab Code: E1101152-005

Service Request: E1101152
Date Collected: 11/20/11 1815
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 960mL
Data File Name: U227563
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 1020
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.41	10.4			1
1,2,3,7,8-PeCDD	ND	U	2.26	26.0			1
1,2,3,4,7,8-HxCDD	ND	U	2.09	26.0			1
1,2,3,6,7,8-HxCDD	ND	U	1.83	26.0			1
1,2,3,7,8,9-HxCDD	ND	U	1.86	26.0			1
1,2,3,4,6,7,8-HpCDD	3.00	J	2.05	26.0	0.91	1.000	1
OCDD	12.0	JK	3.69	52.1	0.74	1.000	1
2,3,7,8-TCDF	ND	U	1.53	10.4			1
1,2,3,7,8-PeCDF	ND	U	1.12	26.0			1
2,3,4,7,8-PeCDF	ND	U	1.19	26.0			1
1,2,3,4,7,8-HxCDF	ND	U	1.20	26.0			1
1,2,3,6,7,8-HxCDF	ND	U	1.07	26.0			1
1,2,3,7,8,9-HxCDF	ND	U	1.44	26.0			1
2,3,4,6,7,8-HxCDF	ND	U	1.22	26.0			1
1,2,3,4,6,7,8-HpCDF	ND	U	1.44	26.0			1
1,2,3,4,7,8,9-HpCDF	ND	U	1.94	26.0			1
OCDF	ND	U	5.15	52.1			1
Total Tetra-Dioxins	ND	U	2.41	10.4			1
Total Penta-Dioxins	ND	U	2.26	26.0			1
Total Hexa-Dioxins	ND	U	1.83	26.0			1
Total Hepta-Dioxins	3.00	J	2.05	26.0	0.91		1
Total Tetra-Furans	ND	U	1.53	10.4			1
Total Penta-Furans	ND	U	1.19	26.0			1
Total Hexa-Furans	ND	U	1.07	26.0			1
Total Hepta-Furans	ND	U	1.44	26.0			1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40EQR112011
Lab Code: E1101152-005

Service Request: E1101152
Date Collected: 11/20/11 1815
Date Received: 11/22/11
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 960mL
Data File Name: U227563
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 1020
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	666.330	67		40-135	0.79	1.007
13C-1,2,3,7,8-PeCDD	1000	710.025	71		40-135	1.63	1.157
13C-1,2,3,6,7,8-HxCDD	2500	1441.098	58		40-135	1.28	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1456.622	58		40-135	1.10	1.070
13C-OCDD	5000	2239.949	45		40-135	0.92	1.156
13C-2,3,7,8-TCDF	1000	675.447	68		40-135	0.81	0.981
13C-1,2,3,7,8-PeCDF	1000	707.954	71		40-135	1.60	1.122
13C-1,2,3,4,7,8-HxCDF	2500	1540.799	62		40-135	0.53	0.973
13C-1,2,3,4,6,7,8-HpCDF	2500	1340.531	54		40-135	0.44	1.046
37Cl-2,3,7,8-TCDD	800	529.655	66		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40EQR112011
Lab Code: E1101152-005

Service Request: E1101152
Date Collected: 11/20/11 1815
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	2.41	10.4	1	1	1.21
1,2,3,7,8-PeCDD	ND	2.26	26.0	1	1	1.13
1,2,3,4,7,8-HxCDD	ND	2.09	26.0	1	0.1	0.105
1,2,3,6,7,8-HxCDD	ND	1.83	26.0	1	0.1	0.0915
1,2,3,7,8,9-HxCDD	ND	1.86	26.0	1	0.1	0.0930
1,2,3,4,6,7,8-HpCDD	3.00	2.05	26.0	1	0.01	0.0300
OCDD	12.0	3.69	52.1	1	0.0003	0.00360
2,3,7,8-TCDF	ND	1.53	10.4	1	0.1	0.0765
1,2,3,7,8-PeCDF	ND	1.12	26.0	1	0.03	0.0168
2,3,4,7,8-PeCDF	ND	1.19	26.0	1	0.3	0.179
1,2,3,4,7,8-HxCDF	ND	1.20	26.0	1	0.1	0.0600
1,2,3,6,7,8-HxCDF	ND	1.07	26.0	1	0.1	0.0535
1,2,3,7,8,9-HxCDF	ND	1.44	26.0	1	0.1	0.0720
2,3,4,6,7,8-HxCDF	ND	1.22	26.0	1	0.1	0.0610
1,2,3,4,6,7,8-HpCDF	ND	1.44	26.0	1	0.01	0.00720
1,2,3,4,7,8,9-HpCDF	ND	1.94	26.0	1	0.01	0.00970
OCDF	ND	5.15	52.1	1	0.0003	0.000773
Total TEQ						3.20

2005 WHO TEFs, ND = 0.5*DL

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW6GW112111
Lab Code: E1101152-006

Service Request: E1101152
Date Collected: 11/21/11 0934
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 900mL
Data File Name: U227564
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 1108
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.08	11.1			1
1,2,3,7,8-PeCDD	ND	U	2.21	27.8			1
1,2,3,4,7,8-HxCDD	ND	U	3.07	27.8			1
1,2,3,6,7,8-HxCDD	ND	U	2.70	27.8			1
1,2,3,7,8,9-HxCDD	ND	U	2.74	27.8			1
1,2,3,4,6,7,8-HpCDD	ND	U	2.83	27.8			1
OCDD	22.3	J	6.67	55.6	0.85	1.000	1
2,3,7,8-TCDF	ND	U	1.54	11.1			1
1,2,3,7,8-PeCDF	ND	U	1.02	27.8			1
2,3,4,7,8-PeCDF	ND	U	1.08	27.8			1
1,2,3,4,7,8-HxCDF	ND	U	1.24	27.8			1
1,2,3,6,7,8-HxCDF	ND	U	1.11	27.8			1
1,2,3,7,8,9-HxCDF	ND	U	1.50	27.8			1
2,3,4,6,7,8-HxCDF	ND	U	1.27	27.8			1
1,2,3,4,6,7,8-HpCDF	ND	U	2.18	27.8			1
1,2,3,4,7,8,9-HpCDF	ND	U	2.94	27.8			1
OCDF	ND	U	6.61	55.6			1
Total Tetra-Dioxins	ND	U	2.08	11.1			1
Total Penta-Dioxins	ND	U	2.21	27.8			1
Total Hexa-Dioxins	ND	U	2.70	27.8			1
Total Hepta-Dioxins	4.42	J	2.83	27.8	1.16		1
Total Tetra-Furans	2.44	J	1.54	11.1	0.71		1
Total Penta-Furans	ND	U	1.08	27.8			1
Total Hexa-Furans	ND	U	1.11	27.8			1
Total Hepta-Furans	ND	U	2.18	27.8			1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW6GW112111
Lab Code: E1101152-006

Service Request: E1101152
Date Collected: 11/21/11 0934
Date Received: 11/22/11
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 900mL
Data File Name: U227564
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 1108
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	701.675	70		40-135	0.82	1.008
13C-1,2,3,7,8-PeCDD	1000	755.942	76		40-135	1.60	1.158
13C-1,2,3,6,7,8-HxCDD	2500	1569.035	63		40-135	1.28	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1471.843	59		40-135	1.06	1.070
13C-OCDD	5000	1943.269	39	Y	40-135	0.88	1.156
13C-2,3,7,8-TCDF	1000	734.169	73		40-135	0.82	0.981
13C-1,2,3,7,8-PeCDF	1000	764.806	76		40-135	1.60	1.123
13C-1,2,3,4,7,8-HxCDF	2500	1763.162	71		40-135	0.53	0.973
13C-1,2,3,4,6,7,8-HpCDF	2500	1394.029	56		40-135	0.46	1.045
37Cl-2,3,7,8-TCDD	800	558.265	70		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW6GW112111
Lab Code: E1101152-006

Service Request: E1101152
Date Collected: 11/21/11 0934
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	2.08	11.1	1	1	1.04
1,2,3,7,8-PeCDD	ND	2.21	27.8	1	1	1.11
1,2,3,4,7,8-HxCDD	ND	3.07	27.8	1	0.1	0.154
1,2,3,6,7,8-HxCDD	ND	2.70	27.8	1	0.1	0.135
1,2,3,7,8,9-HxCDD	ND	2.74	27.8	1	0.1	0.137
1,2,3,4,6,7,8-HpCDD	ND	2.83	27.8	1	0.01	0.0142
OCDD	22.3	6.67	55.6	1	0.0003	0.00669
2,3,7,8-TCDF	ND	1.54	11.1	1	0.1	0.0770
1,2,3,7,8-PeCDF	ND	1.02	27.8	1	0.03	0.0153
2,3,4,7,8-PeCDF	ND	1.08	27.8	1	0.3	0.162
1,2,3,4,7,8-HxCDF	ND	1.24	27.8	1	0.1	0.0620
1,2,3,6,7,8-HxCDF	ND	1.11	27.8	1	0.1	0.0555
1,2,3,7,8,9-HxCDF	ND	1.50	27.8	1	0.1	0.0750
2,3,4,6,7,8-HxCDF	ND	1.27	27.8	1	0.1	0.0635
1,2,3,4,6,7,8-HpCDF	ND	2.18	27.8	1	0.01	0.0109
1,2,3,4,7,8,9-HpCDF	ND	2.94	27.8	1	0.01	0.0147
OCDF	ND	6.61	55.6	1	0.0003	0.000992
Total TEQ						3.13

2005 WHO TEFs, ND = 0.5*DL

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40EQR112111
Lab Code: E1101152-007

Service Request: E1101152
Date Collected: 11/21/11 1110
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 920mL
Data File Name: U227565
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 1156
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.41	10.9			1
1,2,3,7,8-PeCDD	ND	U	1.25	27.2			1
1,2,3,4,7,8-HxCDD	ND	U	1.84	27.2			1
1,2,3,6,7,8-HxCDD	ND	U	1.61	27.2			1
1,2,3,7,8,9-HxCDD	ND	U	1.64	27.2			1
1,2,3,4,6,7,8-HpCDD	2.75	JK	1.75	27.2	1.37	1.000	1
OCDD	15.4	JK	4.19	54.3	1.08	1.000	1
2,3,7,8-TCDF	ND	U	2.28	10.9			1
1,2,3,7,8-PeCDF	ND	U	0.652	27.2			1
2,3,4,7,8-PeCDF	ND	U	0.693	27.2			1
1,2,3,4,7,8-HxCDF	ND	U	0.939	27.2			1
1,2,3,6,7,8-HxCDF	ND	U	0.835	27.2			1
1,2,3,7,8,9-HxCDF	ND	U	1.14	27.2			1
2,3,4,6,7,8-HxCDF	ND	U	0.957	27.2			1
1,2,3,4,6,7,8-HpCDF	ND	U	1.36	27.2			1
1,2,3,4,7,8,9-HpCDF	ND	U	1.84	27.2			1
OCDF	ND	U	4.86	54.3			1
Total Tetra-Dioxins	ND	U	2.41	10.9			1
Total Penta-Dioxins	ND	U	1.25	27.2			1
Total Hexa-Dioxins	ND	U	1.61	27.2			1
Total Hepta-Dioxins	ND	U	1.75	27.2			1
Total Tetra-Furans	ND	U	2.28	10.9			1
Total Penta-Furans	ND	U	0.693	27.2			1
Total Hexa-Furans	ND	U	0.835	27.2			1
Total Hepta-Furans	ND	U	1.36	27.2			1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40EQR112111
Lab Code: E1101152-007

Service Request: E1101152
Date Collected: 11/21/11 1110
Date Received: 11/22/11
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 920mL
Data File Name: U227565
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 1156
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	653.593	65		40-135	0.79	1.007
13C-1,2,3,7,8-PeCDD	1000	688.947	69		40-135	1.55	1.158
13C-1,2,3,6,7,8-HxCDD	2500	1453.806	58		40-135	1.27	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1445.934	58		40-135	1.07	1.070
13C-OCDD	5000	1992.508	40		40-135	0.91	1.156
13C-2,3,7,8-TCDF	1000	670.731	67		40-135	0.80	0.981
13C-1,2,3,7,8-PeCDF	1000	667.957	67		40-135	1.63	1.123
13C-1,2,3,4,7,8-HxCDF	2500	1575.408	63		40-135	0.53	0.973
13C-1,2,3,4,6,7,8-HpCDF	2500	1309.098	52		40-135	0.46	1.046
37Cl-2,3,7,8-TCDD	800	516.368	65		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40EQR112111
Lab Code: E1101152-007

Service Request: E1101152
Date Collected: 11/21/11 1110
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	2.41	10.9	1	1	1.21
1,2,3,7,8-PeCDD	ND	1.25	27.2	1	1	0.625
1,2,3,4,7,8-HxCDD	ND	1.84	27.2	1	0.1	0.0920
1,2,3,6,7,8-HxCDD	ND	1.61	27.2	1	0.1	0.0805
1,2,3,7,8,9-HxCDD	ND	1.64	27.2	1	0.1	0.0820
1,2,3,4,6,7,8-HpCDD	2.75	1.75	27.2	1	0.01	0.0275
OCDD	15.4	4.19	54.3	1	0.0003	0.00462
2,3,7,8-TCDF	ND	2.28	10.9	1	0.1	0.114
1,2,3,7,8-PeCDF	ND	0.652	27.2	1	0.03	0.00978
2,3,4,7,8-PeCDF	ND	0.693	27.2	1	0.3	0.104
1,2,3,4,7,8-HxCDF	ND	0.939	27.2	1	0.1	0.0470
1,2,3,6,7,8-HxCDF	ND	0.835	27.2	1	0.1	0.0418
1,2,3,7,8,9-HxCDF	ND	1.14	27.2	1	0.1	0.0570
2,3,4,6,7,8-HxCDF	ND	0.957	27.2	1	0.1	0.0479
1,2,3,4,6,7,8-HpCDF	ND	1.36	27.2	1	0.01	0.00680
1,2,3,4,7,8,9-HpCDF	ND	1.84	27.2	1	0.01	0.00920
OCDF	ND	4.86	54.3	1	0.0003	0.000729
Total TEQ						2.56

2005 WHO TEFs, ND = 0.5*DL

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40LFMW01GW112111
Lab Code: E1101152-008

Service Request: E1101152
Date Collected: 11/21/11 1354
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 800mL
Data File Name: U227566
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 1244
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.73	12.5			1
1,2,3,7,8-PeCDD	ND	U	2.41	31.3			1
1,2,3,4,7,8-HxCDD	ND	U	2.40	31.3			1
1,2,3,6,7,8-HxCDD	ND	U	2.10	31.3			1
1,2,3,7,8,9-HxCDD	ND	U	2.14	31.3			1
1,2,3,4,6,7,8-HpCDD	6.17	J	3.58	31.3	1.08	1.000	1
OCDD	162		7.47	62.5	0.92	1.000	1
2,3,7,8-TCDF	ND	U	1.91	12.5			1
1,2,3,7,8-PeCDF	ND	U	1.69	31.3			1
2,3,4,7,8-PeCDF	ND	U	1.79	31.3			1
1,2,3,4,7,8-HxCDF	ND	U	1.37	31.3			1
1,2,3,6,7,8-HxCDF	ND	U	1.22	31.3			1
1,2,3,7,8,9-HxCDF	ND	U	1.64	31.3			1
2,3,4,6,7,8-HxCDF	ND	U	1.39	31.3			1
1,2,3,4,6,7,8-HpCDF	ND	U	2.04	31.3			1
1,2,3,4,7,8,9-HpCDF	ND	U	2.75	31.3			1
OCDF	ND	U	5.61	62.5			1
Total Tetra-Dioxins	ND	U	2.73	12.5			1
Total Penta-Dioxins	ND	U	2.41	31.3			1
Total Hexa-Dioxins	ND	U	2.10	31.3			1
Total Hepta-Dioxins	6.17	J	3.58	31.3	1.08		1
Total Tetra-Furans	8.50	J	1.91	12.5	0.86		1
Total Penta-Furans	ND	U	1.79	31.3			1
Total Hexa-Furans	ND	U	1.22	31.3			1
Total Hepta-Furans	ND	U	2.04	31.3			1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40LFMW01GW112111
Lab Code: E1101152-008

Service Request: E1101152
Date Collected: 11/21/11 1354
Date Received: 11/22/11
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 800mL
Data File Name: U227566
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 1244
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	705.162	71		40-135	0.79	1.007
13C-1,2,3,7,8-PeCDD	1000	723.280	72		40-135	1.59	1.158
13C-1,2,3,6,7,8-HxCDD	2500	1476.987	59		40-135	1.27	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1452.465	58		40-135	1.06	1.070
13C-OCDD	5000	1914.313	38	Y	40-135	0.91	1.157
13C-2,3,7,8-TCDF	1000	725.052	73		40-135	0.80	0.981
13C-1,2,3,7,8-PeCDF	1000	717.457	72		40-135	1.61	1.123
13C-1,2,3,4,7,8-HxCDF	2500	1631.078	65		40-135	0.54	0.973
13C-1,2,3,4,6,7,8-HpCDF	2500	1338.016	54		40-135	0.46	1.046
37Cl-2,3,7,8-TCDD	800	574.281	72		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40LFMW01GW112111
Lab Code: E1101152-008

Service Request: E1101152
Date Collected: 11/21/11 1354
Date Received: 11/22/11
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	2.73	12.5	1	1	1.37
1,2,3,7,8-PeCDD	ND	2.41	31.3	1	1	1.21
1,2,3,4,7,8-HxCDD	ND	2.40	31.3	1	0.1	0.120
1,2,3,6,7,8-HxCDD	ND	2.10	31.3	1	0.1	0.105
1,2,3,7,8,9-HxCDD	ND	2.14	31.3	1	0.1	0.107
1,2,3,4,6,7,8-HpCDD	6.17	3.58	31.3	1	0.01	0.0617
OCDD	162	7.47	62.5	1	0.0003	0.0486
2,3,7,8-TCDF	ND	1.91	12.5	1	0.1	0.0955
1,2,3,7,8-PeCDF	ND	1.69	31.3	1	0.03	0.0254
2,3,4,7,8-PeCDF	ND	1.79	31.3	1	0.3	0.269
1,2,3,4,7,8-HxCDF	ND	1.37	31.3	1	0.1	0.0685
1,2,3,6,7,8-HxCDF	ND	1.22	31.3	1	0.1	0.0610
1,2,3,7,8,9-HxCDF	ND	1.64	31.3	1	0.1	0.0820
2,3,4,6,7,8-HxCDF	ND	1.39	31.3	1	0.1	0.0695
1,2,3,4,6,7,8-HpCDF	ND	2.04	31.3	1	0.01	0.0102
1,2,3,4,7,8,9-HpCDF	ND	2.75	31.3	1	0.01	0.0138
OCDF	ND	5.61	62.5	1	0.0003	0.000842
Total TEQ						3.72

2005 WHO TEFs, ND = 0.5*DL

Appendix D – Support Documentation

December 20, 2011

Service Request No: E1101152

Mary Lou Rochotte
Kemron Environmental Services
156 Starlite Drive
Marietta, OH 45750

Laboratory Results for: MR0669 SWMU 40 RFAAP

Dear Mary Lou:

Enclosed are the results of the sample(s) submitted to our laboratory on November 22, 2011. For your reference, these analyses have been assigned our service request number **E1101152**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2959. You may also contact me via email at AKodur@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Arthi Kodur
Project Manager

Page 1 of 488

COLUMBIA ANALYTICAL SERVICES, INC

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water

Service Request No.: E1101152
Date Received: 11/22/11

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Eight water samples were received for analysis at Columbia Analytical Services on 11/22/11.

The samples were received at 1 and 2°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

MS/MSD

EQ1100578: Laboratory Control Spike (LCS) sample was analyzed and reported in addition to an MS/MSD for this extraction batch. The batch quality control criteria were met.

Y flags – Labeled Standards

Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

Mass Spectrometer Resolution

Mass 454.9728 of U227529-U227541 Continuing Calibration image did not print out due to an automatic print-out program error.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the

noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The MRL = DoD LOQ, but the EDL is not directly correlated to LOD. The LOD is instrument and prep-method specific. ND compounds are reported to the LOD. LOD information can be found in the tables accompanying this report.

Manual Integrations

For this type of instrumentation and software, manual integration may be required frequently to correct inaccurate integrations performed by the processing software. These manual integrations are indicated in the raw data with a before and after chromatogram and are stamped with the reason for integration.

The TEQ Summary results for each sample have been calculated by CAS/Houston to include:

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- Non-detected compounds reported as $ND = \frac{1}{2} * \text{Detection Limit}$

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP

Service Request: E1101152

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
E1101152-001	40MW76W112011	11/20/11	12:05
E1101152-002	40MW5GW112011	11/20/11	15:25
E1101152-003	40DUPGW112011	11/20/11	15:25
E1101152-004	40112011 FB	11/20/11	17:50
E1101152-005	40EQR112011	11/20/11	18:15
E1101152-006	40MW6GW112111	11/21/11	09:34
E1101152-007	40EQR112111	11/21/11	11:10
E1101152-008	40LFMW01GW112111	11/21/11	13:54

CHAIN-OF-CUSTODY RECORD

[illegible]

Cooler Receipt Form

Project Chemist

Client/Project

Service Request

Date/Time Received:

Date/Time Logged in:

Technician

Technician

1. Method of delivery: ☐ US Mail ☒ Fed Ex ☐ UPS ☐ DHL ☐ Courier ☐ Client

2. Samples received in: ☒ Cooler ☐ Box ☐ Envelope ☐ Other

3. Were custody seals on coolers? ☒ Yes ☐ No ☐ N/A If yes, how many and where?
Were they intact? ☒ Yes ☐ No ☐ N/A
Were they signed and dated? ☒ Yes ☐ No ☐ N/A

4. Method of delivery: ☐ Inserts ☒ Baggies ☒ Bubble Wrap ☐ Gel Packs ☒ Wet Ice ☐ Sleeves ☐ Other

5. Foreign or Regulated Soil? ☐ Yes ☒ No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?	Filed
876910975347		Nov 22, 2011	1255	AL	1	☐	☐
876910975347		Nov 22, 2011	1255	AL	2	☐	☐
						☐	☐
						☐	☐
						☐	☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ☒ Yes ☐ No ☐ N/A
7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ☐ Yes ☒ No ☐ N/A
8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ☒ Yes ☐ No ☐ N/A
9. Were appropriate bottles/containers and volumes received for the requested tests? ☒ Yes ☐ No ☐ N/A
10. Did sample labels and tags agree with custody documents? ☒ Yes ☐ No ☐ N/A

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Date	Technician
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

Notes, Discrepancies, & Resolutions:

40MW5MSGW112011(duplicate), 40EQR112011(both bottles), 40EQR112111(both bottles), 40LFMW01GW112111(both bottles): Received with broken container lids, sample integrity not compromised (EB; 11/27/11) client allowed to continue with analysis ak 11/28/11

40EQR112011: duplicate received broken (EB;11/27/11)



Print Form

E1101152

54 of 488

Reset Form

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: EQ1100578-01

Service Request: E1101152
Date Collected: NA
Date Received: NA
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1000mL
Data File Name: U227560
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 0759
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.72	10.0			1
1,2,3,7,8-PeCDD	ND	U	1.90	25.0			1
1,2,3,4,7,8-HxCDD	ND	U	1.65	25.0			1
1,2,3,6,7,8-HxCDD	ND	U	1.45	25.0			1
1,2,3,7,8,9-HxCDD	ND	U	1.47	25.0			1
1,2,3,4,6,7,8-HpCDD	ND	U	2.03	25.0			1
OCDD	ND	U	3.51	50.0			1
2,3,7,8-TCDF	ND	U	2.01	10.0			1
1,2,3,7,8-PeCDF	ND	U	0.783	25.0			1
2,3,4,7,8-PeCDF	ND	U	0.832	25.0			1
1,2,3,4,7,8-HxCDF	ND	U	1.27	25.0			1
1,2,3,6,7,8-HxCDF	ND	U	1.13	25.0			1
1,2,3,7,8,9-HxCDF	ND	U	1.53	25.0			1
2,3,4,6,7,8-HxCDF	ND	U	1.30	25.0			1
1,2,3,4,6,7,8-HpCDF	ND	U	2.09	25.0			1
1,2,3,4,7,8,9-HpCDF	ND	U	2.81	25.0			1
OCDF	ND	U	2.85	50.0			1
Total Tetra-Dioxins	ND	U	2.72	10.0			1
Total Penta-Dioxins	ND	U	1.90	25.0			1
Total Hexa-Dioxins	ND	U	1.45	25.0			1
Total Hepta-Dioxins	ND	U	2.03	25.0			1
Total Tetra-Furans	10.3		2.01	10.0	0.77		1
Total Penta-Furans	ND	U	0.832	25.0			1
Total Hexa-Furans	ND	U	1.13	25.0			1
Total Hepta-Furans	ND	U	2.09	25.0			1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: EQ1100578-01

Service Request: E1101152
Date Collected: NA
Date Received: NA
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1000mL
Data File Name: U227560
ICAL Date: 04/21/11

Date Analyzed: 12/12/11 0759
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227559

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	749.856	75		40-135	0.80	1.007
13C-1,2,3,7,8-PeCDD	1000	819.883	82		40-135	1.58	1.157
13C-1,2,3,6,7,8-HxCDD	2500	1630.651	65		40-135	1.24	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1789.306	72		40-135	1.06	1.070
13C-OCDD	5000	2782.490	56		40-135	0.91	1.157
13C-2,3,7,8-TCDF	1000	771.376	77		40-135	0.81	0.981
13C-1,2,3,7,8-PeCDF	1000	795.625	80		40-135	1.61	1.122
13C-1,2,3,4,7,8-HxCDF	2500	1817.676	73		40-135	0.53	0.973
13C-1,2,3,4,6,7,8-HpCDF	2500	1221.227	49		40-135	0.37	1.045
37Cl-2,3,7,8-TCDD	800	576.880	72		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water

Service Request: E1101152
Date Analyzed: 12/ 9/11

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar

Units: pg/L
Basis: NA

Extraction Lot: 147246

Lab Control Sample
EQ1100578-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
2,3,7,8-TCDD	204	200	102	50 - 150
1,2,3,7,8-PeCDD	499	500	100	50 - 150
1,2,3,4,7,8-HxCDD	461	500	92	50 - 150
1,2,3,6,7,8-HxCDD	529	500	106	50 - 150
1,2,3,7,8,9-HxCDD	557	500	111	50 - 150
1,2,3,4,6,7,8-HpCDD	467	500	93	50 - 150
OCDD	930	1000	93	50 - 150
2,3,7,8-TCDF	198	200	99	50 - 150
1,2,3,7,8-PeCDF	524	500	105	50 - 150
2,3,4,7,8-PeCDF	462	500	92	50 - 150
1,2,3,4,7,8-HxCDF	490	500	98	50 - 150
1,2,3,6,7,8-HxCDF	509	500	102	50 - 150
1,2,3,7,8,9-HxCDF	492	500	98	50 - 150
2,3,4,6,7,8-HxCDF	509	500	102	50 - 150
1,2,3,4,6,7,8-HpCDF	497	500	99	50 - 150
1,2,3,4,7,8,9-HpCDF	518	500	104	50 - 150
OCDF	942	1000	94	50 - 150

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: Lab Control Sample
Lab Code: EQ1100578-02

Service Request: E1101152
Date Collected: NA
Date Received: NA
Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1000mL
Data File Name: U227539
ICAL Date: 04/21/11

Date Analyzed: 12/9/11 1401
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: db5
Blank File Name: U227560
Cal Ver. File Name: U227529

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	204		3.44	10.0	0.77	1.001	1
1,2,3,7,8-PeCDD	499		2.60	25.0	1.62	1.000	1
1,2,3,4,7,8-HxCDD	461		2.33	25.0	1.24	0.998	1
1,2,3,6,7,8-HxCDD	529		2.32	25.0	1.18	1.000	1
1,2,3,7,8,9-HxCDD	557		2.30	25.0	1.20	1.008	1
1,2,3,4,6,7,8-HpCDD	467		2.68	25.0	1.09	1.000	1
OCDD	930		10.5	50.0	0.91	1.000	1
2,3,7,8-TCDF	198		3.33	10.0	0.74	1.000	1
1,2,3,7,8-PeCDF	524		1.32	25.0	1.57	1.001	1
2,3,4,7,8-PeCDF	462		1.38	25.0	1.54	1.022	1
1,2,3,4,7,8-HxCDF	490		1.59	25.0	1.17	1.000	1
1,2,3,6,7,8-HxCDF	509		1.48	25.0	1.28	1.003	1
1,2,3,7,8,9-HxCDF	492		1.99	25.0	1.16	1.035	1
2,3,4,6,7,8-HxCDF	509		1.68	25.0	1.30	1.015	1
1,2,3,4,6,7,8-HpCDF	497		2.25	25.0	1.02	1.000	1
1,2,3,4,7,8,9-HpCDF	518		2.86	25.0	1.07	1.035	1
OCDF	942		9.44	50.0	0.86	1.004	1
Total Tetra-Dioxins	204		3.44	10.0	0.77		1
Total Penta-Dioxins	499		2.60	25.0	1.62		1
Total Hexa-Dioxins	1550		2.32	25.0	1.24		1
Total Hepta-Dioxins	467		2.68	25.0	1.09		1
Total Tetra-Furans	198		3.33	10.0	0.74		1
Total Penta-Furans	987		1.38	25.0	1.57		1
Total Hexa-Furans	2000		1.48	25.0	1.17		1
Total Hepta-Furans	1020		2.25	25.0	1.02		1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: Lab Control Sample
Lab Code: EQ1100578-02

Service Request: E1101152
Date Collected: NA
Date Received: NA
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1000mL
Data File Name: U227539
ICAL Date: 04/21/11

Date Analyzed: 12/9/11 1401
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: db5
Blank File Name: U227560
Cal Ver. File Name: U227529

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	656.448	66		40-135	0.80	1.007
13C-1,2,3,7,8-PeCDD	1000	658.528	66		40-135	1.59	1.157
13C-1,2,3,6,7,8-HxCDD	2500	1368.819	55		40-135	1.20	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1463.522	59		40-135	1.05	1.071
13C-OCDD	5000	2106.085	42		40-135	0.92	1.158
13C-2,3,7,8-TCDF	1000	581.799	58		40-135	0.78	0.981
13C-1,2,3,7,8-PeCDF	1000	633.007	63		40-135	1.60	1.122
13C-1,2,3,4,7,8-HxCDF	2500	1334.508	53		40-135	0.55	0.973
13C-1,2,3,4,6,7,8-HpCDF	2500	1325.758	53		40-135	0.44	1.046
37Cl-2,3,7,8-TCDD	800	498.025	62		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water

Service Request: E1101152
Date Collected: 11/20/11
Date Received: 11/22/11
Date Analyzed: 12/17/11 - 12/18/11

Matrix Spike Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Sample Name: 40MW5GW112011
Lab Code: E1101152-002
Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar

Units: pg/L
Basis: NA

Analyte Name	Sample Result	40MW5GW112011MS			40MW5GW112011DMS			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
			Matrix Spike EQ1100578-03			Duplicate Matrix Spike EQ1100578-04				
2,3,7,8-TCDD	ND	238	217	109	227	204	111	50 - 150	2	20
1,2,3,7,8-PeCDD	ND	563	543	104	514	510	101	50 - 150	3	20
1,2,3,4,7,8-HxCDD	ND	661	543	122	629	510	123	50 - 150	<1	20
1,2,3,6,7,8-HxCDD	ND	525	543	97	524	510	103	50 - 150	6	20
1,2,3,7,8,9-HxCDD	ND	604	543	111	575	510	113	50 - 150	2	20
1,2,3,4,6,7,8-HpCDD	ND	535	543	98	508	510	100	50 - 150	2	20
OCDD	43.7	1000	1090	88	949	1020	89	50 - 150	1	20
2,3,7,8-TCDF	ND	229	217	105	214	204	105	50 - 150	<1	20
1,2,3,7,8-PeCDF	ND	579	543	106	543	510	106	50 - 150	<1	20
2,3,4,7,8-PeCDF	ND	585	543	108	530	510	104	50 - 150	4	20
1,2,3,4,7,8-HxCDF	ND	536	543	99	532	510	104	50 - 150	5	20
1,2,3,6,7,8-HxCDF	ND	516	543	95	488	510	96	50 - 150	1	20
1,2,3,7,8,9-HxCDF	ND	530	543	98	568	510	111	50 - 150	12	20
2,3,4,6,7,8-HxCDF	ND	548	543	101	521	510	102	50 - 150	<1	20
1,2,3,4,6,7,8-HpCDF	ND	551	543	101	526	510	103	50 - 150	2	20
1,2,3,4,7,8,9-HpCDF	ND	549	543	101	537	510	105	50 - 150	4	20
OCDF	ND	1050	1090	96	985	1020	97	50 - 150	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water

Sample Name: 40MW5GW112011
Lab Code: EQ1100578-03
Run Type: Matrix Spike

Service Request: E1101152
Date Collected: 11/20/11 1525
Date Received: 11/22/11

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 920mL

Data File Name: U227600
ICAL Date: 04/21/11

Date Analyzed: 12/17/11 2346
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227591

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	238		3.64	10.9	0.76	1.001	1
1,2,3,7,8-PeCDD	563		2.64	27.2	1.57	1.000	1
1,2,3,4,7,8-HxCDD	661		3.92	27.2	1.30	0.998	1
1,2,3,6,7,8-HxCDD	525		3.45	27.2	1.27	1.000	1
1,2,3,7,8,9-HxCDD	604		3.50	27.2	1.21	1.008	1
1,2,3,4,6,7,8-HpCDD	535		3.21	27.2	1.04	1.000	1
OCDD	1000		3.50	54.3	0.88	1.000	1
2,3,7,8-TCDF	229		2.30	10.9	0.71	1.001	1
1,2,3,7,8-PeCDF	579		2.08	27.2	1.61	1.000	1
2,3,4,7,8-PeCDF	585		2.21	27.2	1.57	1.022	1
1,2,3,4,7,8-HxCDF	536		4.10	27.2	1.25	1.000	1
1,2,3,6,7,8-HxCDF	516		3.65	27.2	1.21	1.003	1
1,2,3,7,8,9-HxCDF	530		4.94	27.2	1.25	1.035	1
2,3,4,6,7,8-HxCDF	548		4.18	27.2	1.23	1.016	1
1,2,3,4,6,7,8-HpCDF	551		2.38	27.2	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	549		3.21	27.2	1.02	1.035	1
OCDF	1050		3.94	54.3	0.90	1.004	1
Total Tetra-Dioxins	238		3.64	10.9	0.76		1
Total Penta-Dioxins	563		2.64	27.2	1.57		1
Total Hexa-Dioxins	1790		3.45	27.2	1.30		1
Total Hepta-Dioxins	535		3.21	27.2	1.04		1
Total Tetra-Furans	229		2.30	10.9	0.71		1
Total Penta-Furans	1160		2.21	27.2	1.61		1
Total Hexa-Furans	2130		3.65	27.2	1.25		1
Total Hepta-Furans	1100		2.38	27.2	1.06		1

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW5GW112011
Lab Code: EQ1100578-03
Run Type: Matrix Spike

Service Request: E1101152
Date Collected: 11/20/11 1525
Date Received: 11/22/11
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 920mL
Data File Name: U227600
ICAL Date: 04/21/11

Date Analyzed: 12/17/11 2346
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227591

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	689.303	69		40-135	0.79	1.007
13C-1,2,3,7,8-PeCDD	1000	897.414	90		40-135	1.55	1.159
13C-1,2,3,6,7,8-HxCDD	2500	1535.288	61		40-135	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2500	1678.805	67		40-135	1.06	1.070
13C-OCDD	5000	2520.129	50		40-135	0.93	1.155
13C-2,3,7,8-TCDF	1000	715.589	72		40-135	0.80	0.980
13C-1,2,3,7,8-PeCDF	1000	747.363	75		40-135	1.61	1.123
13C-1,2,3,4,7,8-HxCDF	2500	1658.469	66		40-135	0.54	0.972
13C-1,2,3,4,6,7,8-HpCDF	2500	1636.018	65		40-135	0.46	1.046
37Cl-2,3,7,8-TCDD	800	542.012	68		40-135	NA	1.007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW5GW112011
Lab Code: EQ1100578-04
Run Type: Duplicate Matrix Spike

Service Request: E1101152
Date Collected: 11/20/11 1525
Date Received: 11/22/11

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 980mL
Data File Name: U227601
ICAL Date: 04/21/11

Date Analyzed: 12/18/11 0033
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227591

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	227		3.14	10.2	0.79	1.001	1
1,2,3,7,8-PeCDD	514		2.24	25.5	1.64	1.000	1
1,2,3,4,7,8-HxCDD	629		3.09	25.5	1.31	0.998	1
1,2,3,6,7,8-HxCDD	524		2.71	25.5	1.38	1.000	1
1,2,3,7,8,9-HxCDD	575		2.75	25.5	1.32	1.008	1
1,2,3,4,6,7,8-HpCDD	508		2.77	25.5	1.10	1.000	1
OCDD	949		4.10	51.0	0.88	1.000	1
2,3,7,8-TCDF	214		2.66	10.2	0.81	1.001	1
1,2,3,7,8-PeCDF	543		1.50	25.5	1.59	1.001	1
2,3,4,7,8-PeCDF	530		1.59	25.5	1.63	1.022	1
1,2,3,4,7,8-HxCDF	532		1.96	25.5	1.21	1.000	1
1,2,3,6,7,8-HxCDF	488		1.75	25.5	1.20	1.003	1
1,2,3,7,8,9-HxCDF	568		2.36	25.5	1.29	1.035	1
2,3,4,6,7,8-HxCDF	521		2.00	25.5	1.22	1.016	1
1,2,3,4,6,7,8-HpCDF	526		1.64	25.5	1.04	1.000	1
1,2,3,4,7,8,9-HpCDF	537		2.21	25.5	1.06	1.035	1
OCDF	985		3.53	51.0	0.89	1.004	1
Total Tetra-Dioxins	227		3.14	10.2	0.79		1
Total Penta-Dioxins	514		2.24	25.5	1.64		1
Total Hexa-Dioxins	1730		2.71	25.5	1.31		1
Total Hepta-Dioxins	508		2.77	25.5	1.10		1
Total Tetra-Furans	214		2.66	10.2	0.81		1
Total Penta-Furans	1070		1.59	25.5	1.59		1
Total Hexa-Furans	2110		1.75	25.5	1.21		1
Total Hepta-Furans	1060		1.64	25.5	1.04		1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Kemron Environmental Services
Project: MR0669 SWMU 40 RFAAP
Sample Matrix: Water
Sample Name: 40MW5GW112011
Lab Code: EQ1100578-04
Run Type: Duplicate Matrix Spike

Service Request: E1101152
Date Collected: 11/20/11 1525
Date Received: 11/22/11
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method Sep Funnel/Jar
Sample Amount: 980mL
Data File Name: U227601
ICAL Date: 04/21/11

Date Analyzed: 12/18/11 0033
Date Extracted: 12/5/11
Instrument Name: E-HRMS-02
GC Column: DB-5
Blank File Name: U227560
Cal Ver. File Name: U227591

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	848.914	85		40-135	0.79	1.007
13C-1,2,3,7,8-PeCDD	1000	1020.225	102		40-135	1.51	1.158
13C-1,2,3,6,7,8-HxCDD	2500	1755.097	70		40-135	1.27	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1839.447	74		40-135	1.07	1.070
13C-OCDD	5000	2487.093	50		40-135	0.89	1.154
13C-2,3,7,8-TCDF	1000	883.610	88		40-135	0.79	0.980
13C-1,2,3,7,8-PeCDF	1000	880.123	88		40-135	1.63	1.122
13C-1,2,3,4,7,8-HxCDF	2500	1800.422	72		40-135	0.55	0.972
13C-1,2,3,4,6,7,8-HpCDF	2500	1776.138	71		40-135	0.45	1.046
37Cl-2,3,7,8-TCDD	800	679.352	85		40-135	NA	1.007

Kemron–Radford Army Ammunition Plant Data Validation Summary Worksheet

SDG#: E1101152	Laboratory: Microbac	Validator: Linda Thal	Validation Date: 01/16/2011
Site: Radford	AR/COC#: 3546		Validation Level: ☐ III ☒ IV
Matrix: Water	# of Samples: 10	Tracking docs present: See sample receipt and log-in documentation	
COCs present: yes	COCs signed: yes	COCs dated: yes	Sample Container Integrity: *

Analyses:

☐ VOCs ☐ SVOCs ☐ PAHs ☐ GRO ☐ DRO ☐ Pests ☐ PCBs ☐ Metals ☐ Gen Chem

☒ Other: Dioxin and Furans

Requested Analyses Not Reported		
Client Sample ID	Lab Sample ID	Analysis
None		

Hold Time/Preservation Outliers						
Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date	Analysis Date
None						

<u>Comments:</u> Sampled 11/20-21/2011 -005 duplicate sample broken; remaining sample has a broken lid. -002MS duplicate broken lid. -007, -008 both samples have broken lids. According to the sample receipt form, the samples with broken lids did not have their integrity compromised. Sample 40MW7GW112011 was incorrectly identified in the data package as 40MW7GW112011. CAR 01/16/2012

Dioxin and Furan Initial Calibration Verification

Calibration: E-HRMS-02 4/21/2011 U1104218290I

Unlabeled Cmpd: 17 OCDD
IS # 26 13C-OCDD
IS Conc (pg/uL) 250

Note: Results may differ due to rounding discrepancies.

17 OCDD			26 13C-OCDD		
Concentration	Target Resp 1	Target Resp 2	IS Resp1	IS Resp 2	RF
5	963	1037	39330	43270	1.211
12.5	2893	3193	41940	46280	1.380
50	10640	11950	45040	50090	1.187
250	53010	58610	44880	50400	1.171
1000	197200	218100	42000	46820	1.169
5000	917400	1010000	39010	43300	1.171
Avg RF					1.215
RSD					6.777

Labeled Cmpd: 27 13C-OCDD
Recovery Std: 28 13C-1,2,3,7,8,9-HxCDD
Rec Std Conc (pg/uL) 125

27 13C-OCDD			28 13C-1,2,3,7,8,9-HxCDD		
Concentration	IS Resp1	IS Resp 2	Rec Resp 1	Rec Resp 2	RF
250	39330	43270	29430	23350	0.782
250	41940	46280	32870	25630	0.754
250	45040	50090	35310	28310	0.748
250	44880	50400	33730	27130	0.783
250	42000	46820	31380	24770	0.791
250	39010	43300	30410	24670	0.747
Avg RF					0.768
RSD					2.603

Dioxin and Furan Continuing Calibration Verification

Calibration: Beginning U227529

Unlabeled Cmpd: 17 OCDD
IS # 26 13C-OCDD
IS Conc (pg/uL) 250

17 OCDD			26 13C-OCDD		
Concentration	Target Resp 1	Target Resp 2	IS Resp1	IS Resp 2	RF
50	6051	6885	26540	29620	1.152
Avg ICAL RF					1.21
%D					-5.20

Labeled Cmpd: 27 13C-OCDD
Recovery Std: 28 13C-1,2,3,7,8,9-HxCDD
Rec Std Conc (pg/uL) 125

27 13C-OCDD			28 13C-1,2,3,7,8,9-HxCDD		
Concentration	IS Resp1	IS Resp 2	Rec Resp 1	Rec Resp 2	RF
250	26540	29620	21190	17190	0.732
Avg ICAL RF					0.768
%D					-4.67

Calibration: Ending U227541

Unlabeled Cmpd: 17 OCDD
IS # 26 13C-OCDD
IS Conc (pg/uL) 250

17 OCDD			26 13C-OCDD		
Concentration	Target Resp 1	Target Resp 2	IS Resp1	IS Resp 2	RF
50	1270	1399	5433	6032	1.164
Avg ICAL RF					1.21
%D					-4.19

Labeled Cmpd: 27 13C-OCDD
Recovery Std: 28 13C-1,2,3,7,8,9-HxCDD
Rec Std Conc (pg/uL) 125

27 13C-OCDD			28 13C-1,2,3,7,8,9-HxCDD		
Concentration	IS Resp1	IS Resp 2	Rec Resp 1	Rec Resp 2	RF
250	5433	6032	6361	4913	0.508
Avg ICAL RF					0.768
%D					-33.75

Calibration: Beginning U227529 and Ending U227541 Average

Unlabeled Cmpd: 17 OCDD
IS # 26 13C-OCDD
IS Conc (pg/uL) 250

17 OCDD				26 13C-OCDD		
Calibration	Concentration	Target Resp 1	Target Resp 2	IS Resp1	IS Resp 2	RF
U227529	50	6051	6885	26540	29620	1.152
U227541	50	1270	1399	5433	6032	1.164
Avg CCAL RF						1.158
%RSD						0.749

Labeled Cmpd: 27 13C-OCDD
Recovery Std: 28 13C-1,2,3,7,8,9-HxCDD
Rec Std Conc (pg/uL) 125

		27 13C-OCDD		28 13C-1,2,3,7,8,9-HxCDD		
Calibration	Concentration	IS Resp1	IS Resp 2	Rec Resp 1	Rec Resp 2	RF
U227529	250	26540	29620	21190	17190	0.732
U227541	250	5433	6032	6361	4913	0.508
Avg CCAL RF						0.620
%RSD						25.449

Dioxin and Furan Continuing Calibration Verification

Calibration: Beginning U227559

Unlabeled Cmpd: 17 OCDD
IS # 26 13C-OCDD
IS Conc (pg/uL) 250

Note: Results may differ due to rounding discrepancies.

17 OCDD			26 13C-OCDD		
Concentration	Target Resp 1	Target Resp 2	IS Resp1	IS Resp 2	RF
50	9016	9643	37450	41850	1.176
Avg ICAL RF					1.21
%D					-3.16

Labeled Cmpd: 27 13C-OCDD
Recovery Std: 28 13C-1,2,3,7,8,9-HxCDD
Rec Std Conc (pg/uL) 125

27 13C-OCDD			28 13C-1,2,3,7,8,9-HxCDD		
Concentration	IS Resp1	IS Resp 2	Rec Resp 1	Rec Resp 2	RF
250	37450	41850	27750	22330	0.792
Avg ICAL RF					0.768
%D					3.16

Calibration: Ending U227570

Unlabeled Cmpd: 17 OCDD
IS # 26 13C-OCDD
IS Conc (pg/uL) 250

17 OCDD			26 13C-OCDD		
Concentration	Target Resp 1	Target Resp 2	IS Resp1	IS Resp 2	RF
50	4403	4982	18950	20880	1.178
Avg ICAL RF					1.21
%D					-3.02

Labeled Cmpd: 27 13C-OCDD
Recovery Std: 28 13C-1,2,3,7,8,9-HxCDD
Rec Std Conc (pg/uL) 125

27 13C-OCDD			28 13C-1,2,3,7,8,9-HxCDD		
Concentration	IS Resp1	IS Resp 2	Rec Resp 1	Rec Resp 2	RF
250	18950	20880	12590	9694	0.894
Avg ICAL RF					0.768
%D					16.44

Dioxin and Furan Continuing Calibration Verification

Calibration: Beginning U227591

Unlabeled Cmpd: 16 1,2,3,4,6,7,8-HpCDD
IS # 25 13C-1,2,3,4,6,7,8-HpCDD
IS Conc (pg/uL) 125

Note: Results may differ due to rounding discrepancies.

16 1,2,3,4,6,7,8-HpCDD		25 13C-1,2,3,4,6,7,8-HpCDD			
Concentration	Target Resp 1	Target Resp 2	IS Resp1	IS Resp 2	RF
25	692.8	655.4	3139	3024	1.094
Avg ICAL RF					1.07
%D					2.22

Labeled Cmpd: 25 13C-1,2,3,4,6,7,8-HpCDD
Recovery Std: 28 13C-1,2,3,7,8,9-HxCDD
Rec Std Conc (pg/uL) 125

25 13C-1,2,3,4,6,7,8-HpCDD		28 13C-1,2,3,7,8,9-HxCDD			
Concentration	IS Resp1	IS Resp 2	Rec Resp 1	Rec Resp 2	RF
125	3139	3024	3617	2871	0.950
Avg ICAL RF					0.940
%D					1.05

Calibration: Ending U227604

Unlabeled Cmpd: 16 1,2,3,4,6,7,8-HpCDD
IS # 25 13C-1,2,3,4,6,7,8-HpCDD
IS Conc (pg/uL) 125

16 1,2,3,4,6,7,8-HpCDD		25 13C-1,2,3,4,6,7,8-HpCDD			
Concentration	Target Resp 1	Target Resp 2	IS Resp1	IS Resp 2	RF
25	927.2	833.9	4474	4030	1.035
Avg ICAL RF					1.07
%D					-3.23

Labeled Cmpd: 25 13C-1,2,3,4,6,7,8-HpCDD
Recovery Std: 28 13C-1,2,3,7,8,9-HxCDD
Rec Std Conc (pg/uL) 125

25 13C-1,2,3,4,6,7,8-HpCDD		28 13C-1,2,3,7,8,9-HxCDD			
Concentration	IS Resp1	IS Resp 2	Rec Resp 1	Rec Resp 2	RF
125	4474	4030	5092	3958	0.940
Avg ICAL RF					0.940
%D					-0.04

Work Order # E1101152
CALCULATION WORKSHEET FOR 8290 RESULTS

AVG RF:

$$\text{Result (pg)} = \left(\frac{\text{Sample Area Response} \times \text{Int. Std. Conc.}}{\text{Int. Std. Area Response} \times \text{Calibration R.F.}} \right)$$

Water Samples

Note: Results may differ slightly due to rounding.

	MB EQ1100578-001	LCS	-001	-002	-002 MS	-002 MSD
Dilution/DF	1	1	1	1	1	1
Sample Aliquot (mL)	1000	1000	880	920	920	980
IS Response1	18320	9191	17960	4166	7142	7340
IS Response 2	20070	10010	19650	4505	7676	8219
Total IS Response	38390	19201	37610	8671	14818	15559
Rec Std Response1	9971	8154	12890	2405	4323	4530
Rec Std Response 2	8005	6546	10530	1862	3338	3621
Total Rec Std Response	17976	14700	23420	4267	7661	8151
Calibration R.F.	0.768	0.620	0.620	0.768	0.768	0.768
IS spike Conc. (pg)	5000	5000	5000	5000	5000	5000
Recovery Std Conc. (pg)	1000	1000	1000	1000	1000	1000
IS Conc. (pg)	2782.6	2106.8	2590.1	2647.7	2520.1	2487.1
IS %REC	56	42	52	53	50	50
	OCDD	OCDD	OCDD	OCDD	OCDD	OCDD
TC Response 1		1966.00	93.85	39.85	1550.00	1646.00
TC response 2		2170.00	116.10	44.77	1767.00	1871.00
Total TC Response		4136	209.95	84.62	3317	3517
IS Response1		9191	17960	4166	7142.00	7340
IS Response 2		10010	19650	4505	7676.00	8219
Total IS Response		19201	37610	8671	14818	15559
Calibration R.F.		1.158	1.158	1.21	1.21	1.21
IS Concentration (pg)		5000	5000	5000	5000	5000
TC Conc. (pg/L)		930.1	27.4	43.7	1001.4	949.3
Amount Spiked (pg/L)		1000			1090	1020
%Rec		93.01			87.87	88.79
RPD						5.34

	-003	-004	-005	-006	-007	-008
Dilution/DF	1	1	1	1	1	1
Sample Aliquot (mL)	940	960	960	900	920	800
IS Response1	14630	12940	13630	9510	15130	9756
IS Response 2	15900	14150	14880	10780	16610	10750
Total IS Response	30530	27090	28510	20290	31740	20506
Rec Std Response1	9839	8744	9269	7565	11480	7885
Rec Std Response 2	7842	6850	7313	6041	9275	6071
Total Rec Std Response	17681	15594	16582	13606	20755	13956
Calibration R.F.	0.768	0.768	0.768	0.768	0.768	0.768
IS spike Conc. (pg)	5000	5000	5000	5000	5000	5000
Recovery Std Conc. (pg)	1000	1000	1000	1000	1000	1000
IS Conc. (pg)	2249.8	2263.4	2240.2	1943.0	1992.5	1914.4
IS %REC	45	45	45	39	40	38
	OCDD	OCDD	OCDD	OCDD	OCDD	OCDD
TC Response 1	63.57	41.02	37.66	45.42	51.50	308.30
TC response 2	64.28	46.09	42.31	53.40	57.86	336.10
Total TC Response	127.85	87.11	79.97	98.82	109.36	644.4
IS Response1	14630	12940	13630	9510	15130.00	9756
IS Response 2	15900	14150	14880	10780	16610.00	10750
Total IS Response	30530	27090	28510	20290	31740	20506
Calibration R.F.	1.21	1.21	1.21	1.21	1.21	1.21
IS Concentration (pg)	5000	5000	5000	5000	5000	5000
TC Conc. (pg/L)	18.3	13.8	12.0	22.3	15.4	161.7
Amount Spiked (pg/L)						
%Rec						
RPD						



PO Box 21987
Albuquerque, NM 87154
1-888-678-5447
www.aqainc.net

Date: January 31, 2012

Subject: Data Validation for Lab Report L11110795
Radford Army Ammunition Plant

From: Linda Thal & Alison Felix
Organic Analyses & Perchlorate Metals Analyses
Senior Data Validator, AQA Senior Data Validator, AQA

To: Mary Lou Rochotte
Kemron Environmental Services, Inc.

OVERVIEW

Microbac Laboratories Inc., Marietta, Ohio, received 11 field samples associated with the project work described in the *Radford Army Ammunition Plant Final SWMU 40 (RAAP-009) Landfill Nitro Area IMWP* (August 2011) (project QAPP) on November 22, 2011. The field samples were assigned laboratory sample delivery group (SDG) number L11110795 and included four normal water samples, one field duplicate water sample, one matrix spike pair, two equipment blanks, one field blank, and one trip blank. All samples were analyzed for volatile organic compounds (VOCs) using EPA method 8260B. All samples excluding the trip blank were also analyzed for semi-volatile organic compounds (SVOCs) by EPA method 8270C; polynuclear aromatic hydrocarbons (PAHs) by EPA method 8270C SIM; perchlorates by EPA method 6850; pesticides by EPA method 8081A; and metals by EPA methods 6010B, 6020, and 7470A as detailed in *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (SW-846)*, Third Edition, Final Update III.

SUMMARY

The samples were analyzed according to the quality control (QC) criteria of the applicable analytical method. The data for these samples were found to be compliant with the requirements of the project QAPP and/or EPA Region III's *Innovative Approaches to Data Validation* (June 1995) and *EPA Region III Modifications to the National Functional Guidelines for Organic Data Review* (September 1994) or *EPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses* (April 1993) (Region III NFG, collectively), as applicable, and the results for all target analytes *except* 2-chloroethyl vinyl ether for all samples; acetone for all samples *except* 40MW7GW112011, 40EQR112011, 40TB112011, 40MW6GW112111 and 40EQR112111; and 4-methyl-2-pentanone for samples 40MW7GW112011, 40MW5GW112011, and 40DUPGW112011 are considered usable. The 2-chloroethyl vinyl ether results for all samples were rejected due to a matrix spike duplicate recovery of 0% on an acidified sample aliquot. The acetone results that were non-detects were rejected due to RRFs <0.05 in the initial and continuing calibrations. The 4-methyl-2-pentanone sample results were rejected due to a RRF <0.05 in a continuing calibration.

MAJOR PROBLEMS

(Refer to Appendix B – Data Qualifier Summary)

- The 2-chloroethyl vinyl ether results for all samples were rejected due to 0% matrix spike duplicate recovery on an acidified sample aliquot.
- The acetone results for all samples *except* 40MW7GW112011, 40EQR112011, 40TB112011, 40MW6GW112111 and 40EQR112111 were rejected due to RRFs <0.05 for the initial and continuing calibrations.
- The 4-methyl-2-pentanone results for samples 40MW7GW112011, 40MW5GW112011, and 40DUPGW112011 were rejected due to an RRF <0.05 for a continuing calibration.

MINOR PROBLEMS

(Refer to Appendix B – Data Qualifier Summary)

- 40MW7GW112011: 2-Chloroethyl vinyl ether (R)
Acetone 4.38 (L)
4-Methyl-2-pentanone (R)
bis(2-Ethylhexyl)phthalate 5.31 (B)
Benzoic acid (UJ)
Perchlorate 4.5 (J)
4,4'-DDD (UL)
4,4'-DDE (UL)
4,4'-DDT (UL)
Aldrin (UL)
alpha-Chlordane (UL)
alpha-BHC (UL)
beta-BHC (UL)
delta-BHC (UL)
Dieldrin (UL)
Endosulfan I (UL)
Endosulfan II (UL)
Endosulfan sulfate (UL)
Endrin (UL)
Endrin aldehyde (UL)
Endrin ketone (UL)
gamma-Chlordane (UL)
gamma-BHC (lindane) (UL)
Heptachlor (UL)
Heptachlor epoxide (UL)
Methoxychlor (UL)
Toxaphene (UL)
Total cadmium (UL)
Total thallium (UL)
Total beryllium (UJ)
Total arsenic 0.002 (K)
Total selenium 0.00186 (K)
Total iron 7.95 (L)
Dissolved beryllium (UJ)
Dissolved thallium (UL)
Dissolved cadmium (UL)
Dissolved selenium 0.00181 (K)
Dissolved manganese 0.0239 (B)
- 40MW5GW112011: 2-Chloroethyl vinyl ether (R)
Acetone (R)
4-Methyl-2-pentanone (R)
Perchlorate 1.55 (J)

- Benzoic acid (UJ)
- Total cadmium (UL)
- Total thallium (UL)
- Total chromium 0.00389 (K)
- Total selenium 0.00131 (K)
- Total beryllium (UJ)
- Total manganese 0.0152 (B)
- Total iron 2.04 (L)
- Dissolved selenium 0.00119 (K)
- Dissolved beryllium (UJ)
- Dissolved barium 0.0554 (J)

- 40DUPGW112011:
 - 2-Chloroethyl vinyl ether (R)
 - Acetone (R)
 - 4-Methyl-2-pentanone (R)
 - Perchlorate 1.55 (J)
 - Benzoic acid (UJ)
 - Total cadmium (UL)
 - Total thallium (UL)
 - Total beryllium (UJ)
 - Total iron 1.58 (L)
 - Total manganese 0.00767 (B)
 - Dissolved cadmium (UL)
 - Dissolved thallium (UL)
 - Dissolved chromium 0.00299 (K)
 - Dissolved beryllium (UJ)
 - Dissolved mercury 0.000123 (B)

- 40112011FB:
 - 2-Chloroethyl vinyl ether (R)
 - Acetone (R)
 - Benzoic acid (UJ)
 - Total cadmium (UL)
 - Total thallium (UL)
 - Total beryllium (UJ)
 - Total iron (UL)
 - Total mercury 0.000117 (B)

- 40EQR112011:
 - 2-Chloroethyl vinyl ether (R)
 - Benzoic acid (UJ)
 - Total cadmium (UL)
 - Total thallium (UL)
 - Total beryllium (UJ)
 - Total iron (UL)

- 40TB112011:
 - 2-Chloroethyl vinyl ether (R)

- 40MW6GW112111:
 - 2-Chloroethyl vinyl ether (R)

- Benzoic acid (UJ)
 - Perchlorate 0.885 (J)
 - Total cadmium (UL)
 - Total thallium (UL)
 - Total chromium 0.00392 (K)
 - Total beryllium (UJ)
 - Total iron 0.323 (L)
- 40EQR112111:
 - 2-Chloroethyl vinyl ether (R)
 - Benzoic acid (UJ)
 - Total cadmium (UL)
 - Total thallium (UL)
 - Total beryllium (UJ)
 - Total iron (UL)
- 40LFMW01GW112111:
 - 2-Chloroethyl vinyl ether (R)
 - Acetone (R)
 - Chloroform 0.947 (B)
 - Benzoic acid (UJ)
 - Perchlorate 9.67 (J)
 - 4,4'-DDD (UL)
 - 4,4'-DDE (UL)
 - 4,4'-DDT (UL)
 - Aldrin (UL)
 - alpha-Chlordane (UL)
 - alpha-BHC (UL)
 - beta-BHC (UL)
 - delta-BHC (UL)
 - Dieldrin (UL)
 - Endosulfan I (UL)
 - Endosulfan II (UL)
 - Endosulfan sulfate (UL)
 - Endrin (UL)
 - Endrin aldehyde (UL)
 - Endrin ketone (UL)
 - gamma-Chlordane (UL)
 - gamma-BHC (lindane) (UL)
 - Heptachlor (UL)
 - Heptachlor epoxide (UL)
 - Methoxychlor (UL)
 - Toxaphene (UL)
 - Total cadmium (UL)
 - Total thallium (UL)
 - Total beryllium 0.00137 (J)
 - Total zinc 0.126 (B)
 - Total mercury 0.000157 (B)

Total iron 21.8 (L)
Dissolved cadmium (UL)
Dissolved thallium (UL)
Dissolved chromium 0.00291 (K)
Dissolved beryllium (UJ)
Dissolved manganese 0.00395 (B)
Dissolved mercury 0.000126 (B)

NOTES

(Refer to Appendix D – Support Documentation)

Sample Chain of Custody (COC) Records

- The samples were listed on COC #3287. Data were reported for all required analyses.

Preservation and Holding Times

- The samples were correctly preserved and analyzed within the holding times specified in the project QAPP and the Region III NFG.

Instrument Tune

- The instrument tunes for all applicable analyses were within the criteria specified in the project QAPP and the Region III NFG with the following exception.
 - The perchlorate tune data were not included in the data package. The laboratory stated that the instrument was tuned after maintenance is performed and that the ion ratio was verified with every sample reported to demonstrate that the instrument was working properly.

Initial Calibration (ICAL)

- The ICAL relative standard deviations (%RSDs) and/or correlation coefficients, as applicable, for all analyses were within the criteria specified in the project QAPP and the Region III NFG.
- The relative response factor (RRF) for acetone was <0.05 for the ICAL performed on HPMS6. The associated results for all samples *except* 40MW7GW112011 were non-detects and were **qualified R**. The associated result for sample 40MW7GW112011 was a detect and was **qualified L**. Samples 40EQR112011, 40TB112011, 40MW6GW112111 and 40EQR112111 were not associated with HPMS6.
- The laboratory used re-calculated standard concentrations to calculate the perchlorate CCVs and sample results. Therefore, the associated sample results that were detects were **qualified J** and those that were non-detects were not qualified.

Initial Calibration Verification (ICV)/Continuing Calibration Verification (CCV)

- The ICV/CCV relative response factors (RRFs), percent differences (%Ds), and/or percent recoveries (%Rs), as applicable, for all analyses were within the criteria specified in the project QAPP and the Region III NFG with the following exceptions.
 - The RRFs for acetone were <0.05 for the ICV/CCVs performed on HPMS6. The associated results for all samples except 40MW7GW112011 were non-detects and were **qualified R**. The associated result for sample 40MW7GW112011 was a detect and was **qualified L**. Samples 40EQR112011, 40TB112011, 40MW6GW112111 and 40EQR112111 were not associated with HPMS6.
 - The RRF for 4-methyl-2-butanone was <0.05 for the CCV associated with samples 40MW7GW112011, 40MW5GW112011, and 40DUPGW112011. The associated sample results were non-detects and were **qualified R**.
 - The CCV %D for benzoic acid was >25% with negative bias. The associated sample results were non-detects and were **qualified UJ**.

Contract Required Detection Limit (CRDL)

- The perchlorate CRDL was analyzed at the reporting limit (RL) and not 2X the RL. No sample data were qualified as a result.
- The CRDL recoveries associated with the analysis of all samples except filtered sample 40MW5GW112011 were <90% for cadmium and thallium. All associated sample results were non-detects and were **qualified UL**.
- The CRDL recoveries associated with the analysis of all samples except filtered sample 40MW5GW112011 were >110% for antimony, arsenic, chromium, copper, and selenium. The total chromium results for samples 40MW5GW112011 and 40MW6GW112011, the dissolved chromium results for samples 40DUPGW112011 and 40LFMW01GW112111, the total arsenic result for sample 40MW7GW112011, and the total and dissolved selenium results for sample 40MW7GW112011 were detects <2X the RL and were **qualified L**. All other associated sample results were either detects >2X the RL or were non-detects and, therefore, were not qualified.
- The CRDL recoveries associated with the analysis of filtered sample 40MW5GW112011 were >110% for antimony and thallium. The associated sample results were non-detects and, therefore, were not qualified.
- The CRDL recovery associated with the analysis of filtered sample 40MW5GW112011 and all samples except the unfiltered and filtered aliquots of sample 40MW7GW112011 was >110% for selenium. The filtered and unfiltered selenium results for samples 40MW5GW112011 and 40DUPGW112011 and the total selenium result for sample 40MW6GW112011 were detects <2X the RL and were **qualified K**. The remaining associated sample results were non-detects and, therefore, were not qualified.

- CRDL analyses were not performed with the 6010B analyses. The concentrations of the low calibration standard were < the RL for all target analytes *except* beryllium. The total beryllium result for sample 40LFWM01GW112111 was a detect and was **qualified J** based on professional judgment. All other beryllium sample results were non-detects and were **qualified UJ** based on professional judgment. No other sample results were qualified, based on professional judgment.

Inductively Coupled Plasma (ICP) Interference Check Sample

- ICP interference check sample recoveries were within the project QAPP- and Region III-specified control limits. The results of the ICP-MS ICS A and ICS AB analyses were applicable to all samples because the concentrations of one or more of the interferents in those samples were > those in the ICS solutions. The results of the ICS A and ICS AB analyses were not applicable to the field blank samples because the concentrations of the interferents in those samples were < those in the ICS solutions. All non-spiked ICP-MS ICS A results were < the MDL.

Field Blanks

- Methylene chloride was detected in equipment blank 40EQR112011 and field blank 40112011FB. The associated sample results were non-detects and, therefore, were not qualified.
- Chloroform was detected in equipment blank 40EQR112111. The associated result for sample 40MW6GW112111 was non-detect and, therefore, was not qualified. The associated result for sample 40LFMW01GW112111 was a detect and, therefore, was **qualified B**.
- Total calcium was detected in equipment blank 40EQR112011. All associated sample results were detects >5X the equipment blank concentration and, therefore, were not qualified.
- Total zinc was detected in equipment blank 40EQR112111. The unfiltered zinc result for sample 40LFMW01GW112111 was a detect <5X the equipment blank concentration and, therefore, was **qualified B**. All remaining associated sample results were detects >5X the equipment blank concentration or were non-detects and therefore, were not qualified.
- Total manganese was detected in field blank 40112011FB. The filtered manganese results for sample 40MW7112011 and 40LFMW01GW112111 and the unfiltered manganese results for samples 40MW5GW112011 and 40DUPGW112011 were detects <5X the field blank concentration and, therefore, were **qualified B**. The remaining associated sample results were either detects >5X the equipment blank concentration or non-detects and, therefore, were not qualified.
- Total mercury was detected in field blank 40112011FB; however, the field blank concentration was qualified B due to the method blank and, therefore, the mercury field blank result was not applied to the field samples.

Laboratory Method Blanks

- bis(2-Ethylhexyl)phthalate was detected in the method blank. The associated result for sample 40MW7GW112011 was a detect <10X the method blank concentration and was **qualified B**. The remaining associated sample results were non-detects and were not qualified.
- Mercury was detected in the method blank associated with all samples. The filtered mercury results for samples 40DUPGW112011 and 40LMFW01GW112111 and the unfiltered mercury results for samples 40112011FB and 40LFMW01GW112111 were detects <5X the method blank concentration and were **qualified B**. All other associated sample results were either detects >5X the method blank concentration or were non-detects and were not qualified.
- The thallium result for the method blank associated with all samples *except* the filtered aliquot of sample 40MW5GW112011 was negative with an absolute value slightly > the MDL. Based on professional judgment, the associated sample results were not qualified.

Laboratory Calibration Blanks

- No target analytes were detected in the calibration blanks.

Laboratory Control Samples/Laboratory Control Sample Duplicates (LCSs/LCSDs)

- The LCS/LCSD recoveries met project QAPP- and Region III-specified QC acceptance criteria with the following exception.
 - The chloromethane recovery was > the upper acceptance limit for the LCS associated with samples 40MW7GW112011, 40MW5GW112011 and 40DUPGW112011. The associated sample results were non-detects unaffected by the positive bias and were not qualified based on professional judgment.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

- One MS/MSD pair was analyzed on sample 40MW5GW112011 for all organic analyses, and two MS/MSD pairs were analyzed on sample 40MW5GW112011 for all metals.
 - The MSD recovery was 0% for 2-chloroethyl vinyl ether. The MS and MSD were performed on an acidified sample aliquot; however, highly reactive VOC compounds such as 2-chloroethyl vinyl ether can be lost due to acidification. This was confirmed by the acceptable 2-chloroethyl vinyl ether recovery for the unacidified LCS. VOC analysis was performed on acidified sample aliquots for all samples and, therefore, the 2-chloroethyl vinyl ether results for all samples were **qualified R** based on professional judgment.
 - The MS and/or MSD recoveries for 12 SVOC target analytes were > the upper acceptance limit. The associated sample results were non-detects unaffected by the high bias and were not qualified, based on professional judgment.

- The MSD recovery for perchlorate was 75%, which was outside of the current laboratory limits (80-120) but met the limits listed in the QAPP. Therefore, no sample results were qualified.
- The MS/MSD recoveries for endrin ketone were > the upper acceptance limit. The associated sample results were non-detects unaffected by the high bias and were not qualified, based on professional judgment.
- The MS/MSD recovery was <75% for total iron. The total iron results for samples 40112011FB, 40EQR112011, and 40EQR112111 were non-detects and therefore, were **qualified UL**. The remaining associated sample results were detects and, therefore, **were qualified L**.
- The MS/MSD recovery was <75% for total magnesium, and the MS/MSD recovery was >125% for dissolved calcium; however, the parent sample concentrations were >4X the spike concentrations and, therefore, the associated sample results were not qualified.
- The PS recoveries for Ca and Mg were <10%; however the parent sample concentrations were >4X the spike concentrations, therefore the associated sample results were not qualified.

ICP Serial Dilution Analyses

- The %D for barium was >10%, and the parent sample concentration was >50X the MDL for the serial dilution associated with the filtered aliquot of sample 40MW5GW112011. The dissolved barium result for sample 40MW5GW112011 was a detect and, therefore was **qualified J**.

Laboratory Sample Duplicate

- MSDs were analyzed as the laboratory duplicates for all analyses and met project QAPP- and Region III-specified QC acceptance criteria.

Field Sample Duplicate

- Sample 40MW5GW112011 was collected and analyzed in duplicate (sample 40DUPGW112011) for all analyses. The RPDs between the sample and duplicate results were within the project QAPP-specified control limits with the following exception.
 - The RPDs between the sample and duplicate results for unfiltered manganese and unfiltered iron were > the project QAPP-specified control limits; therefore, the parent and duplicate sample results were **qualified J**.

Analyte	40MW5GW112011		40DUPGW112011		RPD	>25%
	Result	RL	Result	RL		
Chloroform	3.17	1.00	3.33	1.00	4.92	
Perchlorate	1.55	0.200	1.55	0.200	0.00	
Aluminum, Total	1.89	0.100	1.54	0.100	20.41	
Calcium, Total	87.2	0.200	84.8	0.200	2.79	
Iron, Total	2.04	0.100	1.58	0.100	25.41	J/UJ
Magnesium, Total	32.5	0.500	31.3	0.500	3.76	
Potassium, Total	1.37	1.00	1.37	1.00	0.00	
Sodium, Total	5.22	0.500	5.48	0.500	4.86	
Calcium, Dissolved	82.8	0.200	81.7	0.200	1.34	
Iron, Dissolved	0.0741	0.100	0.082	0.100	<RL	
Magnesium, Dissolved	29.8	0.500	29.6	0.500	0.67	
Potassium, Dissolved	1.08	1.00	1.06	1.00	1.87	
Sodium, Dissolved	5.35	0.500	5.33	0.500	0.37	
Barium, Total	0.0571	0.00600	0.0599	0.00600	4.79	
Chromium, Total	0.00389	0.00400	0.00422	0.00400	*	
Manganese, Total	0.0152	0.00400	0.00767	0.00400	65.85	J/UJ
Nickel, Total	0.00453	0.00800	0	0.00800	<RL	
Selenium, Total	0.00131	0.00200	0.00106	0.00200	<RL	
Barium, Dissolved	0.0554	0.00600	0.0532	0.00600	4.05	
Chromium, Dissolved	0.00176	0.00400	0.00299	0.00400	<RL	
Nickel, Dissolved	0.00383	0.00800	0	0.00800	<RL	
Selenium, Dissolved	0.00119	0.00200	0	0.00200	<RL	
Mercury, Dissolved	0	0.000200	0.000123	0.000200	<RL	

* The sample result was slightly < the RL, the duplicate result was slightly > the RL, and the absolute difference between the two results was < the RL; therefore, no data qualified based on professional judgment.

Sample Surrogate Spikes

- Surrogate spikes added to all field samples analyzed for VOCs, SVOCs, PAHs, and pesticides were within the project QAPP-specified control limits with the following exceptions.
 - The 2,4,6-tribromophenol recoveries were > the upper acceptance limit for samples 40DUPGW112011, 40MW5MSGW112011 and 40112011FB. The associated sample results were non-detects unaffected by the high bias, and because only one acid surrogate was outside of acceptance criteria, the results were not qualified.
 - The decachlorobiphenyl recoveries were < the lower acceptance limit but $\geq 10\%$ on both columns for samples 40MW7GW112011 and 40LFMW01GW112111. The associated sample results were non-detects and were **qualified UL**.

Sample Internal Standard Recoveries

- The internal standard recoveries for VOCs, SVOCs, and perchlorates were within the project QAPP- and Region III-specified control limits.
- The internal standard recoveries for metals by method 6020 were within the 60-125% limits provided in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (NFG) (October 2004).

Sample Results

- 2-Chloroethyl vinyl ether was analyzed for on acidified aliquots for all samples. Highly reactive VOC compounds such as 2-chloroethyl vinyl ether can be lost due to acidification as illustrated by the MS/MSD recoveries. The associated sample results for the acidified samples were non-detects and, therefore, were **qualified R**.
- The samples were analyzed for the methods requested on the COC. Method detection limits (MDLs) and reporting limits (RLs) were reported for all analyses and met project-specified MDLs and RLs with the following exceptions.
 - The MDLs for method 6010B analytes unfiltered and filtered beryllium, iron, potassium, and vanadium and all method 6020 target analytes except selenium were > the MDLs specified in the project QAPP.
 - The reported RLs for total and dissolved cadmium were > the RLs specified in the project QAPP.
 - All samples except the filtered aliquot for sample 40MW5GW112011 were diluted 2X for ICP-MS analysis. The associated RLs were adjusted accordingly and, therefore, did not meet project-specified RLs.

Action Level Notification

- No results were above the action levels specified in the Region III NFG.

Usability Statement

- There were 1710 field sample data points associated with the data package for SDG L11110795. Of these field sample data points, 1575 (92.11% of the total) were assessed and left unqualified, 16 (0.94% of the total) were assessed and qualified R, 11 (0.64% of the total) were assessed and qualified B, 7 (0.41% of the total) were assessed and qualified J, 6 (0.35% of the total) were assessed and qualified L, 67 (3.92% of the total) were assessed and qualified UL, 19 (1.11% of the total) were assessed and qualified UJ, and 9 (0.53% of the total) were assessed and qualified K.
- *The field sample data points that were qualified R must be categorized as unusable data.*

- The field sample data points that were qualified B can be categorized as definitive data with a potentially falsely identified analyte whose concentration is only an estimate due to QC deficiencies, the field sample data points that were qualified J can be categorized as definitive data with positively identified analyte concentrations that are only estimates due to QC deficiencies, the field sample data points that were qualified L can be categorized as definitive data with positively identified analyte concentrations that are only estimates and may be qualified low due to QC deficiencies, the field sample data points that were assessed and qualified UL can be categorized as definitive data with nondetectable analyte concentrations that are only estimates and may be biased low due to QC deficiencies, the field sample data points that were assessed and qualified UJ can be categorized as definitive data with nondetectable analyte concentrations that are only estimates due to QC deficiencies, and the field sample data points that were qualified K can be categorized as definitive data with positively identified analyte concentrations that are only estimates and area biased high due to QC deficiencies.
- The unqualified field sample data points can be categorized as definitive data with no associated QC deficiencies.

Report Content Statement

This report has been formatted for consistency with Appendix B, Region III Standard Operating Procedures for Data Validation Reports, contained in the guidance *EPA Region III Modifications to the National Functional Guidelines for Organic Data Review* (September 1994). The laboratory data were reviewed in accordance with the EPA Region III's *Innovative Approaches to Data Validation* (June 1995) and *EPA Region III Modifications to the National Functional Guidelines for Organic Data Review* (September 1994) or *EPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses* (April 1993) (Region III NFG, collectively), as applicable; and the *Radford Army Ammunition Plant Final SWMU 40 (RAAP-009) Landfill Nitro Area IMWP* (August 2011) (project QAPP); and the applicable SW-846 methods. This report only addresses those problems and issues that may affect data usability.

Attachments

Appendix A – Glossary of Data Qualifiers

Appendix B – Data Qualifier Summary

Appendix C – Laboratory Report Results/Data Summary

Appendix D – Support Documentation

Appendix A – Glossary of Data Qualifiers

Data Qualifier Codes

Codes Related to Identification

- U Not detected. The associated number indicates the approximate sample concentration necessary to be detected.
- B Not detected substantially above the level reported in laboratory or field blanks.
- R Unusable result. Analyte may or may not be present in the sample.

Codes Related to Quantitation

- J Analyte present. Reported value may or may not be accurate or precise.
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ Not detected. Quantitation limit may be inaccurate or imprecise.
- UL The analyte was not detected, and the reported quantitation limit is probably higher than reported.

Appendix B – Data Qualifier Summary

Data Qualifier Summary

Note: The results listed in this table are detects and qualified non-detects only. Unqualified non-detects are not listed.

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40MW7GW112011 L11110795-01, -02	2-Chloroethyl vinyl ether	R	U	Matrix spike duplicate 0%R; acidified sample
	Acetone	L	J	ICAL, ICV/CCV relative response factor <0.05; >MDL, <RL
	4-Methyl-2-pentanone	R	U	CCV relative response factor <0.05.
	bis(2-Ethylhexyl)phthalate	B	J	Method blank
	Perchlorate	J		contamination; >MDL, <RL
	Benzoic acid	UJ	U	Re-calculated standard concentrations used to calculate sample results
	Naphthalene 4,4' -DDD	J UL	J U	CCV percent difference > -25%
	4,4' -DDE	UL	U	>MDL, <RL
	4,4' -DDT	UL	U	Surrogate recovery < LAL but ≥10%
	Aldrin	UL	U	Surrogate recovery < LAL but ≥10%
	alpha-Chlordane	UL	U	Surrogate recovery < LAL but ≥10%
	alpha-BHC	UL	U	Surrogate recovery < LAL but ≥10%
	beta-BHC	UL	U	Surrogate recovery < LAL but ≥10%
		B-1		Surrogate recovery < LAL but ≥10%

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
	delta-BHC	UL	U	Surrogate recovery < LAL but ≥10%
	Dieldrin	UL	U	Surrogate recovery < LAL but ≥10%
	Endosulfan I	UL	U	Surrogate recovery < LAL but ≥10%
	Endosulfan II	UL	U	Surrogate recovery < LAL but ≥10%
	Endosulfan sulfate	UL	U	Surrogate recovery < LAL but ≥10%
	Endrin	UL	U	Surrogate recovery < LAL but ≥10%
	Endrin aldehyde	UL	U	Surrogate recovery < LAL but ≥10%
	Endrin ketone	UL	U	Surrogate recovery < LAL but ≥10%
	gamma-Chlordane	UL	U	Surrogate recovery < LAL but ≥10%
	gamma-BHC (lindane)	UL	U	Surrogate recovery < LAL but ≥10%
	Heptachlor	UL	U	Surrogate recovery < LAL but ≥10%
	Heptachlor epoxide	UL	U	Surrogate recovery < LAL but ≥10%
	Methoxychlor	UL	U	Surrogate recovery < LAL but ≥10%
	Toxaphene	UL	U	Surrogate recovery < LAL but ≥10%
	Total cadmium	UL	U	CRDL %R <LAL
	Total thallium	UL	U	CRDL %R <LAL
	Total beryllium	UJ	U	No CRDL analyzed
		B-2		

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
	Total arsenic	K	J	CRDL %R >UAL; >MDL, <RL
	Total selenium	K	J	CRDL %R >UAL; >MDL, <RL
	Total iron	L	J	Matrix spike %R <LAL >MDL, <RL
	Total vanadium	J	J	CRDL %R <LAL
	Dissolved cadmium	UL	U	CRDL %R <LAL
	Dissolved thallium	UL	U	CRDL %R <LAL
	Dissolved beryllium	UJ	U	No CRDL analyzed
	Dissolved selenium	K	J	CRDL %R >UAL; >MDL, <RL
	Dissolved iron	J	J	>MDL, <RL
	Dissolved manganese	B		Blank contamination
	2-Chloroethyl vinyl ether	R	U	Matrix spike duplicate
	Acetone	R	U	0%R; acidified sample ICAL, ICV/CCV relative response factor <0.05
	4-Methyl-2-pentanone	R	U	CCV relative response factor <0.05.
	Benzoic acid	UJ	U	CCV percent difference > -25%
40MW5GW112011 L11110795-03, -04	Perchlorate	J		Re-calculated standard concentrations used to calculate sample results
	Total cadmium	UL	U	CRDL %R <LAL
	Total thallium	UL	U	CRDL %R <LAL
	Total chromium	K	J	CRDL %R >UAL; >MDL, <RL
	Total nickel	J	J	>MDL, <RL
	Total selenium	K	J	CRDL %R >UAL; >MDL,

B-3

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40DUPGW112011 L11110795-05, -06	Total beryllium	UJ	U	<RL
	Total manganese	B		No CRDL analyzed
	Total iron	L		Blank contamination; poor replicate precision
	Dissolved selenium	K	J	Matrix spike %R <UAL;
	Dissolved chromium	J	J	poor replicate precision
	Dissolved nickel	J	J	CRDL %R >UAL
	Dissolved beryllium	UJ	U	>MDL, <RL
	Dissolved iron	J	J	>MDL, <RL
	Dissolved barium	J		No CRDL analyzed
	2-Chloroethyl vinyl ether	R	U	>MDL, <RL
	Acetone	R	U	Serial Dilution %D >10%
	4-Methyl-2-pentanone	R	U	Matrix spike duplicate
	Benzoic acid	UJ	U	0%R; acidified sample
	Perchlorate	J		ICAL, ICV/CCV relative response factor <0.05
	Total cadmium	UL	U	CCV relative response factor <0.05.
	Total thallium	UL	U	CCV percent difference > -25%
	Total selenium	J	J	Re-calculated standard concentrations used to calculate sample results
	Total beryllium	UJ	U	CRDL %R <LAL
	Total manganese	B		CRDL %R <LAL
	Total iron	L		>MDL, <RL
				No CRDL analyzed
				Blank contamination; poor replicate precision
				Matrix spike %R <UAL;

B-4

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40112011FB L11110795-11	Dissolved cadmium	UL	U	poor replicate precision CRDL %R <LAL
	Dissolved thallium	UL	U	CRDL %R <LAL
	Dissolved chromium	K	J	CRDL %R >UAL; >MDL, <RL
	Dissolved selenium	J	J	>MDL, <RL
	Dissolved beryllium	UJ	U	No CRDL analyzed
	Dissolved iron	J	J	>MDL, <RL
	Dissolved mercury	B	J	Blank contamination; >MDL, <RL
	2-Chloroethyl vinyl ether	R	U	Matrix spike duplicate 0%R; acidified sample
	Acetone	R	U	ICAL, ICV/CCV relative response factor <0.05
	Methylene chloride	J	J	>MDL, <RL
40EQR112011 L11110795-12	Benzoic acid	UJ	U	CCV percent difference > -25%
	Total cadmium	UL	U	CRDL %R <LAL
	Total thallium	UL	U	CRDL %R <LAL
	Total beryllium	UJ	U	No CRDL analyzed
	Total mercury	B	J	Blank contamination; >MDL, <RL
	Total iron	UL	J	Matrix spike %R <UAL
	2-Chloroethyl vinyl ether	R	U	Matrix spike duplicate 0%R; acidified sample
	Methylene chloride	J	J	>MDL, <RL
	Benzoic acid	UJ	U	CCV percent difference > -25%
	Total cadmium	UL	U	CRDL %R <LAL
	Total thallium	UL	U	CRDL %R <LAL

B-5

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40TB112011 L11110795-13	Total beryllium	UJ	U	No CRDL analyzed
	Total calcium	J	J	>MDL, <RL
	Total iron	UL	U	Matrix spike %R <UAL
40MW6GW112111 L11110795-14	2-Chloroethyl vinyl ether	R	U	Matrix spike duplicate 0%R; acidified sample
	2-Chloroethyl vinyl ether	R	U	Matrix spike duplicate 0%R; acidified sample
	Perchlorate	J		Re-calculated standard concentrations used to calculate sample results
	Benzoic acid	UJ	U	CCV percent difference > -25%
	Total cadmium	UL	U	CRDL %R <LAL
	Total thallium	UL	U	CRDL %R <LAL
	Total chromium	K	J	CRDL %R >UAL; >MDL, <RL
	Total selenium	J	J	>MDL, <RL
	Total beryllium	UJ	U	No CRDL analyzed
	Total iron	L		Matrix spike %R <UAL
	2-Chloroethyl vinyl ether	R	U	Matrix spike duplicate 0%R; acidified sample
	Chloroform	J	J	>MDL, <RL
40EQR112111 L11110795-15	Benzoic acid	UJ	U	CCV percent difference > -25%
	Total cadmium	UL	U	CRDL %R <LAL
	Total thallium	UL	U	CRDL %R <LAL
	Total beryllium	UJ	U	No CRDL analyzed
	Total calcium	J	J	>MDL, <RL
	Total iron	UL	U	Matrix spike %R <UAL

B-6

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40LFMW01GW112111 L11110795-16, -17	2-Chloroethyl vinyl ether	R	U	Matrix spike duplicate 0%R; acidified sample ICAL, ICV/CCV relative response factor <0.05 Blank contamination; >MDL, <RL CCV percent difference > -25%
	Acetone	R	J	
	Chloroform	B	J	
	Benzoic acid	UJ	U	
	Perchlorate	J		Re-calculated standard concentrations used to calculate sample results
	4,4' -DDD	UL	U	Surrogate recovery < LAL but ≥10%
	4,4' -DDE	UL	U	Surrogate recovery < LAL but ≥10%
	4,4' -DDT	UL	U	Surrogate recovery < LAL but ≥10%
	Aldrin	UL	U	Surrogate recovery < LAL but ≥10%
	alpha-Chlordane	UL	U	Surrogate recovery < LAL but ≥10%
	alpha-BHC	UL	U	Surrogate recovery < LAL but ≥10%
	beta-BHC	UL	U	Surrogate recovery < LAL but ≥10%
	delta-BHC	UL	U	Surrogate recovery < LAL but ≥10%
	Dieldrin	UL	U	Surrogate recovery < LAL but ≥10%
	Endosulfan I	UL	U	Surrogate recovery < LAL but ≥10%

B-7

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
	Endosulfan II	UL	U	Surrogate recovery < LAL but ≥10%
	Endosulfan sulfate	UL	U	Surrogate recovery < LAL but ≥10%
	Endrin	UL	U	Surrogate recovery < LAL but ≥10%
	Endrin aldehyde	UL	U	Surrogate recovery < LAL but ≥10%
	Endrin ketone	UL	U	Surrogate recovery < LAL but ≥10%
	gamma-Chlordane	UL	U	Surrogate recovery < LAL but ≥10%
	gamma-BHC (lindane)	UL	U	Surrogate recovery < LAL but ≥10%
	Heptachlor	UL	U	Surrogate recovery < LAL but ≥10%
	Heptachlor epoxide	UL	U	Surrogate recovery < LAL but ≥10%
	Methoxychlor	UL	U	Surrogate recovery < LAL but ≥10%
	Toxaphene	UL	U	Surrogate recovery < LAL but ≥10%
	Total cadmium	UL	U	CRDL %R <LAL
	Total thallium	UL	U	CRDL %R <LAL
	Total beryllium	J	J	No CRDL analyzed; >MDL, <RL
	Total zinc	B		Blank contamination
	Total mercury	B	J	Blank contamination; >MDL, <RL
	Total iron	L		Matrix spike %R < LAL
	Dissolved cadmium	UL	U	CRDL %R <LAL
		B-8		

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
	Dissolved thallium	UL	U	CRDL %R <LAL
	Dissolved chromium	K	J	CRDL %R >UAL; >MDL, <RL
	Dissolved beryllium	UJ	U	No CRDL analyzed
	Dissolved mercury	B	J	Blank contamination; >MDL, <RL
	Dissolved manganese	B	J	Blank contamination; >MDL, <RL

Appendix C – Laboratory Report Results/Data Summary

Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-01
 Client ID: 40MW7GW112011
 Matrix: Water
 Workgroup Number: WG383461
 Collect Date: 11/20/2011 12:05
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/01/2011 16:15
 Cal Date: 11/29/2011 18:52
 Run Date: 12/01/2011 16:15
 File ID: 6M104286

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	4.38	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.80		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250

1 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-01
 Client ID: 40MW7GW112011
 Matrix: Water
 Workgroup Number: WG383461
 Collect Date: 11/20/2011 12:05
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/01/2011 16:15
 Cal Date: 11/29/2011 18:52
 Run Date: 12/01/2011 16:15
 File ID: 6M104286

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	% Recovery	Lower	Upper	Qual	
1,2-Dichloroethane-d4	97.7	70	120		
4-Bromofluorobenzene	112	75	120		
Dibromofluoromethane	97.0	85	115		
Toluene-d8	104	85	120		

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-03
 Client ID: 40MW5GW112011
 Matrix: Water
 Workgroup Number: WG383461
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/01/2011 17:19
 Cal Date: 11/29/2011 18:52
 Run Date: 12/01/2011 17:19
 File ID: 6M104288

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	3.17		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250

3 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-03
 Client ID: 40MW5GW112011
 Matrix: Water
 Workgroup Number: WG383461
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/01/2011 17:19
 Cal Date: 11/29/2011 18:52
 Run Date: 12/01/2011 17:19
 File ID: 6M104288

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	% Recovery	Lower	Upper	Qual	
1,2-Dichloroethane-d4	95.2	70	120		
4-Bromofluorobenzene	111	75	120		
Dibromofluoromethane	94.1	85	115		
Toluene-d8	101	85	120		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-05
 Client ID: 40DUPGW12011
 Matrix: Water
 Workgroup Number: WG383461
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/01/2011 16:48
 Cal Date: 11/29/2011 18:52
 Run Date: 12/01/2011 16:48
 File ID: 6M104287

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	3.33		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250

5 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-05
 Client ID: 40DUPGW112011
 Matrix: Water
 Workgroup Number: WG383461
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/01/2011 16:48
 Cal Date: 11/29/2011 18:52
 Run Date: 12/01/2011 16:48
 File ID: 6M104287

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	% Recovery	Lower	Upper	Qual	
1,2-Dichloroethane-d4	97.9	70	120		
4-Bromofluorobenzene	112	75	120		
Dibromofluoromethane	95.8	85	115		
Toluene-d8	104	85	120		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-07
 Client ID: 40MW5MSGW112011
 Matrix: Water
 Workgroup Number: WG383461
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/01/2011 12:04
 Cal Date: 11/29/2011 18:52
 Run Date: 12/01/2011 12:04
 File ID: 6M104278

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6	22.5		1.00	0.250
1,1,1-Trichloroethane	71-55-6	21.3		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	22.2		1.00	0.200
1,1,2-Trichloroethane	79-00-5	20.8		1.00	0.250
1,1-Dichloroethane	75-34-3	20.3		1.00	0.125
1,1-Dichloroethene	75-35-4	21.4		1.00	0.500
1,1-Dichloropropene	563-58-6	21.8		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	21.1		1.00	0.150
1,2,3-Trichloropropane	96-18-4	21.5		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	21.1		1.00	0.200
1,2,4-Trimethylbenzene	95-63-6	22.7		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	20.3		5.00	1.00
1,2-Dibromoethane	106-93-4	22.1		1.00	0.250
1,2-Dichlorobenzene	95-50-1	21.0		1.00	0.125
1,2-Dichloroethane	107-06-2	20.0		1.00	0.250
1,2-Dichloropropane	78-87-5	20.3		1.00	0.200
1,3,5-Trimethylbenzene	108-67-8	23.4		1.00	0.250
1,3-Dichlorobenzene	541-73-1	21.4		1.00	0.250
1,3-Dichloropropane	142-28-9	21.2		1.00	0.200
1,4-Dichlorobenzene	106-46-7	21.6		1.00	0.125
2,2-Dichloropropane	594-20-7	23.1		1.00	0.250
2-Butanone	78-93-3	17.2		10.0	2.50
2-Chloroethyl vinyl ether	110-75-8	5.52	J	10.0	2.00
2-Chlorotoluene	95-49-8	21.5		1.00	0.125
2-Hexanone	591-78-6	19.0		10.0	2.50
4-Chlorotoluene	106-43-4	23.0		1.00	0.250
4-Methyl-2-pentanone	108-10-1	17.3		10.0	2.50
Acetone	67-64-1	20.3		10.0	2.50
Benzene	71-43-2	20.3		1.00	0.125
Bromobenzene	108-86-1	21.9		1.00	0.125
Bromochloromethane	74-97-5	19.8		1.00	0.200
Bromodichloromethane	75-27-4	19.7		1.00	0.250
Bromoform	75-25-2	20.1		1.00	0.500
Bromomethane	74-83-9	22.3		1.00	0.500
Carbon disulfide	75-15-0	21.4		1.00	0.500
Carbon tetrachloride	56-23-5	21.2		1.00	0.250
Chlorobenzene	108-90-7	21.1		1.00	0.125
Chlorodibromomethane	124-48-1	21.6		1.00	0.250
Chloroethane	75-00-3	22.0		1.00	0.500
Chloroform	67-66-3	22.6		1.00	0.125
Chloromethane	74-87-3	24.3		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	21.5		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	20.1		1.00	0.250
Dibromomethane	74-95-3	19.4		1.00	0.250
Dichlorodifluoromethane	75-71-8	28.9		1.00	0.250
Ethylbenzene	100-41-4	21.9		1.00	0.250
Hexachlorobutadiene	87-68-3	24.3		1.00	0.250
Isopropylbenzene	98-82-8	19.4		1.00	0.250
m-,p-Xylene	179601-23-1	44.0		1.00	0.500
Methylene chloride	75-09-2	18.9		5.00	0.250
n-Butylbenzene	104-51-8	23.4		1.00	0.250
n-Propylbenzene	103-65-1	22.8		1.00	0.125
Naphthalene	91-20-3	20.5		1.00	0.200
o-Xylene	95-47-6	21.7		1.00	0.250
p-Isopropyltoluene	99-87-6	22.1		1.00	0.250
sec-Butylbenzene	135-98-8	23.3		1.00	0.250
Styrene	100-42-5	22.3		1.00	0.125
tert-Butylbenzene	98-06-6	22.5		1.00	0.250
Tetrachloroethene	127-18-4	21.0		1.00	0.250

7 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-07
 Client ID: 40MW5MSGW112011
 Matrix: Water
 Workgroup Number: WG383461
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/01/2011 12:04
 Cal Date: 11/29/2011 18:52
 Run Date: 12/01/2011 12:04
 File ID: 6M104278

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Toluene	108-88-3	22.1		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	20.9		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	20.8		1.00	0.500
Trichloroethene	79-01-6	20.6		1.00	0.250
Trichlorofluoromethane	75-69-4	23.3		1.00	0.250
Vinyl acetate	108-05-4	22.4		10.0	2.50
Vinyl chloride	75-01-4	24.6		1.00	0.250
Surrogate	% Recovery	Lower	Upper	Qual	
1,2-Dichloroethane-d4	85.2	70	120		
4-Bromofluorobenzene	110	75	120		
Dibromofluoromethane	91.1	85	115		
Toluene-d8	104	85	120		

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-09
 Client ID: 40MW5MSDGW112011
 Matrix: Water
 Workgroup Number: WG383461
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/01/2011 12:34
 Cal Date: 11/29/2011 18:52
 Run Date: 12/01/2011 12:34
 File ID: 6M104279

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6	22.7		1.00	0.250
1,1,1-Trichloroethane	71-55-6	21.3		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	23.9		1.00	0.200
1,1,2-Trichloroethane	79-00-5	22.4		1.00	0.250
1,1-Dichloroethane	75-34-3	20.6		1.00	0.125
1,1-Dichloroethene	75-35-4	21.3		1.00	0.500
1,1-Dichloropropene	563-58-6	22.2		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	22.2		1.00	0.150
1,2,3-Trichloropropane	96-18-4	23.5		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	22.0		1.00	0.200
1,2,4-Trimethylbenzene	95-63-6	22.8		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	20.9		5.00	1.00
1,2-Dibromoethane	106-93-4	23.0		1.00	0.250
1,2-Dichlorobenzene	95-50-1	21.7		1.00	0.125
1,2-Dichloroethane	107-06-2	20.7		1.00	0.250
1,2-Dichloropropane	78-87-5	20.7		1.00	0.200
1,3,5-Trimethylbenzene	108-67-8	23.6		1.00	0.250
1,3-Dichlorobenzene	541-73-1	21.5		1.00	0.250
1,3-Dichloropropane	142-28-9	22.7		1.00	0.200
1,4-Dichlorobenzene	106-46-7	21.8		1.00	0.125
2,2-Dichloropropane	594-20-7	22.7		1.00	0.250
2-Butanone	78-93-3	19.3		10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8	21.8		1.00	0.125
2-Hexanone	591-78-6	21.5		10.0	2.50
4-Chlorotoluene	106-43-4	23.1		1.00	0.250
4-Methyl-2-pentanone	108-10-1	18.9		10.0	2.50
Acetone	67-64-1	22.6		10.0	2.50
Benzene	71-43-2	20.3		1.00	0.125
Bromobenzene	108-86-1	22.4		1.00	0.125
Bromochloromethane	74-97-5	20.4		1.00	0.200
Bromodichloromethane	75-27-4	20.3		1.00	0.250
Bromoform	75-25-2	21.7		1.00	0.500
Bromomethane	74-83-9	22.3		1.00	0.500
Carbon disulfide	75-15-0	21.2		1.00	0.500
Carbon tetrachloride	56-23-5	21.3		1.00	0.250
Chlorobenzene	108-90-7	21.5		1.00	0.125
Chlorodibromomethane	124-48-1	22.8		1.00	0.250
Chloroethane	75-00-3	21.6		1.00	0.500
Chloroform	67-66-3	22.9		1.00	0.125
Chloromethane	74-87-3	24.3		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	21.7		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	20.3		1.00	0.250
Dibromomethane	74-95-3	20.2		1.00	0.250
Dichlorodifluoromethane	75-71-8	28.3		1.00	0.250
Ethylbenzene	100-41-4	22.2		1.00	0.250
Hexachlorobutadiene	87-68-3	23.8		1.00	0.250
Isopropylbenzene	98-82-8	19.5		1.00	0.250
m-,p-Xylene	179601-23-1	44.1		1.00	0.500
Methylene chloride	75-09-2	19.3		5.00	0.250
n-Butylbenzene	104-51-8	23.4		1.00	0.250
n-Propylbenzene	103-65-1	22.9		1.00	0.125
Naphthalene	91-20-3	22.3		1.00	0.200
o-Xylene	95-47-6	21.9		1.00	0.250
p-Isopropyltoluene	99-87-6	21.9		1.00	0.250
sec-Butylbenzene	135-98-8	23.1		1.00	0.250
Styrene	100-42-5	22.5		1.00	0.125
tert-Butylbenzene	98-06-6	22.6		1.00	0.250
Tetrachloroethene	127-18-4	21.0		1.00	0.250

9 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-09
 Client ID: 40MW5MSDGW112011
 Matrix: Water
 Workgroup Number: WG383461
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/01/2011 12:34
 Cal Date: 11/29/2011 18:52
 Run Date: 12/01/2011 12:34
 File ID: 6M104279

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Toluene	108-88-3	22.4		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	20.9		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	21.5		1.00	0.500
Trichloroethene	79-01-6	21.2		1.00	0.250
Trichlorofluoromethane	75-69-4	23.1		1.00	0.250
Vinyl acetate	108-05-4	24.3		10.0	2.50
Vinyl chloride	75-01-4	24.4		1.00	0.250
Surrogate	% Recovery	Lower	Upper	Qual	
1,2-Dichloroethane-d4	87.2	70	120		
4-Bromofluorobenzene	111	75	120		
Dibromofluoromethane	91.9	85	115		
Toluene-d8	102	85	120		

U Analyte was not detected. The concentration is below the reported LOD.

10 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-11
 Client ID: 40112011FB
 Matrix: Water
 Workgroup Number: WG383320
 Collect Date: 11/20/2011 17:50
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 11/30/2011 15:12
 Cal Date: 11/29/2011 18:52
 Run Date: 11/30/2011 15:12
 File ID: 6M104258

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2	0.371	J	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250

11 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-11
 Client ID: 40112011FB
 Matrix: Water
 Workgroup Number: WG383320
 Collect Date: 11/20/2011 17:50
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 11/30/2011 15:12
 Cal Date: 11/29/2011 18:52
 Run Date: 11/30/2011 15:12
 File ID: 6M104258

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	% Recovery	Lower	Upper	Qual	
1,2-Dichloroethane-d4	90.5	70	120		
4-Bromofluorobenzene	109	75	120		
Dibromofluoromethane	92.6	85	115		
Toluene-d8	101	85	120		

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-12
 Client ID: 40EQR112011
 Matrix: Water
 Workgroup Number: WG383370
 Collect Date: 11/20/2011 18:15
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES/FJB
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 11/30/2011 18:33
 Cal Date: 11/18/2011 18:14
 Run Date: 11/30/2011 18:33
 File ID: 11M79681

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2	0.404	J	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250

13 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-12
 Client ID: 40EQR112011
 Matrix: Water
 Workgroup Number: WG383370
 Collect Date: 11/20/2011 18:15
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES/FJB
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 11/30/2011 18:33
 Cal Date: 11/18/2011 18:14
 Run Date: 11/30/2011 18:33
 File ID: 11M79681

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	% Recovery	Lower	Upper	Qual	
1,2-Dichloroethane-d4	102	70	120		
4-Bromofluorobenzene	99.3	75	120		
Dibromofluoromethane	110	85	115		
Toluene-d8	105	85	120		

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-13
 Client ID: 40TB112011
 Matrix: Water
 Workgroup Number: WG383370
 Collect Date: 11/20/2011 00:01
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES/FJB
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 11/30/2011 14:57
 Cal Date: 11/18/2011 18:14
 Run Date: 11/30/2011 14:57
 File ID: 11M79674

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250

15 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-13
 Client ID: 40TB112011
 Matrix: Water
 Workgroup Number: WG383370
 Collect Date: 11/20/2011 00:01
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES/FJB
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 11/30/2011 14:57
 Cal Date: 11/18/2011 18:14
 Run Date: 11/30/2011 14:57
 File ID: 11M79674

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	% Recovery	Lower	Upper	Qual	
1,2-Dichloroethane-d4	99.7	70	120		
4-Bromofluorobenzene	99.6	75	120		
Dibromofluoromethane	108	85	115		
Toluene-d8	104	85	120		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-14
 Client ID: 40MW6GW112111
 Matrix: Water
 Workgroup Number: WG383370
 Collect Date: 11/21/2011 09:34
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES/FJB
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 11/30/2011 19:04
 Cal Date: 11/18/2011 18:14
 Run Date: 11/30/2011 19:04
 File ID: 11M79682

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	2.58		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250

17 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-14
 Client ID: 40MW6GW112111
 Matrix: Water
 Workgroup Number: WG383370
 Collect Date: 11/21/2011 09:34
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES/FJB
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 11/30/2011 19:04
 Cal Date: 11/18/2011 18:14
 Run Date: 11/30/2011 19:04
 File ID: 11M79682

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	% Recovery	Lower	Upper	Qual	
1,2-Dichloroethane-d4	103	70	120		
4-Bromofluorobenzene	100	75	120		
Dibromofluoromethane	110	85	115		
Toluene-d8	105	85	120		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-15
 Client ID: 40EQR112111
 Matrix: Water
 Workgroup Number: WG383370
 Collect Date: 11/21/2011 11:10
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES/FJB
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 11/30/2011 19:35
 Cal Date: 11/18/2011 18:14
 Run Date: 11/30/2011 19:35
 File ID: 11M79683

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.150	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250

19 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-15
 Client ID: 40EQR112111
 Matrix: Water
 Workgroup Number: WG383370
 Collect Date: 11/21/2011 11:10
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES/FJB
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 11/30/2011 19:35
 Cal Date: 11/18/2011 18:14
 Run Date: 11/30/2011 19:35
 File ID: 11M79683

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	% Recovery	Lower	Upper	Qual	
1,2-Dichloroethane-d4	100	70	120		
4-Bromofluorobenzene	99.1	75	120		
Dibromofluoromethane	109	85	115		
Toluene-d8	105	85	120		

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-16
 Client ID: 40LFMW01GW112111
 Matrix: Water
 Workgroup Number: WG383575
 Collect Date: 11/21/2011 13:54
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/02/2011 18:26
 Cal Date: 11/29/2011 18:52
 Run Date: 12/02/2011 18:26
 File ID: 6M104319

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.947	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250

21 of 22



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-16
 Client ID: 40LFMW01GW112111
 Matrix: Water
 Workgroup Number: WG383575
 Collect Date: 11/21/2011 13:54
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 12/02/2011 18:26
 Cal Date: 11/29/2011 18:52
 Run Date: 12/02/2011 18:26
 File ID: 6M104319

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	% Recovery	Lower	Upper	Qual	
1,2-Dichloroethane-d4	93.5	70	120		
4-Bromofluorobenzene	112	75	120		
Dibromofluoromethane	93.9	85	115		
Toluene-d8	106	85	120		

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-01
 Client ID: 40MW7GW112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 12:05
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 13:25
 File ID: 4M59044

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.32	2.66
1,2-Dichlorobenzene	95-50-1		U	5.32	2.66
1,3-Dichlorobenzene	541-73-1		U	5.32	2.66
1,4-Dichlorobenzene	106-46-7		U	5.32	2.66
2,4,5-Trichlorophenol	95-95-4		U	5.32	2.66
2,4,6-Trichlorophenol	88-06-2		U	5.32	2.66
2,4-Dichlorophenol	120-83-2		U	5.32	2.66
2,4-Dimethylphenol	105-67-9		U	5.32	2.66
2,4-Dinitrophenol	51-28-5		U	26.6	13.3
2,4-Dinitrotoluene	121-14-2		U	5.32	2.66
2,6-Dinitrotoluene	606-20-2		U	5.32	2.66
2-Chloronaphthalene	91-58-7		U	5.32	2.66
2-Chlorophenol	95-57-8		U	5.32	2.66
2-Methylnaphthalene	91-57-6		U	5.32	2.66
2-Methylphenol	95-48-7		U	5.32	2.66
2-Nitroaniline	88-74-4		U	26.6	13.3
2-Nitrophenol	88-75-5		U	5.32	2.66
3,3'-Dichlorobenzidine	91-94-1		U	10.6	2.66
3-,4-Methylphenol	106-44-5		U	5.32	2.66
3-Nitroaniline	99-09-2		U	26.6	13.3
4,6-Dinitro-2-methylphenol	534-52-1		U	26.6	13.3
4-Bromophenyl-phenylether	101-55-3		U	5.32	2.66
4-Chloro-3-methylphenol	59-50-7		U	5.32	2.66
4-Chloroaniline	106-47-8		U	5.32	2.66
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.32	2.66
4-Nitroaniline	100-01-6		U	26.6	13.3
4-Nitrophenol	100-02-7		U	26.6	13.3
Acenaphthene	83-32-9		U	5.32	2.66
Acenaphthylene	208-96-8		U	5.32	2.66
Anthracene	120-12-7		U	5.32	2.66
Benzo(a)anthracene	56-55-3		U	5.32	2.66
Benzo(a)pyrene	50-32-8		U	5.32	2.66
Benzo(b)fluoranthene	205-99-2		U	5.32	2.66
Benzo(g,h,i)Perylene	191-24-2		U	5.32	2.66
Benzo(k)fluoranthene	207-08-9		U	5.32	2.66
Benzoic acid	65-85-0		U	26.6	13.3
Benzyl alcohol	100-51-6		U	5.32	2.66
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.32	2.66
Bis(2-Chloroethyl) ether	111-44-4		U	5.32	2.66
bis(2-Chloroisopropyl) ether	108-60-1		U	5.32	2.66
bis(2-Ethylhexyl)phthalate	117-81-7	5.31	J	10.6	3.19
Butylbenzylphthalate	85-68-7		U	5.32	2.66
Chrysene	218-01-9		U	5.32	2.66
Di-N-Butylphthalate	84-74-2		U	5.32	2.66
Di-n-octylphthalate	117-84-0		U	5.32	2.66
Dibenzo(a,h)Anthracene	53-70-3		U	5.32	2.66
Dibenzofuran	132-64-9		U	5.32	2.66
Diethylphthalate	84-66-2		U	5.32	2.66
Dimethylphthalate	131-11-3		U	5.32	2.66
Fluoranthene	206-44-0		U	5.32	2.66
Fluorene	86-73-7		U	5.32	2.66
Hexachlorobenzene	118-74-1		U	5.32	2.66
Hexachlorobutadiene	87-68-3		U	5.32	2.66
Hexachlorocyclopentadiene	77-47-4		U	5.32	2.66
Hexachloroethane	67-72-1		U	5.32	2.66
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.32	2.66
Isophorone	78-59-1		U	5.32	2.66
N-Nitrosodiphenylamine	86-30-6		U	5.32	2.66
N-Nitrosodipropylamine	621-64-7		U	5.32	2.66

1 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-01
 Client ID: 40MW7GW112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 12:05
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 13:25
 File ID: 4M59044

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.32	2.66
Nitrobenzene	98-95-3		U	5.32	2.66
Pentachlorophenol	87-86-5		U	26.6	13.3
Phenanthrene	85-01-8		U	5.32	2.66
Phenol	108-95-2		U	5.32	2.66
Pyrene	129-00-0		U	5.32	2.66
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	104	40	125		
2-Fluorobiphenyl	49.1	50	110	*	
2-Fluorophenol	26.6	20	110		
Nitrobenzene-d5	44.7	40	110		
p-Terphenyl-d14	83.1	50	135		
Phenol-d5	17.0	10	115		

* Surrogate or spike compound out of range

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-03
 Client ID: 40MW5GW112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 13:57
 File ID: 4M59045

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo (a) anthracene	56-55-3		U	5.00	2.50
Benzo (a) pyrene	50-32-8		U	5.00	2.50
Benzo (b) fluoranthene	205-99-2		U	5.00	2.50
Benzo (g,h,i) Perylene	191-24-2		U	5.00	2.50
Benzo (k) fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis (2-Chloroethoxy) Methane	111-91-1		U	5.00	2.50
Bis (2-Chloroethyl) ether	111-44-4		U	5.00	2.50
bis (2-Chloroisopropyl) ether	108-60-1		U	5.00	2.50
bis (2-Ethylhexyl) phthalate	117-81-7		U	10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo (a,h) Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno (1,2,3-cd) pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50

3 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-03
 Client ID: 40MW5GW112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 13:57
 File ID: 4M59045

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	116	40	125		
2-Fluorobiphenyl	85.7	50	110		
2-Fluorophenol	51.3	20	110		
Nitrobenzene-d5	81.5	40	110		
p-Terphenyl-d14	125	50	135		
Phenol-d5	30.2	10	115		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-05
 Client ID: 40DUPGW112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 14:30
 File ID: 4M59046

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.95	2.98
1,2-Dichlorobenzene	95-50-1		U	5.95	2.98
1,3-Dichlorobenzene	541-73-1		U	5.95	2.98
1,4-Dichlorobenzene	106-46-7		U	5.95	2.98
2,4,5-Trichlorophenol	95-95-4		U	5.95	2.98
2,4,6-Trichlorophenol	88-06-2		U	5.95	2.98
2,4-Dichlorophenol	120-83-2		U	5.95	2.98
2,4-Dimethylphenol	105-67-9		U	5.95	2.98
2,4-Dinitrophenol	51-28-5		U	29.8	14.9
2,4-Dinitrotoluene	121-14-2		U	5.95	2.98
2,6-Dinitrotoluene	606-20-2		U	5.95	2.98
2-Chloronaphthalene	91-58-7		U	5.95	2.98
2-Chlorophenol	95-57-8		U	5.95	2.98
2-Methylnaphthalene	91-57-6		U	5.95	2.98
2-Methylphenol	95-48-7		U	5.95	2.98
2-Nitroaniline	88-74-4		U	29.8	14.9
2-Nitrophenol	88-75-5		U	5.95	2.98
3,3'-Dichlorobenzidine	91-94-1		U	11.9	2.98
3-,4-Methylphenol	106-44-5		U	5.95	2.98
3-Nitroaniline	99-09-2		U	29.8	14.9
4,6-Dinitro-2-methylphenol	534-52-1		U	29.8	14.9
4-Bromophenyl-phenylether	101-55-3		U	5.95	2.98
4-Chloro-3-methylphenol	59-50-7		U	5.95	2.98
4-Chloroaniline	106-47-8		U	5.95	2.98
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.95	2.98
4-Nitroaniline	100-01-6		U	29.8	14.9
4-Nitrophenol	100-02-7		U	29.8	14.9
Acenaphthene	83-32-9		U	5.95	2.98
Acenaphthylene	208-96-8		U	5.95	2.98
Anthracene	120-12-7		U	5.95	2.98
Benzo (a) anthracene	56-55-3		U	5.95	2.98
Benzo (a) pyrene	50-32-8		U	5.95	2.98
Benzo (b) fluoranthene	205-99-2		U	5.95	2.98
Benzo (g,h,i) Perylene	191-24-2		U	5.95	2.98
Benzo (k) fluoranthene	207-08-9		U	5.95	2.98
Benzoic acid	65-85-0		U	29.8	14.9
Benzyl alcohol	100-51-6		U	5.95	2.98
Bis (2-Chloroethoxy) Methane	111-91-1		U	5.95	2.98
Bis (2-Chloroethyl) ether	111-44-4		U	5.95	2.98
bis (2-Chloroisopropyl) ether	108-60-1		U	5.95	2.98
bis (2-Ethylhexyl) phthalate	117-81-7		U	11.9	3.57
Butylbenzylphthalate	85-68-7		U	5.95	2.98
Chrysene	218-01-9		U	5.95	2.98
Di-N-Butylphthalate	84-74-2		U	5.95	2.98
Di-n-octylphthalate	117-84-0		U	5.95	2.98
Dibenzo (a,h) Anthracene	53-70-3		U	5.95	2.98
Dibenzofuran	132-64-9		U	5.95	2.98
Diethylphthalate	84-66-2		U	5.95	2.98
Dimethylphthalate	131-11-3		U	5.95	2.98
Fluoranthene	206-44-0		U	5.95	2.98
Fluorene	86-73-7		U	5.95	2.98
Hexachlorobenzene	118-74-1		U	5.95	2.98
Hexachlorobutadiene	87-68-3		U	5.95	2.98
Hexachlorocyclopentadiene	77-47-4		U	5.95	2.98
Hexachloroethane	67-72-1		U	5.95	2.98
Indeno (1,2,3-cd) pyrene	193-39-5		U	5.95	2.98
Isophorone	78-59-1		U	5.95	2.98
N-Nitrosodiphenylamine	86-30-6		U	5.95	2.98
N-Nitrosodipropylamine	621-64-7		U	5.95	2.98

5 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-05
 Client ID: 40DUPGW112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 14:30
 File ID: 4M59046

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.95	2.98
Nitrobenzene	98-95-3		U	5.95	2.98
Pentachlorophenol	87-86-5		U	29.8	14.9
Phenanthrene	85-01-8		U	5.95	2.98
Phenol	108-95-2		U	5.95	2.98
Pyrene	129-00-0		U	5.95	2.98
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	127	40	125	*	
2-Fluorobiphenyl	94.4	50	110		
2-Fluorophenol	62.6	20	110		
Nitrobenzene-d5	88.4	40	110		
p-Terphenyl-d14	121	50	135		
Phenol-d5	38.1	10	115		

* Surrogate or spike compound out of range

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-07
 Client ID: 40MW5MSGW112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 15:02
 File ID: 4M59047

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1	47.0		5.81	2.91
1,2-Dichlorobenzene	95-50-1	50.1		5.81	2.91
1,3-Dichlorobenzene	541-73-1	47.1		5.81	2.91
1,4-Dichlorobenzene	106-46-7	48.7		5.81	2.91
2,4,5-Trichlorophenol	95-95-4	66.2		5.81	2.91
2,4,6-Trichlorophenol	88-06-2	63.0		5.81	2.91
2,4-Dichlorophenol	120-83-2	57.6		5.81	2.91
2,4-Dimethylphenol	105-67-9	54.1		5.81	2.91
2,4-Dinitrophenol	51-28-5	44.8		29.1	14.5
2,4-Dinitrotoluene	121-14-2	68.6		5.81	2.91
2,6-Dinitrotoluene	606-20-2	62.8		5.81	2.91
2-Chloronaphthalene	91-58-7	55.7		5.81	2.91
2-Chlorophenol	95-57-8	50.7		5.81	2.91
2-Methylnaphthalene	91-57-6	55.2		5.81	2.91
2-Methylphenol	95-48-7	47.9		5.81	2.91
2-Nitroaniline	88-74-4	65.0		29.1	14.5
2-Nitrophenol	88-75-5	53.4		5.81	2.91
3,3'-Dichlorobenzidine	91-94-1	64.2		11.6	2.91
3-,4-Methylphenol	106-44-5	44.1		5.81	2.91
3-Nitroaniline	99-09-2	68.2		29.1	14.5
4,6-Dinitro-2-methylphenol	534-52-1	59.3		29.1	14.5
4-Bromophenyl-phenylether	101-55-3	65.2		5.81	2.91
4-Chloro-3-methylphenol	59-50-7	61.3		5.81	2.91
4-Chloroaniline	106-47-8	56.9		5.81	2.91
4-Chlorophenyl-phenyl ether	7005-72-3	63.0		5.81	2.91
4-Nitroaniline	100-01-6	57.9		29.1	14.5
4-Nitrophenol	100-02-7	22.5	J	29.1	14.5
Acenaphthene	83-32-9	58.4		5.81	2.91
Acenaphthylene	208-96-8	54.4		5.81	2.91
Anthracene	120-12-7	67.5		5.81	2.91
Benzo(a)anthracene	56-55-3	68.2		5.81	2.91
Benzo(a)pyrene	50-32-8	66.5		5.81	2.91
Benzo(b)fluoranthene	205-99-2	60.3		5.81	2.91
Benzo(g,h,i)Perylene	191-24-2	66.0		5.81	2.91
Benzo(k)fluoranthene	207-08-9	67.7		5.81	2.91
Benzoic acid	65-85-0	41.5		29.1	14.5
Benzyl alcohol	100-51-6	51.0		5.81	2.91
Bis(2-Chloroethoxy)Methane	111-91-1	40.8		5.81	2.91
Bis(2-Chloroethyl) ether	111-44-4	49.3		5.81	2.91
bis(2-Chloroisopropyl) ether	108-60-1	62.0		5.81	2.91
bis(2-Ethylhexyl)phthalate	117-81-7	68.5	B	11.6	3.49
Butylbenzylphthalate	85-68-7	64.7		5.81	2.91
Chrysene	218-01-9	69.1		5.81	2.91
Di-N-Butylphthalate	84-74-2	66.6		5.81	2.91
Di-n-octylphthalate	117-84-0	67.9		5.81	2.91
Dibenzo(a,h)Anthracene	53-70-3	63.7		5.81	2.91
Dibenzofuran	132-64-9	65.3		5.81	2.91
Diethylphthalate	84-66-2	67.0		5.81	2.91
Dimethylphthalate	131-11-3	61.8		5.81	2.91
Fluoranthene	206-44-0	69.5		5.81	2.91
Fluorene	86-73-7	64.3		5.81	2.91
Hexachlorobenzene	118-74-1	67.2		5.81	2.91
Hexachlorobutadiene	87-68-3	54.0		5.81	2.91
Hexachlorocyclopentadiene	77-47-4	22.8		5.81	2.91
Hexachloroethane	67-72-1	45.2		5.81	2.91
Indeno(1,2,3-cd)pyrene	193-39-5	66.8		5.81	2.91
Isophorone	78-59-1	56.6		5.81	2.91
N-Nitrosodiphenylamine	86-30-6	64.1		5.81	2.91
N-Nitrosodipropylamine	621-64-7	59.7		5.81	2.91

7 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-07
 Client ID: 40MW5MSGW112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 15:02
 File ID: 4M59047

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	59.5		5.81	2.91
Nitrobenzene	98-95-3	52.5		5.81	2.91
Pentachlorophenol	87-86-5	74.7		29.1	14.5
Phenanthrene	85-01-8	68.7		5.81	2.91
Phenol	108-95-2	21.1		5.81	2.91
Pyrene	129-00-0	64.8		5.81	2.91
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	131	40	125	*	
2-Fluorobiphenyl	105	50	110		
2-Fluorophenol	56.6	20	110		
Nitrobenzene-d5	91.0	40	110		
p-Terphenyl-d14	108	50	135		
Phenol-d5	35.1	10	115		

B The reported result is associated with a contaminated method blank.

* Surrogate or spike compound out of range

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-09
 Client ID: 40MW5MSDGW112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 15:35
 File ID: 4M59048

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1	40.7		5.38	2.69
1,2-Dichlorobenzene	95-50-1	42.8		5.38	2.69
1,3-Dichlorobenzene	541-73-1	40.8		5.38	2.69
1,4-Dichlorobenzene	106-46-7	41.4		5.38	2.69
2,4,5-Trichlorophenol	95-95-4	56.4		5.38	2.69
2,4,6-Trichlorophenol	88-06-2	53.6		5.38	2.69
2,4-Dichlorophenol	120-83-2	48.3		5.38	2.69
2,4-Dimethylphenol	105-67-9	46.1		5.38	2.69
2,4-Dinitrophenol	51-28-5	38.0		26.9	13.4
2,4-Dinitrotoluene	121-14-2	60.2		5.38	2.69
2,6-Dinitrotoluene	606-20-2	56.0		5.38	2.69
2-Chloronaphthalene	91-58-7	47.7		5.38	2.69
2-Chlorophenol	95-57-8	44.1		5.38	2.69
2-Methylnaphthalene	91-57-6	46.8		5.38	2.69
2-Methylphenol	95-48-7	42.3		5.38	2.69
2-Nitroaniline	88-74-4	56.8		26.9	13.4
2-Nitrophenol	88-75-5	46.0		5.38	2.69
3,3'-Dichlorobenzidine	91-94-1	57.6		10.8	2.69
3-,4-Methylphenol	106-44-5	39.8		5.38	2.69
3-Nitroaniline	99-09-2	60.2		26.9	13.4
4,6-Dinitro-2-methylphenol	534-52-1	51.7		26.9	13.4
4-Bromophenyl-phenylether	101-55-3	56.2		5.38	2.69
4-Chloro-3-methylphenol	59-50-7	54.2		5.38	2.69
4-Chloroaniline	106-47-8	49.6		5.38	2.69
4-Chlorophenyl-phenyl ether	7005-72-3	54.2		5.38	2.69
4-Nitroaniline	100-01-6	48.6		26.9	13.4
4-Nitrophenol	100-02-7	20.5	J	26.9	13.4
Acenaphthene	83-32-9	50.3		5.38	2.69
Acenaphthylene	208-96-8	47.1		5.38	2.69
Anthracene	120-12-7	58.3		5.38	2.69
Benzo(a)anthracene	56-55-3	59.6		5.38	2.69
Benzo(a)pyrene	50-32-8	58.3		5.38	2.69
Benzo(b)fluoranthene	205-99-2	56.7		5.38	2.69
Benzo(g,h,i)Perylene	191-24-2	57.1		5.38	2.69
Benzo(k)fluoranthene	207-08-9	60.2		5.38	2.69
Benzoic acid	65-85-0	35.0		26.9	13.4
Benzyl alcohol	100-51-6	45.3		5.38	2.69
Bis(2-Chloroethoxy)Methane	111-91-1	34.5		5.38	2.69
Bis(2-Chloroethyl) ether	111-44-4	43.1		5.38	2.69
bis(2-Chloroisopropyl) ether	108-60-1	53.7		5.38	2.69
bis(2-Ethylhexyl)phthalate	117-81-7	58.8	B	10.8	3.23
Butylbenzylphthalate	85-68-7	57.2		5.38	2.69
Chrysene	218-01-9	60.4		5.38	2.69
Di-N-Butylphthalate	84-74-2	57.7		5.38	2.69
Di-n-octylphthalate	117-84-0	58.8		5.38	2.69
Dibenzo(a,h)Anthracene	53-70-3	54.6		5.38	2.69
Dibenzofuran	132-64-9	56.4		5.38	2.69
Diethylphthalate	84-66-2	58.2		5.38	2.69
Dimethylphthalate	131-11-3	53.9		5.38	2.69
Fluoranthene	206-44-0	60.4		5.38	2.69
Fluorene	86-73-7	55.2		5.38	2.69
Hexachlorobenzene	118-74-1	57.7		5.38	2.69
Hexachlorobutadiene	87-68-3	46.4		5.38	2.69
Hexachlorocyclopentadiene	77-47-4	21.1		5.38	2.69
Hexachloroethane	67-72-1	39.9		5.38	2.69
Indeno(1,2,3-cd)pyrene	193-39-5	57.5		5.38	2.69
Isophorone	78-59-1	49.0		5.38	2.69
N-Nitrosodiphenylamine	86-30-6	56.3		5.38	2.69
N-Nitrosodipropylamine	621-64-7	50.7		5.38	2.69

9 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-09
 Client ID: 40MW5MSDGW112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 15:35
 File ID: 4M59048

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	50.7		5.38	2.69
Nitrobenzene	98-95-3	44.7		5.38	2.69
Pentachlorophenol	87-86-5	64.8		26.9	13.4
Phenanthrene	85-01-8	59.6		5.38	2.69
Phenol	108-95-2	19.2		5.38	2.69
Pyrene	129-00-0	57.4		5.38	2.69
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	122	40	125		
2-Fluorobiphenyl	96.6	50	110		
2-Fluorophenol	56.0	20	110		
Nitrobenzene-d5	83.4	40	110		
p-Terphenyl-d14	107	50	135		
Phenol-d5	34.3	10	115		

B The reported result is associated with a contaminated method blank.

J Estimated value ; the analyte concentration was less than the LOQ.

10 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-11
 Client ID: 40112011FB
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 17:50
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 16:07
 File ID: 4M59049

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo (a) anthracene	56-55-3		U	5.00	2.50
Benzo (a) pyrene	50-32-8		U	5.00	2.50
Benzo (b) fluoranthene	205-99-2		U	5.00	2.50
Benzo (g,h,i) Perylene	191-24-2		U	5.00	2.50
Benzo (k) fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis (2-Chloroethoxy) Methane	111-91-1		U	5.00	2.50
Bis (2-Chloroethyl) ether	111-44-4		U	5.00	2.50
bis (2-Chloroisopropyl) ether	108-60-1		U	5.00	2.50
bis (2-Ethylhexyl) phthalate	117-81-7		U	10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo (a,h) Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno (1,2,3-cd) pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50

11 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-11
 Client ID: 40112011FB
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 17:50
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 16:07
 File ID: 4M59049

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	124	40	125		
2-Fluorobiphenyl	108	50	110		
2-Fluorophenol	66.6	20	110		
Nitrobenzene-d5	101	40	110		
p-Terphenyl-d14	140	50	135	*	
Phenol-d5	38.2	10	115		

* Surrogate or spike compound out of range

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-12
 Client ID: 40EQR112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 18:15
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 16:39
 File ID: 4M59050

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	6.02	3.01
1,2-Dichlorobenzene	95-50-1		U	6.02	3.01
1,3-Dichlorobenzene	541-73-1		U	6.02	3.01
1,4-Dichlorobenzene	106-46-7		U	6.02	3.01
2,4,5-Trichlorophenol	95-95-4		U	6.02	3.01
2,4,6-Trichlorophenol	88-06-2		U	6.02	3.01
2,4-Dichlorophenol	120-83-2		U	6.02	3.01
2,4-Dimethylphenol	105-67-9		U	6.02	3.01
2,4-Dinitrophenol	51-28-5		U	30.1	15.1
2,4-Dinitrotoluene	121-14-2		U	6.02	3.01
2,6-Dinitrotoluene	606-20-2		U	6.02	3.01
2-Chloronaphthalene	91-58-7		U	6.02	3.01
2-Chlorophenol	95-57-8		U	6.02	3.01
2-Methylnaphthalene	91-57-6		U	6.02	3.01
2-Methylphenol	95-48-7		U	6.02	3.01
2-Nitroaniline	88-74-4		U	30.1	15.1
2-Nitrophenol	88-75-5		U	6.02	3.01
3,3'-Dichlorobenzidine	91-94-1		U	12.0	3.01
3-,4-Methylphenol	106-44-5		U	6.02	3.01
3-Nitroaniline	99-09-2		U	30.1	15.1
4,6-Dinitro-2-methylphenol	534-52-1		U	30.1	15.1
4-Bromophenyl-phenylether	101-55-3		U	6.02	3.01
4-Chloro-3-methylphenol	59-50-7		U	6.02	3.01
4-Chloroaniline	106-47-8		U	6.02	3.01
4-Chlorophenyl-phenyl ether	7005-72-3		U	6.02	3.01
4-Nitroaniline	100-01-6		U	30.1	15.1
4-Nitrophenol	100-02-7		U	30.1	15.1
Acenaphthene	83-32-9		U	6.02	3.01
Acenaphthylene	208-96-8		U	6.02	3.01
Anthracene	120-12-7		U	6.02	3.01
Benzo (a) anthracene	56-55-3		U	6.02	3.01
Benzo (a) pyrene	50-32-8		U	6.02	3.01
Benzo (b) fluoranthene	205-99-2		U	6.02	3.01
Benzo (g,h,i) Perylene	191-24-2		U	6.02	3.01
Benzo (k) fluoranthene	207-08-9		U	6.02	3.01
Benzoic acid	65-85-0		U	30.1	15.1
Benzyl alcohol	100-51-6		U	6.02	3.01
Bis (2-Chloroethoxy) Methane	111-91-1		U	6.02	3.01
Bis (2-Chloroethyl) ether	111-44-4		U	6.02	3.01
bis (2-Chloroisopropyl) ether	108-60-1		U	6.02	3.01
bis (2-Ethylhexyl) phthalate	117-81-7		U	12.0	3.61
Butylbenzylphthalate	85-68-7		U	6.02	3.01
Chrysene	218-01-9		U	6.02	3.01
Di-N-Butylphthalate	84-74-2		U	6.02	3.01
Di-n-octylphthalate	117-84-0		U	6.02	3.01
Dibenzo (a,h) Anthracene	53-70-3		U	6.02	3.01
Dibenzofuran	132-64-9		U	6.02	3.01
Diethylphthalate	84-66-2		U	6.02	3.01
Dimethylphthalate	131-11-3		U	6.02	3.01
Fluoranthene	206-44-0		U	6.02	3.01
Fluorene	86-73-7		U	6.02	3.01
Hexachlorobenzene	118-74-1		U	6.02	3.01
Hexachlorobutadiene	87-68-3		U	6.02	3.01
Hexachlorocyclopentadiene	77-47-4		U	6.02	3.01
Hexachloroethane	67-72-1		U	6.02	3.01
Indeno (1,2,3-cd) pyrene	193-39-5		U	6.02	3.01
Isophorone	78-59-1		U	6.02	3.01
N-Nitrosodiphenylamine	86-30-6		U	6.02	3.01
N-Nitrosodipropylamine	621-64-7		U	6.02	3.01

13 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-12
 Client ID: 40EQR112011
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/20/2011 18:15
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 16:39
 File ID: 4M59050

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	6.02	3.01
Nitrobenzene	98-95-3		U	6.02	3.01
Pentachlorophenol	87-86-5		U	30.1	15.1
Phenanthrene	85-01-8		U	6.02	3.01
Phenol	108-95-2		U	6.02	3.01
Pyrene	129-00-0		U	6.02	3.01
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	117	40	125		
2-Fluorobiphenyl	87.0	50	110		
2-Fluorophenol	59.7	20	110		
Nitrobenzene-d5	82.1	40	110		
p-Terphenyl-d14	129	50	135		
Phenol-d5	35.5	10	115		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-14
 Client ID: 40MW6GW112111
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/21/2011 09:34
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 17:11
 File ID: 4M59051

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.43	2.72
1,2-Dichlorobenzene	95-50-1		U	5.43	2.72
1,3-Dichlorobenzene	541-73-1		U	5.43	2.72
1,4-Dichlorobenzene	106-46-7		U	5.43	2.72
2,4,5-Trichlorophenol	95-95-4		U	5.43	2.72
2,4,6-Trichlorophenol	88-06-2		U	5.43	2.72
2,4-Dichlorophenol	120-83-2		U	5.43	2.72
2,4-Dimethylphenol	105-67-9		U	5.43	2.72
2,4-Dinitrophenol	51-28-5		U	27.2	13.6
2,4-Dinitrotoluene	121-14-2		U	5.43	2.72
2,6-Dinitrotoluene	606-20-2		U	5.43	2.72
2-Chloronaphthalene	91-58-7		U	5.43	2.72
2-Chlorophenol	95-57-8		U	5.43	2.72
2-Methylnaphthalene	91-57-6		U	5.43	2.72
2-Methylphenol	95-48-7		U	5.43	2.72
2-Nitroaniline	88-74-4		U	27.2	13.6
2-Nitrophenol	88-75-5		U	5.43	2.72
3,3'-Dichlorobenzidine	91-94-1		U	10.9	2.72
3-,4-Methylphenol	106-44-5		U	5.43	2.72
3-Nitroaniline	99-09-2		U	27.2	13.6
4,6-Dinitro-2-methylphenol	534-52-1		U	27.2	13.6
4-Bromophenyl-phenylether	101-55-3		U	5.43	2.72
4-Chloro-3-methylphenol	59-50-7		U	5.43	2.72
4-Chloroaniline	106-47-8		U	5.43	2.72
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.43	2.72
4-Nitroaniline	100-01-6		U	27.2	13.6
4-Nitrophenol	100-02-7		U	27.2	13.6
Acenaphthene	83-32-9		U	5.43	2.72
Acenaphthylene	208-96-8		U	5.43	2.72
Anthracene	120-12-7		U	5.43	2.72
Benzo (a) anthracene	56-55-3		U	5.43	2.72
Benzo (a) pyrene	50-32-8		U	5.43	2.72
Benzo (b) fluoranthene	205-99-2		U	5.43	2.72
Benzo (g,h,i) Perylene	191-24-2		U	5.43	2.72
Benzo (k) fluoranthene	207-08-9		U	5.43	2.72
Benzoic acid	65-85-0		U	27.2	13.6
Benzyl alcohol	100-51-6		U	5.43	2.72
Bis (2-Chloroethoxy) Methane	111-91-1		U	5.43	2.72
Bis (2-Chloroethyl) ether	111-44-4		U	5.43	2.72
bis (2-Chloroisopropyl) ether	108-60-1		U	5.43	2.72
bis (2-Ethylhexyl) phthalate	117-81-7		U	10.9	3.26
Butylbenzylphthalate	85-68-7		U	5.43	2.72
Chrysene	218-01-9		U	5.43	2.72
Di-N-Butylphthalate	84-74-2		U	5.43	2.72
Di-n-octylphthalate	117-84-0		U	5.43	2.72
Dibenzo (a,h) Anthracene	53-70-3		U	5.43	2.72
Dibenzofuran	132-64-9		U	5.43	2.72
Diethylphthalate	84-66-2		U	5.43	2.72
Dimethylphthalate	131-11-3		U	5.43	2.72
Fluoranthene	206-44-0		U	5.43	2.72
Fluorene	86-73-7		U	5.43	2.72
Hexachlorobenzene	118-74-1		U	5.43	2.72
Hexachlorobutadiene	87-68-3		U	5.43	2.72
Hexachlorocyclopentadiene	77-47-4		U	5.43	2.72
Hexachloroethane	67-72-1		U	5.43	2.72
Indeno (1,2,3-cd) pyrene	193-39-5		U	5.43	2.72
Isophorone	78-59-1		U	5.43	2.72
N-Nitrosodiphenylamine	86-30-6		U	5.43	2.72
N-Nitrosodipropylamine	621-64-7		U	5.43	2.72

15 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-14
 Client ID: 40MW6GW112111
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/21/2011 09:34
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 17:11
 File ID: 4M59051

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.43	2.72
Nitrobenzene	98-95-3		U	5.43	2.72
Pentachlorophenol	87-86-5		U	27.2	13.6
Phenanthrene	85-01-8		U	5.43	2.72
Phenol	108-95-2		U	5.43	2.72
Pyrene	129-00-0		U	5.43	2.72
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	119	40	125		
2-Fluorobiphenyl	101	50	110		
2-Fluorophenol	63.6	20	110		
Nitrobenzene-d5	95.4	40	110		
p-Terphenyl-d14	128	50	135		
Phenol-d5	37.2	10	115		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-15
 Client ID: 40EQR112111
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/21/2011 11:10
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 17:43
 File ID: 4M59052

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.49	2.75
1,2-Dichlorobenzene	95-50-1		U	5.49	2.75
1,3-Dichlorobenzene	541-73-1		U	5.49	2.75
1,4-Dichlorobenzene	106-46-7		U	5.49	2.75
2,4,5-Trichlorophenol	95-95-4		U	5.49	2.75
2,4,6-Trichlorophenol	88-06-2		U	5.49	2.75
2,4-Dichlorophenol	120-83-2		U	5.49	2.75
2,4-Dimethylphenol	105-67-9		U	5.49	2.75
2,4-Dinitrophenol	51-28-5		U	27.5	13.7
2,4-Dinitrotoluene	121-14-2		U	5.49	2.75
2,6-Dinitrotoluene	606-20-2		U	5.49	2.75
2-Chloronaphthalene	91-58-7		U	5.49	2.75
2-Chlorophenol	95-57-8		U	5.49	2.75
2-Methylnaphthalene	91-57-6		U	5.49	2.75
2-Methylphenol	95-48-7		U	5.49	2.75
2-Nitroaniline	88-74-4		U	27.5	13.7
2-Nitrophenol	88-75-5		U	5.49	2.75
3,3'-Dichlorobenzidine	91-94-1		U	11.0	2.75
3-,4-Methylphenol	106-44-5		U	5.49	2.75
3-Nitroaniline	99-09-2		U	27.5	13.7
4,6-Dinitro-2-methylphenol	534-52-1		U	27.5	13.7
4-Bromophenyl-phenylether	101-55-3		U	5.49	2.75
4-Chloro-3-methylphenol	59-50-7		U	5.49	2.75
4-Chloroaniline	106-47-8		U	5.49	2.75
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.49	2.75
4-Nitroaniline	100-01-6		U	27.5	13.7
4-Nitrophenol	100-02-7		U	27.5	13.7
Acenaphthene	83-32-9		U	5.49	2.75
Acenaphthylene	208-96-8		U	5.49	2.75
Anthracene	120-12-7		U	5.49	2.75
Benzo(a)anthracene	56-55-3		U	5.49	2.75
Benzo(a)pyrene	50-32-8		U	5.49	2.75
Benzo(b)fluoranthene	205-99-2		U	5.49	2.75
Benzo(g,h,i)Perylene	191-24-2		U	5.49	2.75
Benzo(k)fluoranthene	207-08-9		U	5.49	2.75
Benzoic acid	65-85-0		U	27.5	13.7
Benzyl alcohol	100-51-6		U	5.49	2.75
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.49	2.75
Bis(2-Chloroethyl) ether	111-44-4		U	5.49	2.75
bis(2-Chloroisopropyl) ether	108-60-1		U	5.49	2.75
bis(2-Ethylhexyl)phthalate	117-81-7		U	11.0	3.30
Butylbenzylphthalate	85-68-7		U	5.49	2.75
Chrysene	218-01-9		U	5.49	2.75
Di-N-Butylphthalate	84-74-2		U	5.49	2.75
Di-n-octylphthalate	117-84-0		U	5.49	2.75
Dibenzo(a,h)Anthracene	53-70-3		U	5.49	2.75
Dibenzofuran	132-64-9		U	5.49	2.75
Diethylphthalate	84-66-2		U	5.49	2.75
Dimethylphthalate	131-11-3		U	5.49	2.75
Fluoranthene	206-44-0		U	5.49	2.75
Fluorene	86-73-7		U	5.49	2.75
Hexachlorobenzene	118-74-1		U	5.49	2.75
Hexachlorobutadiene	87-68-3		U	5.49	2.75
Hexachlorocyclopentadiene	77-47-4		U	5.49	2.75
Hexachloroethane	67-72-1		U	5.49	2.75
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.49	2.75
Isophorone	78-59-1		U	5.49	2.75
N-Nitrosodiphenylamine	86-30-6		U	5.49	2.75
N-Nitrosodipropylamine	621-64-7		U	5.49	2.75

17 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-15
 Client ID: 40EQR112111
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/21/2011 11:10
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 17:43
 File ID: 4M59052

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.49	2.75
Nitrobenzene	98-95-3		U	5.49	2.75
Pentachlorophenol	87-86-5		U	27.5	13.7
Phenanthrene	85-01-8		U	5.49	2.75
Phenol	108-95-2		U	5.49	2.75
Pyrene	129-00-0		U	5.49	2.75
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	111	40	125		
2-Fluorobiphenyl	88.9	50	110		
2-Fluorophenol	56.2	20	110		
Nitrobenzene-d5	83.9	40	110		
p-Terphenyl-d14	129	50	135		
Phenol-d5	32.7	10	115		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-16
 Client ID: 40LFMW01GW112111
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/21/2011 13:54
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 12:52
 File ID: 4M59043

Analyte	CAS. Number	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.38	2.69
1,2-Dichlorobenzene	95-50-1		U	5.38	2.69
1,3-Dichlorobenzene	541-73-1		U	5.38	2.69
1,4-Dichlorobenzene	106-46-7		U	5.38	2.69
2,4,5-Trichlorophenol	95-95-4		U	5.38	2.69
2,4,6-Trichlorophenol	88-06-2		U	5.38	2.69
2,4-Dichlorophenol	120-83-2		U	5.38	2.69
2,4-Dimethylphenol	105-67-9		U	5.38	2.69
2,4-Dinitrophenol	51-28-5		U	26.9	13.4
2,4-Dinitrotoluene	121-14-2		U	5.38	2.69
2,6-Dinitrotoluene	606-20-2		U	5.38	2.69
2-Chloronaphthalene	91-58-7		U	5.38	2.69
2-Chlorophenol	95-57-8		U	5.38	2.69
2-Methylnaphthalene	91-57-6		U	5.38	2.69
2-Methylphenol	95-48-7		U	5.38	2.69
2-Nitroaniline	88-74-4		U	26.9	13.4
2-Nitrophenol	88-75-5		U	5.38	2.69
3,3'-Dichlorobenzidine	91-94-1		U	10.8	2.69
3-,4-Methylphenol	106-44-5		U	5.38	2.69
3-Nitroaniline	99-09-2		U	26.9	13.4
4,6-Dinitro-2-methylphenol	534-52-1		U	26.9	13.4
4-Bromophenyl-phenylether	101-55-3		U	5.38	2.69
4-Chloro-3-methylphenol	59-50-7		U	5.38	2.69
4-Chloroaniline	106-47-8		U	5.38	2.69
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.38	2.69
4-Nitroaniline	100-01-6		U	26.9	13.4
4-Nitrophenol	100-02-7		U	26.9	13.4
Acenaphthene	83-32-9		U	5.38	2.69
Acenaphthylene	208-96-8		U	5.38	2.69
Anthracene	120-12-7		U	5.38	2.69
Benzo(a)anthracene	56-55-3		U	5.38	2.69
Benzo(a)pyrene	50-32-8		U	5.38	2.69
Benzo(b)fluoranthene	205-99-2		U	5.38	2.69
Benzo(g,h,i)Perylene	191-24-2		U	5.38	2.69
Benzo(k)fluoranthene	207-08-9		U	5.38	2.69
Benzoic acid	65-85-0		U	26.9	13.4
Benzyl alcohol	100-51-6		U	5.38	2.69
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.38	2.69
Bis(2-Chloroethyl) ether	111-44-4		U	5.38	2.69
bis(2-Chloroisopropyl) ether	108-60-1		U	5.38	2.69
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.8	3.23
Butylbenzylphthalate	85-68-7		U	5.38	2.69
Chrysene	218-01-9		U	5.38	2.69
Di-N-Butylphthalate	84-74-2		U	5.38	2.69
Di-n-octylphthalate	117-84-0		U	5.38	2.69
Dibenzo(a,h)Anthracene	53-70-3		U	5.38	2.69
Dibenzofuran	132-64-9		U	5.38	2.69
Diethylphthalate	84-66-2		U	5.38	2.69
Dimethylphthalate	131-11-3		U	5.38	2.69
Fluoranthene	206-44-0		U	5.38	2.69
Fluorene	86-73-7		U	5.38	2.69
Hexachlorobenzene	118-74-1		U	5.38	2.69
Hexachlorobutadiene	87-68-3		U	5.38	2.69
Hexachlorocyclopentadiene	77-47-4		U	5.38	2.69
Hexachloroethane	67-72-1		U	5.38	2.69
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.38	2.69
Isophorone	78-59-1		U	5.38	2.69
N-Nitrosodiphenylamine	86-30-6		U	5.38	2.69
N-Nitrosodipropylamine	621-64-7		U	5.38	2.69

19 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-16
 Client ID: 40LFMW01GW112111
 Matrix: Water
 Workgroup Number: WG384176
 Collect Date: 11/21/2011 13:54
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS4
 Prep Date: 11/23/2011 14:00
 Cal Date: 12/02/2011 16:01
 Run Date: 12/08/2011 12:52
 File ID: 4M59043

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.38	2.69
Nitrobenzene	98-95-3		U	5.38	2.69
Pentachlorophenol	87-86-5		U	26.9	13.4
Phenanthrene	85-01-8		U	5.38	2.69
Phenol	108-95-2		U	5.38	2.69
Pyrene	129-00-0		U	5.38	2.69
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	118	40	125		
2-Fluorobiphenyl	88.0	50	110		
2-Fluorophenol	55.1	20	110		
Nitrobenzene-d5	83.3	40	110		
p-Terphenyl-d14	94.6	50	135		
Phenol-d5	33.1	10	115		

U Analyte was not detected. The concentration is below the reported LOD.

20 of 20



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-01
 Client ID: 40MW7GW112011
 Matrix: Water
 Workgroup Number: WG383080
 Collect Date: 11/20/2011 12:05
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS7
 Prep Date: 11/23/2011 17:30
 Cal Date: 09/29/2011 11:08
 Run Date: 11/29/2011 10:25
 File ID: 7M53502

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	0.0299	J	0.0510	0.0255
Acenaphthylene	208-96-8		U	0.0510	0.0255
Acenaphthene	83-32-9		U	0.0510	0.0255
Fluorene	86-73-7		U	0.0510	0.0255
Phenanthrene	85-01-8		U	0.0510	0.0255
Anthracene	120-12-7		U	0.0510	0.0255
Fluoranthene	206-44-0		U	0.0510	0.0255
Pyrene	129-00-0		U	0.0510	0.0255
Benzo (a) anthracene	56-55-3		U	0.0510	0.0255
Chrysene	218-01-9		U	0.0510	0.0255
Benzo (b) fluoranthene	205-99-2		U	0.0510	0.0255
Benzo (k) fluoranthene	207-08-9		U	0.0510	0.0255
Benzo (a) pyrene	50-32-8		U	0.0510	0.0255
Indeno (1,2,3-cd) pyrene	193-39-5		U	0.0510	0.0255
Dibenzo (a,h) anthracene	53-70-3		U	0.0510	0.0255
Benzo (g,h,i) perylene	191-24-2		U	0.0510	0.0255
1-Methylnaphthalene	90-12-0		U	0.0510	0.0255
2-Methylnaphthalene	91-57-6		U	0.0510	0.0255
Surrogate	% Recovery	Lower	Upper	Qual	
Nitrobenzene-d5	85.2	35	114		
2-Fluorobiphenyl	97.4	50	110		
p-Terphenyl-d14	97.8	33	141		

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-03
 Client ID: 40MW5GW112011
 Matrix: Water
 Workgroup Number: WG383080
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS7
 Prep Date: 11/23/2011 17:30
 Cal Date: 09/29/2011 11:08
 Run Date: 11/29/2011 10:52
 File ID: 7M53503

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0538	0.0269
Acenaphthylene	208-96-8		U	0.0538	0.0269
Acenaphthene	83-32-9		U	0.0538	0.0269
Fluorene	86-73-7		U	0.0538	0.0269
Phenanthrene	85-01-8		U	0.0538	0.0269
Anthracene	120-12-7		U	0.0538	0.0269
Fluoranthene	206-44-0		U	0.0538	0.0269
Pyrene	129-00-0		U	0.0538	0.0269
Benzo (a) anthracene	56-55-3		U	0.0538	0.0269
Chrysene	218-01-9		U	0.0538	0.0269
Benzo (b) fluoranthene	205-99-2		U	0.0538	0.0269
Benzo (k) fluoranthene	207-08-9		U	0.0538	0.0269
Benzo (a) pyrene	50-32-8		U	0.0538	0.0269
Indeno (1,2,3-cd) pyrene	193-39-5		U	0.0538	0.0269
Dibenzo (a,h) anthracene	53-70-3		U	0.0538	0.0269
Benzo (g,h,i) perylene	191-24-2		U	0.0538	0.0269
1-Methylnaphthalene	90-12-0		U	0.0538	0.0269
2-Methylnaphthalene	91-57-6		U	0.0538	0.0269
Surrogate	% Recovery	Lower	Upper	Qual	
Nitrobenzene-d5	89.1	35	114		
2-Fluorobiphenyl	96.7	50	110		
p-Terphenyl-d14	101	33	141		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-05
 Client ID: 40DUPGW112011
 Matrix: Water
 Workgroup Number: WG383080
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS7
 Prep Date: 11/23/2011 17:30
 Cal Date: 09/29/2011 11:08
 Run Date: 11/29/2011 11:19
 File ID: 7M53504

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0526	0.0263
Acenaphthylene	208-96-8		U	0.0526	0.0263
Acenaphthene	83-32-9		U	0.0526	0.0263
Fluorene	86-73-7		U	0.0526	0.0263
Phenanthrene	85-01-8		U	0.0526	0.0263
Anthracene	120-12-7		U	0.0526	0.0263
Fluoranthene	206-44-0		U	0.0526	0.0263
Pyrene	129-00-0		U	0.0526	0.0263
Benzo (a) anthracene	56-55-3		U	0.0526	0.0263
Chrysene	218-01-9		U	0.0526	0.0263
Benzo (b) fluoranthene	205-99-2		U	0.0526	0.0263
Benzo (k) fluoranthene	207-08-9		U	0.0526	0.0263
Benzo (a) pyrene	50-32-8		U	0.0526	0.0263
Indeno (1,2,3-cd) pyrene	193-39-5		U	0.0526	0.0263
Dibenzo (a,h) anthracene	53-70-3		U	0.0526	0.0263
Benzo (g,h,i) perylene	191-24-2		U	0.0526	0.0263
1-Methylnaphthalene	90-12-0		U	0.0526	0.0263
2-Methylnaphthalene	91-57-6		U	0.0526	0.0263
Surrogate	% Recovery	Lower	Upper	Qual	
Nitrobenzene-d5	85.1	35	114		
2-Fluorobiphenyl	97.2	50	110		
p-Terphenyl-d14	104	33	141		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-07
 Client ID: 40MW5MSGW112011
 Matrix: Water
 Workgroup Number: WG383080
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS7
 Prep Date: 11/23/2011 17:30
 Cal Date: 09/29/2011 11:08
 Run Date: 11/29/2011 11:46
 File ID: 7M53505

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	0.879		0.0526	0.0263
Acenaphthylene	208-96-8	0.886		0.0526	0.0263
Acenaphthene	83-32-9	0.904		0.0526	0.0263
Fluorene	86-73-7	0.920		0.0526	0.0263
Phenanthrene	85-01-8	1.02		0.0526	0.0263
Anthracene	120-12-7	0.962		0.0526	0.0263
Fluoranthene	206-44-0	1.05		0.0526	0.0263
Pyrene	129-00-0	1.02		0.0526	0.0263
Benzo (a) anthracene	56-55-3	1.02		0.0526	0.0263
Chrysene	218-01-9	1.03		0.0526	0.0263
Benzo (b) fluoranthene	205-99-2	0.979		0.0526	0.0263
Benzo (k) fluoranthene	207-08-9	0.990		0.0526	0.0263
Benzo (a) pyrene	50-32-8	1.03		0.0526	0.0263
Indeno (1,2,3-cd) pyrene	193-39-5	0.953		0.0526	0.0263
Dibenzo (a,h) anthracene	53-70-3	0.912		0.0526	0.0263
Benzo (g,h,i) perylene	191-24-2	0.999		0.0526	0.0263
1-Methylnaphthalene	90-12-0	0.861		0.0526	0.0263
2-Methylnaphthalene	91-57-6	0.929		0.0526	0.0263
Surrogate	% Recovery	Lower	Upper	Qual	
Nitrobenzene-d5	84.4	35	114		
2-Fluorobiphenyl	91.9	50	110		
p-Terphenyl-d14	102	33	141		



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-09
 Client ID: 40MW5MSDGW112011
 Matrix: Water
 Workgroup Number: WG383080
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS7
 Prep Date: 11/23/2011 17:30
 Cal Date: 09/29/2011 11:08
 Run Date: 11/29/2011 12:12
 File ID: 7M53506

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	0.870		0.0515	0.0258
Acenaphthylene	208-96-8	0.890		0.0515	0.0258
Acenaphthene	83-32-9	0.906		0.0515	0.0258
Fluorene	86-73-7	0.920		0.0515	0.0258
Phenanthrene	85-01-8	1.02		0.0515	0.0258
Anthracene	120-12-7	0.958		0.0515	0.0258
Fluoranthene	206-44-0	1.04		0.0515	0.0258
Pyrene	129-00-0	0.998		0.0515	0.0258
Benzo (a) anthracene	56-55-3	0.992		0.0515	0.0258
Chrysene	218-01-9	1.01		0.0515	0.0258
Benzo (b) fluoranthene	205-99-2	0.929		0.0515	0.0258
Benzo (k) fluoranthene	207-08-9	0.985		0.0515	0.0258
Benzo (a) pyrene	50-32-8	1.02		0.0515	0.0258
Indeno (1,2,3-cd) pyrene	193-39-5	0.919		0.0515	0.0258
Dibenzo (a,h) anthracene	53-70-3	0.862		0.0515	0.0258
Benzo (g,h,i) perylene	191-24-2	0.964		0.0515	0.0258
1-Methylnaphthalene	90-12-0	0.852		0.0515	0.0258
2-Methylnaphthalene	91-57-6	0.918		0.0515	0.0258
Surrogate	% Recovery	Lower	Upper	Qual	
Nitrobenzene-d5	87.0	35	114		
2-Fluorobiphenyl	94.8	50	110		
p-Terphenyl-d14	102	33	141		

5 of 10



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-11
 Client ID: 40112011FB
 Matrix: Water
 Workgroup Number: WG383080
 Collect Date: 11/20/2011 17:50
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS7
 Prep Date: 11/23/2011 17:30
 Cal Date: 09/29/2011 11:08
 Run Date: 11/29/2011 12:39
 File ID: 7M53507

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0549	0.0275
Acenaphthylene	208-96-8		U	0.0549	0.0275
Acenaphthene	83-32-9		U	0.0549	0.0275
Fluorene	86-73-7		U	0.0549	0.0275
Phenanthrene	85-01-8		U	0.0549	0.0275
Anthracene	120-12-7		U	0.0549	0.0275
Fluoranthene	206-44-0		U	0.0549	0.0275
Pyrene	129-00-0		U	0.0549	0.0275
Benzo (a) anthracene	56-55-3		U	0.0549	0.0275
Chrysene	218-01-9		U	0.0549	0.0275
Benzo (b) fluoranthene	205-99-2		U	0.0549	0.0275
Benzo (k) fluoranthene	207-08-9		U	0.0549	0.0275
Benzo (a) pyrene	50-32-8		U	0.0549	0.0275
Indeno (1,2,3-cd) pyrene	193-39-5		U	0.0549	0.0275
Dibenzo (a,h) anthracene	53-70-3		U	0.0549	0.0275
Benzo (g,h,i) perylene	191-24-2		U	0.0549	0.0275
1-Methylnaphthalene	90-12-0		U	0.0549	0.0275
2-Methylnaphthalene	91-57-6		U	0.0549	0.0275
Surrogate	% Recovery	Lower	Upper	Qual	
Nitrobenzene-d5	87.0	35	114		
2-Fluorobiphenyl	92.4	50	110		
p-Terphenyl-d14	104	33	141		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-12
 Client ID: 40EQR112011
 Matrix: Water
 Workgroup Number: WG383080
 Collect Date: 11/20/2011 18:15
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS7
 Prep Date: 11/23/2011 17:30
 Cal Date: 09/29/2011 11:08
 Run Date: 11/29/2011 13:07
 File ID: 7M53508

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0538	0.0269
Acenaphthylene	208-96-8		U	0.0538	0.0269
Acenaphthene	83-32-9		U	0.0538	0.0269
Fluorene	86-73-7		U	0.0538	0.0269
Phenanthrene	85-01-8		U	0.0538	0.0269
Anthracene	120-12-7		U	0.0538	0.0269
Fluoranthene	206-44-0		U	0.0538	0.0269
Pyrene	129-00-0		U	0.0538	0.0269
Benzo (a) anthracene	56-55-3		U	0.0538	0.0269
Chrysene	218-01-9		U	0.0538	0.0269
Benzo (b) fluoranthene	205-99-2		U	0.0538	0.0269
Benzo (k) fluoranthene	207-08-9		U	0.0538	0.0269
Benzo (a) pyrene	50-32-8		U	0.0538	0.0269
Indeno (1,2,3-cd) pyrene	193-39-5		U	0.0538	0.0269
Dibenzo (a,h) anthracene	53-70-3		U	0.0538	0.0269
Benzo (g,h,i) perylene	191-24-2		U	0.0538	0.0269
1-Methylnaphthalene	90-12-0		U	0.0538	0.0269
2-Methylnaphthalene	91-57-6		U	0.0538	0.0269
Surrogate	% Recovery	Lower	Upper	Qual	
Nitrobenzene-d5	85.2	35	114		
2-Fluorobiphenyl	89.1	50	110		
p-Terphenyl-d14	105	33	141		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-14
 Client ID: 40MW6GW112111
 Matrix: Water
 Workgroup Number: WG383080
 Collect Date: 11/21/2011 09:34
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS7
 Prep Date: 11/23/2011 17:30
 Cal Date: 09/29/2011 11:08
 Run Date: 11/29/2011 13:34
 File ID: 7M53509

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0575	0.0287
Acenaphthylene	208-96-8		U	0.0575	0.0287
Acenaphthene	83-32-9		U	0.0575	0.0287
Fluorene	86-73-7		U	0.0575	0.0287
Phenanthrene	85-01-8		U	0.0575	0.0287
Anthracene	120-12-7		U	0.0575	0.0287
Fluoranthene	206-44-0		U	0.0575	0.0287
Pyrene	129-00-0		U	0.0575	0.0287
Benzo (a) anthracene	56-55-3		U	0.0575	0.0287
Chrysene	218-01-9		U	0.0575	0.0287
Benzo (b) fluoranthene	205-99-2		U	0.0575	0.0287
Benzo (k) fluoranthene	207-08-9		U	0.0575	0.0287
Benzo (a) pyrene	50-32-8		U	0.0575	0.0287
Indeno (1,2,3-cd) pyrene	193-39-5		U	0.0575	0.0287
Dibenzo (a,h) anthracene	53-70-3		U	0.0575	0.0287
Benzo (g,h,i) perylene	191-24-2		U	0.0575	0.0287
1-Methylnaphthalene	90-12-0		U	0.0575	0.0287
2-Methylnaphthalene	91-57-6		U	0.0575	0.0287
Surrogate	% Recovery	Lower	Upper	Qual	
Nitrobenzene-d5	88.4	35	114		
2-Fluorobiphenyl	94.7	50	110		
p-Terphenyl-d14	101	33	141		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-15
 Client ID: 40EQR112111
 Matrix: Water
 Workgroup Number: WG383080
 Collect Date: 11/21/2011 11:10
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS7
 Prep Date: 11/23/2011 17:30
 Cal Date: 09/29/2011 11:08
 Run Date: 11/29/2011 14:01
 File ID: 7M53510

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0500	0.0250
Acenaphthylene	208-96-8		U	0.0500	0.0250
Acenaphthene	83-32-9		U	0.0500	0.0250
Fluorene	86-73-7		U	0.0500	0.0250
Phenanthrene	85-01-8		U	0.0500	0.0250
Anthracene	120-12-7		U	0.0500	0.0250
Fluoranthene	206-44-0		U	0.0500	0.0250
Pyrene	129-00-0		U	0.0500	0.0250
Benzo (a) anthracene	56-55-3		U	0.0500	0.0250
Chrysene	218-01-9		U	0.0500	0.0250
Benzo (b) fluoranthene	205-99-2		U	0.0500	0.0250
Benzo (k) fluoranthene	207-08-9		U	0.0500	0.0250
Benzo (a) pyrene	50-32-8		U	0.0500	0.0250
Indeno (1,2,3-cd) pyrene	193-39-5		U	0.0500	0.0250
Dibenzo (a,h) anthracene	53-70-3		U	0.0500	0.0250
Benzo (g,h,i) perylene	191-24-2		U	0.0500	0.0250
1-Methylnaphthalene	90-12-0		U	0.0500	0.0250
2-Methylnaphthalene	91-57-6		U	0.0500	0.0250
Surrogate	% Recovery	Lower	Upper	Qual	
Nitrobenzene-d5	85.1	35	114		
2-Fluorobiphenyl	92.5	50	110		
p-Terphenyl-d14	102	33	141		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-16
 Client ID: 40LFMW01GW112111
 Matrix: Water
 Workgroup Number: WG383080
 Collect Date: 11/21/2011 13:54
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: CAA
 Dilution: 1
 Units: ug/L

Instrument: HPMS7
 Prep Date: 11/23/2011 17:30
 Cal Date: 09/29/2011 11:08
 Run Date: 11/29/2011 14:28
 File ID: 7M53511

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0562	0.0281
Acenaphthylene	208-96-8		U	0.0562	0.0281
Acenaphthene	83-32-9		U	0.0562	0.0281
Fluorene	86-73-7		U	0.0562	0.0281
Phenanthrene	85-01-8		U	0.0562	0.0281
Anthracene	120-12-7		U	0.0562	0.0281
Fluoranthene	206-44-0		U	0.0562	0.0281
Pyrene	129-00-0		U	0.0562	0.0281
Benzo (a) anthracene	56-55-3		U	0.0562	0.0281
Chrysene	218-01-9		U	0.0562	0.0281
Benzo (b) fluoranthene	205-99-2		U	0.0562	0.0281
Benzo (k) fluoranthene	207-08-9		U	0.0562	0.0281
Benzo (a) pyrene	50-32-8		U	0.0562	0.0281
Indeno (1,2,3-cd) pyrene	193-39-5		U	0.0562	0.0281
Dibenzo (a,h) anthracene	53-70-3		U	0.0562	0.0281
Benzo (g,h,i) perylene	191-24-2		U	0.0562	0.0281
1-Methylnaphthalene	90-12-0		U	0.0562	0.0281
2-Methylnaphthalene	91-57-6		U	0.0562	0.0281
Surrogate	% Recovery	Lower	Upper	Qual	
Nitrobenzene-d5	78.1	35	114		
2-Fluorobiphenyl	83.2	50	110		
p-Terphenyl-d14	98.4	33	141		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-01
Client ID: 40MW7GW112011
Matrix: Water
Workgroup Number: WG383266
Collect Date: 11/20/2011 12:05
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 11/29/2011 15:08
Cal Date: 11/21/2011 17:54
Run Date: 11/29/2011 16:43
File ID: 1LM.LM14777

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	4.50		0.200	0.100

1 of 10



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-03
Client ID: 40MW5GW112011
Matrix: Water
Workgroup Number: WG383266
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 11/29/2011 15:08
Cal Date: 11/21/2011 17:54
Run Date: 11/29/2011 17:02
File ID: 1LM.LM14778

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	1.55		0.200	0.100



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-05
Client ID: 40DUPGW112011
Matrix: Water
Workgroup Number: WG383266
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 11/29/2011 15:08
Cal Date: 11/21/2011 17:54
Run Date: 11/29/2011 17:21
File ID: 1LM.LM14779

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	1.55		0.200	0.100

3 of 10



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-07
Client ID: 40MW5MSGW112011
Matrix: Water
Workgroup Number: WG383266
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 11/29/2011 15:08
Cal Date: 11/21/2011 17:54
Run Date: 11/29/2011 17:40
File ID: 1LM.LM14780

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	1.73		0.200	0.100

4 of 10



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-09
Client ID: 40MW5MSDGW112011
Matrix: Water
Workgroup Number: WG383266
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 11/29/2011 15:08
Cal Date: 11/21/2011 17:54
Run Date: 11/29/2011 17:59
File ID: 1LM.LM14781

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	1.70		0.200	0.100

5 of 10



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-11
Client ID: 40112011FB
Matrix: Water
Workgroup Number: WG383266
Collect Date: 11/20/2011 17:50
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 11/29/2011 15:08
Cal Date: 11/21/2011 17:54
Run Date: 11/29/2011 18:17
File ID: 1LM.LM14782

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100

U Analyte was not detected. The concentration is below the reported LOD.

6 of 10



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-12
Client ID: 40EQR112011
Matrix: Water
Workgroup Number: WG383266
Collect Date: 11/20/2011 18:15
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 11/29/2011 15:08
Cal Date: 11/21/2011 17:54
Run Date: 11/29/2011 18:36
File ID: 1LM.LM14783

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100

U Analyte was not detected. The concentration is below the reported LOD.

7 of 10



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-14
Client ID: 40MW6GW112111
Matrix: Water
Workgroup Number: WG383266
Collect Date: 11/21/2011 09:34
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 11/29/2011 15:08
Cal Date: 11/21/2011 17:54
Run Date: 11/29/2011 19:52
File ID: 1LM.LM14787

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.885		0.200	0.100

8 of 10



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-15
Client ID: 40EQR112111
Matrix: Water
Workgroup Number: WG383266
Collect Date: 11/21/2011 11:10
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 11/29/2011 15:08
Cal Date: 11/21/2011 17:54
Run Date: 11/29/2011 20:11
File ID: 1LM.LM14788

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-16
Client ID: 40LFMW01GW112111
Matrix: Water
Workgroup Number: WG383266
Collect Date: 11/21/2011 13:54
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 11/29/2011 15:08
Cal Date: 11/21/2011 17:54
Run Date: 11/29/2011 20:30
File ID: 1LM.LM14789

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	9.67		0.200	0.100

10 of 10



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-01
 Client ID: 40MW7GW112011
 Matrix: Water
 Workgroup Number: WG383059
 Collect Date: 11/20/2011 12:05
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8081A
 Analyst: ECL
 Dilution: 1
 Units: ug/L

Instrument: HP15
 Prep Date: 11/23/2011 16:00
 Cal Date: 10/25/2011 21:41
 Run Date: 11/29/2011 08:18
 File ID: 15G29326.R

Analyte	CAS. Number	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0526	0.0105
4,4'-DDE	72-55-9		U	0.0526	0.0105
4,4'-DDT	50-29-3		U	0.0526	0.0105
Aldrin	309-00-2		U	0.0526	0.0105
alpha Chlordane	5103-71-9		U	0.0526	0.0105
alpha-BHC	319-84-6		U	0.0526	0.0105
beta-BHC	319-85-7		U	0.0526	0.0105
delta-BHC	319-86-8		U	0.0526	0.0105
Dieldrin	60-57-1		U	0.0526	0.0105
Endosulfan I	959-98-8		U	0.0526	0.0105
Endosulfan II	33213-65-9		U	0.0526	0.0105
Endosulfan sulfate	1031-07-8		U	0.0526	0.0105
Endrin	72-20-8		U	0.0526	0.0105
Endrin aldehyde	7421-93-4		U	0.0526	0.0105
Endrin ketone	53494-70-5		U	0.0526	0.0105
gamma Chlordane	5103-74-2		U	0.0526	0.0105
gamma-BHC (Lindane)	58-89-9		U	0.0526	0.0105
Heptachlor	76-44-8		U	0.0526	0.0105
Heptachlor epoxide	1024-57-3		U	0.0526	0.0105
Methoxychlor	72-43-5		U	0.0526	0.0105
Toxaphene	8001-35-2		U	1.05	0.316
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,5,6-Tetrachloro-m-xylene	67.2	25	140		
Decachlorobiphenyl	38.9	30	135		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-03
 Client ID: 40MW5GW112011
 Matrix: Water
 Workgroup Number: WG383059
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8081A
 Analyst: ECL
 Dilution: 1
 Units: ug/L

Instrument: HP15
 Prep Date: 11/23/2011 16:00
 Cal Date: 10/25/2011 21:41
 Run Date: 11/29/2011 08:46
 File ID: 15G29327.R

Analyte	CAS. Number	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0543	0.0109
4,4'-DDE	72-55-9		U	0.0543	0.0109
4,4'-DDT	50-29-3		U	0.0543	0.0109
Aldrin	309-00-2		U	0.0543	0.0109
alpha Chlordane	5103-71-9		U	0.0543	0.0109
alpha-BHC	319-84-6		U	0.0543	0.0109
beta-BHC	319-85-7		U	0.0543	0.0109
delta-BHC	319-86-8		U	0.0543	0.0109
Dieldrin	60-57-1		U	0.0543	0.0109
Endosulfan I	959-98-8		U	0.0543	0.0109
Endosulfan II	33213-65-9		U	0.0543	0.0109
Endosulfan sulfate	1031-07-8		U	0.0543	0.0109
Endrin	72-20-8		U	0.0543	0.0109
Endrin aldehyde	7421-93-4		U	0.0543	0.0109
Endrin ketone	53494-70-5		U	0.0543	0.0109
gamma Chlordane	5103-74-2		U	0.0543	0.0109
gamma-BHC (Lindane)	58-89-9		U	0.0543	0.0109
Heptachlor	76-44-8		U	0.0543	0.0109
Heptachlor epoxide	1024-57-3		U	0.0543	0.0109
Methoxychlor	72-43-5		U	0.0543	0.0109
Toxaphene	8001-35-2		U	1.09	0.326
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,5,6-Tetrachloro-m-xylene	80.0	25	140		
Decachlorobiphenyl	76.1	30	135		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-05
 Client ID: 40DUPGW112011
 Matrix: Water
 Workgroup Number: WG383059
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8081A
 Analyst: ECL
 Dilution: 1
 Units: ug/L

Instrument: HP15
 Prep Date: 11/23/2011 16:00
 Cal Date: 10/25/2011 21:41
 Run Date: 11/29/2011 10:11
 File ID: 15G29330.R

Analyte	CAS. Number	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0588	0.0118
4,4'-DDE	72-55-9		U	0.0588	0.0118
4,4'-DDT	50-29-3		U	0.0588	0.0118
Aldrin	309-00-2		U	0.0588	0.0118
alpha Chlordane	5103-71-9		U	0.0588	0.0118
alpha-BHC	319-84-6		U	0.0588	0.0118
beta-BHC	319-85-7		U	0.0588	0.0118
delta-BHC	319-86-8		U	0.0588	0.0118
Dieldrin	60-57-1		U	0.0588	0.0118
Endosulfan I	959-98-8		U	0.0588	0.0118
Endosulfan II	33213-65-9		U	0.0588	0.0118
Endosulfan sulfate	1031-07-8		U	0.0588	0.0118
Endrin	72-20-8		U	0.0588	0.0118
Endrin aldehyde	7421-93-4		U	0.0588	0.0118
Endrin ketone	53494-70-5		U	0.0588	0.0118
gamma Chlordane	5103-74-2		U	0.0588	0.0118
gamma-BHC (Lindane)	58-89-9		U	0.0588	0.0118
Heptachlor	76-44-8		U	0.0588	0.0118
Heptachlor epoxide	1024-57-3		U	0.0588	0.0118
Methoxychlor	72-43-5		U	0.0588	0.0118
Toxaphene	8001-35-2		U	1.18	0.353
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,5,6-Tetrachloro-m-xylene	78.9	25	140		
Decachlorobiphenyl	76.0	30	135		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-07
 Client ID: 40MW5MSGW112011
 Matrix: Water
 Workgroup Number: WG383059
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8081A
 Analyst: ECL
 Dilution: 1
 Units: ug/L

Instrument: HP15
 Prep Date: 11/23/2011 16:00
 Cal Date: 10/25/2011 21:41
 Run Date: 11/29/2011 09:14
 File ID: 15G29328.R

Analyte	CAS. Number	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.769		0.0588	0.0118
4,4'-DDE	72-55-9	0.751		0.0588	0.0118
4,4'-DDT	50-29-3	0.762		0.0588	0.0118
Aldrin	309-00-2	0.612		0.0588	0.0118
alpha Chlordane	5103-71-9	0.706		0.0588	0.0118
alpha-BHC	319-84-6	0.619		0.0588	0.0118
beta-BHC	319-85-7	0.635		0.0588	0.0118
delta-BHC	319-86-8	0.617		0.0588	0.0118
Dieldrin	60-57-1	0.731		0.0588	0.0118
Endosulfan I	959-98-8	0.547		0.0588	0.0118
Endosulfan II	33213-65-9	0.578		0.0588	0.0118
Endosulfan sulfate	1031-07-8	0.649		0.0588	0.0118
Endrin	72-20-8	0.666		0.0588	0.0118
Endrin aldehyde	7421-93-4	0.583		0.0588	0.0118
Endrin ketone	53494-70-5	0.754		0.0588	0.0118
gamma Chlordane	5103-74-2	0.718		0.0588	0.0118
gamma-BHC (Lindane)	58-89-9	0.646		0.0588	0.0118
Heptachlor	76-44-8	0.620		0.0588	0.0118
Heptachlor epoxide	1024-57-3	0.691		0.0588	0.0118
Methoxychlor	72-43-5	0.882		0.0588	0.0118
Toxaphene	8001-35-2		U	1.18	0.353
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,5,6-Tetrachloro-m-xylene	87.1	25	140		
Decachlorobiphenyl	76.3	30	135		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-09
 Client ID: 40MW5MSDGL12011
 Matrix: Water
 Workgroup Number: WG383059
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8081A
 Analyst: ECL
 Dilution: 1
 Units: ug/L

Instrument: HP15
 Prep Date: 11/23/2011 16:00
 Cal Date: 10/25/2011 21:41
 Run Date: 11/29/2011 09:43
 File ID: 15G29329.R

Analyte	CAS. Number	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.636		0.0500	0.0100
4,4'-DDE	72-55-9	0.631		0.0500	0.0100
4,4'-DDT	50-29-3	0.640		0.0500	0.0100
Aldrin	309-00-2	0.519		0.0500	0.0100
alpha Chlordane	5103-71-9	0.583		0.0500	0.0100
alpha-BHC	319-84-6	0.525		0.0500	0.0100
beta-BHC	319-85-7	0.525		0.0500	0.0100
delta-BHC	319-86-8	0.499		0.0500	0.0100
Dieldrin	60-57-1	0.605		0.0500	0.0100
Endosulfan I	959-98-8	0.454		0.0500	0.0100
Endosulfan II	33213-65-9	0.469		0.0500	0.0100
Endosulfan sulfate	1031-07-8	0.508		0.0500	0.0100
Endrin	72-20-8	0.552		0.0500	0.0100
Endrin aldehyde	7421-93-4	0.470		0.0500	0.0100
Endrin ketone	53494-70-5	0.599		0.0500	0.0100
gamma Chlordane	5103-74-2	0.593		0.0500	0.0100
gamma-BHC (Lindane)	58-89-9	0.544		0.0500	0.0100
Heptachlor	76-44-8	0.525		0.0500	0.0100
Heptachlor epoxide	1024-57-3	0.585		0.0500	0.0100
Methoxychlor	72-43-5	0.744		0.0500	0.0100
Toxaphene	8001-35-2		U	1.00	0.300
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,5,6-Tetrachloro-m-xylene	84.2	25	140		
Decachlorobiphenyl	95.0	30	135		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-11
 Client ID: 40112011FB
 Matrix: Water
 Workgroup Number: WG383059
 Collect Date: 11/20/2011 17:50
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8081A
 Analyst: ECL
 Dilution: 1
 Units: ug/L

Instrument: HP15
 Prep Date: 11/23/2011 16:00
 Cal Date: 10/25/2011 21:41
 Run Date: 11/29/2011 10:40
 File ID: 15G29331.R

Analyte	CAS. Number	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0500	0.0100
4,4'-DDE	72-55-9		U	0.0500	0.0100
4,4'-DDT	50-29-3		U	0.0500	0.0100
Aldrin	309-00-2		U	0.0500	0.0100
alpha Chlordane	5103-71-9		U	0.0500	0.0100
alpha-BHC	319-84-6		U	0.0500	0.0100
beta-BHC	319-85-7		U	0.0500	0.0100
delta-BHC	319-86-8		U	0.0500	0.0100
Dieldrin	60-57-1		U	0.0500	0.0100
Endosulfan I	959-98-8		U	0.0500	0.0100
Endosulfan II	33213-65-9		U	0.0500	0.0100
Endosulfan sulfate	1031-07-8		U	0.0500	0.0100
Endrin	72-20-8		U	0.0500	0.0100
Endrin aldehyde	7421-93-4		U	0.0500	0.0100
Endrin ketone	53494-70-5		U	0.0500	0.0100
gamma Chlordane	5103-74-2		U	0.0500	0.0100
gamma-BHC (Lindane)	58-89-9		U	0.0500	0.0100
Heptachlor	76-44-8		U	0.0500	0.0100
Heptachlor epoxide	1024-57-3		U	0.0500	0.0100
Methoxychlor	72-43-5		U	0.0500	0.0100
Toxaphene	8001-35-2		U	1.00	0.300
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,5,6-Tetrachloro-m-xylene	71.9	25	140		
Decachlorobiphenyl	106	30	135		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-12
 Client ID: 40EQR112011
 Matrix: Water
 Workgroup Number: WG383059
 Collect Date: 11/20/2011 18:15
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8081A
 Analyst: ECL
 Dilution: 1
 Units: ug/L

Instrument: HP15
 Prep Date: 11/23/2011 16:00
 Cal Date: 10/25/2011 21:41
 Run Date: 11/29/2011 11:08
 File ID: 15G29332.R

Analyte	CAS. Number	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0556	0.0111
4,4'-DDE	72-55-9		U	0.0556	0.0111
4,4'-DDT	50-29-3		U	0.0556	0.0111
Aldrin	309-00-2		U	0.0556	0.0111
alpha Chlordane	5103-71-9		U	0.0556	0.0111
alpha-BHC	319-84-6		U	0.0556	0.0111
beta-BHC	319-85-7		U	0.0556	0.0111
delta-BHC	319-86-8		U	0.0556	0.0111
Dieldrin	60-57-1		U	0.0556	0.0111
Endosulfan I	959-98-8		U	0.0556	0.0111
Endosulfan II	33213-65-9		U	0.0556	0.0111
Endosulfan sulfate	1031-07-8		U	0.0556	0.0111
Endrin	72-20-8		U	0.0556	0.0111
Endrin aldehyde	7421-93-4		U	0.0556	0.0111
Endrin ketone	53494-70-5		U	0.0556	0.0111
gamma Chlordane	5103-74-2		U	0.0556	0.0111
gamma-BHC (Lindane)	58-89-9		U	0.0556	0.0111
Heptachlor	76-44-8		U	0.0556	0.0111
Heptachlor epoxide	1024-57-3		U	0.0556	0.0111
Methoxychlor	72-43-5		U	0.0556	0.0111
Toxaphene	8001-35-2		U	1.11	0.333
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,5,6-Tetrachloro-m-xylene	97.1	25	140		
Decachlorobiphenyl	80.7	30	135		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-14
 Client ID: 40MW6GW112111
 Matrix: Water
 Workgroup Number: WG383059
 Collect Date: 11/21/2011 09:34
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8081A
 Analyst: ECL
 Dilution: 1
 Units: ug/L

Instrument: HP15
 Prep Date: 11/23/2011 16:00
 Cal Date: 10/25/2011 21:41
 Run Date: 11/29/2011 11:36
 File ID: 15G29333.R

Analyte	CAS. Number	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0500	0.0100
4,4'-DDE	72-55-9		U	0.0500	0.0100
4,4'-DDT	50-29-3		U	0.0500	0.0100
Aldrin	309-00-2		U	0.0500	0.0100
alpha Chlordane	5103-71-9		U	0.0500	0.0100
alpha-BHC	319-84-6		U	0.0500	0.0100
beta-BHC	319-85-7		U	0.0500	0.0100
delta-BHC	319-86-8		U	0.0500	0.0100
Dieldrin	60-57-1		U	0.0500	0.0100
Endosulfan I	959-98-8		U	0.0500	0.0100
Endosulfan II	33213-65-9		U	0.0500	0.0100
Endosulfan sulfate	1031-07-8		U	0.0500	0.0100
Endrin	72-20-8		U	0.0500	0.0100
Endrin aldehyde	7421-93-4		U	0.0500	0.0100
Endrin ketone	53494-70-5		U	0.0500	0.0100
gamma Chlordane	5103-74-2		U	0.0500	0.0100
gamma-BHC (Lindane)	58-89-9		U	0.0500	0.0100
Heptachlor	76-44-8		U	0.0500	0.0100
Heptachlor epoxide	1024-57-3		U	0.0500	0.0100
Methoxychlor	72-43-5		U	0.0500	0.0100
Toxaphene	8001-35-2		U	1.00	0.300
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,5,6-Tetrachloro-m-xylene	91.9	25	140		
Decachlorobiphenyl	112	30	135		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-15
 Client ID: 40EQR112111
 Matrix: Water
 Workgroup Number: WG383059
 Collect Date: 11/21/2011 11:10
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8081A
 Analyst: ECL
 Dilution: 1
 Units: ug/L

Instrument: HP15
 Prep Date: 11/23/2011 16:00
 Cal Date: 10/25/2011 21:41
 Run Date: 11/29/2011 13:01
 File ID: 15G29336.R

Analyte	CAS. Number	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0581	0.0116
4,4'-DDE	72-55-9		U	0.0581	0.0116
4,4'-DDT	50-29-3		U	0.0581	0.0116
Aldrin	309-00-2		U	0.0581	0.0116
alpha Chlordane	5103-71-9		U	0.0581	0.0116
alpha-BHC	319-84-6		U	0.0581	0.0116
beta-BHC	319-85-7		U	0.0581	0.0116
delta-BHC	319-86-8		U	0.0581	0.0116
Dieldrin	60-57-1		U	0.0581	0.0116
Endosulfan I	959-98-8		U	0.0581	0.0116
Endosulfan II	33213-65-9		U	0.0581	0.0116
Endosulfan sulfate	1031-07-8		U	0.0581	0.0116
Endrin	72-20-8		U	0.0581	0.0116
Endrin aldehyde	7421-93-4		U	0.0581	0.0116
Endrin ketone	53494-70-5		U	0.0581	0.0116
gamma Chlordane	5103-74-2		U	0.0581	0.0116
gamma-BHC (Lindane)	58-89-9		U	0.0581	0.0116
Heptachlor	76-44-8		U	0.0581	0.0116
Heptachlor epoxide	1024-57-3		U	0.0581	0.0116
Methoxychlor	72-43-5		U	0.0581	0.0116
Toxaphene	8001-35-2		U	1.16	0.349
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,5,6-Tetrachloro-m-xylene	92.9	25	140		
Decachlorobiphenyl	110	30	135		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-16
 Client ID: 40LFMW01GW112111
 Matrix: Water
 Workgroup Number: WG383059
 Collect Date: 11/21/2011 13:54
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8081A
 Analyst: ECL
 Dilution: 1
 Units: ug/L

Instrument: HP15
 Prep Date: 11/23/2011 16:00
 Cal Date: 10/25/2011 21:41
 Run Date: 11/29/2011 13:30
 File ID: 15G29337.R

Analyte	CAS. Number	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0595	0.0119
4,4'-DDE	72-55-9		U	0.0595	0.0119
4,4'-DDT	50-29-3		U	0.0595	0.0119
Aldrin	309-00-2		U	0.0595	0.0119
alpha Chlordane	5103-71-9		U	0.0595	0.0119
alpha-BHC	319-84-6		U	0.0595	0.0119
beta-BHC	319-85-7		U	0.0595	0.0119
delta-BHC	319-86-8		U	0.0595	0.0119
Dieldrin	60-57-1		U	0.0595	0.0119
Endosulfan I	959-98-8		U	0.0595	0.0119
Endosulfan II	33213-65-9		U	0.0595	0.0119
Endosulfan sulfate	1031-07-8		U	0.0595	0.0119
Endrin	72-20-8		U	0.0595	0.0119
Endrin aldehyde	7421-93-4		U	0.0595	0.0119
Endrin ketone	53494-70-5		U	0.0595	0.0119
gamma Chlordane	5103-74-2		U	0.0595	0.0119
gamma-BHC (Lindane)	58-89-9		U	0.0595	0.0119
Heptachlor	76-44-8		U	0.0595	0.0119
Heptachlor epoxide	1024-57-3		U	0.0595	0.0119
Methoxychlor	72-43-5		U	0.0595	0.0119
Toxaphene	8001-35-2		U	1.19	0.357
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,5,6-Tetrachloro-m-xylene	91.8	25	140		
Decachlorobiphenyl	51.9	30	135		

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-01
 Client ID: 40MW7GW112011
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 12:05
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 16:43
 File ID: P2.120711.164321

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	8.29		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	190		0.200	0.100
Iron, Total	7439-89-6	7.95		0.100	0.0500
Magnesium, Total	7439-95-4	61.9		0.500	0.250
Potassium, Total	7440-09-7	4.25		1.00	0.500
Sodium, Total	7440-23-5	66.7		0.500	0.250
Vanadium, Total	7440-62-2	0.00926	J	0.0100	0.00500
Zinc, Total	7440-66-6	0.0685		0.0200	0.0100

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-02
 Client ID: 40MW7GW112011
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 12:05
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 17:04
 File ID: P2.120711.170411

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Calcium, Dissolved	7440-70-2	70.6		0.200	0.100
Iron, Dissolved	7439-89-6	0.0731	J	0.100	0.0500
Magnesium, Dissolved	7439-95-4	32.5		0.500	0.250
Potassium, Dissolved	7440-09-7	2.30		1.00	0.500
Sodium, Dissolved	7440-23-5	78.3		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-03
 Client ID: 40MW5GW112011
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 17:11
 File ID: P2.120711.171107

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	1.89		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	87.2		0.200	0.100
Iron, Total	7439-89-6	2.04		0.100	0.0500
Magnesium, Total	7439-95-4	32.5		0.500	0.250
Potassium, Total	7440-09-7	1.37		1.00	0.500
Sodium, Total	7440-23-5	5.22		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-04
 Client ID: 40MW5GW112011
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 17:17
 File ID: P2.120711.171757

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Calcium, Dissolved	7440-70-2	82.8		0.200	0.100
Iron, Dissolved	7439-89-6	0.0741	J	0.100	0.0500
Magnesium, Dissolved	7439-95-4	29.8		0.500	0.250
Potassium, Dissolved	7440-09-7	1.08		1.00	0.500
Sodium, Dissolved	7440-23-5	5.35		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-05
 Client ID: 40DUPGW112011
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 17:24
 File ID: P2.120711.172450

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	1.54		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	84.8		0.200	0.100
Iron, Total	7439-89-6	1.58		0.100	0.0500
Magnesium, Total	7439-95-4	31.3		0.500	0.250
Potassium, Total	7440-09-7	1.37		1.00	0.500
Sodium, Total	7440-23-5	5.48		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-06
 Client ID: 40DUPGW112011
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 17:31
 File ID: P2.120711.173140

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Calcium, Dissolved	7440-70-2	81.7		0.200	0.100
Iron, Dissolved	7439-89-6	0.0820	J	0.100	0.0500
Magnesium, Dissolved	7439-95-4	29.6		0.500	0.250
Potassium, Dissolved	7440-09-7	1.06		1.00	0.500
Sodium, Dissolved	7440-23-5	5.33		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-07
 Client ID: 40MW5MSGW112011
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:04
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 17:52
 File ID: P2.120711.175217

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	5.97		0.100	0.0500
Beryllium, Total	7440-41-7	0.0241		0.00200	0.00100
Calcium, Total	7440-70-2	91.3		0.200	0.100
Iron, Total	7439-89-6	2.69		0.100	0.0500
Magnesium, Total	7439-95-4	35.3		0.500	0.250
Potassium, Total	7440-09-7	25.5		1.00	0.500
Sodium, Total	7440-23-5	31.3		0.500	0.250
Vanadium, Total	7440-62-2	0.482		0.0100	0.00500
Zinc, Total	7440-66-6	0.473		0.0200	0.0100

7 of 16



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-08
 Client ID: 40MW5MSGW112011
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:04
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 17:59
 File ID: P2.120711.175911

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5	4.92		0.100	0.0500
Beryllium, Dissolved	7440-41-7	0.0249		0.00200	0.00100
Calcium, Dissolved	7440-70-2	90.3		0.200	0.100
Iron, Dissolved	7439-89-6	2.00		0.100	0.0500
Magnesium, Dissolved	7439-95-4	33.9		0.500	0.250
Potassium, Dissolved	7440-09-7	25.7		1.00	0.500
Sodium, Dissolved	7440-23-5	32.1		0.500	0.250
Vanadium, Dissolved	7440-62-2	0.499		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.490		0.0200	0.0100

8 of 16



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-09
 Client ID: 40MW5MSDGW112011
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:04
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 18:06
 File ID: P2.120711.180605

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	6.14		0.100	0.0500
Beryllium, Total	7440-41-7	0.0245		0.00200	0.00100
Calcium, Total	7440-70-2	93.1		0.200	0.100
Iron, Total	7439-89-6	2.73		0.100	0.0500
Magnesium, Total	7439-95-4	35.2		0.500	0.250
Potassium, Total	7440-09-7	26.0		1.00	0.500
Sodium, Total	7440-23-5	31.8		0.500	0.250
Vanadium, Total	7440-62-2	0.492		0.0100	0.00500
Zinc, Total	7440-66-6	0.491		0.0200	0.0100

9 of 16



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-10
 Client ID: 40MW5MSDGW112011
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 18:12
 File ID: P2.120711.181259

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5	4.74		0.100	0.0500
Beryllium, Dissolved	7440-41-7	0.0244		0.00200	0.00100
Calcium, Dissolved	7440-70-2	89.8		0.200	0.100
Iron, Dissolved	7439-89-6	1.99		0.100	0.0500
Magnesium, Dissolved	7439-95-4	34.5		0.500	0.250
Potassium, Dissolved	7440-09-7	25.1		1.00	0.500
Sodium, Dissolved	7440-23-5	30.5		0.500	0.250
Vanadium, Dissolved	7440-62-2	0.483		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.491		0.0200	0.0100

10 of 16



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-11
 Client ID: 40112011FB
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 17:50
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 18:19
 File ID: P2.120711.181953

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2		U	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-12
 Client ID: 40EQR112011
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/20/2011 18:15
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 18:26
 File ID: P2.120711.182644

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	0.181	J	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.

12 of 16



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-14
 Client ID: 40MW6GW112111
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/21/2011 09:34
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 18:33
 File ID: P2.120711.183336

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.242		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	84.5		0.200	0.100
Iron, Total	7439-89-6	0.323		0.100	0.0500
Magnesium, Total	7439-95-4	32.0		0.500	0.250
Potassium, Total	7440-09-7	1.00		1.00	0.500
Sodium, Total	7440-23-5	5.10		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-15
 Client ID: 40EQR112111
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/21/2011 11:10
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 18:40
 File ID: P2.120711.184027

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	0.144	J	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6	0.0343		0.0200	0.0100

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-16
 Client ID: 40LFMW01GW112111
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/21/2011 13:54
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 18:47
 File ID: P2.120711.184718

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	17.9		0.100	0.0500
Beryllium, Total	7440-41-7	0.00137	J	0.00200	0.00100
Calcium, Total	7440-70-2	142		0.200	0.100
Iron, Total	7439-89-6	21.8		0.100	0.0500
Magnesium, Total	7439-95-4	74.8		0.500	0.250
Potassium, Total	7440-09-7	5.92		1.00	0.500
Sodium, Total	7440-23-5	8.23		0.500	0.250
Vanadium, Total	7440-62-2	0.0325		0.0100	0.00500
Zinc, Total	7440-66-6	0.126		0.0200	0.0100

J Estimated value ; the analyte concentration was less than the LOQ.

15 of 16



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-17
 Client ID: 40LFMW01GW112111
 Matrix: Water
 Workgroup Number: WG383508
 Collect Date: 11/21/2011 13:54
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 11/29/2011 12:05
 Cal Date: 12/07/2011 10:06
 Run Date: 12/07/2011 18:53
 File ID: P2.120711.185311

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Calcium, Dissolved	7440-70-2	81.5		0.200	0.100
Iron, Dissolved	7439-89-6	0.102		0.100	0.0500
Magnesium, Dissolved	7439-95-4	33.1		0.500	0.250
Potassium, Dissolved	7440-09-7	1.62		1.00	0.500
Sodium, Dissolved	7440-23-5	8.48		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-01
 Client ID: 40MW7GW112011
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/20/2011 12:05
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 16:18
 File ID: EL.120111.161834

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00200	0.00100
Arsenic, Total	7440-38-2	0.00200	J	0.00200	0.00100
Barium, Total	7440-39-3	0.252		0.00600	0.00300
Cadmium, Total	7440-43-9		U	0.00120	0.000600
Chromium, Total	7440-47-3	0.0102		0.00400	0.00200
Cobalt, Total	7440-48-4	0.00304		0.00200	0.00100
Copper, Total	7440-50-8	0.00501		0.00400	0.00200
Lead, Total	7439-92-1	0.00937		0.00200	0.00100
Manganese, Total	7439-96-5	0.181		0.00400	0.00200
Nickel, Total	7440-02-0	0.0138		0.00800	0.00400
Selenium, Total	7782-49-2	0.00186	J	0.00200	0.00100
Silver, Total	7440-22-4		U	0.00200	0.00100
Thallium, Total	7440-28-0		U	0.000400	0.000200

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-02
 Client ID: 40MW7GW112011
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/20/2011 12:05
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 17:09
 File ID: EL.120111.170931

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00200	0.00100
Arsenic, Dissolved	7440-38-2		U	0.00200	0.00100
Barium, Dissolved	7440-39-3	0.0758		0.00600	0.00300
Cadmium, Dissolved	7440-43-9		U	0.00120	0.000600
Chromium, Dissolved	7440-47-3	0.00404		0.00400	0.00200
Cobalt, Dissolved	7440-48-4		U	0.00200	0.00100
Copper, Dissolved	7440-50-8		U	0.00400	0.00200
Lead, Dissolved	7439-92-1		U	0.00200	0.00100
Manganese, Dissolved	7439-96-5	0.0239		0.00400	0.00200
Nickel, Dissolved	7440-02-0		U	0.00800	0.00400
Selenium, Dissolved	7782-49-2	0.00181	J	0.00200	0.00100
Silver, Dissolved	7440-22-4		U	0.00200	0.00100
Thallium, Dissolved	7440-28-0		U	0.000400	0.000200

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-03
 Client ID: 40MW5GW112011
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/20/2011 15:25
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 17:16
 File ID: EL.120111.171648

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00200	0.00100
Arsenic, Total	7440-38-2		U	0.00200	0.00100
Barium, Total	7440-39-3	0.0571		0.00600	0.00300
Cadmium, Total	7440-43-9		U	0.00120	0.000600
Chromium, Total	7440-47-3	0.00389	J	0.00400	0.00200
Cobalt, Total	7440-48-4		U	0.00200	0.00100
Copper, Total	7440-50-8		U	0.00400	0.00200
Lead, Total	7439-92-1		U	0.00200	0.00100
Manganese, Total	7439-96-5	0.0152		0.00400	0.00200
Nickel, Total	7440-02-0	0.00453	J	0.00800	0.00400
Silver, Total	7440-22-4		U	0.00200	0.00100
Thallium, Total	7440-28-0		U	0.000400	0.000200

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-03
Client ID: 40MW5GW112011
Matrix: Water
Workgroup Number: WG383211
Collect Date: 11/20/2011 15:25
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 2
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 11/28/2011 08:38
Cal Date: 12/06/2011 09:13
Run Date: 12/06/2011 22:32
File ID: EL.120611.223220

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Selenium, Total	7782-49-2	0.00131	J	0.00200	0.00100

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-04
 Client ID: 40MW5GW112011
 Matrix: Water
 Workgroup Number: WG383271
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 1
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/29/2011 10:19
 Cal Date: 12/06/2011 09:13
 Run Date: 12/06/2011 12:54
 File ID: EL.120611.125419

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2		U	0.00100	0.000500
Barium, Dissolved	7440-39-3	0.0554		0.00300	0.00150
Cadmium, Dissolved	7440-43-9		U	0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.00176	J	0.00200	0.00100
Cobalt, Dissolved	7440-48-4		U	0.00100	0.000500
Copper, Dissolved	7440-50-8		U	0.00200	0.00100
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Manganese, Dissolved	7439-96-5		U	0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.00383	J	0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.00119		0.00100	0.000500
Silver, Dissolved	7440-22-4		U	0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-05
 Client ID: 40DUPGW112011
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/20/2011 15:25
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 17:38
 File ID: EL.120111.173839

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00200	0.00100
Arsenic, Total	7440-38-2		U	0.00200	0.00100
Barium, Total	7440-39-3	0.0599		0.00600	0.00300
Cadmium, Total	7440-43-9		U	0.00120	0.000600
Chromium, Total	7440-47-3	0.00422		0.00400	0.00200
Cobalt, Total	7440-48-4		U	0.00200	0.00100
Copper, Total	7440-50-8		U	0.00400	0.00200
Lead, Total	7439-92-1		U	0.00200	0.00100
Manganese, Total	7439-96-5	0.00767		0.00400	0.00200
Nickel, Total	7440-02-0		U	0.00800	0.00400
Silver, Total	7440-22-4		U	0.00200	0.00100
Thallium, Total	7440-28-0		U	0.000400	0.000200

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-05
Client ID: 40DUPGW112011
Matrix: Water
Workgroup Number: WG383211
Collect Date: 11/20/2011 15:25
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 2
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 11/28/2011 08:38
Cal Date: 12/06/2011 09:13
Run Date: 12/06/2011 22:55
File ID: EL.120611.225501

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Selenium, Total	7782-49-2	0.00106	J	0.00200	0.00100

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-06
 Client ID: 40DUPGW112011
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/20/2011 15:25
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 17:45
 File ID: EL.120111.174556

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00200	0.00100
Arsenic, Dissolved	7440-38-2		U	0.00200	0.00100
Barium, Dissolved	7440-39-3	0.0532		0.00600	0.00300
Cadmium, Dissolved	7440-43-9		U	0.00120	0.000600
Chromium, Dissolved	7440-47-3	0.00299	J	0.00400	0.00200
Cobalt, Dissolved	7440-48-4		U	0.00200	0.00100
Copper, Dissolved	7440-50-8		U	0.00400	0.00200
Lead, Dissolved	7439-92-1		U	0.00200	0.00100
Manganese, Dissolved	7439-96-5		U	0.00400	0.00200
Nickel, Dissolved	7440-02-0		U	0.00800	0.00400
Silver, Dissolved	7440-22-4		U	0.00200	0.00100
Thallium, Dissolved	7440-28-0		U	0.000400	0.000200

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-06
Client ID: 40DUPGW112011
Matrix: Water
Workgroup Number: WG383211
Collect Date: 11/20/2011 15:25
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 2
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 11/28/2011 08:38
Cal Date: 12/06/2011 09:13
Run Date: 12/06/2011 23:02
File ID: EL.120611.230229

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Selenium, Dissolved	7782-49-2	0.00111	J	0.00200	0.00100

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-07
 Client ID: 40MW5MSGW112011
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/20/2011 15:25
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 17:53
 File ID: EL.120111.175314

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0626		0.00200	0.00100
Arsenic, Total	7440-38-2	0.0682		0.00200	0.00100
Barium, Total	7440-39-3	0.118		0.00600	0.00300
Cadmium, Total	7440-43-9	0.0629		0.00120	0.000600
Chromium, Total	7440-47-3	0.0671		0.00400	0.00200
Cobalt, Total	7440-48-4	0.0622		0.00200	0.00100
Copper, Total	7440-50-8	0.0606		0.00400	0.00200
Lead, Total	7439-92-1	0.0641		0.00200	0.00100
Manganese, Total	7439-96-5	0.0702		0.00400	0.00200
Nickel, Total	7440-02-0	0.0656		0.00800	0.00400
Silver, Total	7440-22-4	0.0582		0.00200	0.00100
Thallium, Total	7440-28-0	0.0646		0.000400	0.000200

10 of 27



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-07
Client ID: 40MW5MSGW112011
Matrix: Water
Workgroup Number: WG383211
Collect Date: 11/20/2011 15:25
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 2
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 11/28/2011 08:38
Cal Date: 12/06/2011 09:13
Run Date: 12/06/2011 23:09
File ID: EL.120611.230957

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Selenium, Total	7782-49-2	0.0622		0.00200	0.00100

11 of 27



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-08
 Client ID: 40MW5MSGW112011
 Matrix: Water
 Workgroup Number: WG383271
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 1
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/29/2011 10:19
 Cal Date: 12/06/2011 09:13
 Run Date: 12/06/2011 13:01
 File ID: EL.120611.130146

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0	0.0621		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0606		0.00100	0.000500
Barium, Dissolved	7440-39-3	0.122		0.00300	0.00150
Cadmium, Dissolved	7440-43-9	0.0622		0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.0653		0.00200	0.00100
Cobalt, Dissolved	7440-48-4	0.0647		0.00100	0.000500
Copper, Dissolved	7440-50-8	0.0657		0.00200	0.00100
Lead, Dissolved	7439-92-1	0.0658		0.00100	0.000500
Manganese, Dissolved	7439-96-5	0.0649		0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.0687		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.0575		0.00100	0.000500
Silver, Dissolved	7440-22-4	0.0624		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.0663		0.000200	0.000100

12 of 27



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-09
 Client ID: 40MW5MSDGW112011
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/20/2011 15:25
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 18:00
 File ID: EL.120111.180033

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0668		0.00200	0.00100
Arsenic, Total	7440-38-2	0.0726		0.00200	0.00100
Barium, Total	7440-39-3	0.127		0.00600	0.00300
Cadmium, Total	7440-43-9	0.0666		0.00120	0.000600
Chromium, Total	7440-47-3	0.0706		0.00400	0.00200
Cobalt, Total	7440-48-4	0.0673		0.00200	0.00100
Copper, Total	7440-50-8	0.0643		0.00400	0.00200
Lead, Total	7439-92-1	0.0693		0.00200	0.00100
Manganese, Total	7439-96-5	0.0760		0.00400	0.00200
Nickel, Total	7440-02-0	0.0698		0.00800	0.00400
Silver, Total	7440-22-4	0.0629		0.00200	0.00100
Thallium, Total	7440-28-0	0.0683		0.000400	0.000200

13 of 27



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-09
Client ID: 40MW5MSDGW112011
Matrix: Water
Workgroup Number: WG383211
Collect Date: 11/20/2011 15:25
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 2
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 11/28/2011 08:38
Cal Date: 12/06/2011 09:13
Run Date: 12/06/2011 23:17
File ID: EL.120611.231726

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Selenium, Total	7782-49-2	0.0635		0.00200	0.00100

14 of 27



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-10
 Client ID: 40MW5MSDGW112011
 Matrix: Water
 Workgroup Number: WG383271
 Collect Date: 11/20/2011 15:25
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 1
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/29/2011 10:19
 Cal Date: 12/06/2011 09:13
 Run Date: 12/06/2011 13:09
 File ID: EL.120611.130914

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0	0.0629		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0606		0.00100	0.000500
Barium, Dissolved	7440-39-3	0.120		0.00300	0.00150
Cadmium, Dissolved	7440-43-9	0.0602		0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.0654		0.00200	0.00100
Cobalt, Dissolved	7440-48-4	0.0642		0.00100	0.000500
Copper, Dissolved	7440-50-8	0.0638		0.00200	0.00100
Lead, Dissolved	7439-92-1	0.0654		0.00100	0.000500
Manganese, Dissolved	7439-96-5	0.0647		0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.0670		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.0569		0.00100	0.000500
Silver, Dissolved	7440-22-4	0.0625		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.0651		0.000200	0.000100

15 of 27



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-11
 Client ID: 40112011FB
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/20/2011 17:50
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 18:07
 File ID: EL.120111.180751

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00200	0.00100
Arsenic, Total	7440-38-2		U	0.00200	0.00100
Barium, Total	7440-39-3		U	0.00600	0.00300
Cadmium, Total	7440-43-9		U	0.00120	0.000600
Chromium, Total	7440-47-3		U	0.00400	0.00200
Cobalt, Total	7440-48-4		U	0.00200	0.00100
Copper, Total	7440-50-8		U	0.00400	0.00200
Lead, Total	7439-92-1		U	0.00200	0.00100
Manganese, Total	7439-96-5	0.0170		0.00400	0.00200
Nickel, Total	7440-02-0		U	0.00800	0.00400
Silver, Total	7440-22-4		U	0.00200	0.00100
Thallium, Total	7440-28-0		U	0.000400	0.000200

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-11
Client ID: 40112011FB
Matrix: Water
Workgroup Number: WG383211
Collect Date: 11/20/2011 17:50
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 2
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 11/28/2011 08:38
Cal Date: 12/06/2011 09:13
Run Date: 12/06/2011 23:24
File ID: EL.120611.232454

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Selenium, Total	7782-49-2		U	0.00200	0.00100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-12
 Client ID: 40EQR112011
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/20/2011 18:15
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 18:15
 File ID: EL.120111.181508

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00200	0.00100
Arsenic, Total	7440-38-2		U	0.00200	0.00100
Barium, Total	7440-39-3		U	0.00600	0.00300
Cadmium, Total	7440-43-9		U	0.00120	0.000600
Chromium, Total	7440-47-3		U	0.00400	0.00200
Cobalt, Total	7440-48-4		U	0.00200	0.00100
Copper, Total	7440-50-8		U	0.00400	0.00200
Lead, Total	7439-92-1		U	0.00200	0.00100
Manganese, Total	7439-96-5		U	0.00400	0.00200
Nickel, Total	7440-02-0		U	0.00800	0.00400
Silver, Total	7440-22-4		U	0.00200	0.00100
Thallium, Total	7440-28-0		U	0.000400	0.000200

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-12
Client ID: 40EQR112011
Matrix: Water
Workgroup Number: WG383211
Collect Date: 11/20/2011 18:15
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 2
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 11/28/2011 08:38
Cal Date: 12/06/2011 09:13
Run Date: 12/06/2011 23:32
File ID: EL.120611.233221

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Selenium, Total	7782-49-2		U	0.00200	0.00100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-14
 Client ID: 40MW6GW112111
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/21/2011 09:34
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 18:22
 File ID: EL.120111.182224

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00200	0.00100
Arsenic, Total	7440-38-2		U	0.00200	0.00100
Barium, Total	7440-39-3	0.0499		0.00600	0.00300
Cadmium, Total	7440-43-9		U	0.00120	0.000600
Chromium, Total	7440-47-3	0.00392	J	0.00400	0.00200
Cobalt, Total	7440-48-4		U	0.00200	0.00100
Copper, Total	7440-50-8		U	0.00400	0.00200
Lead, Total	7439-92-1		U	0.00200	0.00100
Manganese, Total	7439-96-5		U	0.00400	0.00200
Nickel, Total	7440-02-0		U	0.00800	0.00400
Silver, Total	7440-22-4		U	0.00200	0.00100
Thallium, Total	7440-28-0		U	0.000400	0.000200

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-14
Client ID: 40MW6GW112111
Matrix: Water
Workgroup Number: WG383211
Collect Date: 11/21/2011 09:34
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 2
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 11/28/2011 08:38
Cal Date: 12/06/2011 09:13
Run Date: 12/06/2011 23:39
File ID: EL.120611.233948

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Selenium, Total	7782-49-2	0.00128	J	0.00200	0.00100

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-15
 Client ID: 40EQR112111
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/21/2011 11:10
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 18:29
 File ID: EL.120111.182940

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00200	0.00100
Arsenic, Total	7440-38-2		U	0.00200	0.00100
Barium, Total	7440-39-3		U	0.00600	0.00300
Cadmium, Total	7440-43-9		U	0.00120	0.000600
Chromium, Total	7440-47-3		U	0.00400	0.00200
Cobalt, Total	7440-48-4		U	0.00200	0.00100
Copper, Total	7440-50-8		U	0.00400	0.00200
Lead, Total	7439-92-1		U	0.00200	0.00100
Manganese, Total	7439-96-5		U	0.00400	0.00200
Nickel, Total	7440-02-0		U	0.00800	0.00400
Silver, Total	7440-22-4		U	0.00200	0.00100
Thallium, Total	7440-28-0		U	0.000400	0.000200

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-15
Client ID: 40EQR112111
Matrix: Water
Workgroup Number: WG383211
Collect Date: 11/21/2011 11:10
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 2
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 11/28/2011 08:38
Cal Date: 12/06/2011 09:13
Run Date: 12/06/2011 23:47
File ID: EL.120611.234716

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Selenium, Total	7782-49-2		U	0.00200	0.00100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-16
 Client ID: 40LFMW01GW112111
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/21/2011 13:54
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 18:36
 File ID: EL.120111.183656

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00200	0.00100
Arsenic, Total	7440-38-2	0.00268		0.00200	0.00100
Barium, Total	7440-39-3	0.133		0.00600	0.00300
Cadmium, Total	7440-43-9		U	0.00120	0.000600
Chromium, Total	7440-47-3	0.0197		0.00400	0.00200
Cobalt, Total	7440-48-4	0.00554		0.00200	0.00100
Copper, Total	7440-50-8	0.0139		0.00400	0.00200
Lead, Total	7439-92-1	0.0110		0.00200	0.00100
Manganese, Total	7439-96-5	0.125		0.00400	0.00200
Nickel, Total	7440-02-0	0.0195		0.00800	0.00400
Silver, Total	7440-22-4		U	0.00200	0.00100
Thallium, Total	7440-28-0		U	0.000400	0.000200

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-16
Client ID: 40LFMW01GW112111
Matrix: Water
Workgroup Number: WG383211
Collect Date: 11/21/2011 13:54
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 2
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 11/28/2011 08:38
Cal Date: 12/06/2011 09:13
Run Date: 12/06/2011 23:54
File ID: EL.120611.235443

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Selenium, Total	7782-49-2		U	0.00200	0.00100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-17
 Client ID: 40LFMW01GW112111
 Matrix: Water
 Workgroup Number: WG383211
 Collect Date: 11/21/2011 13:54
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 2
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 11/28/2011 08:38
 Cal Date: 12/01/2011 11:51
 Run Date: 12/01/2011 18:44
 File ID: EL.120111.184413

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00200	0.00100
Arsenic, Dissolved	7440-38-2		U	0.00200	0.00100
Barium, Dissolved	7440-39-3	0.0902		0.00600	0.00300
Cadmium, Dissolved	7440-43-9		U	0.00120	0.000600
Chromium, Dissolved	7440-47-3	0.00291	J	0.00400	0.00200
Cobalt, Dissolved	7440-48-4		U	0.00200	0.00100
Copper, Dissolved	7440-50-8		U	0.00400	0.00200
Lead, Dissolved	7439-92-1		U	0.00200	0.00100
Manganese, Dissolved	7439-96-5	0.00395	J	0.00400	0.00200
Nickel, Dissolved	7440-02-0		U	0.00800	0.00400
Silver, Dissolved	7440-22-4		U	0.00200	0.00100
Thallium, Dissolved	7440-28-0		U	0.000400	0.000200

U Analyte was not detected. The concentration is below the reported LOD.

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-17
Client ID: 40LFMW01GW112111
Matrix: Water
Workgroup Number: WG383211
Collect Date: 11/21/2011 13:54
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 2
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 11/28/2011 08:38
Cal Date: 12/06/2011 09:13
Run Date: 12/07/2011 00:02
File ID: EL.120711.000210

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Selenium, Dissolved	7782-49-2		U	0.00200	0.00100

U Analyte was not detected. The concentration is below the reported LOD.

27 of 27



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-01
Client ID: 40MW7GW112011
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 12:05
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 10:58
File ID: HY.113011.105816

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U Analyte was not detected. The concentration is below the reported LOD.

1 of 16



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-02
Client ID: 40MW7GW112011
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 12:05
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:01
File ID: HY.113011.110154

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-03
Client ID: 40MW5GW112011
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:03
File ID: HY.113011.110340

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-04
Client ID: 40MW5GW112011
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:05
File ID: HY.113011.110548

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-05
Client ID: 40DUPGW112011
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:07
File ID: HY.113011.110731

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-06
Client ID: 40DUPGW112011
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:10
File ID: HY.113011.111007

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6	0.000123	J	0.000200	0.000100

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-07
Client ID: 40MW5MSGW112011
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:11
File ID: HY.113011.111156

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00492		0.000222	0.000111

7 of 16



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-08
Client ID: 40MW5MSGW112011
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:17
File ID: HY.113011.111746

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6	0.00498		0.000222	0.000111



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-09
Client ID: 40MW5MSDGW112011
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:19
File ID: HY.113011.111943

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00502		0.000222	0.000111



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-10
Client ID: 40MW5MSDGW112011
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 15:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:21
File ID: HY.113011.112147

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6	0.00486		0.000222	0.000111

10 of 16



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-11
Client ID: 40112011FB
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 17:50
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:24
File ID: HY.113011.112445

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.000117	J	0.000200	0.000100

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-12
Client ID: 40EQR112011
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/20/2011 18:15
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:26
File ID: HY.113011.112633

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-14
Client ID: 40MW6GW112111
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/21/2011 09:34
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:28
File ID: HY.113011.112819

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-15
Client ID: 40EQR112111
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/21/2011 11:10
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:30
File ID: HY.113011.113008

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U Analyte was not detected. The concentration is below the reported LOD.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-16
Client ID: 40LFMW01GW112111
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/21/2011 13:54
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:32
File ID: HY.113011.113242

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.000157	J	0.000200	0.000100

J Estimated value ; the analyte concentration was less than the LOQ.



Report Number: L11110795

Report Date : January 4, 2012

Sample Number: L11110795-17
Client ID: 40LFMW01GW112111
Matrix: Water
Workgroup Number: WG383336
Collect Date: 11/21/2011 13:54
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 7470A
Analytical Method: 7470A
Analyst: EDL
Dilution: 1
Units: mg/L

Instrument: HYDRA
Prep Date: 11/29/2011 11:37
Cal Date: 11/30/2011 09:48
Run Date: 11/30/2011 11:34
File ID: HY.113011.113431

Analyte	CAS. Number	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6	0.000126	J	0.000200	0.000100

J Estimated value ; the analyte concentration was less than the LOQ.

16 of 16



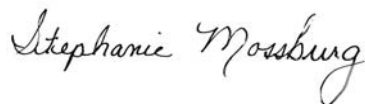
Appendix D – Support Documentation

Laboratory Report Number: L11110795 (Revised)

Mary Lou Rochette
Kemron Environmental Services
156 Starlite Drive
Marietta, OH 45750

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

This report was reviewed on January 04 2012



Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on January 04 2012



David Vandenberg – Managing Director

State of Origin: VA
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 4.1



Microbac Laboratories * Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 * T: (740) 373-4071 F: (740) 373-4835 * www.microbac.com

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

There were no discrepancies.

Discrepancy	Resolution
-------------	------------

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #
0016610	H	1.0		
0015982	H	0.0		
0016639	H	1.0		
0016620	H	0.0		
0016605	H	1.0		
0016621	H	1.0		
0016629	H	1.0		

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	NA
2	Were custody seals intact?	NA
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
40MW7GW112011	L11110795-01	11/20/2011 12:05	11/22/2011 14:29
40MW7GW112011	L11110795-02	11/20/2011 12:05	11/22/2011 14:29
40MW5GW112011	L11110795-03	11/20/2011 15:25	11/22/2011 14:29
40MW5GW112011	L11110795-04	11/20/2011 15:25	11/22/2011 14:29
40DUPGW112011	L11110795-05	11/20/2011 15:25	11/22/2011 14:29
40DUPGW112011	L11110795-06	11/20/2011 15:25	11/22/2011 14:29
40MW5MSGW112011	L11110795-07	11/20/2011 15:25	11/22/2011 14:29
40MW5MSGW112011	L11110795-08	11/20/2011 15:25	11/22/2011 14:29
40MW5MSDGW112011	L11110795-09	11/20/2011 15:25	11/22/2011 14:29
40MW5MSDGW112011	L11110795-10	11/20/2011 15:25	11/22/2011 14:29
40112011FB	L11110795-11	11/20/2011 17:50	11/22/2011 14:29
40EQR112011	L11110795-12	11/20/2011 18:15	11/22/2011 14:29
40TB112011	L11110795-13	11/20/2011 00:01	11/22/2011 14:29
40MW6GW112111	L11110795-14	11/21/2011 09:34	11/22/2011 14:29
40EQR112111	L11110795-15	11/21/2011 11:10	11/22/2011 14:29
40LFMW01GW112111	L11110795-16	11/21/2011 13:54	11/22/2011 14:29
40LFMW01GW112111	L11110795-17	11/21/2011 13:54	11/22/2011 14:29

COC No. A 3287

156 Starlite Drive
Marietta, OH 45750

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4308
Fax: 740-376-2536

Company Name: KEMRON		Contact Phone #: 740-373-4308	
Project Contact: Mary Lou Rochester		Location: KASFOOD, VA	
Turn Around Requirements: 14-DAY			
Project ID: MA0669 SUMM 40 RFAIP			
Sampler (print): South Arden		Signature: <i>[Signature]</i>	

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	Hold	NUMBER OF CONTAINERS	TLC VOC's	TLC SVOC's	TLC PEST.	THE METALS (FILTERED)	PERCHLORATE	TOTAL # (LAB USE)	Program ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other	ADDITIONAL REQUIREMENTS
40MW7GW112011	X	X	11-20-11	1305	WATER	10	10	3	2	2	1	1			
40MW5GW112011	X	X	11-20-11	1525	WATER	10	10	3	2	2	1	1			
40DUPGW112011	X	X	11-20-11	1525	WATER	10	10	3	2	2	1	1			
40MW5MSGW112011	X	X	11-20-11	1525	WATER	10	10	3	2	2	1	1			
40MW5MSGW112011	X	X	11-20-11	1525	WATER	10	10	3	2	2	1	1			
40112011 FB	X	X	11-20-11	1750	WATER	10	10	3	2	2	1	1			
40EQR112011	X	X	11-20-11	1815	WATER	10	10	3	2	2	1	1			
40TB112011	X	X	11-20-11		WATER	3	3	3							
40MW6GN112111	X	X	11-21-11	0934	WATER	9	9	3	2	2	1	1			
40EQR112111	X	X	11-21-11	1110	WATER	9	9	3	2	2	1	1			
40LFMW01GW112111	X	X	11-21-11	1354	WATER	10	10	3	2	2	1	1			
Microbac OVD Received: 11/22/2011 14:29 By: BRENDA GREENWALT															
221000020459 Brenda Greenwalt															

Relinquished by: (Signature) <i>[Signature]</i>	Date 11-22-11	Time 1430	Received by: (Signature) <i>[Signature]</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date 11-22-11	Time 1430	Received by: (Signature) <i>[Signature]</i>

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)



Login Number: L11110795
Department: Volatiles
Analyst: Anthony Canter

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260B

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: 2,2-Dichloropropane, Hexachlorobutadiene, n-Butylbenzene. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Chloromethane. Please see the applicable QC report for a detailed presentation of the failures.

Matrix Spikes: Recoveries out of range were observed for the following analytes: 2-Chloroethyl vinyl ether. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Other: The pH of samples 06 and 09 could not be determined due to the dark matrix.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline. There are numerous situations in chromatography where the

system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 39590

Approved By: Michael Albertson



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L11110795
Instrument Id: HPMS6
Workgroup (AAB#): WG383320

Method: 8260
CAL ID: HPMS6 - 29-NOV-11
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L11110795-11	1.00	01	90.5	92.6	109	101
WG383320-01	1.00	01	86.2	91.0	110	102
WG383320-02	1.00	01	86.0	91.4	110	104

Surrogates		Surrogate Limits		
1	- 1,2-Dichloroethane-d4	70	-	120
2	- Dibromofluoromethane	85	-	115
3	- 4-Bromofluorobenzene	75	-	120
4	- Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2242039
Report generated: 12/08/2011 13:10



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L11110795
Instrument Id: HPMS6
Workgroup (AAB#): WG383461

Method: 8260
CAL ID: HPMS6 - 29-NOV-11
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L11110795-01	1.00	01	97.7	97.0	112	104
L11110795-03	1.00	01	95.2	94.1	111	101
L11110795-05	1.00	01	97.9	95.8	112	104
L11110795-07	1.00	01	85.2	91.1	110	104
L11110795-09	1.00	01	87.2	91.9	111	102
WG383461-01	1.00	01	88.2	92.5	113	103
WG383461-02	1.00	01	88.2	91.8	111	104

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2242039
Report generated: 12/08/2011 13:10



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L11110795
Instrument Id: HPMS6
Workgroup (AAB#): WG383575

Method: 8260
CAL ID: HPMS6 - 29-NOV-11
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L11110795-16	1.00	01	93.5	93.9	112	106
WG383575-01	1.00	01	89.4	90.2	112	106
WG383575-02	1.00	01	89.0	90.0	111	106
WG383575-03	1.00	01	90.3	92.2	111	106
WG383575-04	1.00	01	90.8	91.2	111	106

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2242039
Report generated: 12/08/2011 13:10



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L11110795
Instrument Id: HPMS11
Workgroup (AAB#): WG383370

Method: 8260
CAL ID: HPMS11-18-NOV-11
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L11110795-12	1.00	01	102	110	99.3	105
L11110795-13	1.00	01	99.7	108	99.6	104
L11110795-14	1.00	01	103	110	100	105
L11110795-15	1.00	01	100	109	99.1	105
WG383370-01	1.00	01	105	109	101	105
WG383370-02	1.00	01	98.5	109	94.7	104

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2242039
Report generated: 12/08/2011 13:10



METHOD BLANK SUMMARY

Login Number: L11110795 Work Group: WG383370
Blank File ID: 11M79671 Blank Sample ID: WG383370-01
Prep Date: 11/30/11 13:24 Instrument ID: HPMS11
Analyzed Date: 11/30/11 13:24 Method: 8260B
Analyst: MES/FJB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG383370-02	11M79672	11/30/11 13:55	01
40TB112011	L11110795-13	11M79674	11/30/11 14:57	01
40EQR112011	L11110795-12	11M79681	11/30/11 18:33	01
40MW6GW112011	L11110795-14	11M79682	11/30/11 19:04	01
40EQRG112111	L11110795-15	11M79683	11/30/11 19:35	01

Report Name: BLANK_SUMMARY
PDF File ID: 2247638
Report generated 12/08/2011 13:10



METHOD BLANK SUMMARY

Login Number: L11110795 Work Group: WG383320
Blank File ID: 6M104250 Blank Sample ID: WG383320-01
Prep Date: 11/30/11 10:47 Instrument ID: HPMS6
Analyzed Date: 11/30/11 10:47 Method: 8260B
Analyst: ADC

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG383320-02	6M104251	11/30/11 11:17	01
40112011FB	L11110795-11	6M104258	11/30/11 15:12	01

Report Name: BLANK_SUMMARY
PDF File ID: 2247638
Report generated 12/08/2011 13:10



METHOD BLANK SUMMARY

Login Number: <u>L11110795</u>	Work Group: <u>WG383461</u>
Blank File ID: <u>6M104276</u>	Blank Sample ID: <u>WG383461-01</u>
Prep Date: <u>12/01/11 10:57</u>	Instrument ID: <u>HPMS6</u>
Analyzed Date: <u>12/01/11 10:57</u>	Method: <u>8260B</u>
Analyst: <u>ADC</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG383461-02	6M104277	12/01/11 11:27	01
40MW5MSGW112011	L11110795-07	6M104278	12/01/11 12:04	01
40MW5MSDGW112011	L11110795-09	6M104279	12/01/11 12:34	01
40MW7GW112011	L11110795-01	6M104286	12/01/11 16:15	01
40DUPGW112011	L11110795-05	6M104287	12/01/11 16:48	01
40MW5GW112011	L11110795-03	6M104288	12/01/11 17:19	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2247638
 Report generated 12/08/2011 13:10



METHOD BLANK SUMMARY

Login Number: L11110795 Work Group: WG383575
Blank File ID: 6M104306 Blank Sample ID: WG383575-01
Prep Date: 12/02/11 11:24 Instrument ID: HPMS6
Analyzed Date: 12/02/11 11:24 Method: 8260B
Analyst: MES

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG383575-02	6M104307	12/02/11 11:57	01
LCS2	WG383575-03	6M104308	12/02/11 12:29	01
40LFMW01GW112111	L11110795-16	6M104319	12/02/11 18:26	01

Report Name: BLANK_SUMMARY
PDF File ID: 2247638
Report generated 12/08/2011 13:10



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/30/11 13:24 Sample ID: WG383370-01
 Instrument ID: HPMS11 Run Date: 11/30/11 13:24 Prep Method: 5030B/5030C/503
 File ID: 11M79671 Analyst: MES/FJB Method: 8260B
 Workgroup (AAB#): WG383370 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS11 - 18-NOV-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 2247639

08-DEC-2011 13:10



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/30/11 13:24 Sample ID: WG383370-01
 Instrument ID: HPMS11 Run Date: 11/30/11 13:24 Prep Method: 5030B/5030C/503
 File ID: 11M79671 Analyst: MES/FJB Method: 8260B
 Workgroup (AAB#): WG383370 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS11 - 18-NOV-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Naphthalene	0.200	1.00	0.200	1	U
o-Xylene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	105	70 - 120	PASS
4-Bromofluorobenzene	101	75 - 120	PASS
Dibromofluoromethane	109	85 - 115	PASS
Toluene-d8	105	85 - 120	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2247639

08-DEC-2011 13:10



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/30/11 10:47 Sample ID: WG383320-01
 Instrument ID: HPMS6 Run Date: 11/30/11 10:47 Prep Method: 5030B/5030C/503
 File ID: 6M104250 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG383320 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS6 - 29-NOV-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 2247639

08-DEC-2011 13:10



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/30/11 10:47 Sample ID: WG383320-01
 Instrument ID: HPMS6 Run Date: 11/30/11 10:47 Prep Method: 5030B/5030C/503
 File ID: 6M104250 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG383320 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS6 - 29-NOV-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Naphthalene	0.200	1.00	0.200	1	U
o-Xylene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	86.2	70 - 120	PASS
4-Bromofluorobenzene	110	75 - 120	PASS
Dibromofluoromethane	91.0	85 - 115	PASS
Toluene-d8	102	85 - 120	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2247639

08-DEC-2011 13:10



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 12/01/11 10:57 Sample ID: WG383461-01
 Instrument ID: HPMS6 Run Date: 12/01/11 10:57 Prep Method: 5030B/5030C/503
 File ID: 6M104276 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG383461 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS6 - 29-NOV-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U

Report Name: BLANK

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08-DEC-2011 13:10



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 12/01/11 10:57 Sample ID: WG383461-01
 Instrument ID: HPMS6 Run Date: 12/01/11 10:57 Prep Method: 5030B/5030C/503
 File ID: 6M104276 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG383461 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS6 - 29-NOV-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Naphthalene	0.200	1.00	0.200	1	U
o-Xylene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	88.2	70 - 120	PASS
4-Bromofluorobenzene	113	75 - 120	PASS
Dibromofluoromethane	92.5	85 - 115	PASS
Toluene-d8	103	85 - 120	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2247639

08-DEC-2011 13:10



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 12/02/11 11:24 Sample ID: WG383575-01
 Instrument ID: HPMS6 Run Date: 12/02/11 11:24 Prep Method: 5030B/5030C/503
 File ID: 6M104306 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG383575 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS6 - 29-NOV-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 2247639

08-DEC-2011 13:10



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 12/02/11 11:24 Sample ID: WG383575-01
 Instrument ID: HPMS6 Run Date: 12/02/11 11:24 Prep Method: 5030B/5030C/503
 File ID: 6M104306 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG383575 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS6 - 29-NOV-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Naphthalene	0.200	1.00	0.200	1	U
o-Xylene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	89.4	70 - 120	PASS
4-Bromofluorobenzene	112	75 - 120	PASS
Dibromofluoromethane	90.2	85 - 115	PASS
Toluene-d8	106	85 - 120	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2247639

08-DEC-2011 13:10



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L11110795</u>	Run Date: <u>11/30/2011</u>	Sample ID: <u>WG383370-02</u>
Instrument ID: <u>HPMS11</u>	Run Time: <u>13:55</u>	Prep Method: <u>5030B/5030C/503</u>
File ID: <u>11M79672</u>	Analyst: <u>MES/FJB</u>	Method: <u>8260B</u>
Workgroup (AAB#): <u>WG383370</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
QC Key: <u>DOD4</u>	Lot#: <u>STD48872</u>	Cal ID: <u>HPMS11 - 18-NOV-11</u>

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,1,1,2-Tetrachloroethane	20.0	21.7	108	80	-	130	
1,1,1-Trichloroethane	20.0	22.2	111	65	-	130	
1,1,2,2-Tetrachloroethane	20.0	20.0	100	65	-	130	
1,1,2-Trichloroethane	20.0	20.2	101	75	-	125	
1,1-Dichloroethane	20.0	20.9	105	70	-	135	
1,1-Dichloroethene	20.0	20.6	103	70	-	130	
1,1-Dichloropropene	20.0	23.0	115	75	-	130	
1,2,3-Trichlorobenzene	20.0	20.9	104	55	-	140	
1,2,3-Trichloropropane	20.0	20.4	102	75	-	125	
1,2,4-Trichlorobenzene	20.0	17.5	87.3	65	-	135	
1,2,4-Trimethylbenzene	20.0	20.1	101	75	-	130	
1,2-Dibromo-3-chloropropane	20.0	18.5	92.3	50	-	130	
1,2-Dibromoethane	20.0	21.0	105	80	-	120	
1,2-Dichlorobenzene	20.0	20.0	99.8	70	-	120	
1,2-Dichloroethane	20.0	21.1	106	70	-	130	
1,2-Dichloropropane	20.0	21.0	105	75	-	125	
1,3,5-Trimethylbenzene	20.0	20.7	103	75	-	130	
1,3-Dichlorobenzene	20.0	19.9	99.4	75	-	125	
1,3-Dichloropropane	20.0	20.8	104	75	-	125	
1,4-Dichlorobenzene	20.0	19.5	97.6	75	-	125	
2,2-Dichloropropane	20.0	23.1	116	70	-	135	
2-Butanone	20.0	16.9	84.3	30	-	150	
2-Chloroethyl vinyl ether	20.0	21.6	108	45	-	160	
2-Chlorotoluene	20.0	20.2	101	75	-	125	
2-Hexanone	20.0	16.3	81.3	55	-	130	
4-Chlorotoluene	20.0	19.2	95.9	75	-	130	
4-Methyl-2-pentanone	20.0	19.0	95.2	60	-	135	
Acetone	20.0	18.8	94.0	40	-	140	
Benzene	20.0	21.5	108	80	-	120	
Bromobenzene	20.0	20.8	104	75	-	125	
Bromochloromethane	20.0	20.8	104	65	-	130	
Bromodichloromethane	20.0	21.4	107	75	-	120	
Bromoform	20.0	20.5	103	70	-	130	
Bromomethane	20.0	23.2	116	30	-	145	
Carbon disulfide	20.0	21.3	107	35	-	160	
Carbon tetrachloride	20.0	20.7	103	65	-	140	
Chlorobenzene	20.0	20.1	101	80	-	120	
Chlorodibromomethane	20.0	20.9	104	60	-	135	
Chloroethane	20.0	23.3	117	60	-	135	
Chloroform	20.0	20.4	102	65	-	135	
Chloromethane	20.0	20.9	104	40	-	125	

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PDF File ID: 2242035
Report generated: 12/08/2011 12:26



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L11110795</u>	Run Date: <u>11/30/2011</u>	Sample ID: <u>WG383370-02</u>
Instrument ID: <u>HPMS11</u>	Run Time: <u>13:55</u>	Prep Method: <u>5030B/5030C/503</u>
File ID: <u>11M79672</u>	Analyst: <u>MES/FJB</u>	Method: <u>8260B</u>
Workgroup (AAB#): <u>WG383370</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
QC Key: <u>DOD4</u>	Lot#: <u>STD48872</u>	Cal ID: <u>HPMS11 - 18-NOV-11</u>

Analytes	Expected	Found	% Rec	LCS Limits			Q
cis-1,2-Dichloroethene	20.0	22.2	111	70	-	125	
cis-1,3-Dichloropropene	20.0	21.6	108	70	-	130	
Dibromomethane	20.0	22.2	111	75	-	125	
Dichlorodifluoromethane	20.0	27.4	137	30	-	155	
Ethylbenzene	20.0	20.4	102	75	-	125	
Hexachlorobutadiene	20.0	18.1	90.4	50	-	140	
Isopropylbenzene	20.0	18.1	90.4	75	-	125	
m-,p-Xylene	40.0	41.6	104	75	-	130	
Methylene chloride	20.0	19.5	97.7	55	-	140	
n-Butylbenzene	20.0	20.5	103	70	-	135	
n-Propylbenzene	20.0	19.7	98.4	70	-	130	
Naphthalene	20.0	19.9	99.3	55	-	140	
o-Xylene	20.0	20.7	104	80	-	120	
p-Isopropyltoluene	20.0	19.3	96.7	75	-	130	
sec-Butylbenzene	20.0	20.3	102	70	-	125	
Styrene	20.0	20.5	102	65	-	135	
tert-Butylbenzene	20.0	20.7	103	70	-	130	
Tetrachloroethene	20.0	21.2	106	45	-	150	
Toluene	20.0	20.5	103	75	-	120	
trans-1,2-Dichloroethene	20.0	21.7	108	60	-	140	
trans-1,3-Dichloropropene	20.0	19.5	97.3	55	-	140	
Trichloroethene	20.0	22.0	110	70	-	125	
Trichlorofluoromethane	20.0	24.7	123	60	-	145	
Vinyl acetate	20.0	18.7	93.5	10	-	190	
Vinyl chloride	20.0	26.1	130	50	-	145	

Surrogates	% Recovery	Surrogate Limits			Qualifier
1,2-Dichloroethane-d4	98.5	70	-	120	PASS
4-Bromofluorobenzene	94.7	75	-	120	PASS
Dibromofluoromethane	109	85	-	115	PASS
Toluene-d8	104	85	-	120	PASS

* EXCEEDS %REC LIMIT

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PDF File ID: 2242035
Report generated: 12/08/2011 12:26



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LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L11110795</u>	Run Date: <u>11/30/2011</u>	Sample ID: <u>WG383320-02</u>
Instrument ID: <u>HPMS6</u>	Run Time: <u>11:17</u>	Prep Method: <u>5030B/5030C/503</u>
File ID: <u>6M104251</u>	Analyst: <u>ADC</u>	Method: <u>8260B</u>
Workgroup (AAB#): <u>WG383320</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
QC Key: <u>DOD4</u>	Lot#: <u>STD48720</u>	Cal ID: <u>HPMS6 - 29-NOV-11</u>

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,1,1,2-Tetrachloroethane	20.0	22.5	113	80	-	130	
1,1,1-Trichloroethane	20.0	21.1	105	65	-	130	
1,1,2,2-Tetrachloroethane	20.0	23.1	115	65	-	130	
1,1,2-Trichloroethane	20.0	22.2	111	75	-	125	
1,1-Dichloroethane	20.0	20.0	100	70	-	135	
1,1-Dichloroethene	20.0	20.9	104	70	-	130	
1,1-Dichloropropene	20.0	22.3	112	75	-	130	
1,2,3-Trichlorobenzene	20.0	21.7	109	55	-	140	
1,2,3-Trichloropropane	20.0	23.1	115	75	-	125	
1,2,4-Trichlorobenzene	20.0	21.4	107	65	-	135	
1,2,4-Trimethylbenzene	20.0	22.6	113	75	-	130	
1,2-Dibromo-3-chloropropane	20.0	22.5	112	50	-	130	
1,2-Dibromoethane	20.0	22.9	114	80	-	120	
1,2-Dichlorobenzene	20.0	21.4	107	70	-	120	
1,2-Dichloroethane	20.0	20.2	101	70	-	130	
1,2-Dichloropropane	20.0	20.3	102	75	-	125	
1,3,5-Trimethylbenzene	20.0	23.4	117	75	-	130	
1,3-Dichlorobenzene	20.0	21.1	106	75	-	125	
1,3-Dichloropropane	20.0	22.3	112	75	-	125	
1,4-Dichlorobenzene	20.0	21.8	109	75	-	125	
2,2-Dichloropropane	20.0	22.4	112	70	-	135	
2-Butanone	20.0	18.2	90.9	30	-	150	
2-Chloroethyl vinyl ether	20.0	18.4	92.0	45	-	160	
2-Chlorotoluene	20.0	21.5	107	75	-	125	
2-Hexanone	20.0	20.3	102	55	-	130	
4-Chlorotoluene	20.0	22.6	113	75	-	130	
4-Methyl-2-pentanone	20.0	19.0	95.1	60	-	135	
Acetone	20.0	20.4	102	40	-	140	
Benzene	20.0	20.5	103	80	-	120	
Bromobenzene	20.0	21.9	109	75	-	125	
Bromochloromethane	20.0	20.3	101	65	-	130	
Bromodichloromethane	20.0	20.2	101	75	-	120	
Bromoform	20.0	21.6	108	70	-	130	
Bromomethane	20.0	22.1	110	30	-	145	
Carbon disulfide	20.0	21.0	105	35	-	160	
Carbon tetrachloride	20.0	20.9	105	65	-	140	
Chlorobenzene	20.0	21.3	107	80	-	120	
Chlorodibromomethane	20.0	22.3	112	60	-	135	
Chloroethane	20.0	21.6	108	60	-	135	
Chloroform	20.0	19.7	98.7	65	-	135	
Chloromethane	20.0	20.6	103	40	-	125	

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PDF File ID: 2242035
Report generated: 12/08/2011 12:26



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LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383320-02
Instrument ID: HPMS6 Run Time: 11:17 Prep Method: 5030B/5030C/503
File ID: 6M104251 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG383320 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD48720 Cal ID: HPMS6 - 29-NOV-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
cis-1,2-Dichloroethene	20.0	21.4	107	70 - 125	
cis-1,3-Dichloropropene	20.0	19.9	99.6	70 - 130	
Dibromomethane	20.0	20.1	101	75 - 125	
Dichlorodifluoromethane	20.0	27.6	138	30 - 155	
Ethylbenzene	20.0	22.2	111	75 - 125	
Hexachlorobutadiene	20.0	23.6	118	50 - 140	
Isopropylbenzene	20.0	19.7	98.3	75 - 125	
m-,p-Xylene	40.0	44.5	111	75 - 130	
Methylene chloride	20.0	18.9	94.4	55 - 140	
n-Butylbenzene	20.0	23.1	115	70 - 135	
n-Propylbenzene	20.0	22.6	113	70 - 130	
Naphthalene	20.0	21.8	109	55 - 140	
o-Xylene	20.0	21.8	109	80 - 120	
p-Isopropyltoluene	20.0	21.7	109	75 - 130	
sec-Butylbenzene	20.0	23.3	117	70 - 125	
Styrene	20.0	22.8	114	65 - 135	
tert-Butylbenzene	20.0	22.6	113	70 - 130	
Tetrachloroethene	20.0	20.8	104	45 - 150	
Toluene	20.0	22.3	112	75 - 120	
trans-1,2-Dichloroethene	20.0	20.3	102	60 - 140	
trans-1,3-Dichloropropene	20.0	20.8	104	55 - 140	
Trichloroethene	20.0	20.9	105	70 - 125	
Trichlorofluoromethane	20.0	22.3	112	60 - 145	
Vinyl acetate	20.0	24.2	121	10 - 190	
Vinyl chloride	20.0	23.0	115	50 - 145	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	86.0	70 - 120	PASS
4-Bromofluorobenzene	110	75 - 120	PASS
Dibromofluoromethane	91.4	85 - 115	PASS
Toluene-d8	104	85 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2242035
Report generated: 12/08/2011 12:26



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L11110795</u>	Run Date: <u>12/01/2011</u>	Sample ID: <u>WG383461-02</u>
Instrument ID: <u>HPMS6</u>	Run Time: <u>11:27</u>	Prep Method: <u>5030B/5030C/503</u>
File ID: <u>6M104277</u>	Analyst: <u>ADC</u>	Method: <u>8260B</u>
Workgroup (AAB#): <u>WG383461</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
QC Key: <u>DOD4</u>	Lot#: <u>STD48720</u>	Cal ID: <u>HPMS6 - 29-NOV-11</u>

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,1,1,2-Tetrachloroethane	20.0	23.0	115	80	-	130	
1,1,1-Trichloroethane	20.0	22.0	110	65	-	130	
1,1,2,2-Tetrachloroethane	20.0	23.0	115	65	-	130	
1,1,2-Trichloroethane	20.0	22.2	111	75	-	125	
1,1-Dichloroethane	20.0	20.8	104	70	-	135	
1,1-Dichloroethene	20.0	21.7	109	70	-	130	
1,1-Dichloropropene	20.0	22.9	114	75	-	130	
1,2,3-Trichlorobenzene	20.0	21.7	108	55	-	140	
1,2,3-Trichloropropane	20.0	23.2	116	75	-	125	
1,2,4-Trichlorobenzene	20.0	21.6	108	65	-	135	
1,2,4-Trimethylbenzene	20.0	23.3	117	75	-	130	
1,2-Dibromo-3-chloropropane	20.0	22.5	113	50	-	130	
1,2-Dibromoethane	20.0	23.1	115	80	-	120	
1,2-Dichlorobenzene	20.0	21.7	109	70	-	120	
1,2-Dichloroethane	20.0	20.8	104	70	-	130	
1,2-Dichloropropane	20.0	20.8	104	75	-	125	
1,3,5-Trimethylbenzene	20.0	23.9	119	75	-	130	
1,3-Dichlorobenzene	20.0	21.8	109	75	-	125	
1,3-Dichloropropane	20.0	22.3	112	75	-	125	
1,4-Dichlorobenzene	20.0	22.2	111	75	-	125	
2,2-Dichloropropane	20.0	23.0	115	70	-	135	
2-Butanone	20.0	20.9	105	30	-	150	
2-Chloroethyl vinyl ether	20.0	18.3	91.6	45	-	160	
2-Chlorotoluene	20.0	22.0	110	75	-	125	
2-Hexanone	20.0	20.1	100	55	-	130	
4-Chlorotoluene	20.0	23.1	116	75	-	130	
4-Methyl-2-pentanone	20.0	18.9	94.7	60	-	135	
Acetone	20.0	21.6	108	40	-	140	
Benzene	20.0	21.0	105	80	-	120	
Bromobenzene	20.0	22.2	111	75	-	125	
Bromochloromethane	20.0	20.5	102	65	-	130	
Bromodichloromethane	20.0	20.7	103	75	-	120	
Bromoform	20.0	21.4	107	70	-	130	
Bromomethane	20.0	22.3	111	30	-	145	
Carbon disulfide	20.0	21.7	108	35	-	160	
Carbon tetrachloride	20.0	21.8	109	65	-	140	
Chlorobenzene	20.0	22.1	111	80	-	120	
Chlorodibromomethane	20.0	22.4	112	60	-	135	
Chloroethane	20.0	22.4	112	60	-	135	
Chloroform	20.0	20.3	102	65	-	135	
Chloromethane	20.0	26.3	131	40	-	125	*

LCS - Modified 03/06/2008
PDF File ID: 2242035
Report generated: 12/08/2011 12:26



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LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383461-02
Instrument ID: HPMS6 Run Time: 11:27 Prep Method: 5030B/5030C/503
File ID: 6M104277 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG383461 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD48720 Cal ID: HPMS6 - 29-NOV-11

Analytes	Expected	Found	% Rec	LCS Limits		Q
cis-1,2-Dichloroethene	20.0	21.9	109	70	- 125	
cis-1,3-Dichloropropene	20.0	20.5	102	70	- 130	
Dibromomethane	20.0	20.3	102	75	- 125	
Dichlorodifluoromethane	20.0	30.3	151	30	- 155	
Ethylbenzene	20.0	23.2	116	75	- 125	
Hexachlorobutadiene	20.0	23.9	119	50	- 140	
Isopropylbenzene	20.0	20.3	101	75	- 125	
m-,p-Xylene	40.0	45.5	114	75	- 130	
Methylene chloride	20.0	19.7	98.5	55	- 140	
n-Butylbenzene	20.0	23.9	119	70	- 135	
n-Propylbenzene	20.0	23.5	118	70	- 130	
Naphthalene	20.0	21.5	107	55	- 140	
o-Xylene	20.0	22.5	113	80	- 120	
p-Isopropyltoluene	20.0	22.7	113	75	- 130	
sec-Butylbenzene	20.0	24.0	120	70	- 125	
Styrene	20.0	23.1	115	65	- 135	
tert-Butylbenzene	20.0	23.6	118	70	- 130	
Tetrachloroethene	20.0	21.7	108	45	- 150	
Toluene	20.0	23.0	115	75	- 120	
trans-1,2-Dichloroethene	20.0	21.1	106	60	- 140	
trans-1,3-Dichloropropene	20.0	21.6	108	55	- 140	
Trichloroethene	20.0	21.6	108	70	- 125	
Trichlorofluoromethane	20.0	23.9	120	60	- 145	
Vinyl acetate	20.0	25.0	125	10	- 190	
Vinyl chloride	20.0	24.8	124	50	- 145	

Surrogates	% Recovery	Surrogate Limits		Qualifier
1,2-Dichloroethane-d4	88.2	70	- 120	PASS
4-Bromofluorobenzene	111	75	- 120	PASS
Dibromofluoromethane	91.8	85	- 115	PASS
Toluene-d8	104	85	- 120	PASS

* EXCEEDS %REC LIMIT

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PDF File ID: 2242035
Report generated: 12/08/2011 12:26



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Analyst: MES Prep Method: 5030B/5030C/503
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG383575 Units: ug/L
QC Key: DOD4 Lot #: STD48720

Sample ID: WG383575-02 LCS File ID: 6M104307 Run Date: 12/02/2011 11:57
Sample ID: WG383575-03 LCS2 File ID: 6M104308 Run Date: 12/02/2011 12:29

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1,2-Tetrachloroethane	20.0	22.5	112	20.0	22.6	113	0.615	80 - 130	30	
1,1,1-Trichloroethane	20.0	20.1	100	20.0	20.0	100	0.442	65 - 130	30	
1,1,2,2-Tetrachloroethane	20.0	24.4	122	20.0	24.2	121	0.942	65 - 130	30	
1,1,2-Trichloroethane	20.0	22.8	114	20.0	22.5	112	1.42	75 - 125	30	
1,1-Dichloroethane	20.0	19.1	95.7	20.0	19.3	96.7	1.05	70 - 135	30	
1,1-Dichloroethene	20.0	20.0	100	20.0	20.0	100	0.0752	70 - 130	30	
1,1-Dichloropropene	20.0	20.6	103	20.0	20.6	103	0.176	75 - 130	30	
1,2,3-Trichlorobenzene	20.0	22.5	113	20.0	22.4	112	0.464	55 - 140	30	
1,2,3-Trichloropropane	20.0	23.7	119	20.0	23.5	117	0.996	75 - 125	30	
1,2,4-Trichlorobenzene	20.0	21.7	109	20.0	21.9	109	0.692	65 - 135	30	
1,2,4-Trimethylbenzene	20.0	23.2	116	20.0	22.7	113	2.27	75 - 130	30	
1,2-Dibromo-3-chloropropane	20.0	23.9	119	20.0	24.5	123	2.55	50 - 130	30	
1,2-Dibromoethane	20.0	23.2	116	20.0	23.0	115	0.878	80 - 120	30	
1,2-Dichlorobenzene	20.0	22.0	110	20.0	21.7	109	1.10	70 - 120	30	
1,2-Dichloroethane	20.0	19.4	97.2	20.0	19.6	98.0	0.790	70 - 130	30	
1,2-Dichloropropane	20.0	19.3	96.6	20.0	19.3	96.4	0.254	75 - 125	30	
1,3,5-Trimethylbenzene	20.0	24.0	120	20.0	23.6	118	2.03	75 - 130	30	
1,3-Dichlorobenzene	20.0	21.9	109	20.0	21.5	107	1.84	75 - 125	30	
1,3-Dichloropropane	20.0	22.6	113	20.0	22.7	114	0.350	75 - 125	30	
1,4-Dichlorobenzene	20.0	22.2	111	20.0	21.8	109	2.03	75 - 125	30	
2,2-Dichloropropane	20.0	21.3	107	20.0	21.0	105	1.68	70 - 135	30	
2-Butanone	20.0	21.3	106	20.0	22.3	111	4.63	30 - 150	30	
2-Chloroethyl vinyl ether	20.0	17.4	86.8	20.0	17.7	88.5	1.90	45 - 160	20	
2-Chlorotoluene	20.0	23.1	115	20.0	22.7	114	1.51	75 - 125	30	
2-Hexanone	20.0	23.1	115	20.0	23.1	116	0.327	55 - 130	30	
4-Chlorotoluene	20.0	22.4	112	20.0	21.9	109	2.57	75 - 130	30	
4-Methyl-2-pentanone	20.0	18.6	93.2	20.0	20.2	101	8.00	60 - 135	30	
Acetone	20.0	23.1	116	20.0	23.9	120	3.42	40 - 140	30	
Benzene	20.0	19.1	95.7	20.0	19.2	95.8	0.0736	80 - 120	30	
Bromobenzene	20.0	22.3	111	20.0	22.2	111	0.371	75 - 125	30	
Bromochloromethane	20.0	19.1	95.7	20.0	19.2	96.1	0.389	65 - 130	30	
Bromodichloromethane	20.0	19.1	95.4	20.0	19.0	95.1	0.287	75 - 120	30	
Bromoform	20.0	22.3	112	20.0	22.2	111	0.638	70 - 130	30	
Bromomethane	20.0	19.8	98.8	20.0	20.0	99.9	1.06	30 - 145	30	
Carbon disulfide	20.0	19.9	99.6	20.0	19.9	99.5	0.0730	35 - 160	30	
Carbon tetrachloride	20.0	20.2	101	20.0	20.0	100	0.951	65 - 140	30	
Chlorobenzene	20.0	21.5	107	20.0	21.4	107	0.587	80 - 120	30	
Chlorodibromomethane	20.0	22.8	114	20.0	22.5	113	1.10	60 - 135	30	
Chloroethane	20.0	20.4	102	20.0	20.4	102	0.159	60 - 135	30	
Chloroform	20.0	18.7	93.4	20.0	18.7	93.3	0.0359	65 - 135	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2245266
Report generated: 12/08/2011 13:10



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Analyst: MES Prep Method: 5030B/5030C/503
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG383575 Units: ug/L
QC Key: DOD4 Lot #: STD48720

Sample ID: WG383575-02 LCS File ID: 6M104307 Run Date: 12/02/2011 11:57
Sample ID: WG383575-03 LCS2 File ID: 6M104308 Run Date: 12/02/2011 12:29

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Chloromethane	20.0	23.0	115	20.0	22.6	113	1.57	40 - 125	30	
cis-1,2-Dichloroethene	20.0	20.1	101	20.0	20.1	100	0.167	70 - 125	30	
cis-1,3-Dichloropropene	20.0	19.1	95.4	20.0	19.2	96.0	0.569	70 - 130	30	
Dibromomethane	20.0	19.4	97.0	20.0	19.4	96.8	0.234	75 - 125	30	
Dichlorodifluoromethane	20.0	27.0	135	20.0	27.0	135	0.242	30 - 155	30	
Ethylbenzene	20.0	22.0	110	20.0	22.2	111	1.01	75 - 125	30	
Hexachlorobutadiene	20.0	23.7	118	20.0	22.8	114	3.69	50 - 140	30	
Isopropylbenzene	20.0	19.6	98.1	20.0	19.4	97.0	1.14	75 - 125	30	
m-,p-Xylene	40.0	44.2	110	40.0	43.8	110	0.800	75 - 130	30	
Methylene chloride	20.0	17.8	89.1	20.0	18.2	91.2	2.30	55 - 140	30	
n-Butylbenzene	20.0	23.9	119	20.0	23.3	116	2.47	70 - 135	30	
n-Propylbenzene	20.0	23.2	116	20.0	22.8	114	1.59	70 - 130	30	
Naphthalene	20.0	23.1	116	20.0	23.0	115	0.398	55 - 140	30	
o-Xylene	20.0	21.8	109	20.0	21.6	108	1.04	80 - 120	30	
p-Isopropyltoluene	20.0	22.2	111	20.0	21.7	108	2.37	75 - 130	30	
sec-Butylbenzene	20.0	23.6	118	20.0	23.2	116	1.86	70 - 125	30	
Styrene	20.0	22.5	112	20.0	22.6	113	0.432	65 - 135	30	
tert-Butylbenzene	20.0	22.6	113	20.0	22.2	111	1.83	70 - 130	30	
Tetrachloroethene	20.0	21.2	106	20.0	20.7	103	2.59	45 - 150	30	
Toluene	20.0	22.3	111	20.0	22.0	110	1.13	75 - 120	30	
trans-1,2-Dichloroethene	20.0	19.7	98.5	20.0	19.4	96.9	1.59	60 - 140	30	
trans-1,3-Dichloropropene	20.0	21.5	107	20.0	21.4	107	0.540	55 - 140	30	
Trichloroethene	20.0	19.5	97.3	20.0	19.6	98.1	0.753	70 - 125	30	
Trichlorofluoromethane	20.0	21.9	109	20.0	21.8	109	0.354	60 - 145	30	
Vinyl acetate	20.0	23.1	116	20.0	24.4	122	5.20	10 - 190	20	
Vinyl chloride	20.0	22.3	112	20.0	23.0	115	2.76	50 - 145	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	89.0	90.3	70 - 120	PASS
Dibromofluoromethane	90.0	92.2	85 - 115	PASS
4-Bromofluorobenzene	111	111	75 - 120	PASS
Toluene-d8	106	106	85 - 120	PASS

* EXCEEDS %REC LIMIT
EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2245266
Report generated: 12/08/2011 13:10



MS/MSD REPORT

Loginnum: L11110795

Cal ID: HPMS6- 29-NOV-11

Worknum: WG383461

Instrument ID: HPMS6

Contract #:

Prep Method: 5030B/5030C/

Parent ID: L11110795-03

File ID: 6M104288

Dil: 1

Method: 5035A

Sample ID: L11110795-07 MS

File ID: 6M104278

Dil: 1

Matrix: 8260B

Sample ID: L11110795-09 MSD

File ID: 6M104279

Dil: 1

Units: Water

ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1,2-Tetrachloroethane	U	20.0	22.5	112	20.0	22.7	114	1.01	80 - 130	30	
1,1,1-Trichloroethane	U	20.0	21.3	107	20.0	21.3	107	0.0456	65 - 130	30	
1,1,2,2-Tetrachloroethane	U	20.0	22.2	111	20.0	23.9	120	7.31	65 - 130	30	
1,1,2-Trichloroethane	U	20.0	20.8	104	20.0	22.4	112	7.24	75 - 125	30	
1,1-Dichloroethane	U	20.0	20.3	102	20.0	20.6	103	1.10	70 - 135	30	
1,1-Dichloroethene	U	20.0	21.4	107	20.0	21.3	107	0.168	70 - 130	30	
1,1-Dichloropropene	U	20.0	21.8	109	20.0	22.2	111	1.44	75 - 130	30	
1,2,3-Trichlorobenzene	U	20.0	21.1	105	20.0	22.2	111	5.41	55 - 140	30	
1,2,3-Trichloropropane	U	20.0	21.5	108	20.0	23.5	118	8.90	75 - 125	30	
1,2,4-Trichlorobenzene	U	20.0	21.1	105	20.0	22.0	110	4.46	65 - 135	30	
1,2,4-Trimethylbenzene	U	20.0	22.7	113	20.0	22.8	114	0.492	75 - 130	30	
1,2-Dibromo-3-chloropropane	U	20.0	20.3	101	20.0	20.9	105	3.25	50 - 130	30	
1,2-Dibromoethane	U	20.0	22.1	111	20.0	23.0	115	3.75	80 - 120	30	
1,2-Dichlorobenzene	U	20.0	21.0	105	20.0	21.7	109	3.29	70 - 120	30	
1,2-Dichloroethane	U	20.0	20.0	99.9	20.0	20.7	104	3.73	70 - 130	30	
1,2-Dichloropropane	U	20.0	20.3	101	20.0	20.7	104	2.20	75 - 125	30	
1,3,5-Trimethylbenzene	U	20.0	23.4	117	20.0	23.6	118	0.695	75 - 130	30	
1,3-Dichlorobenzene	U	20.0	21.4	107	20.0	21.5	108	0.645	75 - 125	30	
1,3-Dichloropropane	U	20.0	21.2	106	20.0	22.7	113	6.62	75 - 125	30	
1,4-Dichlorobenzene	U	20.0	21.6	108	20.0	21.8	109	1.22	75 - 125	30	
2,2-Dichloropropane	U	20.0	23.1	116	20.0	22.7	114	1.84	70 - 135	30	
2-Butanone	U	20.0	17.2	86.1	20.0	19.3	96.6	11.5	30 - 150	30	
2-Chloroethyl vinyl ether	U	20.0	5.52	27.6	20.0	0	0	200	58 - 160	20	##
2-Chlorotoluene	U	20.0	21.5	108	20.0	21.8	109	1.46	75 - 125	30	
2-Hexanone	U	20.0	19.0	95.1	20.0	21.5	107	12.1	55 - 130	30	
4-Chlorotoluene	U	20.0	23.0	115	20.0	23.1	115	0.111	75 - 130	30	
4-Methyl-2-pentanone	U	20.0	17.3	86.4	20.0	18.9	94.4	8.83	60 - 135	30	
Acetone	U	20.0	20.3	102	20.0	22.6	113	10.5	40 - 140	30	
Benzene	U	20.0	20.3	102	20.0	20.3	102	0.0276	80 - 120	30	
Bromobenzene	U	20.0	21.9	110	20.0	22.4	112	2.12	75 - 125	30	
Bromochloromethane	U	20.0	19.8	99	20.0	20.4	102	3.12	65 - 130	30	
Bromodichloromethane	U	20.0	19.7	98.7	20.0	20.3	102	2.95	75 - 120	30	
Bromoform	U	20.0	20.1	101	20.0	21.7	109	7.55	70 - 130	30	
Bromomethane	U	20.0	22.3	112	20.0	22.3	111	0.368	30 - 145	30	
Carbon disulfide	U	20.0	21.4	107	20.0	21.2	106	0.575	35 - 160	30	
Carbon tetrachloride	U	20.0	21.2	106	20.0	21.3	107	0.446	65 - 140	30	
Chlorobenzene	U	20.0	21.1	106	20.0	21.5	108	1.72	80 - 120	30	
Chlorodibromomethane	U	20.0	21.6	108	20.0	22.8	114	5.37	60 - 135	30	
Chloroethane	U	20.0	22.0	110	20.0	21.6	108	1.88	60 - 135	30	
Chloroform	3.17	20.0	22.6	97.1	20.0	22.9	98.7	1.41	65 - 135	30	
Chloromethane	U	20.0	24.3	122	20.0	24.3	122	0.0098	40 - 125	30	

MS MSD - Modified 03/06/2008

PDF File ID: 2242040

Report generated 12/08/2011 13:10



MS/MSD REPORT

Loginnum: L11110795 Cal ID: HPMS6 29-NOV-11
 Instrument ID: HPMS6 Contract #: _____
 Parent ID: L11110795-03 File ID: 6M104288 Dil: 1
 Sample ID: L11110795-07 MS File ID: 6M104278 Dil: 1
 Sample ID: L11110795-09 MSD File ID: 6M104279 Dil: 1

Worknum: WG383461
 Prep Method: 5030B/5030C/
 Method: 5035A
 Matrix: 8260B
 Units: Water
ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
cis-1,2-Dichloroethene	U	20.0	21.5	107	20.0	21.7	108	1.00	70 - 125	30	
cis-1,3-Dichloropropene	U	20.0	20.1	100	20.0	20.3	101	1.03	70 - 130	30	
Dibromomethane	U	20.0	19.4	97	20.0	20.2	101	4.23	75 - 125	30	
Dichlorodifluoromethane	U	20.0	28.9	144	20.0	28.3	142	1.80	30 - 155	30	
Ethylbenzene	U	20.0	21.9	110	20.0	22.2	111	0.920	75 - 125	30	
Hexachlorobutadiene	U	20.0	24.3	122	20.0	23.8	119	2.24	50 - 140	30	
Isopropylbenzene	U	20.0	19.4	97	20.0	19.5	97.5	0.465	75 - 125	30	
m-,p-Xylene	U	40.0	44.0	110	40.0	44.1	110	0.224	75 - 130	30	
Methylene chloride	U	20.0	18.9	94.6	20.0	19.3	96.6	2.08	55 - 140	30	
n-Butylbenzene	U	20.0	23.4	117	20.0	23.4	117	0.0282	70 - 135	30	
n-Propylbenzene	U	20.0	22.8	114	20.0	22.9	115	0.578	70 - 130	30	
Naphthalene	U	20.0	20.5	102	20.0	22.3	112	8.53	55 - 140	30	
o-Xylene	U	20.0	21.7	108	20.0	21.9	109	0.859	80 - 120	30	
p-Isopropyltoluene	U	20.0	22.1	111	20.0	21.9	110	0.979	75 - 130	30	
sec-Butylbenzene	U	20.0	23.3	116	20.0	23.1	115	0.863	70 - 125	30	
Styrene	U	20.0	22.3	112	20.0	22.5	113	0.881	65 - 135	30	
tert-Butylbenzene	U	20.0	22.5	113	20.0	22.6	113	0.182	70 - 130	30	
Tetrachloroethene	U	20.0	21.0	105	20.0	21.0	105	0.148	45 - 150	30	
Toluene	U	20.0	22.1	110	20.0	22.4	112	1.54	75 - 120	30	
trans-1,2-Dichloroethene	U	20.0	20.9	105	20.0	20.9	105	0.132	60 - 140	30	
trans-1,3-Dichloropropene	U	20.0	20.8	104	20.0	21.5	108	3.72	55 - 140	30	
Trichloroethene	U	20.0	20.6	103	20.0	21.2	106	2.76	70 - 125	30	
Trichlorofluoromethane	U	20.0	23.3	116	20.0	23.1	116	0.776	60 - 145	30	
Vinyl acetate	U	20.0	22.4	112	20.0	24.3	121	8.06	10 - 190	20	
Vinyl chloride	U	20.0	24.6	123	20.0	24.4	122	0.797	50 - 145	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L11110795 Tune ID: WG367610-01
Instrument: HPMS11 Run Date: 06/15/2011
Analyst: FJB Run Time: 17:01
Workgroup: WG367610 File ID: 11M75192
Cal ID: HPMS11-

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	21.5	5924	PASS
75.0	95.0	30.0	60.0	53.9	14838	PASS
95.0	95.0	100	100	100	27520	PASS
96.0	95.0	5.00	9.00	7.93	2181	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	84.5	23252	PASS
175	174	5.00	9.00	7.57	1760	PASS
176	174	95.0	101	96.4	22424	PASS
177	176	5.00	9.00	6.05	1357	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG367610-02	STD	01	06/15/2011 17:59	
WG367610-03	STD	01	06/15/2011 18:30	
WG367610-04	STD	01	06/15/2011 19:01	
WG367610-05	STD-CCV	01	06/15/2011 19:31	
WG367610-06	STD	01	06/15/2011 20:02	
WG367610-07	STD	01	06/15/2011 20:33	
WG367610-08	STD	01	06/15/2011 21:04	
WG367610-09	STD	01	06/15/2011 21:34	
WG367610-10	SSCV	01	06/15/2011 22:36	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2247640
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L11110795 Tune ID: WG382261-01
Instrument: HPMS11 Run Date: 11/18/2011
Analyst: FJB Run Time: 13:03
Workgroup: WG382261 File ID: 11M79391
Cal ID: HPMS11-18-NOV-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.7	2656	PASS
75.0	95.0	30.0	60.0	46.6	6293	PASS
95.0	95.0	100	100	100	13516	PASS
96.0	95.0	5.00	9.00	6.13	829	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	80.9	10929	PASS
175	174	5.00	9.00	7.91	864	PASS
176	174	95.0	101	95.2	10405	PASS
177	176	5.00	9.00	7.28	757	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG382261-02	STD	01	11/18/2011 13:30	
WG382261-03	STD	01	11/18/2011 14:05	
WG382261-04	STD	01	11/18/2011 14:36	
WG382261-05	STD	01	11/18/2011 15:07	
WG382261-06	STD	01	11/18/2011 15:38	
WG382261-07	STD	01	11/18/2011 16:09	
WG382261-08	STD-CCV	01	11/18/2011 16:40	
WG382261-09	STD	01	11/18/2011 17:11	
WG382261-10	STD	01	11/18/2011 17:42	
WG382261-11	STD	01	11/18/2011 18:14	
WG382261-12	SSCV	01	11/18/2011 19:15	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2247640
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L11110795
Instrument: HPMS11
Analyst: MES/FJB
Workgroup: WG383369

Tune ID: WG383369-01
Run Date: 11/30/2011
Run Time: 11:24
File ID: 11M79667

Cal ID: HPMS11-18-NOV-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.8	2327	PASS
75.0	95.0	30.0	60.0	45.2	5062	PASS
95.0	95.0	100	100	100	11204	PASS
96.0	95.0	5.00	9.00	7.44	834	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	83.0	9304	PASS
175	174	5.00	9.00	7.18	668	PASS
176	174	95.0	101	99.4	9244	PASS
177	176	5.00	9.00	5.87	543	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG383369-02	CCV	01	11/30/2011 12:22	
WG383370-01	BLANK	01	11/30/2011 13:24	
WG383370-02	LCS	01	11/30/2011 13:55	
L11110795-13	40TB112011	01	11/30/2011 14:57	
L11110795-12	40EQR112011	01	11/30/2011 18:33	
L11110795-14	40MW6GW112011	01	11/30/2011 19:04	
L11110795-15	40EQRG112111	01	11/30/2011 19:35	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2247640
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L11110795 Tune ID: WG370751-01
Instrument: HPMS6 Run Date: 07/19/2011
Analyst: ADC Run Time: 16:20
Workgroup: WG370751 File ID: 6M100865
Cal ID: HPMS6-19-JUL-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	26.7	6015	PASS
75.0	95.0	30.0	60.0	49.3	11089	PASS
95.0	95.0	100	100	100	22489	PASS
96.0	95.0	5.00	9.00	7.30	1641	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	75.9	17079	PASS
175	174	5.00	9.00	7.70	1315	PASS
176	174	95.0	101	96.2	16433	PASS
177	176	5.00	9.00	5.85	961	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG370751-02	STD	01	07/19/2011 16:45	
WG370751-03	STD	01	07/19/2011 17:18	
WG370751-04	STD	01	07/19/2011 17:51	
WG370751-05	STD-CCV	01	07/19/2011 18:24	
WG370751-06	STD	01	07/19/2011 18:56	
WG370751-07	STD	01	07/19/2011 19:29	
WG370751-08	STD	01	07/19/2011 20:01	
WG370751-09	SSCV	01	07/19/2011 21:06	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2247640
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L11110795

Tune ID: WG383235-01

Instrument: HPMS6

Run Date: 11/29/2011

Analyst: MDA

Run Time: 13:44

Workgroup: WG383235

File ID: 6M104231

Cal ID: HPMS6 -

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	18.3	3176	PASS
75.0	95.0	30.0	60.0	44.3	7699	PASS
95.0	95.0	100	100	100	17382	PASS
96.0	95.0	5.00	9.00	6.62	1150	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	83.2	14467	PASS
175	174	5.00	9.00	7.91	1145	PASS
176	174	95.0	101	96.0	13893	PASS
177	176	5.00	9.00	6.92	961	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG383235-02	STD	01	11/29/2011 14:19	
WG383235-03	STD	01	11/29/2011 14:49	
WG383235-04	STD	01	11/29/2011 15:19	
WG383235-05	STD	01	11/29/2011 15:49	
WG383235-06	STD	01	11/29/2011 16:20	
WG383235-07	STD	01	11/29/2011 16:50	
WG383235-08	STD-CCV	01	11/29/2011 17:20	
WG383235-09	STD	01	11/29/2011 17:51	
WG383235-10	STD	01	11/29/2011 18:22	
WG383235-11	STD	01	11/29/2011 18:52	
WG383235-12	SSCV	01	11/29/2011 20:24	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2247640
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L11110795 Tune ID: WG383314-01
Instrument: HPMS6 Run Date: 11/30/2011
Analyst: ADC Run Time: 09:20
Workgroup: WG383314 File ID: 6M104247
Cal ID: HPMS6-29-NOV-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.9	5042	PASS
75.0	95.0	30.0	60.0	44.9	11396	PASS
95.0	95.0	100	100	100	25394	PASS
96.0	95.0	5.00	9.00	6.82	1732	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	84.4	21444	PASS
175	174	5.00	9.00	6.97	1495	PASS
176	174	95.0	101	95.3	20428	PASS
177	176	5.00	9.00	7.03	1436	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG383314-02	CCV	01	11/30/2011 09:45	
WG383320-01	BLANK	01	11/30/2011 10:47	
WG383320-02	LCS	01	11/30/2011 11:17	
L11110795-11	40112011FB	01	11/30/2011 15:12	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2247640
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L11110795 Tune ID: WG383459-01
Instrument: HPMS6 Run Date: 12/01/2011
Analyst: ADC Run Time: 09:31
Workgroup: WG383459 File ID: 6M104273
Cal ID: HPMS6-

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	18.9	4794	PASS
75.0	95.0	30.0	60.0	46.1	11674	PASS
95.0	95.0	100	100	100	25349	PASS
96.0	95.0	5.00	9.00	6.02	1525	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	84.9	21520	PASS
175	174	5.00	9.00	6.70	1442	PASS
176	174	95.0	101	98.2	21128	PASS
177	176	5.00	9.00	6.45	1362	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG383459-02	CCV	01	12/01/2011 09:57	
WG383461-01	BLANK	01	12/01/2011 10:57	
WG383461-02	LCS	01	12/01/2011 11:27	
L11110795-07	40MW5MSGW112011	01	12/01/2011 12:04	
L11110795-09	40MW5MSDGW112011	01	12/01/2011 12:34	
L11110795-01	40MW7GW112011	01	12/01/2011 16:15	
L11110795-05	40DUPGW112011	01	12/01/2011 16:48	
L11110795-03	40MW5GW112011	01	12/01/2011 17:19	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2247640
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L11110795 Tune ID: WG383574-01
Instrument: HPMS6 Run Date: 12/02/2011
Analyst: MES Run Time: 10:07
Workgroup: WG383574 File ID: 6M104303
Cal ID: HPMS6-29-NOV-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.8	2427	PASS
75.0	95.0	30.0	60.0	45.3	5538	PASS
95.0	95.0	100	100	100	12238	PASS
96.0	95.0	5.00	9.00	6.96	852	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	83.2	10179	PASS
175	174	5.00	9.00	7.91	805	PASS
176	174	95.0	101	96.1	9778	PASS
177	176	5.00	9.00	6.20	606	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG383574-02	CCV	01	12/02/2011 10:24	
WG383575-01	BLANK	01	12/02/2011 11:24	
WG383575-02	LCS	01	12/02/2011 11:57	
WG383575-03	LCS2	01	12/02/2011 12:29	
L11110795-16	40LFMW01GW112111	01	12/02/2011 18:26	
WG383575-04	BLANK2	01	12/02/2011 23:17	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2247640
Report generated 12/08/2011 13:10



Calibration Table Report
Method: A9WTR.M
Title: Appendix IX (SOP:OVL MSV01) Water 06/15/11 HPMS11
Last Calibration: Wed Jun 22 15:51:11 2011
Curve:WG367610
Calibration Files

	5	20	50	100	200	300	400	500		
	11M75194.D	11M75195.D	11M75196.D	11M75197.D	11M75198.D	11M75199.D	11M75200.D	11M75201.D		
Compound									Avg	%RSD
Fluorobenzene	ISTD									
Acetonitrile	0.021	0.022	0.020	0.023	0.023	0.022	0.022	0.022	0.022	3.702
3-Chloro-1-propene	0.363	0.381	0.398	0.432	0.444	0.465	0.476	0.481	0.430	10.384
2-Chloro-1,3-butadiene	0.393	0.421	0.444	0.471	0.486	0.513	0.522	0.529	0.472	10.458
Methacrylonitrile	0.110	0.116	0.122	0.126	0.125	0.126	0.129	0.128	0.123	5.434
Isobutyl Alcohol			0.010	0.010	0.011	0.010	0.011	0.011	0.011	5.149
1-Butanol			0.002	0.002	0.003	0.003	0.003	0.002	0.003	5.804
Cyclohexanone		0.023	0.026	0.030	0.032	0.031	0.032	0.031	0.029	11.698
2-Nitropropane	0.038	0.044	0.048	0.054	0.057	0.056	0.058	0.058	0.052	14.467
Ethyl Acetate	0.152	0.148	0.155	0.163	0.162	0.160	0.162	0.161	0.158	3.427
Methyl methacrylate	0.126	0.147	0.157	0.169	0.174	0.176	0.183	0.185	0.165	12.344
Chlorobenzene-d5	ISTD									
1,4-Dichlorobenzene-d4	ISTD									

Wed Jun 22 15:52:23 2011



T	Dimethyl Disulfide				0.189	0.202	0.229	0.242	0.242	0.265		0.22842	12.2628	
I	Chlorobenzene-d5	ISTD												
S	Toluene-d8		1.078	0.958	1.093	1.272	1.293	1.264	1.335			1.18475	11.9162	
C	Toluene	1.366	1.457	1.378	1.347	1.485	1.506	1.497	1.589			1.453	5.73085	
T	Ethyl Methacrylate		0.412	0.306	0.306	0.33	0.327	0.31	0.336			0.33258	11.197	
T	Paraldehyde			0.003	0.003	0.004	0.004	0.004			0.004	0.00367	18.1581	0.997
T	trans-1,3-Dichloropropene	0.348	0.399	0.408	0.428	0.47	0.484	0.466	0.506			0.43871	11.9081	
T	1,1,2-Trichloroethane	0.204	0.255	0.249	0.246	0.261	0.261	0.247	0.268			0.24882	7.90289	
T	2-Hexanone				0.149	0.154	0.153	0.135	0.148	0.137		0.14578	5.42517	
T	1,3-Dichloropropane	0.404	0.428	0.401	0.422	0.443	0.446	0.42	0.455			0.42738	4.51439	
T	Tetrachloroethene	0.221	0.309	0.267	0.28	0.319	0.317	0.318	0.338			0.29617	12.7825	
T	Dibromochloromethane	0.276	0.298	0.284	0.297	0.332	0.34	0.329	0.358			0.31421	9.36332	
T	1,2-Dibromoethane	0.201	0.232	0.243	0.232	0.252	0.255	0.238	0.262			0.23938	7.96906	
T	1-Chlorohexane	0.472	0.469	0.431	0.452	0.495	0.493	0.496	0.531			0.47994	6.42199	
P	Chlorobenzene	0.874	1.033	0.953	0.923	1.021	1.043	1.046	1.14			1.00425	8.33014	
T	1,1,1,2-Tetrachloroethane	0.276	0.314	0.311	0.321	0.363	0.377	0.377	0.416			0.34437	13.4171	
C	Ethylbenzene	0.435	0.547	0.501	0.493	0.556	0.57	0.58	0.64			0.54031	11.6378	
T	m-,p-Xylene	0.562	0.64	0.597	0.583	0.673	0.689	0.702	0.765			0.65138	10.5781	
T	o-Xylene	0.527	0.641	0.574	0.571	0.653	0.667	0.67	0.727			0.62884	10.4731	
T	Styrene	0.859	0.955	0.935	0.975	1.094	1.132	1.141	1.231			1.04024	12.2288	
P	Bromoform		0.159	0.163	0.164	0.198	0.206	0.199	0.218			0.18644	13.0113	
T	Isopropylbenzene	1.325	1.622	1.467	1.457	1.67	1.69	1.704	1.805			1.59245	10.0723	
I	1,4-Dichlorobenzene-d4	ISTD												
P	1,1,2,2-Tetrachloroethane	0.374	0.499	0.488	0.489	0.526	0.519	0.49	0.528			0.48908	10.106	
S	p-Bromofluorobenzene		0.819	0.742	0.798	0.905	0.912	0.914	0.934			0.86057	8.54566	
T	1,2,3-Trichloropropane		0.15	0.14	0.144	0.159	0.156	0.146	0.156			0.15019	4.78768	
T	trans-1,4-Dichloro-2-Butene		0.209	0.125	0.161	0.172	0.174	0.17	0.187			0.17103	14.9047	
T	n-Propylbenzene	3.077	3.691	3.318	3.314	3.613	3.649	3.761	3.817			3.53005	7.40882	
T	Bromobenzene	0.73	0.652	0.765	0.709	0.702	0.765	0.777	0.776	0.818		0.74368	6.73928	
T	1,3,5-Trimethylbenzene	2.086	2.531	2.284	2.301	2.563	2.577	2.677	2.771			2.47377	9.26846	
T	2-Chlorotoluene	1.989	2.231	2.077	2.084	2.228	2.23	2.283	2.342			2.18301	5.48873	
T	4-Chlorotoluene	2.064	2.122	2.029	1.956	2.136	2.168	2.25	2.343			2.13339	5.77292	
T	a-Methylstyrene		1.647	1.29	1.294	1.431	1.45	1.504	1.591			1.45816	9.34617	
T	tert-Butylbenzene	0.402	0.521	0.475	0.468	0.554	0.538	0.568	0.586			0.514	11.9307	
T	1,2,4-Trimethylbenzene	2.317	2.623	2.416	2.425	2.677	2.724	2.804	2.896			2.61034	7.86353	
T	sec-Butylbenzene	2.645	3.131	2.874	2.825	3.211	3.198	3.338	3.394			3.07695	8.64954	
T	p-Isopropyltoluene	2.087	2.639	2.425	2.428	2.777	2.774	2.893	2.958			2.62267	11.1333	
T	1,3-Dichlorobenzene	1.261	1.501	1.387	1.326	1.507	1.531	1.561	1.636			1.46379	8.67114	
T	1,4-Dichlorobenzene	1.568	1.357	1.545	1.427	1.363	1.512	1.551	1.56	1.645		1.50302	6.58598	
T	n-Butylbenzene	1.959	2.382	2.225	2.171	2.499	2.536	2.605	2.674			2.38137	10.2902	
T	1,2-Dichlorobenzene	1.215	1.211	1.387	1.29	1.271	1.394	1.416	1.39	1.488		1.34028	7.21535	
T	1,2-Dibromo-3-Chloropropane		0.074	0.08	0.076	0.095	0.094	0.092	0.1			0.08732	11.8959	
T	1,2,4-Trichlorobenzene	0.705	0.931	0.863	0.867	1.027	1.057	1.079	1.176			0.96324	15.6267	0.997
T	Hexachlorobutadiene	0.242	0.372	0.315	0.344	0.408	0.413	0.429	0.454			0.3719	18.7413	0.998
T	Naphthalene	1.461	1.479	1.53	1.544	1.76	1.836	1.864	2.014			1.68611	12.3901	
T	1,2,3-Trichlorobenzene	0.671	0.672	0.776	0.745	0.75	0.868	0.897	0.92	0.992		0.81011	14.0423	

Mon Nov 21 15:08:23 2011

Calibration Table Report
Method: A9FOOWTR.M
Title: A9-FOO Water - IC: 07/19/11 - HPMS6
Last Calibration: Wed Jul 20 08:18:43 2011
Curve: WG370751
Calibration Files

Compound									R ²	
	5	20	50	100	200	300	400		Linear	Quadratic
	6M100866.D	6M100867.D	6M100868.D	6M100869.D	6M100870.D	6M100871.D	6M100872.D	Avg	%RSD	
Fluorobenzene	ISTD									
Acetonitrile	0.027	0.031	0.033	0.032	0.032	0.033	0.033	0.032	7.021	
3-Chloro-1-propene	0.685	0.669	0.715	0.714	0.725	0.723	0.722	0.708	3.050	
2-Chloro-1,3-butadiene	0.566	0.598	0.640	0.646	0.656	0.657	0.660	0.632	5.710	
Ethyl Acetate	0.010	0.011	0.013	0.014	0.013	0.015	0.015	0.013	14.059	
Methacrylonitrile	0.065	0.068	0.074	0.074	0.075	0.076	0.078	0.073	6.572	
Isobutyl Alcohol		0.006	0.006	0.007	0.007	0.007	0.008	0.007	10.743	
1-Butanol			0.002	0.002	0.002	0.002	0.003	0.002	15.132	0.999
Methyl methacrylate	0.173	0.197	0.210	0.215	0.222	0.227	0.227	0.210	9.358	
2-Nitropropane	0.042	0.047	0.048	0.051	0.055	0.057	0.058	0.051	11.569	
Chlorobenzene-d5	ISTD									
1,4-Dichlorobenzene-d4	ISTD									
Cyclohexanone		0.080	0.082	0.084	0.087	0.087	0.086	0.084	3.770	

Thu Jul 21 09:41:58 2011



1,2,3-Trichloropropane		0.094	0.117	0.137	0.132	0.132	0.127	0.125	0.12344	11.8661	
trans-1,4-Dichloro-2-Butene		0.061	0.097	0.125	0.127	0.134	0.138	0.136	0.11694	23.9864	1
n-Propylbenzene	3.053	2.917	3.051	3.176	3.202	3.112	3.069	3.02	3.07498	2.93297	
Bromobenzene	0.8	0.741	0.654	0.728	0.734	0.745	0.731	0.736	0.737	0.734	5.02847
1,3,5-Trimethylbenzene	2.184	2.082	2.174	2.276	2.298	2.268	2.261	2.232	2.22184	3.21692	
2-Chlorotoluene	2.103	1.868	2.046	2.081	2.082	1.89	2.011	1.984	2.00809	4.43439	
4-Chlorotoluene	1.974	1.911	1.876	1.943	1.905	2	1.864	1.856	1.91611	2.72712	
a-Methylstyrene			1.085	1.178	1.266	1.31	1.307	1.292	1.23954	7.27275	
tert-Butylbenzene		0.452	0.459	0.48	0.47	0.456	0.449	0.459	0.46082	2.37564	
1,2,4-Trimethylbenzene	2.334	2.124	2.333	2.39	2.431	2.401	2.36	2.315	2.33608	4.03418	
sec-Butylbenzene	2.544	2.409	2.563	2.665	2.692	2.622	2.551	2.509	2.56939	3.51888	
p-Isopropyltoluene	2.174	1.997	2.103	2.191	2.238	2.222	2.186	2.174	2.16067	3.57623	
1,3-Dichlorobenzene	1.522	1.293	1.427	1.415	1.408	1.396	1.38	1.36	1.40009	4.63106	
1,4-Dichlorobenzene	1.39	1.401	1.377	1.451	1.447	1.43	1.411	1.378	1.40493	2.31317	
n-Butylbenzene		1.856	1.72	1.826	1.89	1.949	1.912	1.886	1.86426	3.68928	
1,2-Dichlorobenzene	1.306	1.22	1.159	1.26	1.272	1.252	1.248	1.221	1.23842	3.39828	
1,2-Dibromo-3-Chloropropane			0.038	0.056	0.057	0.062	0.06	0.063	0.05589	16.3559	1
1,2,4-Trichlorobenzene	0.828	0.73	0.821	0.82	0.823	0.814	0.815	0.824	0.80927	4.00239	
Hexachlorobutadiene	0.26	0.264	0.291	0.289	0.305	0.302	0.298	0.305	0.28934	6.13976	
Naphthalene		1.394	1.229	1.282	1.424	1.385	1.375	1.354	1.35198	4.76346	
1,2,3-Trichlorobenzene	0.631	0.769	0.667	0.632	0.697	0.682	0.68	0.673	0.67977	5.97233	

Thu Dec 01 10:05:05 2011



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L11110795	Run Date: 11/18/2011	Sample ID: WG382261-12
Instrument ID: HPMS11	Run Time: 19:15	Method: 8260B
File ID: 11M79403	Analyst: FJB	QC Key: DOD4
ICal Workgroup: WG382261	Cal ID: HPMS11 - 18-NOV-11	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	49.9	ug/L	0.444	0.300	25	
1,2-Dichloropropane	CCC	50.0	51.7	ug/L	0.298	3.30	25	
Chloroform	CCC	50.0	48.8	ug/L	0.486	2.30	25	
Ethylbenzene	CCC	50.0	53.6	ug/L	0.579	7.20	25	
Toluene	CCC	50.0	52.7	ug/L	1.53	5.40	25	
Vinyl Chloride	CCC	50.0	57.6	ug/L	0.434	15.1	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	51.5	ug/L	0.503	2.90	25	
1,1-Dichloroethane	SPCC	50.0	51.2	ug/L	0.535	2.50	25	
Bromoform	SPCC	50.0	51.7	ug/L	0.193	3.30	25	
Chlorobenzene	SPCC	50.0	51.6	ug/L	1.04	3.20	25	
Chloromethane	SPCC	50.0	52.0	ug/L	0.442	3.90	25	
1,1,1,2-Tetrachloroethane		50.0	55.5	ug/L	0.382	11.0	25	
1,1,1-Trichloroethane		50.0	53.6	ug/L	0.459	7.20	25	
1,1,2-Trichloroethane		50.0	50.2	ug/L	0.250	0.300	25	
1,1-Dichloropropene		50.0	55.0	ug/L	0.391	9.90	25	
1,2,3-Trichlorobenzene		50.0	55.5	ug/L	0.898	10.9	25	
1,2,3-Trichloropropane		50.0	50.5	ug/L	0.152	1.10	25	
1,2,4-Trichlorobenzene		50.0	45.5	ug/L	1.02	9.10	25	
1,2,4-Trimethylbenzene		50.0	52.9	ug/L	2.76	5.90	25	
1,2-Dibromo-3-Chloropropane		50.0	51.0	ug/L	0.0891	2.10	25	
1,2-Dibromoethane		50.0	53.8	ug/L	0.258	7.60	25	
1,2-Dichlorobenzene		50.0	51.5	ug/L	1.38	2.90	25	
1,2-Dichloroethane		50.0	50.7	ug/L	0.372	1.50	25	
1,3,5-Trimethylbenzene		50.0	54.6	ug/L	2.70	9.20	25	
1,3-Dichlorobenzene		50.0	51.9	ug/L	1.52	3.70	25	
1,3-Dichloropropane		50.0	52.0	ug/L	0.444	4.00	25	
1,4-Dichlorobenzene		50.0	51.5	ug/L	1.55	3.10	25	
2,2-Dichloropropane		50.0	51.0	ug/L	0.399	2.10	25	
2-Butanone		50.0	46.8	ug/L	0.0776	6.40	25	
2-Chloroethyl Vinyl Ether		50.0	56.4	ug/L	0.121	12.8	30	
2-Chlorotoluene		50.0	53.1	ug/L	2.32	6.10	25	
2-Hexanone		50.0	49.2	ug/L	0.143	1.70	25	
4-Chlorotoluene		50.0	50.4	ug/L	2.15	0.800	25	
4-Methyl-2-Pentanone		50.0	47.8	ug/L	0.0683	4.30	25	
Acetone		50.0	50.0	ug/L	0.0578	0.100	25	
Benzene		50.0	52.3	ug/L	1.09	4.60	25	
Bromobenzene		50.0	52.4	ug/L	0.780	4.90	25	
Bromochloromethane		50.0	48.1	ug/L	0.171	3.80	25	
Bromodichloromethane		50.0	51.7	ug/L	0.360	3.40	25	
Bromomethane		50.0	49.6	ug/L	0.170	0.900	25	
Carbon Disulfide		50.0	54.3	ug/L	0.845	8.70	25	
Carbon Tetrachloride		50.0	48.7	ug/L	0.424	2.50	25	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2242036
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L11110795</u>	Run Date: <u>11/18/2011</u>	Sample ID: <u>WG382261-12</u>
Instrument ID: <u>HPMS11</u>	Run Time: <u>19:15</u>	Method: <u>8260B</u>
File ID: <u>11M79403</u>	Analyst: <u>FJB</u>	QC Key: <u>DOD4</u>
ICal Workgroup: <u>WG382261</u>	Cal ID: <u>HPMS11 - 18-NOV-11</u>	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Dibromochloromethane	50.0	52.4	ug/L	0.330	4.90	25	
Chloroethane	50.0	51.8	ug/L	0.194	3.60	25	
cis-1,2-Dichloroethene	50.0	52.8	ug/L	0.307	5.60	25	
cis-1,3-Dichloropropene	50.0	52.2	ug/L	0.425	4.50	25	
Dibromomethane	50.0	51.6	ug/L	0.142	3.20	25	
Dichlorodifluoromethane	50.0	60.7	ug/L	0.383	21.5	25	
Hexachlorobutadiene	50.0	48.5	ug/L	0.424	3.10	25	
Isopropylbenzene	50.0	46.7	ug/L	1.49	6.50	25	
m-,p-Xylene	100	108	ug/L	0.701	7.60	25	
Methylene Chloride	50.0	45.5	ug/L	0.265	8.90	25	
n-Butylbenzene	50.0	53.8	ug/L	2.56	7.60	25	
n-Propylbenzene	50.0	51.9	ug/L	3.66	3.70	25	
Naphthalene	50.0	54.3	ug/L	1.83	8.60	25	
o-Xylene	50.0	53.3	ug/L	0.671	6.60	25	
p-Isopropyltoluene	50.0	51.4	ug/L	2.69	2.70	25	
sec-Butylbenzene	50.0	53.4	ug/L	3.28	6.70	25	
Styrene	50.0	54.9	ug/L	1.14	9.70	25	
tert-Butylbenzene	50.0	53.9	ug/L	0.554	7.80	25	
Tetrachloroethene	50.0	53.3	ug/L	0.316	6.50	25	
trans-1,2-Dichloroethene	50.0	51.2	ug/L	0.276	2.30	25	
trans-1,3-Dichloropropene	50.0	50.3	ug/L	0.441	0.600	25	
Trichloroethene	50.0	53.6	ug/L	0.313	7.10	25	
Trichlorofluoromethane	50.0	55.9	ug/L	0.463	11.8	25	
Vinyl Acetate	50.0	52.0	ug/L	0.326	3.90	40	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L11110795	Run Date: 11/29/2011	Sample ID: WG383235-12
Instrument ID: HPMS6	Run Time: 20:24	Method: 8260B
File ID: 6M104244	Analyst: MDA	QC Key: DOD4
ICal Workgroup: WG383235	Cal ID: HPMS6 - 29-NOV-11	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	48.1	ug/L	0.382	3.70	25	
1,2-Dichloropropane	CCC	50.0	51.2	ug/L	0.293	2.30	25	
Chloroform	CCC	50.0	48.4	ug/L	0.477	3.30	25	
Ethylbenzene	CCC	50.0	51.6	ug/L	0.487	3.20	25	
Toluene	CCC	50.0	50.7	ug/L	1.38	1.50	25	
Vinyl Chloride	CCC	50.0	50.9	ug/L	0.281	1.80	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	54.6	ug/L	0.469	9.30	25	
1,1-Dichloroethane	SPCC	50.0	48.8	ug/L	0.499	2.30	25	
Bromoform	SPCC	50.0	53.8	ug/L	0.181	7.60	25	
Chlorobenzene	SPCC	50.0	49.8	ug/L	0.918	0.400	25	
Chloromethane	SPCC	50.0	48.3	ug/L	0.378	3.30	25	
1,1,1,2-Tetrachloroethane		50.0	53.2	ug/L	0.343	6.40	25	
1,1,1-Trichloroethane		50.0	50.4	ug/L	0.396	0.900	25	
1,1,2-Trichloroethane		50.0	53.0	ug/L	0.240	6.00	25	
1,1-Dichloropropene		50.0	52.3	ug/L	0.364	4.60	25	
1,2,3-Trichlorobenzene		50.0	51.4	ug/L	0.699	2.80	25	
1,2,3-Trichloropropane		50.0	55.0	ug/L	0.136	9.90	25	
1,2,4-Trichlorobenzene		50.0	50.0	ug/L	0.809	0.100	25	
1,2,4-Trimethylbenzene		50.0	51.4	ug/L	2.40	2.80	25	
1,2-Dibromo-3-Chloropropane		50.0	50.5	ug/L	0.0618	1.00	25	
1,2-Dibromoethane		50.0	52.6	ug/L	0.214	5.20	25	
1,2-Dichlorobenzene		50.0	50.0	ug/L	1.24	0.100	25	
1,2-Dichloroethane		50.0	52.0	ug/L	0.319	3.90	25	
1,3,5-Trimethylbenzene		50.0	52.6	ug/L	2.34	5.20	25	
1,3-Dichlorobenzene		50.0	48.8	ug/L	1.37	2.30	25	
1,3-Dichloropropane		50.0	51.8	ug/L	0.405	3.60	25	
1,4-Dichlorobenzene		50.0	49.7	ug/L	1.40	0.500	25	
2,2-Dichloropropane		50.0	48.6	ug/L	0.342	2.80	25	
2-Butanone		50.0	51.6	ug/L	0.0707	3.20	25	
2-Chloroethyl Vinyl Ether		50.0	48.8	ug/L	0.112	2.40	30	
2-Chlorotoluene		50.0	51.1	ug/L	2.05	2.30	25	
2-Hexanone		50.0	53.5	ug/L	0.118	7.10	25	
4-Chlorotoluene		50.0	49.2	ug/L	1.88	1.60	25	
4-Methyl-2-Pentanone		50.0	53.3	ug/L	0.0585	6.70	25	
Acetone		50.0	57.8	ug/L	0.0450	15.5	25	
Benzene		50.0	49.8	ug/L	1.10	0.400	25	
Bromobenzene		50.0	51.4	ug/L	0.754	2.70	25	
Bromochloromethane		50.0	52.1	ug/L	0.172	4.30	25	
Bromodichloromethane		50.0	51.4	ug/L	0.351	2.90	25	
Bromomethane		50.0	52.9	ug/L	0.231	5.70	25	
Carbon Disulfide		50.0	50.6	ug/L	0.827	1.20	25	
Carbon Tetrachloride		50.0	49.5	ug/L	0.363	1.00	25	

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ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L11110795</u>	Run Date: <u>11/29/2011</u>	Sample ID: <u>WG383235-12</u>
Instrument ID: <u>HPMS6</u>	Run Time: <u>20:24</u>	Method: <u>8260B</u>
File ID: <u>6M104244</u>	Analyst: <u>MDA</u>	QC Key: <u>DOD4</u>
ICal Workgroup: <u>WG383235</u>	Cal ID: <u>HPMS6 - 29-NOV-11</u>	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Dibromochloromethane	50.0	53.7	ug/L	0.308	7.40	25	
Chloroethane	50.0	50.4	ug/L	0.213	0.900	25	
cis-1,2-Dichloroethene	50.0	53.0	ug/L	0.307	6.00	25	
cis-1,3-Dichloropropene	50.0	50.3	ug/L	0.390	0.600	25	
Dibromomethane	50.0	51.5	ug/L	0.132	2.90	25	
Dichlorodifluoromethane	50.0	62.4	ug/L	0.344	24.8	25	
Hexachlorobutadiene	50.0	50.6	ug/L	0.293	1.10	25	
Isopropylbenzene	50.0	43.8	ug/L	1.22	12.3	25	
m-,p-Xylene	100	101	ug/L	0.593	0.900	25	
Methylene Chloride	50.0	46.8	ug/L	0.280	6.50	25	
n-Butylbenzene	50.0	51.2	ug/L	1.91	2.40	25	
n-Propylbenzene	50.0	49.8	ug/L	3.06	0.500	25	
Naphthalene	50.0	52.9	ug/L	1.43	5.70	25	
o-Xylene	50.0	50.3	ug/L	0.578	0.500	25	
p-Isopropyltoluene	50.0	48.4	ug/L	2.09	3.30	25	
sec-Butylbenzene	50.0	50.7	ug/L	2.61	1.40	25	
Styrene	50.0	53.7	ug/L	0.987	7.40	25	
tert-Butylbenzene	50.0	48.8	ug/L	0.450	2.40	25	
Tetrachloroethene	50.0	46.8	ug/L	0.368	6.50	25	
trans-1,2-Dichloroethene	50.0	49.3	ug/L	0.269	1.30	25	
trans-1,3-Dichloropropene	50.0	49.0	ug/L	0.383	2.00	25	
Trichloroethene	50.0	51.8	ug/L	0.302	3.60	25	
Trichlorofluoromethane	50.0	51.2	ug/L	0.421	2.30	25	
Vinyl Acetate	50.0	50.9	ug/L	0.331	1.90	40	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383314-02
Instrument ID: HPMS6 Run Time: 09:45 Method: 8260B
File ID: 6M104248 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG383320 Cal ID: HPMS6 - 29-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	59.3	ug/L	0.470	18.5	20	
1,2-Dichloropropane	CCC	50.0	52.5	ug/L	0.300	4.99	20	
Chloroform	CCC	50.0	53.5	ug/L	0.528	7.09	20	
Ethylbenzene	CCC	50.0	54.9	ug/L	0.518	9.89	20	
Toluene	CCC	50.0	54.8	ug/L	1.49	9.57	20	
Vinyl Chloride	CCC	50.0	53.4	ug/L	0.294	6.71	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	49.8	ug/L	0.428	0.447	20	
1,1-Dichloroethane	SPCC	50.0	54.7	ug/L	0.559	9.48	20	
Bromoform	SPCC	50.0	50.4	ug/L	0.170	0.858	20	
Chlorobenzene	SPCC	50.0	52.8	ug/L	0.974	5.65	20	
Chloromethane	SPCC	50.0	52.8	ug/L	0.413	5.52	20	
1,1,1,2-Tetrachloroethane		50.0	53.4	ug/L	0.344	6.86	20	
1,1,1-Trichloroethane		50.0	57.1	ug/L	0.449	14.3	20	
1,1,2-Trichloroethane		50.0	49.5	ug/L	0.224	0.918	20	
1,1-Dichloropropene		50.0	58.5	ug/L	0.407	17.0	20	
1,2,3-Trichlorobenzene		50.0	49.5	ug/L	0.673	1.07	20	
1,2,3-Trichloropropane		50.0	47.3	ug/L	0.117	5.46	20	
1,2,4-Trichlorobenzene		50.0	52.1	ug/L	0.843	4.17	20	
1,2,4-Trimethylbenzene		50.0	55.9	ug/L	2.61	11.7	20	
1,2-Dibromo-3-Chloropropane		50.0	44.7	ug/L	0.0546	10.6	20	
1,2-Dibromoethane		50.0	47.4	ug/L	0.193	5.25	20	
1,2-Dichlorobenzene		50.0	50.8	ug/L	1.26	1.65	20	
1,2-Dichloroethane		50.0	49.8	ug/L	0.306	0.380	20	
1,3,5-Trimethylbenzene		50.0	56.5	ug/L	2.51	13.1	20	
1,3-Dichlorobenzene		50.0	53.1	ug/L	1.49	6.12	20	
1,3-Dichloropropane		50.0	47.9	ug/L	0.375	4.11	20	
1,4-Dichlorobenzene		50.0	52.3	ug/L	1.47	4.61	20	
2,2-Dichloropropane		50.0	61.0	ug/L	0.429	22.0	20	*
2-Butanone		50.0	41.0	ug/L	0.0562	18.0	20	
2-Chloroethyl Vinyl Ether		50.0	45.0	ug/L	0.103	10.0	40	
2-Chlorotoluene		50.0	51.2	ug/L	2.05	2.31	20	
2-Hexanone		50.0	47.0	ug/L	0.104	6.09	20	
4-Chlorotoluene		50.0	56.5	ug/L	2.17	13.1	20	
4-Methyl-2-Pentanone		50.0	46.4	ug/L	0.0509	7.27	20	
Acetone		50.0	47.5	ug/L	0.0370	4.99	20	
Benzene		50.0	52.7	ug/L	1.16	5.48	20	
Bromobenzene		50.0	51.8	ug/L	0.760	3.52	20	
Bromochloromethane		50.0	49.8	ug/L	0.164	0.408	20	
Bromodichloromethane		50.0	51.7	ug/L	0.353	3.42	20	
Bromomethane		50.0	56.0	ug/L	0.244	11.9	20	
Carbon Disulfide		50.0	58.0	ug/L	0.949	16.1	20	
Carbon Tetrachloride		50.0	56.5	ug/L	0.414	12.9	20	

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383314-02
Instrument ID: HPMS6 Run Time: 09:45 Method: 8260B
File ID: 6M104248 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG383320 Cal ID: HPMS6 - 29-NOV-11
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Dibromochloromethane	50.0	51.2	ug/L	0.294	2.38	20	
Chloroethane	50.0	54.4	ug/L	0.230	8.87	20	
cis-1,2-Dichloroethene	50.0	54.4	ug/L	0.316	8.83	20	
cis-1,3-Dichloropropene	50.0	51.5	ug/L	0.399	2.92	20	
Dibromomethane	50.0	48.5	ug/L	0.124	3.01	20	
Dichlorodifluoromethane	50.0	56.7	ug/L	0.313	13.4	20	
Hexachlorobutadiene	50.0	58.8	ug/L	0.340	17.6	20	
Isopropylbenzene	50.0	54.3	ug/L	1.51	8.66	20	
m-,p-Xylene	100	108	ug/L	0.636	8.12	20	
Methylene Chloride	50.0	48.9	ug/L	0.293	2.11	20	
n-Butylbenzene	50.0	58.3	ug/L	2.17	16.6	20	
n-Propylbenzene	50.0	56.1	ug/L	3.45	12.1	20	
Naphthalene	50.0	47.4	ug/L	1.28	5.18	20	
o-Xylene	50.0	53.2	ug/L	0.611	6.38	20	
p-Isopropyltoluene	50.0	57.3	ug/L	2.48	14.6	20	
sec-Butylbenzene	50.0	56.5	ug/L	2.90	13.0	20	
Styrene	50.0	55.6	ug/L	1.02	11.2	20	
tert-Butylbenzene	50.0	54.4	ug/L	0.501	8.77	20	
Tetrachloroethene	50.0	53.3	ug/L	0.418	6.52	20	
trans-1,2-Dichloroethene	50.0	56.1	ug/L	0.306	12.2	20	
trans-1,3-Dichloropropene	50.0	52.0	ug/L	0.407	3.98	20	
Trichloroethene	50.0	54.1	ug/L	0.315	8.28	20	
Trichlorofluoromethane	50.0	57.3	ug/L	0.472	14.6	20	
Vinyl Acetate	50.0	47.7	ug/L	0.310	4.50	40	
1,2-Dichloroethene	100	111	ug/L	0.311	10.5	40	
Xylenes	150	161	ug/L	0.623	7.54	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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Report generated 12/08/2011 13:10



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383369-02
 Instrument ID: HPMS11 Run Time: 12:22 Method: 8260B
 File ID: 11M79669 Analyst: MES/FJB QC Key: DOD4
 Workgroup (AAB#): WG383370 Cal ID: HPMS11 - 18-NOV-11
 Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	53.2	ug/L	0.473	6.32	20	
1,2-Dichloropropane	CCC	50.0	53.0	ug/L	0.305	5.91	20	
Chloroform	CCC	50.0	52.7	ug/L	0.524	5.39	20	
Ethylbenzene	CCC	50.0	50.4	ug/L	0.545	0.808	20	
Toluene	CCC	50.0	49.5	ug/L	1.44	1.01	20	
Vinyl Chloride	CCC	50.0	56.0	ug/L	0.422	11.9	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	50.6	ug/L	0.495	1.14	20	
1,1-Dichloroethane	SPCC	50.0	53.0	ug/L	0.553	6.02	20	
Bromoform	SPCC	50.0	57.4	ug/L	0.214	14.8	20	
Chlorobenzene	SPCC	50.0	50.5	ug/L	1.01	1.01	20	
Chloromethane	SPCC	50.0	46.3	ug/L	0.394	7.38	20	
1,1,1,2-Tetrachloroethane		50.0	54.3	ug/L	0.374	8.57	20	
1,1,1-Trichloroethane		50.0	55.5	ug/L	0.475	11.1	20	
1,1,2-Trichloroethane		50.0	50.7	ug/L	0.252	1.45	20	
1,1-Dichloropropene		50.0	55.5	ug/L	0.395	11.1	20	
1,2,3-Trichlorobenzene		50.0	54.0	ug/L	0.875	8.01	20	
1,2,3-Trichloropropane		50.0	48.5	ug/L	0.146	3.08	20	
1,2,4-Trichlorobenzene		50.0	45.9	ug/L	1.03	8.21	20	
1,2,4-Trimethylbenzene		50.0	48.8	ug/L	2.55	2.35	20	
1,2-Dibromo-3-Chloropropane		50.0	49.7	ug/L	0.0868	0.642	20	
1,2-Dibromoethane		50.0	51.5	ug/L	0.246	2.94	20	
1,2-Dichlorobenzene		50.0	50.1	ug/L	1.34	0.267	20	
1,2-Dichloroethane		50.0	52.4	ug/L	0.385	4.88	20	
1,3,5-Trimethylbenzene		50.0	48.6	ug/L	2.40	2.79	20	
1,3-Dichlorobenzene		50.0	49.6	ug/L	1.45	0.805	20	
1,3-Dichloropropane		50.0	50.0	ug/L	0.427	0.0316	20	
1,4-Dichlorobenzene		50.0	48.9	ug/L	1.47	2.12	20	
2,2-Dichloropropane		50.0	58.4	ug/L	0.457	16.8	20	
2-Butanone		50.0	42.9	ug/L	0.0712	14.2	20	
2-Chloroethyl Vinyl Ether		50.0	62.4	ug/L	0.133	24.7	40	
2-Chlorotoluene		50.0	46.5	ug/L	2.03	7.06	20	
2-Hexanone		50.0	45.1	ug/L	0.132	9.73	20	
4-Chlorotoluene		50.0	48.0	ug/L	2.05	4.08	20	
4-Methyl-2-Pentanone		50.0	52.1	ug/L	0.0745	4.30	20	
Acetone		50.0	46.7	ug/L	0.0540	6.65	20	
Benzene		50.0	52.4	ug/L	1.09	4.78	20	
Bromobenzene		50.0	48.7	ug/L	0.725	2.53	20	
Bromochloromethane		50.0	51.8	ug/L	0.185	3.57	20	
Bromodichloromethane		50.0	54.5	ug/L	0.379	8.97	20	
Bromomethane		50.0	55.8	ug/L	0.191	11.5	20	
Carbon Disulfide		50.0	53.1	ug/L	0.826	6.29	20	
Carbon Tetrachloride		50.0	52.0	ug/L	0.452	3.93	20	

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383369-02
Instrument ID: HPMS11 Run Time: 12:22 Method: 8260B
File ID: 11M79669 Analyst: MES/FJB QC Key: DOD4
Workgroup (AAB#): WG383370 Cal ID: HPMS11 - 18-NOV-11
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Dibromochloromethane	50.0	54.1	ug/L	0.340	8.13	20	
Chloroethane	50.0	56.3	ug/L	0.211	12.6	20	
cis-1,2-Dichloroethene	50.0	53.2	ug/L	0.309	6.33	20	
cis-1,3-Dichloropropene	50.0	55.1	ug/L	0.449	10.3	20	
Dibromomethane	50.0	55.6	ug/L	0.153	11.3	20	
Dichlorodifluoromethane	50.0	52.1	ug/L	0.328	4.13	20	
Hexachlorobutadiene	50.0	44.4	ug/L	0.388	11.2	20	
Isopropylbenzene	50.0	51.0	ug/L	1.63	2.09	20	
m-,p-Xylene	100	102	ug/L	0.667	2.35	20	
Methylene Chloride	50.0	48.6	ug/L	0.282	2.84	20	
n-Butylbenzene	50.0	50.1	ug/L	2.39	0.231	20	
n-Propylbenzene	50.0	47.7	ug/L	3.37	4.59	20	
Naphthalene	50.0	52.2	ug/L	1.76	4.40	20	
o-Xylene	50.0	50.6	ug/L	0.636	1.18	20	
p-Isopropyltoluene	50.0	50.2	ug/L	2.63	0.310	20	
sec-Butylbenzene	50.0	48.8	ug/L	3.00	2.41	20	
Styrene	50.0	52.1	ug/L	1.08	4.29	20	
tert-Butylbenzene	50.0	49.7	ug/L	0.511	0.598	20	
Tetrachloroethene	50.0	52.8	ug/L	0.313	5.56	20	
trans-1,2-Dichloroethene	50.0	54.4	ug/L	0.293	8.88	20	
trans-1,3-Dichloropropene	50.0	53.6	ug/L	0.471	7.28	20	
Trichloroethene	50.0	54.3	ug/L	0.317	8.51	20	
Trichlorofluoromethane	50.0	58.5	ug/L	0.485	17.1	20	
Vinyl Acetate	50.0	39.1	ug/L	0.245	21.9	40	
1,2-Dichloroethene	100	108	ug/L	0.301	7.61	40	
Xylenes	150	153	ug/L	0.651	1.96	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2242037
Report generated 12/08/2011 13:10



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383459-02
 Instrument ID: HPMS6 Run Time: 09:57 Method: 8260B
 File ID: 6M104274 Analyst: ADC QC Key: DOD4
 Workgroup (AAB#): WG383461 Cal ID: HPMS6 - 29-NOV-11
 Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	55.1	ug/L	0.437	10.2	20	
1,2-Dichloropropane	CCC	50.0	48.9	ug/L	0.280	2.23	20	
Chloroform	CCC	50.0	50.1	ug/L	0.494	0.235	20	
Ethylbenzene	CCC	50.0	55.2	ug/L	0.521	10.5	20	
Toluene	CCC	50.0	55.0	ug/L	1.50	10.1	20	
Vinyl Chloride	CCC	50.0	52.3	ug/L	0.288	4.52	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	50.4	ug/L	0.433	0.761	20	
1,1-Dichloroethane	SPCC	50.0	50.9	ug/L	0.520	1.79	20	
Bromoform	SPCC	50.0	51.3	ug/L	0.173	2.52	20	
Chlorobenzene	SPCC	50.0	53.5	ug/L	0.987	7.03	20	
Chloromethane	SPCC	50.0	55.3	ug/L	0.432	10.5	20	
1,1,1,2-Tetrachloroethane		50.0	54.3	ug/L	0.350	8.68	20	
1,1,1-Trichloroethane		50.0	52.8	ug/L	0.415	5.57	20	
1,1,2-Trichloroethane		50.0	50.1	ug/L	0.227	0.273	20	
1,1-Dichloropropene		50.0	53.7	ug/L	0.374	7.48	20	
1,2,3-Trichlorobenzene		50.0	49.6	ug/L	0.674	0.823	20	
1,2,3-Trichloropropane		50.0	49.3	ug/L	0.122	1.40	20	
1,2,4-Trichlorobenzene		50.0	52.5	ug/L	0.850	5.01	20	
1,2,4-Trimethylbenzene		50.0	56.9	ug/L	2.66	13.9	20	
1,2-Dibromo-3-Chloropropane		50.0	44.9	ug/L	0.0548	10.2	20	
1,2-Dibromoethane		50.0	48.6	ug/L	0.198	2.70	20	
1,2-Dichlorobenzene		50.0	52.2	ug/L	1.29	4.39	20	
1,2-Dichloroethane		50.0	47.3	ug/L	0.290	5.40	20	
1,3,5-Trimethylbenzene		50.0	57.3	ug/L	2.55	14.6	20	
1,3-Dichlorobenzene		50.0	53.8	ug/L	1.51	7.51	20	
1,3-Dichloropropane		50.0	49.1	ug/L	0.384	1.82	20	
1,4-Dichlorobenzene		50.0	53.8	ug/L	1.51	7.65	20	
2,2-Dichloropropane		50.0	56.3	ug/L	0.396	12.6	20	
2-Butanone		50.0	41.8	ug/L	0.0573	16.4	20	
2-Chloroethyl Vinyl Ether		50.0	41.7	ug/L	0.0953	16.7	40	
2-Chlorotoluene		50.0	53.2	ug/L	2.14	6.44	20	
2-Hexanone		50.0	46.6	ug/L	0.103	6.79	20	
4-Chlorotoluene		50.0	56.7	ug/L	2.17	13.4	20	
4-Methyl-2-Pentanone		50.0	41.6	ug/L	0.0456	16.8	20	
Acetone		50.0	46.2	ug/L	0.0360	7.59	20	
Benzene		50.0	48.6	ug/L	1.07	2.87	20	
Bromobenzene		50.0	52.9	ug/L	0.777	5.87	20	
Bromochloromethane		50.0	46.9	ug/L	0.155	6.16	20	
Bromodichloromethane		50.0	48.6	ug/L	0.332	2.78	20	
Bromomethane		50.0	52.2	ug/L	0.228	4.41	20	
Carbon Disulfide		50.0	53.2	ug/L	0.870	6.43	20	
Carbon Tetrachloride		50.0	52.8	ug/L	0.387	5.57	20	

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PDF File ID: 2242037

Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383459-02
Instrument ID: HPMS6 Run Time: 09:57 Method: 8260B
File ID: 6M104274 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG383461 Cal ID: HPMS6 - 29-NOV-11
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Dibromochloromethane	50.0	52.2	ug/L	0.300	4.43	20	
Chloroethane	50.0	51.2	ug/L	0.216	2.32	20	
cis-1,2-Dichloroethene	50.0	50.0	ug/L	0.290	0.0780	20	
cis-1,3-Dichloropropene	50.0	48.8	ug/L	0.379	2.32	20	
Dibromomethane	50.0	45.1	ug/L	0.115	9.89	20	
Dichlorodifluoromethane	50.0	51.5	ug/L	0.284	3.08	20	
Hexachlorobutadiene	50.0	60.5	ug/L	0.350	21.0	20	*
Isopropylbenzene	50.0	55.1	ug/L	1.53	10.3	20	
m-,p-Xylene	100	109	ug/L	0.643	9.46	20	
Methylene Chloride	50.0	45.9	ug/L	0.275	8.26	20	
n-Butylbenzene	50.0	58.9	ug/L	2.20	17.8	20	
n-Propylbenzene	50.0	57.3	ug/L	3.53	14.7	20	
Naphthalene	50.0	47.3	ug/L	1.28	5.41	20	
o-Xylene	50.0	54.0	ug/L	0.621	8.08	20	
p-Isopropyltoluene	50.0	58.8	ug/L	2.54	17.7	20	
sec-Butylbenzene	50.0	57.6	ug/L	2.96	15.1	20	
Styrene	50.0	56.0	ug/L	1.03	11.9	20	
tert-Butylbenzene	50.0	55.2	ug/L	0.509	10.5	20	
Tetrachloroethene	50.0	53.3	ug/L	0.419	6.69	20	
trans-1,2-Dichloroethene	50.0	52.2	ug/L	0.285	4.49	20	
trans-1,3-Dichloropropene	50.0	53.3	ug/L	0.417	6.65	20	
Trichloroethene	50.0	51.0	ug/L	0.297	1.99	20	
Trichlorofluoromethane	50.0	54.0	ug/L	0.445	8.09	20	
Vinyl Acetate	50.0	42.3	ug/L	0.275	15.4	40	
1,2-Dichloroethene	100	102	ug/L	0.287	2.21	40	
Xylenes	150	164	ug/L	0.632	9.00	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2242037
Report generated 12/08/2011 13:10



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/02/2011 Sample ID: WG383574-02
 Instrument ID: HPMS6 Run Time: 10:24 Method: 8260B
 File ID: 6M104304 Analyst: MES QC Key: DOD4
 Workgroup (AAB#): WG383575 Cal ID: HPMS6 - 29-NOV-11
 Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	55.6	ug/L	0.441	11.2	20	
1,2-Dichloropropane	CCC	50.0	50.2	ug/L	0.287	0.365	20	
Chloroform	CCC	50.0	50.3	ug/L	0.496	0.667	20	
Ethylbenzene	CCC	50.0	56.7	ug/L	0.534	13.4	20	
Toluene	CCC	50.0	56.2	ug/L	1.53	12.4	20	
Vinyl Chloride	CCC	50.0	54.1	ug/L	0.299	8.19	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	57.8	ug/L	0.496	15.6	20	
1,1-Dichloroethane	SPCC	50.0	51.4	ug/L	0.525	2.86	20	
Bromoform	SPCC	50.0	56.2	ug/L	0.189	12.4	20	
Chlorobenzene	SPCC	50.0	54.7	ug/L	1.01	9.40	20	
Chloromethane	SPCC	50.0	58.0	ug/L	0.453	16.0	20	
1,1,1,2-Tetrachloroethane		50.0	56.6	ug/L	0.365	13.2	20	
1,1,1-Trichloroethane		50.0	53.0	ug/L	0.417	6.03	20	
1,1,2-Trichloroethane		50.0	54.6	ug/L	0.247	9.13	20	
1,1-Dichloropropene		50.0	54.6	ug/L	0.380	9.12	20	
1,2,3-Trichlorobenzene		50.0	54.1	ug/L	0.736	8.28	20	
1,2,3-Trichloropropane		50.0	55.7	ug/L	0.138	11.4	20	
1,2,4-Trichlorobenzene		50.0	56.2	ug/L	0.910	12.5	20	
1,2,4-Trimethylbenzene		50.0	58.9	ug/L	2.75	17.9	20	
1,2-Dibromo-3-Chloropropane		50.0	52.5	ug/L	0.0643	5.06	20	
1,2-Dibromoethane		50.0	49.9	ug/L	0.203	0.118	20	
1,2-Dichlorobenzene		50.0	55.4	ug/L	1.37	10.8	20	
1,2-Dichloroethane		50.0	49.9	ug/L	0.307	0.112	20	
1,3,5-Trimethylbenzene		50.0	59.4	ug/L	2.64	18.9	20	
1,3-Dichlorobenzene		50.0	56.2	ug/L	1.57	12.4	20	
1,3-Dichloropropane		50.0	52.2	ug/L	0.408	4.36	20	
1,4-Dichlorobenzene		50.0	55.9	ug/L	1.57	11.9	20	
2,2-Dichloropropane		50.0	53.9	ug/L	0.379	7.74	20	
2-Butanone		50.0	49.3	ug/L	0.0676	1.35	20	
2-Chloroethyl Vinyl Ether		50.0	41.4	ug/L	0.0948	17.1	40	
2-Chlorotoluene		50.0	57.7	ug/L	2.32	15.4	20	
2-Hexanone		50.0	58.8	ug/L	0.130	17.6	20	
4-Chlorotoluene		50.0	57.1	ug/L	2.19	14.1	20	
4-Methyl-2-Pentanone		50.0	50.0	ug/L	0.0548	0.0954	20	
Acetone		50.0	55.1	ug/L	0.0429	10.2	20	
Benzene		50.0	48.7	ug/L	1.08	2.61	20	
Bromobenzene		50.0	55.5	ug/L	0.814	11.0	20	
Bromochloromethane		50.0	48.8	ug/L	0.161	2.31	20	
Bromodichloromethane		50.0	50.2	ug/L	0.343	0.493	20	
Bromomethane		50.0	51.2	ug/L	0.223	2.42	20	
Carbon Disulfide		50.0	52.5	ug/L	0.859	5.05	20	
Carbon Tetrachloride		50.0	53.7	ug/L	0.393	7.37	20	

CCV - Modified 03/05/2008

PDF File ID: 2242037

Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/02/2011 Sample ID: WG383574-02
Instrument ID: HPMS6 Run Time: 10:24 Method: 8260B
File ID: 6M104304 Analyst: MES QC Key: DOD4
Workgroup (AAB#): WG383575 Cal ID: HPMS6 - 29-NOV-11
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Dibromochloromethane	50.0	55.4	ug/L	0.318	10.9	20	
Chloroethane	50.0	53.2	ug/L	0.225	6.32	20	
cis-1,2-Dichloroethene	50.0	50.3	ug/L	0.292	0.546	20	
cis-1,3-Dichloropropene	50.0	49.7	ug/L	0.386	0.513	20	
Dibromomethane	50.0	48.7	ug/L	0.125	2.59	20	
Dichlorodifluoromethane	50.0	53.9	ug/L	0.297	7.80	20	
Hexachlorobutadiene	50.0	61.6	ug/L	0.357	23.2	20	*
Isopropylbenzene	50.0	56.2	ug/L	1.56	12.5	20	
m-,p-Xylene	100	112	ug/L	0.655	11.5	20	
Methylene Chloride	50.0	46.2	ug/L	0.277	7.65	20	
n-Butylbenzene	50.0	61.3	ug/L	2.29	22.7	20	*
n-Propylbenzene	50.0	59.0	ug/L	3.63	18.0	20	
Naphthalene	50.0	53.9	ug/L	1.46	7.74	20	
o-Xylene	50.0	55.0	ug/L	0.632	9.92	20	
p-Isopropyltoluene	50.0	59.9	ug/L	2.59	19.8	20	
sec-Butylbenzene	50.0	59.1	ug/L	3.04	18.2	20	
Styrene	50.0	57.7	ug/L	1.06	15.4	20	
tert-Butylbenzene	50.0	56.9	ug/L	0.524	13.8	20	
Tetrachloroethene	50.0	53.8	ug/L	0.423	7.57	20	
trans-1,2-Dichloroethene	50.0	51.8	ug/L	0.283	3.61	20	
trans-1,3-Dichloropropene	50.0	56.7	ug/L	0.443	13.3	20	
Trichloroethene	50.0	50.5	ug/L	0.294	0.902	20	
Trichlorofluoromethane	50.0	54.0	ug/L	0.445	8.03	20	
Vinyl Acetate	50.0	47.5	ug/L	0.309	4.92	40	
1,2-Dichloroethene	100	102	ug/L	0.287	2.08	40	
Xylenes	150	166	ug/L	0.644	11.0	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2242037
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS6
Workgroup (AAB#): WG383320

ICAL CCV Number: WG383235-08
CAL ID: HPMS6 - 29-NOV-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG383235-08	NA	NA	273097	533263	687137
Upper Limit	NA	NA	546194	1066526	1374274
Lower Limit	NA	NA	136549	266632	343569
<u>L11110795-11</u>	<u>1.00</u>	<u>01</u>	<u>252245</u>	<u>495500</u>	<u>676975</u>
WG383320-01	1.00	01	260771	521601	710909
WG383320-02	1.00	01	265615	516291	717919

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2242038
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS11
Workgroup (AAB#): WG383370

ICAL CCV Number: WG382261-08
CAL ID: HPMS11-18-NOV-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG382261-08	NA	NA	220574	398618	515169
Upper Limit	NA	NA	441148	797236	1030338
Lower Limit	NA	NA	110287	199309	257585
L11110795-12	1.00	01	242083	454733	567220
L11110795-13	1.00	01	242093	456730	572184
L11110795-14	1.00	01	234670	446208	549888
L11110795-15	1.00	01	231688	443170	549968
WG383370-01	1.00	01	251671	470197	584574
WG383370-02	1.00	01	267175	470738	577738

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2242038
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS6
Workgroup (AAB#): WG383461

ICAL CCV Number: WG383235-08
CAL ID: HPMS6 - 29-NOV-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG383235-08	NA	NA	273097	533263	687137
Upper Limit	NA	NA	546194	1066526	1374274
Lower Limit	NA	NA	136549	266632	343569
<u>L11110795-01</u>	<u>1.00</u>	<u>01</u>	<u>237252</u>	<u>458190</u>	<u>625399</u>
L11110795-03	1.00	01	235350	466888	635782
L11110795-05	1.00	01	234318	457816	622675
L11110795-07	1.00	01	252713	500739	696083
L11110795-09	1.00	01	251269	498689	692074
WG383461-01	1.00	01	247508	497480	678670
WG383461-02	1.00	01	254287	496416	693597

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2242038
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS6
Workgroup (AAB#): WG383575

ICAL CCV Number: WG383235-08
CAL ID: HPMS6 - 29-NOV-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG383235-08	NA	NA	273097	533263	687137
Upper Limit	NA	NA	546194	1066526	1374274
Lower Limit	NA	NA	136549	266632	343569
L11110795-16	1.00	01	234593	470425	690964
WG383575-01	1.00	01	244213	500628	726113
WG383575-02	1.00	01	249461	498218	746579
WG383575-03	1.00	01	251216	498017	736428

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2242038
Report generated 12/08/2011 13:10



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS11
Workgroup (AAB#): WG383370

ICAL CCV Number: WG382261-08
CAL ID: HPMS11-18-NOV-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG382261-08	NA	NA	16.83	14.02	10.39
Upper Limit	NA	NA	17.33	14.52	10.89
Lower Limit	NA	NA	16.33	13.52	9.89
L11110795-12	1.00	01	16.83	14.02	10.39
L11110795-13	1.00	01	16.83	14.02	10.39
L11110795-14	1.00	01	16.83	14.02	10.39
L11110795-15	1.00	01	16.83	14.02	10.39
WG383370-01	1.00	01	16.83	14.02	10.39
WG383370-02	1.00	01	16.83	14.02	10.39

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS6
Workgroup (AAB#): WG383320

ICAL CCV Number: WG383235-08
CAL ID: HPMS6 - 29-NOV-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG383235-08	NA	NA	18.63	15.07	10.58
Upper Limit	NA	NA	19.13	15.57	11.08
Lower Limit	NA	NA	18.13	14.57	10.08
L11110795-11	1.00	01	18.63	15.07	10.58
WG383320-01	1.00	01	18.63	15.07	10.58
WG383320-02	1.00	01	18.63	15.07	10.58

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 2247641
Report generated: 12/08/2011 13:10



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS6
Workgroup (AAB#): WG383461

ICAL CCV Number: WG383235-08
CAL ID: HPMS6 - 29-NOV-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG383235-08	NA	NA	18.63	15.07	10.58
Upper Limit	NA	NA	19.13	15.57	11.08
Lower Limit	NA	NA	18.13	14.57	10.08
L11110795-01	1.00	01	18.63	15.07	10.58
L11110795-03	1.00	01	18.63	15.07	10.58
L11110795-05	1.00	01	18.63	15.07	10.58
L11110795-07	1.00	01	18.63	15.07	10.58
L11110795-09	1.00	01	18.63	15.07	10.58
WG383461-01	1.00	01	18.63	15.07	10.57
WG383461-02	1.00	01	18.63	15.07	10.57

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS6
Workgroup (AAB#): WG383575

ICAL CCV Number: WG383235-08
CAL ID: HPMS6 - 29-NOV-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG383235-08	NA	NA	18.63	15.07	10.58
Upper Limit	NA	NA	19.13	15.57	11.08
Lower Limit	NA	NA	18.13	14.57	10.08
L11110795-16	1.00	01	18.64	15.07	10.57
WG383575-01	1.00	01	18.64	15.07	10.57
WG383575-02	1.00	01	18.64	15.07	10.57
WG383575-03	1.00	01	18.64	15.07	10.57

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 2247641
Report generated: 12/08/2011 13:10





Login Number: L11110795
Department: Semivolatiles
Analyst: Cassie A. Augenstein

METHOD

Preparation 3510C

Analysis SW-846 8270C/40 CFR 264 App. IX

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analytes: 2,4-Dinitrophenol. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: Benzoic Acid. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: Analytes were detected above the applicable reporting limit for the following analytes: bis(2-Ethylhexyl)phthalate. Please see the applicable QC report for a detailed presentation of the failures.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: 2,4,5-Trichlorophenol, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Chrysene, Dibenzofuran, Fluoranthene, Fluorene, Hexachlorobenzene, Naphthalene, Pentachlorophenol, Phenanthrene. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: Recoveries out of range were observed for the following surrogates: 2-Fluorobiphenyl, 2,4,6-Tribromophenol, p-Terphenyl-d14. Please see the applicable QC report for a detailed presentation of the failures.

Samples 01, 03REF, 05, 07MS, 09MSD and 11 were not re-extracted due to insufficient sample volume.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 39715

Approved By: Mike Cochran



Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG382865
Analyst: RAH
Spike Analyst: RAH
Method: 3510C
Run Date: 11/23/2011 14:00
SOP: EXB08 Revision 12
Spike Witness: CPD
Surr Solution: STD47464

Methylene Chloride Lot #: COA15754
Sodium Sulfate, Anhydrous, Granular (Lot #: COA15761
Fortified Solution Lot #: RGT16743
1:1 H2SO4 Lot #: RGT16739
10N NaOH Lot #: RGT16742

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L11110770-01	RS01		<2>12	827-SPE	980 mL	.5 mL			1 mL	Colored
2	L11110770-02	MS01	L11110770-01	<2>12	827-SPE	980 mL	.5 mL	.5 mL	STD48246	1 mL	Colored
3	L11110770-03	SD01	L11110770-01	<2>12	827-SPE	980 mL	.5 mL	.5 mL	STD48246	1 mL	Colored
4	L11110777-01	SAMP		<2>12	625AB	950 mL	.5 mL			1 mL	Colored
5	L11110777-02	SAMP		<2>12	625AB	1000 mL	.5 mL			1 mL	Colored
6	L11110777-03	SAMP		<2>12	625AB	900 mL	.5 mL			1 mL	Colored
7	L11110787-01	SAMP		<2>12	827-SPE	1000 mL	.5 mL			1 mL	Colored
8	L11110787-03	SAMP		<2>12	827-SPE	940 mL	.5 mL			1 mL	Colored
9	L11110787-04	SAMP		<2>12	827-SPE	1000 mL	.5 mL			1 mL	Colored
10	L11110787-05	SAMP		<2>12	827-SPE	900 mL	.5 mL			1 mL	Colored
11	L11110787-07	SAMP		<2>12	827-SPE	980 mL	.5 mL			1 mL	Colored
12	L11110787-08	SAMP		<2>12	827-SPE	930 mL	.5 mL			1 mL	Colored
13	L11110787-10	SAMP		<2>12	827-SPE	960 mL	.5 mL			1 mL	Colored
14	L11110787-12	SAMP		<2>12	827-SPE	950 mL	.5 mL			1 mL	Colored
15	L11110795-01	SAMP		<2>12	827-SPE	940 mL	.5 mL			1 mL	Transparent
16	L11110795-03	RS01		<2>12	827-SPE	1000 mL	.5 mL			1 mL	Transparent
17	L11110795-05	SAMP		<2>12	827-SPE	840 mL	.5 mL			1 mL	Transparent
18	L11110795-07	MS01	L11110795-03	<2>12	827-SPE	860 mL	.5 mL	.5 mL	STD48246	1 mL	Colored
19	L11110795-09	SD01	L11110795-03	<2>12	827-SPE	930 mL	.5 mL	.5 mL	STD48246	1 mL	Colored
20	L11110795-11	SAMP		<2>12	827-SPE	1000 mL	.5 mL			1 mL	Transparent
21	L11110795-12	SAMP		<2>12	827-SPE	830 mL	.5 mL			1 mL	Transparent
22	L11110795-14	SAMP		<2>12	827-SPE	920 mL	.5 mL			1 mL	Transparent
23	L11110795-15	SAMP		<2>12	827-SPE	910 mL	.5 mL			1 mL	Transparent
24	L11110795-16	SAMP		<2>12	827-SPE	930 mL	.5 mL			1 mL	Transparent
25	WG382865-01	REF	L11110770-01	<2>12	827-SPE	980 mL	.5 mL			1 mL	Colored
26	WG382865-02	REF	L11110795-03	<2>12	827-SPE	1000 mL	.5 mL			1 mL	Transparent
27	WG382865-03	BLANK		<2>12	827-SPE	1000 mL	.5 mL			1 mL	Transparent
28	WG382865-04	LCS		<2>12	827-SPE	1000 mL	.5 mL	.5 mL	STD48246	1 mL	Colored
29	WG382865-05	MS	L11110770-01	<2>12	827-SPE	980 mL	.5 mL	.5 mL	STD48246	1 mL	Colored
30	WG382865-06	MSD	L11110770-01	<2>12	827-SPE	980 mL	.5 mL	.5 mL	STD48246	1 mL	Colored
31	WG382865-07	MS	L11110795-03	<2>12	827-SPE	860 mL	.5 mL	.5 mL	STD48246	1 mL	Colored
32	WG382865-08	MSD	L11110795-03	<2>12	827-SPE	930 mL	.5 mL	.5 mL	STD48246	1 mL	Colored

Analyst: RAH

Reviewer: Cheryl A. Flowers



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L11110795
Instrument Id: HPMS4
Workgroup (AAB#): WG384176

Method: 8270
CAL ID: HPMS4 - 02-DEC-11
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4	5	6
L11110795-01	1.00	01	104	<u>49.1</u>	26.6	44.7	83.1	17.0
L11110795-03	1.00	01	116	85.7	51.3	81.5	125	30.2
L11110795-05	1.00	01	<u>127</u>	94.4	62.6	88.4	121	38.1
L11110795-07	1.00	01	<u>131</u>	105	56.6	91.0	108	35.1
L11110795-09	1.00	01	122	96.6	56.0	83.4	107	34.3
L11110795-11	1.00	01	124	108	66.6	101	<u>140</u>	38.2
L11110795-12	1.00	01	117	87.0	59.7	82.1	129	35.5
L11110795-14	1.00	01	119	101	63.6	95.4	128	37.2
L11110795-15	1.00	01	111	88.9	56.2	83.9	129	32.7
L11110795-16	1.00	01	118	88.0	55.1	83.3	94.6	33.1
WG382865-03	1.00	02	98.3	79.3	46.3	75.4	118	28.1
WG382865-04	1.00	02	110	87.2	44.1	75.2	112	27.8

Surrogates	Surrogate Limits		
1 - 2,4,6-Tribromophenol	40	-	125
2 - 2-Fluorobiphenyl	50	-	110
3 - 2-Fluorophenol	20	-	110
4 - Nitrobenzene-d5	40	-	110
5 - p-Terphenyl-d14	50	-	135
6 - Phenol-d5	10	-	115

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2248519
Report generated: 12/12/2011 10:33



METHOD BLANK SUMMARY

Login Number: <u>L11110795</u>	Work Group: <u>WG384176</u>
Blank File ID: <u>4M59015</u>	Blank Sample ID: <u>WG382865-03</u>
Prep Date: <u>11/23/11 14:00</u>	Instrument ID: <u>HPMS4</u>
Analyzed Date: <u>12/07/11 10:42</u>	Method: <u>8270C</u>
Analyst: <u>CAA</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG382865-04	4M59016	12/07/11 11:14	02
40LFMW01GW112111	L11110795-16	4M59043	12/08/11 12:52	01
40MW7GW112011	L11110795-01	4M59044	12/08/11 13:25	01
40MW5GW112011	L11110795-03	4M59045	12/08/11 13:57	01
40DUPGW112011	L11110795-05	4M59046	12/08/11 14:30	01
40MW5MSGW112011	L11110795-07	4M59047	12/08/11 15:02	01
40MW5MSDGW112011	L11110795-09	4M59048	12/08/11 15:35	01
40112011FB	L11110795-11	4M59049	12/08/11 16:07	01
40EQR112011	L11110795-12	4M59050	12/08/11 16:39	01
40MW6GW112011	L11110795-14	4M59051	12/08/11 17:11	01
40EQRG112111	L11110795-15	4M59052	12/08/11 17:43	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2248507
 Report generated 12/12/2011 10:32



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/23/11 14:00 Sample ID: WG382865-03
 Instrument ID: HPMS4 Run Date: 12/07/11 10:42 Prep Method: 3510C
 File ID: 4M59015 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG384176 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS4 - 02-DEC-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
1,2,4-Trichlorobenzene	2.50	5.00	2.50	1	U
1,2-Dichlorobenzene	2.50	5.00	2.50	1	U
1,3-Dichlorobenzene	2.50	5.00	2.50	1	U
1,4-Dichlorobenzene	2.50	5.00	2.50	1	U
2,4,5-Trichlorophenol	2.50	5.00	2.50	1	U
2,4,6-Trichlorophenol	2.50	5.00	2.50	1	U
2,4-Dichlorophenol	2.50	5.00	2.50	1	U
2,4-Dimethylphenol	2.50	5.00	2.50	1	U
2,4-Dinitrophenol	12.5	25.0	12.5	1	U
2,4-Dinitrotoluene	2.50	5.00	2.50	1	U
2,6-Dinitrotoluene	2.50	5.00	2.50	1	U
2-Chloronaphthalene	2.50	5.00	2.50	1	U
2-Chlorophenol	2.50	5.00	2.50	1	U
2-Methylnaphthalene	2.50	5.00	2.50	1	U
2-Methylphenol	2.50	5.00	2.50	1	U
2-Nitroaniline	12.5	25.0	12.5	1	U
2-Nitrophenol	2.50	5.00	2.50	1	U
3,3'-Dichlorobenzidine	2.50	10.0	2.50	1	U
3-,4-Methylphenol	2.50	5.00	2.50	1	U
3-Nitroaniline	12.5	25.0	12.5	1	U
4,6-Dinitro-2-methylphenol	12.5	25.0	12.5	1	U
4-Bromophenyl-phenylether	2.50	5.00	2.50	1	U
4-Chloro-3-methylphenol	2.50	5.00	2.50	1	U
4-Chloroaniline	2.50	5.00	2.50	1	U
4-Chlorophenyl-phenyl ether	2.50	5.00	2.50	1	U
4-Nitroaniline	12.5	25.0	12.5	1	U
4-Nitrophenol	12.5	25.0	12.5	1	U
Acenaphthene	2.50	5.00	2.50	1	U
Acenaphthylene	2.50	5.00	2.50	1	U
Anthracene	2.50	5.00	2.50	1	U
Benzo(a)anthracene	2.50	5.00	2.50	1	U
Benzo(a)pyrene	2.50	5.00	2.50	1	U
Benzo(b)fluoranthene	2.50	5.00	2.50	1	U
Benzo(g,h,i)Perylene	2.50	5.00	2.50	1	U
Benzo(k)fluoranthene	2.50	5.00	2.50	1	U
Benzoic acid	12.5	25.0	12.5	1	U
Benzyl alcohol	2.50	5.00	2.50	1	U
Bis(2-Chloroethoxy)Methane	2.50	5.00	2.50	1	U
Bis(2-Chloroethyl)ether	2.50	5.00	2.50	1	U
bis(2-Chloroisopropyl)ether	2.50	5.00	2.50	1	U
bis(2-Ethylhexyl)phthalate	3.00	10.0	42.9	1	*
Butylbenzylphthalate	2.50	5.00	2.50	1	U

Report Name: BLANK

PDF ID: 2248508

12-DEC-2011 10:32



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/23/11 14:00 Sample ID: WG382865-03
 Instrument ID: HPMS4 Run Date: 12/07/11 10:42 Prep Method: 3510C
 File ID: 4M59015 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG384176 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS4 - 02-DEC-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Chrysene	2.50	5.00	2.50	1	U
Di-N-Butylphthalate	2.50	5.00	2.50	1	U
Di-n-octylphthalate	2.50	5.00	2.50	1	U
Dibenzo (a, h) Anthracene	2.50	5.00	2.50	1	U
Dibenzofuran	2.50	5.00	2.50	1	U
Diethylphthalate	2.50	5.00	2.50	1	U
Dimethylphthalate	2.50	5.00	2.50	1	U
Fluoranthene	2.50	5.00	2.50	1	U
Fluorene	2.50	5.00	2.50	1	U
Hexachlorobenzene	2.50	5.00	2.50	1	U
Hexachlorobutadiene	2.50	5.00	2.50	1	U
Hexachlorocyclopentadiene	2.50	5.00	2.50	1	U
Hexachloroethane	2.50	5.00	2.50	1	U
Indeno (1, 2, 3-cd) pyrene	2.50	5.00	2.50	1	U
Isophorone	2.50	5.00	2.50	1	U
N-Nitrosodiphenylamine	2.50	5.00	2.50	1	U
N-Nitrosodipropylamine	2.50	5.00	2.50	1	U
Naphthalene	2.50	5.00	2.50	1	U
Nitrobenzene	2.50	5.00	2.50	1	U
Pentachlorophenol	12.5	25.0	12.5	1	U
Phenanthrene	2.50	5.00	2.50	1	U
Phenol	2.50	5.00	2.50	1	U
Pyrene	2.50	5.00	2.50	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,6-Tribromophenol	98.3	40 - 125	PASS
2-Fluorobiphenyl	79.3	50 - 110	PASS
2-Fluorophenol	46.3	20 - 110	PASS
Nitrobenzene-d5	75.4	40 - 110	PASS
p-Terphenyl-d14	118	50 - 135	PASS
Phenol-d5	28.1	10 - 115	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2248508

12-DEC-2011 10:32



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG382865-04
Instrument ID: HPMS4 Run Time: 11:14 Prep Method: 3510C
File ID: 4M59016 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG384176 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD48246 Cal ID: HPMS4 - 02-DEC-11

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,2,4-Trichlorobenzene	50.0	31.8	63.5	35	-	105	
1,2-Dichlorobenzene	50.0	32.7	65.4	35	-	100	
1,3-Dichlorobenzene	50.0	30.8	61.6	30	-	100	
1,4-Dichlorobenzene	50.0	32.1	64.2	30	-	100	
2,4,5-Trichlorophenol	50.0	46.4	92.8	50	-	110	
2,4,6-Trichlorophenol	50.0	44.5	89.0	50	-	115	
2,4-Dichlorophenol	50.0	40.8	81.7	50	-	105	
2,4-Dimethylphenol	50.0	38.3	76.6	30	-	110	
2,4-Dinitrophenol	50.0	42.0	84.0	15	-	140	
2,4-Dinitrotoluene	50.0	50.7	101	50	-	120	
2,6-Dinitrotoluene	50.0	46.0	92.0	50	-	115	
2-Chloronaphthalene	50.0	40.0	79.9	50	-	105	
2-Chlorophenol	50.0	34.4	68.8	35	-	105	
2-Methylnaphthalene	50.0	38.3	76.6	45	-	105	
2-Methylphenol	50.0	33.9	67.7	40	-	110	
2-Nitroaniline	50.0	47.4	94.8	50	-	115	
2-Nitrophenol	50.0	38.0	76.0	40	-	115	
3,3'-Dichlorobenzidine	50.0	49.0	98.0	20	-	110	
3-,4-Methylphenol	50.0	31.3	62.6	30	-	110	
3-Nitroaniline	50.0	50.8	102	20	-	125	
4,6-Dinitro-2-methylphenol	50.0	50.9	102	40	-	130	
4-Bromophenyl-phenylether	50.0	47.2	94.4	50	-	115	
4-Chloro-3-methylphenol	50.0	44.5	89.0	45	-	110	
4-Chloroaniline	50.0	41.9	83.8	15	-	110	
4-Chlorophenyl-phenyl ether	50.0	44.6	89.1	50	-	110	
4-Nitroaniline	50.0	40.7	81.4	35	-	120	
4-Nitrophenol	50.0	17.7	35.3	0	-	125	
Acenaphthene	50.0	42.7	85.4	45	-	110	
Acenaphthylene	50.0	38.9	77.8	50	-	105	
Anthracene	50.0	49.9	99.8	55	-	110	
Benzo(a)anthracene	50.0	51.5	103	55	-	110	
Benzo(a)pyrene	50.0	50.4	101	55	-	110	
Benzo(b)fluoranthene	50.0	47.5	95.0	45	-	120	
Benzo(g,h,i)Perylene	50.0	51.8	104	40	-	125	
Benzo(k)fluoranthene	50.0	53.8	108	45	-	125	
Benzoic acid	50.0	34.1	68.2	0	-	125	
Benzyl alcohol	50.0	35.1	70.3	30	-	110	
Bis(2-Chloroethoxy)Methane	50.0	28.5	57.0	45	-	105	
Bis(2-Chloroethyl)ether	50.0	34.2	68.5	35	-	110	
bis(2-Chloroisopropyl)ether	50.0	42.7	85.4	25	-	130	
bis(2-Ethylhexyl)phthalate	50.0	52.3	105	40	-	125	

LCS - Modified 03/06/2008
PDF File ID: 2248510
Report generated: 12/12/2011 10:32



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG382865-04
Instrument ID: HPMS4 Run Time: 11:14 Prep Method: 3510C
File ID: 4M59016 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG384176 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD48246 Cal ID: HPMS4 - 02-DEC-11

Analytes	Expected	Found	% Rec	LCS Limits			Q
Butylbenzylphthalate	50.0	49.7	99.4	45	-	115	
Chrysene	50.0	53.0	106	55	-	110	
Di-N-Butylphthalate	50.0	50.4	101	55	-	115	
Di-n-octylphthalate	50.0	52.1	104	35	-	135	
Dibenzo(a,h)Anthracene	50.0	48.1	96.2	40	-	125	
Dibenzofuran	50.0	46.0	92.0	55	-	105	
Diethylphthalate	50.0	48.8	97.6	40	-	120	
Dimethylphthalate	50.0	44.7	89.5	25	-	125	
Fluoranthene	50.0	52.8	106	55	-	115	
Fluorene	50.0	45.7	91.5	50	-	110	
Hexachlorobenzene	50.0	49.0	98.1	50	-	110	
Hexachlorobutadiene	50.0	35.4	70.8	25	-	105	
Hexachlorocyclopentadiene	50.0	19.0	37.9	20	-	143	
Hexachloroethane	50.0	29.9	59.7	30	-	95	
Indeno(1,2,3-cd)pyrene	50.0	51.5	103	45	-	125	
Isophorone	50.0	40.2	80.3	50	-	110	
N-Nitrosodiphenylamine	50.0	48.6	97.1	50	-	110	
N-Nitrosodipropylamine	50.0	41.0	81.9	35	-	130	
Naphthalene	50.0	41.3	82.7	40	-	100	
Nitrobenzene	50.0	36.2	72.5	45	-	110	
Pentachlorophenol	50.0	57.0	114	40	-	115	
Phenanthrene	50.0	50.6	101	50	-	115	
Phenol	50.0	14.4	28.7	0	-	115	
Pyrene	50.0	49.2	98.4	50	-	130	

Surrogates	% Recovery	Surrogate Limits			Qualifier
2,4,6-Tribromophenol	110	40	-	125	PASS
2-Fluorobiphenyl	87.2	50	-	110	PASS
2-Fluorophenol	44.1	20	-	110	PASS
Nitrobenzene-d5	75.2	40	-	110	PASS
p-Terphenyl-d14	112	50	-	135	PASS
Phenol-d5	27.8	10	-	115	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2248510
Report generated: 12/12/2011 10:32



MS/MSD REPORT

Loginnum: L11110795

Cal ID: HPMS4- 02-DEC-11

Worknum: WG384176

Instrument ID: HPMS4

Contract #:

Prep Method: 3510C

Parent ID: L11110795-03

File ID: 4M59045

Dil: 1

Method: 8270C

Sample ID: L11110795-07 MS

File ID: 4M59047

Dil: 1

Matrix: Water

Sample ID: L11110795-09 MSD

File ID: 4M59048

Dil: 1

Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,2,4-Trichlorobenzene	U	58.1	47.0	80.8	53.8	40.7	75.7	14.3	35 - 105	30	
1,2-Dichlorobenzene	U	58.1	50.1	86.1	53.8	42.8	79.5	15.7	35 - 100	30	
1,3-Dichlorobenzene	U	58.1	47.1	80.9	53.8	40.8	75.8	14.3	30 - 100	30	
1,4-Dichlorobenzene	U	58.1	48.7	83.8	53.8	41.4	77.1	16.1	30 - 100	30	
2,4,5-Trichlorophenol	U	58.1	66.2	114	53.8	56.4	105	16.1	50 - 110	30	*
2,4,6-Trichlorophenol	U	58.1	63.0	108	53.8	53.6	99.7	16.2	50 - 115	30	
2,4-Dichlorophenol	U	58.1	57.6	99	53.8	48.3	89.9	17.5	50 - 105	30	
2,4-Dimethylphenol	U	58.1	54.1	93.1	53.8	46.1	85.7	16.0	30 - 110	30	
2,4-Dinitrophenol	U	58.1	44.8	77	53.8	38.0	70.7	16.2	15 - 140	30	
2,4-Dinitrotoluene	U	58.1	68.6	118	53.8	60.2	112	13.1	50 - 120	30	
2,6-Dinitrotoluene	U	58.1	62.8	108	53.8	56.0	104	11.5	50 - 115	30	
2-Chloronaphthalene	U	58.1	55.7	95.8	53.8	47.7	88.6	15.6	50 - 105	30	
2-Chlorophenol	U	58.1	50.7	87.3	53.8	44.1	81.9	14.1	35 - 105	30	
2-Methylnaphthalene	U	58.1	55.2	94.9	53.8	46.8	87	16.5	45 - 105	30	
2-Methylphenol	U	58.1	47.9	82.5	53.8	42.3	78.7	12.5	40 - 110	30	
2-Nitroaniline	U	58.1	65.0	112	53.8	56.8	106	13.5	50 - 115	30	
2-Nitrophenol	U	58.1	53.4	91.9	53.8	46.0	85.5	15.0	40 - 115	30	
3,3'-Dichlorobenzidine	U	58.1	64.2	110	53.8	57.6	107	10.8	20 - 110	30	
3-,4-Methylphenol	U	58.1	44.1	75.8	53.8	39.8	74	10.3	30 - 110	30	
3-Nitroaniline	U	58.1	68.2	117	53.8	60.2	112	12.5	20 - 125	30	
4,6-Dinitro-2-methylphenol	U	58.1	59.3	102	53.8	51.7	96.2	13.7	40 - 130	30	
4-Bromophenyl-phenylether	U	58.1	65.2	112	53.8	56.2	105	14.7	50 - 115	30	
4-Chloro-3-methylphenol	U	58.1	61.3	105	53.8	54.2	101	12.3	45 - 110	30	
4-Chloroaniline	U	58.1	56.9	97.9	53.8	49.6	92.3	13.7	15 - 110	30	
4-Chlorophenyl-phenyl ether	U	58.1	63.0	108	53.8	54.2	101	15.1	50 - 110	30	
4-Nitroaniline	U	58.1	57.9	99.6	53.8	48.6	90.5	17.4	35 - 120	30	
4-Nitrophenol	U	58.1	22.5	38.7	53.8	20.5	38.1	9.33	0 - 125	30	
Acenaphthene	U	58.1	58.4	100	53.8	50.3	93.6	14.8	45 - 110	30	
Acenaphthylene	U	58.1	54.4	93.5	53.8	47.1	87.7	14.3	50 - 105	30	
Anthracene	U	58.1	67.5	116	53.8	58.3	108	14.5	55 - 110	30	*
Benzo (a) anthracene	U	58.1	68.2	117	53.8	59.6	111	13.3	55 - 110	30	*
Benzo (a) pyrene	U	58.1	66.5	114	53.8	58.3	108	13.3	55 - 110	30	*
Benzo (b) fluoranthene	U	58.1	60.3	104	53.8	56.7	105	6.21	45 - 120	30	
Benzo (g,h,i) Perylene	U	58.1	66.0	114	53.8	57.1	106	14.5	40 - 125	30	
Benzo (k) fluoranthene	U	58.1	67.7	117	53.8	60.2	112	11.8	45 - 125	30	
Benzoic acid	U	58.1	41.5	71.3	53.8	35.0	65.1	16.8	0 - 125	30	
Benzyl alcohol	U	58.1	51.0	87.7	53.8	45.3	84.2	11.8	30 - 110	30	
Bis (2-Chloroethoxy) Methane	U	58.1	40.8	70.1	53.8	34.5	64.2	16.5	45 - 105	30	
Bis (2-Chloroethyl) ether	U	58.1	49.3	84.8	53.8	43.1	80.2	13.5	35 - 110	30	
bis (2-Chloroisopropyl) ether	U	58.1	62.0	107	53.8	53.7	99.8	14.3	25 - 130	30	
bis (2-Ethylhexyl) phthalate	U	58.1	68.5	118	53.8	58.8	109	15.1	40 - 125	30	

MS MSD - Modified 03/06/2008

PDF File ID: 2248512

Report generated 12/12/2011 10:32



MS/MSD REPORT

Loginnum: L11110795

Cal ID: HPMS4 02-DEC-11

Worknum: WG384176

Instrument ID: HPMS4

Contract #:

Prep Method: 3510C

Parent ID: L11110795-03

File ID: 4M59045

Dil: 1

Method: 8270C

Sample ID: L11110795-07 MS

File ID: 4M59047

Dil: 1

Matrix: Water

Sample ID: L11110795-09 MSD

File ID: 4M59048

Dil: 1

Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Butylbenzylphthalate	U	58.1	64.7	111	53.8	57.2	106	12.2	45 - 115	30	
Chrysene	U	58.1	69.1	119	53.8	60.4	112	13.4	55 - 110	30	*
Di-N-Butylphthalate	U	58.1	66.6	114	53.8	57.7	107	14.2	55 - 115	30	
Di-n-octylphthalate	U	58.1	67.9	117	53.8	58.8	109	14.4	35 - 135	30	
Dibenzo(a,h)Anthracene	U	58.1	63.7	110	53.8	54.6	102	15.4	40 - 125	30	
Dibenzofuran	U	58.1	65.3	112	53.8	56.4	105	14.6	55 - 105	30	*
Diethylphthalate	U	58.1	67.0	115	53.8	58.2	108	14.1	40 - 120	30	
Dimethylphthalate	U	58.1	61.8	106	53.8	53.9	100	13.6	25 - 125	30	
Fluoranthene	U	58.1	69.5	120	53.8	60.4	112	14.0	55 - 115	30	*
Fluorene	U	58.1	64.3	111	53.8	55.2	103	15.3	50 - 110	30	*
Hexachlorobenzene	U	58.1	67.2	116	53.8	57.7	107	15.3	50 - 110	30	*
Hexachlorobutadiene	U	58.1	54.0	92.9	53.8	46.4	86.3	15.2	25 - 105	30	
Hexachlorocyclopentadiene	U	58.1	22.8	39.2	53.8	21.1	39.3	7.39	20 - 143	30	
Hexachloroethane	U	58.1	45.2	77.8	53.8	39.9	74.3	12.4	30 - 95	30	
Indeno(1,2,3-cd)pyrene	U	58.1	66.8	115	53.8	57.5	107	15.0	45 - 125	30	
Isophorone	U	58.1	56.6	97.3	53.8	49.0	91.2	14.3	50 - 110	30	
N-Nitrosodiphenylamine	U	58.1	64.1	110	53.8	56.3	105	13.1	50 - 110	30	
N-Nitrosodipropylamine	U	58.1	59.7	103	53.8	50.7	94.3	16.3	35 - 130	30	
Naphthalene	U	58.1	59.5	102	53.8	50.7	94.3	16.0	40 - 100	30	*
Nitrobenzene	U	58.1	52.5	90.3	53.8	44.7	83.1	16.1	45 - 110	30	
Pentachlorophenol	U	58.1	74.7	129	53.8	64.8	121	14.2	40 - 115	30	*
Phenanthrene	U	58.1	68.7	118	53.8	59.6	111	14.2	50 - 115	30	*
Phenol	U	58.1	21.1	36.3	53.8	19.2	35.6	9.57	0 - 115	30	
Pyrene	U	58.1	64.8	111	53.8	57.4	107	12.1	50 - 130	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2248512

Report generated 12/12/2011 10:32



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11110795 Tune ID: WG383579-01
Instrument: HPMS4 Run Date: 12/02/2011
Analyst: CAA Run Time: 10:55
Workgroup: WG383579 File ID: 4M58927
Cal ID: HPMS4-02-DEC-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	52.9	106554	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	41.6	83890	PASS
70.0	69.0	0	2.00	0.250	210	PASS
127	198	40.0	60.0	45.9	92440	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	201600	PASS
199	198	5.00	9.00	6.61	13323	PASS
275	198	10.0	30.0	24.9	50296	PASS
365	198	1.00	100	3.30	6659	PASS
441	443	0.0100	100	76.6	23433	PASS
442	198	40.0	100	76.9	155128	PASS
443	442	17.0	23.0	19.7	30575	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG383579-02	STD-CCV	01	12/02/2011 11:47	
WG383579-03	STD	01	12/02/2011 12:48	
WG383579-04	STD	01	12/02/2011 13:20	
WG383579-05	STD	01	12/02/2011 13:52	
WG383579-06	STD	01	12/02/2011 14:24	
WG383579-07	STD	01	12/02/2011 14:57	
WG383579-08	STD	01	12/02/2011 15:29	
WG383579-09	STD	01	12/02/2011 16:01	
WG383579-10	SSCV	01	12/02/2011 16:33	
WG383579-11	SSCV	01	12/02/2011 17:05	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2248516
Report generated 12/12/2011 10:33



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11110795 Tune ID: WG383968-01
Instrument: HPMS4 Run Date: 12/07/2011
Analyst: CAA Run Time: 08:13
Workgroup: WG383968 File ID: 4M59010
Cal ID: HPMS4-02-DEC-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	48.1	96613	PASS
68.0	69.0	0	2.00	0.856	651	PASS
69.0	198	0	100	37.8	76010	PASS
70.0	69.0	0	2.00	0.238	181	PASS
127	198	40.0	60.0	43.4	87221	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	200832	PASS
199	198	5.00	9.00	6.95	13958	PASS
275	198	10.0	30.0	27.3	54901	PASS
365	198	1.00	100	3.78	7589	PASS
441	443	0.0100	100	79.1	29560	PASS
442	198	40.0	100	93.2	187264	PASS
443	442	17.0	23.0	20.0	37370	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG383968-02	CCV	01	12/07/2011 08:32	
WG382865-03	BLANK	02	12/07/2011 10:42	
WG382865-04	LCS	02	12/07/2011 11:14	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2248516
Report generated 12/12/2011 10:33



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11110795 Tune ID: WG384088-01
Instrument: HPMS4 Run Date: 12/08/2011
Analyst: CAA Run Time: 07:43
Workgroup: WG384088 File ID: 4M59033
Cal ID: HPMS4-02-DEC-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	48.0	92781	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	38.4	74221	PASS
70.0	69.0	0	2.00	0.261	194	PASS
127	198	40.0	60.0	42.4	82018	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	193472	PASS
199	198	5.00	9.00	6.37	12321	PASS
275	198	10.0	30.0	27.5	53173	PASS
365	198	1.00	100	3.85	7443	PASS
441	443	0.0100	100	80.9	28138	PASS
442	198	40.0	100	94.5	182912	PASS
443	442	17.0	23.0	19.0	34778	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG384088-02	CCV	01	12/08/2011 08:02	
L11110795-16	40LFMW01GW112111	01	12/08/2011 12:52	
L11110795-01	40MW7GW112011	01	12/08/2011 13:25	
L11110795-03	40MW5GW112011	01	12/08/2011 13:57	
L11110795-05	40DUPGW112011	01	12/08/2011 14:30	
L11110795-07	40MW5MSGW112011	01	12/08/2011 15:02	
L11110795-09	40MW5MSDGW112011	01	12/08/2011 15:35	
L11110795-11	40112011FB	01	12/08/2011 16:07	
L11110795-12	40EQR112011	01	12/08/2011 16:39	
L11110795-14	40MW6GW112011	01	12/08/2011 17:11	
L11110795-15	40EQRG112111	01	12/08/2011 17:43	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2248516
Report generated 12/12/2011 10:33



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L11110795
Analytical Method: 8270C
ICAL Workgroup: WG383579

Instrument ID: HPMS4
Initial Calibration Date: 02-DEC-11 16:01
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
1,4-Dichlorobenzene	CCC	1.617	3.11		
2,4,6-Trichlorophenol	CCC	0.4273	6.29		
2,4-Dichlorophenol	CCC	0.3179	4.43		
2-Nitrophenol	CCC	0.2107	5.01		
4-Chloro-3-Methylphenol	CCC	0.3329	2.37		
Acenaphthene	CCC	1.251	2.97		
Benzo[a]pyrene	CCC	1.139	5.21		
Di-n-Octyl Phthalate	CCC	1.253	4.11		
Fluoranthene	CCC	1.211	3.10		
Hexachlorobutadiene	CCC	0.2547	3.02		
Pentachlorophenol	CCC	0.1179	23.2	0.99600	
Phenol	CCC	1.555	4.35		
2,4-Dinitrophenol	SPCC	0.1573	41.4	0.99500	
4-Nitrophenol	SPCC	0.3078	5.36		
Hexachlorocyclopentadiene	SPCC	0.2043	49.3	0.99800	
n-Nitrosodipropylamine	SPCC	1.089	4.97		
1,2,4-Trichlorobenzene		0.3780	2.63		
1,2-Dichlorobenzene		1.484	3.90		
1,3-Dichlorobenzene		1.546	3.27		
2,4,5-Trichlorophenol		0.4628	6.07		
2,4-Dimethylphenol		0.3340	4.12		
2,4-Dinitrotoluene		0.4308	7.03		
2,6-Dinitrotoluene		0.3239	5.29		
2-Chloronaphthalene		1.224	4.03		
2-Chlorophenol		1.272	3.98		
2-Methylnaphthalene		0.7183	2.95		
2-Methylphenol		1.086	4.63		
2-Nitroaniline		0.4341	3.06		
3,3'-Dichlorobenzidine		0.3194	11.3		
3-Nitroaniline		0.2646	20.3	0.99400	
4,6-Dinitro-2-Methylphenol		0.1447	19.7	0.99700	
4-Bromophenyl Phenyl Ether		0.2450	4.01		
4-Chloroaniline		0.4012	11.5		
4-Chlorophenyl Phenyl Ether		0.7478	2.58		
4-Nitroaniline		0.3360	7.72		
Acenaphthylene		1.873	3.00		
Anthracene		1.121	2.32		
Benzo[a]anthracene		1.133	2.61		
Benzo[b]fluoranthene		1.334	5.60		
Benzo[ghi]perylene		1.045	4.35		
Benzo[k]fluoranthene		1.152	6.41		
Benzoic Acid		0.1223	52.6		0.99800
Benzyl Alcohol		0.8505	5.81		
Butyl Benzyl Phthalate		0.4931	2.77		
Chrysene		1.089	3.26		

INT_CAL - Modified 03/06/2008
PDF File ID: 2248513
Report generated 12/12/2011 10:32



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L11110795
Analytical Method: 8270C
ICAL Workgroup: WG383579

Instrument ID: HPMS4
Initial Calibration Date: 02-DEC-11 16:01
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Di-n-Butyl Phthalate		1.204	3.24		
Dibenz [ah] anthracene		1.097	7.58		
Dibenzofuran		1.644	2.31		
Diethylphthalate		1.397	2.77		
Dimethylphthalate		1.372	2.52		
Fluorene		1.467	3.89		
Hexachlorobenzene		0.2508	3.12		
Hexachloroethane		0.6300	4.33		
Indeno [1,2,3-cd] pyrene		1.309	7.22		
Isophorone		0.7284	2.08		
Naphthalene		1.052	2.42		
Nitrobenzene		0.4314	2.19		
Phenanthrene		1.104	3.10		
Pyrene		1.118	3.40		
bis (2-Chloroethoxy) methane		0.5532	3.01		
bis (2-Chloroethyl) ether		1.248	3.24		
bis (2-Chloroisopropyl) ether		2.271	3.73		
bis (2-Ethylhexyl) phthalate		0.6641	2.25		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
PDF File ID: 2248513
Report generated 12/12/2011 10:32



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L11110795
Analytical Method: 8270C

Instrument ID: HPMS4
Initial Calibration Date: 02-DEC-11 16:01
Column ID: F

Analyte	WG383579-02			WG383579-03			WG383579-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,4-Dichlorobenzene	50.0	491728.000	1.639	3.00	26911.0000	1.688	10.0	88487.0000	1.601
2,4,6-Trichlorophenol	50.0	290773.000	0.4445	3.00	13380.0000	0.3989	10.0	47894.0000	0.4071
2,4-Dichlorophenol	50.0	356217.000	0.3273	3.00	16857.0000	0.2945	10.0	61656.0000	0.3144
2-Nitrophenol	50.0	228931.000	0.2103	3.00	10718.0000	0.1873	10.0	42211.0000	0.2153
4-Chloro-3-Methylphenol	50.0	369500.000	0.3395	3.00	18334.0000	0.3203	10.0	66006.0000	0.3366
Acenaphthene	50.0	831996.000	1.272	3.00	40062.0000	1.194	10.0	142261.000	1.209
Benzo[a]pyrene	50.0	1435298.00	1.165	3.00	71430.0000	1.107	10.0	246501.000	1.091
Di-n-Octyl Phthalate	50.0	1593597.00	1.294	3.00	80266.0000	1.244	10.0	272659.000	1.206
Fluoranthene	50.0	1540145.00	1.234	3.00	78742.0000	1.269	10.0	270786.000	1.234
Hexachlorobutadiene	50.0	284487.000	0.2614	3.00	15330.0000	0.2679	10.0	49992.0000	0.2549
Pentachlorophenol	50.0	154371.000	0.1237	NA	NA	NA	10.0	17740.0000	0.08080
Phenol	50.0	471521.000	1.572	3.00	24938.0000	1.564	10.0	82456.0000	1.492
2,4-Dinitrophenol	50.0	107147.000	0.1638	NA	NA	NA	NA	NA	NA
4-Nitrophenol	50.0	207280.000	0.3169	NA	NA	NA	10.0	34352.0000	0.2920
Hexachlorocyclopentadiene	50.0	178556.000	0.2730	3.00	1014.00000	0.03020	10.0	12806.0000	0.1089
n-Nitrosodipropylamine	50.0	336929.000	1.123	3.00	18966.0000	1.190	10.0	61602.0000	1.115
1,2,4-Trichlorobenzene	50.0	418608.000	0.3846	3.00	22287.0000	0.3894	10.0	73883.0000	0.3768
1,2-Dichlorobenzene	50.0	449773.000	1.499	3.00	25145.0000	1.577	10.0	80242.0000	1.452
1,3-Dichlorobenzene	50.0	466269.000	1.554	3.00	26145.0000	1.640	10.0	84248.0000	1.524
2,4,5-Trichlorophenol	50.0	315713.000	0.4826	3.00	14247.0000	0.4247	10.0	51829.0000	0.4406
2,4-Dimethylphenol	50.0	368899.000	0.3389	3.00	18877.0000	0.3298	10.0	62394.0000	0.3182
2,4-Dinitrotoluene	50.0	298665.000	0.4566	3.00	12629.0000	0.3765	10.0	49000.0000	0.4165
2,6-Dinitrotoluene	50.0	219117.000	0.3350	3.00	10247.0000	0.3055	10.0	36822.0000	0.3130
2-Chloronaphthalene	50.0	817766.000	1.250	3.00	41733.0000	1.244	10.0	138283.000	1.175
2-Chlorophenol	50.0	386788.000	1.289	3.00	21005.0000	1.317	10.0	68131.0000	1.233
2-Methylnaphthalene	50.0	800624.000	0.7356	3.00	41194.0000	0.7198	10.0	139844.000	0.7131
2-Methylphenol	50.0	324695.000	1.082	3.00	17316.0000	1.086	10.0	57957.0000	1.049
2-Nitroaniline	50.0	292111.000	0.4465	3.00	14004.0000	0.4175	10.0	50354.0000	0.4280
3,3'-Dichlorobenzidine	50.0	415544.000	0.2964	3.00	28055.0000	0.4038	10.0	81450.0000	0.3308
3-Nitroaniline	50.0	164922.000	0.2521	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-Methylphenol	50.0	183308.000	0.1469	NA	NA	NA	NA	NA	NA
4-Bromophenyl Phenyl Ether	50.0	310245.000	0.2486	3.00	15049.0000	0.2425	10.0	53517.0000	0.2439
4-Chloroaniline	50.0	465097.000	0.4273	3.00	23181.0000	0.4050	10.0	72682.0000	0.3706
4-Chlorophenyl Phenyl Ether	50.0	512262.000	0.7831	3.00	25048.0000	0.7467	10.0	87128.0000	0.7406
4-Nitroaniline	50.0	228851.000	0.3498	NA	NA	NA	NA	NA	NA
Acenaphthylene	50.0	1255759.00	1.920	3.00	64633.0000	1.927	10.0	215922.000	1.835
Anthracene	50.0	1430275.00	1.146	3.00	71610.0000	1.154	10.0	246111.000	1.122
Benzo[a]anthracene	50.0	1634998.00	1.166	3.00	80843.0000	1.164	10.0	280393.000	1.139
Benzo[b]fluoranthene	50.0	1628395.00	1.322	3.00	82561.0000	1.280	10.0	294335.000	1.302
Benzo[ghi]perylene	50.0	1314059.00	1.067	3.00	67029.0000	1.039	10.0	228051.000	1.009
Benzo[k]fluoranthene	50.0	1406188.00	1.141	3.00	74125.0000	1.149	10.0	247529.000	1.095
Benzoic Acid	50.0	140667.000	0.1292	NA	NA	NA	NA	NA	NA

INT_CAL - Modified 03/06/2008
PDF File ID: 2248513
Report generated 12/12/2011 10:32



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L11110795
Analytical Method:8270C

Instrument ID:HPMS4
Initial Calibration Date:02-DEC-11 16:01
Column ID:F

Analyte	WG383579-02			WG383579-03			WG383579-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	50.0	262721.000	0.8756	3.00	12485.0000	0.7830	10.0	45686.0000	0.8265
Butyl Benzyl Phthalate	50.0	701171.000	0.5001	3.00	35794.0000	0.5152	10.0	123145.000	0.5002
Chrysene	50.0	1545311.00	1.102	3.00	79650.0000	1.147	10.0	273126.000	1.109
Di-n-Butyl Phthalate	50.0	1541137.00	1.235	3.00	78405.0000	1.264	10.0	270570.000	1.233
Dibenz[ah]anthracene	50.0	1401157.00	1.137	3.00	66447.0000	1.030	10.0	232374.000	1.028
Dibenzofuran	50.0	1112861.00	1.701	3.00	56712.0000	1.691	10.0	191122.000	1.625
Diethylphthalate	50.0	933413.000	1.427	3.00	49189.0000	1.466	10.0	162743.000	1.383
Dimethylphthalate	50.0	916934.000	1.402	3.00	47578.0000	1.418	10.0	161629.000	1.374
Fluorene	50.0	1005008.00	1.536	3.00	48873.0000	1.457	10.0	167022.000	1.420
Hexachlorobenzene	50.0	316743.000	0.2538	3.00	15677.0000	0.2526	10.0	54036.0000	0.2462
Hexachloroethane	50.0	191967.000	0.6398	3.00	10581.0000	0.6636	10.0	33803.0000	0.6116
Indeno[1,2,3-cd]pyrene	50.0	1674799.00	1.360	3.00	78921.0000	1.223	10.0	278209.000	1.231
Isophorone	50.0	805600.000	0.7401	3.00	43051.0000	0.7522	10.0	144626.000	0.7375
Naphthalene	50.0	1163374.00	1.069	3.00	62950.0000	1.100	10.0	206146.000	1.051
Nitrobenzene	50.0	477367.000	0.4386	3.00	25414.0000	0.4441	10.0	83860.0000	0.4276
Phenanthrene	50.0	1398313.00	1.121	3.00	72504.0000	1.168	10.0	243169.000	1.108
Pyrene	50.0	1594020.00	1.137	3.00	81969.0000	1.180	10.0	280945.000	1.141
bis(2-Chloroethoxy)methane	50.0	630234.000	0.5790	3.00	31623.0000	0.5525	10.0	105701.000	0.5390
bis(2-Chloroethyl)ether	50.0	385051.000	1.283	3.00	21160.0000	1.327	10.0	67744.0000	1.226
bis(2-Chloroisopropyl)ether	50.0	678603.000	2.262	3.00	39311.0000	2.466	10.0	126366.000	2.286
bis(2-Ethylhexyl)phthalate	50.0	957778.000	0.6831	3.00	46617.0000	0.6710	10.0	163935.000	0.6658

INT_CAL - Modified 03/06/2008
PDF File ID: 2248513
Report generated 12/12/2011 10:32



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INITIAL CALIBRATION DATA

Login Number: L11110795
Analytical Method: 8270C

Instrument ID: HPMS4
Initial Calibration Date: 02-DEC-11 16:01
Column ID: F

Analyte	WG383579-05			WG383579-06			WG383579-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,4-Dichlorobenzene	15.0	127290.0000	1.539	25.0	222799.0000	1.574	80.0	754451.0000	1.584
2,4,6-Trichlorophenol	15.0	70464.0000	0.3998	25.0	124393.0000	0.4117	80.0	452179.0000	0.4306
2,4-Dichlorophenol	15.0	89512.0000	0.3037	25.0	158512.0000	0.3152	80.0	560596.0000	0.3199
2-Nitrophenol	15.0	62660.0000	0.2126	25.0	108111.0000	0.2150	80.0	360596.0000	0.2058
4-Chloro-3-Methylphenol	15.0	94896.0000	0.3219	25.0	167744.0000	0.3335	80.0	582653.0000	0.3325
Acenaphthene	15.0	219430.0000	1.245	25.0	380029.0000	1.258	80.0	1299756.0000	1.238
Benzo[a]pyrene	15.0	357508.0000	1.052	25.0	639946.0000	1.115	80.0	2213675.0000	1.152
Di-n-Octyl Phthalate	15.0	398616.0000	1.173	25.0	708727.0000	1.235	80.0	2407552.0000	1.253
Fluoranthene	15.0	388705.0000	1.169	25.0	697614.0000	1.225	80.0	2320101.0000	1.158
Hexachlorobutadiene	15.0	72533.0000	0.2461	25.0	129914.0000	0.2583	80.0	435616.0000	0.2486
Pentachlorophenol	15.0	29366.0000	0.08830	25.0	59318.0000	0.1042	80.0	264383.0000	0.1320
Phenol	15.0	120706.0000	1.460	25.0	212975.0000	1.505	80.0	745592.0000	1.565
2,4-Dinitrophenol	15.0	9829.00000	0.05580	25.0	31427.00000	0.1040	80.0	194313.0000	0.1850
4-Nitrophenol	15.0	50113.0000	0.2843	25.0	90081.0000	0.2981	80.0	327864.0000	0.3122
Hexachlorocyclopentadiene	15.0	25435.0000	0.1443	25.0	61154.0000	0.2024	80.0	294673.0000	0.2806
n-Nitrosodipropylamine	15.0	88552.0000	1.071	25.0	155542.0000	1.099	80.0	497529.0000	1.044
1,2,4-Trichlorobenzene	15.0	105770.0000	0.3588	25.0	188148.0000	0.3741	80.0	654901.0000	0.3738
1,2-Dichlorobenzene	15.0	116665.0000	1.411	25.0	201192.0000	1.422	80.0	694588.0000	1.458
1,3-Dichlorobenzene	15.0	121997.0000	1.475	25.0	213588.0000	1.509	80.0	725564.0000	1.523
2,4,5-Trichlorophenol	15.0	76540.0000	0.4343	25.0	138512.0000	0.4584	80.0	491796.0000	0.4683
2,4-Dimethylphenol	15.0	92675.0000	0.3144	25.0	165408.0000	0.3289	80.0	594158.0000	0.3391
2,4-Dinitrotoluene	15.0	71195.0000	0.4040	25.0	130171.0000	0.4308	80.0	464778.0000	0.4426
2,6-Dinitrotoluene	15.0	52620.0000	0.2986	25.0	98238.0000	0.3251	80.0	341743.0000	0.3254
2-Chloronaphthalene	15.0	203377.0000	1.154	25.0	358378.0000	1.186	80.0	1279689.0000	1.219
2-Chlorophenol	15.0	99131.0000	1.199	25.0	174657.0000	1.234	80.0	594745.0000	1.248
2-Methylnaphthalene	15.0	198943.0000	0.6749	25.0	357717.0000	0.7113	80.0	1255553.0000	0.7166
2-Methylphenol	15.0	83245.0000	1.007	25.0	149872.0000	1.059	80.0	522405.0000	1.096
2-Nitroaniline	15.0	73723.0000	0.4183	25.0	129724.0000	0.4293	80.0	454836.0000	0.4331
3,3'-Dichlorobenzidine	15.0	112646.0000	0.3034	25.0	192209.0000	0.3035	80.0	654299.0000	0.2926
3-Nitroaniline	15.0	36858.0000	0.2091	25.0	59948.0000	0.1984	80.0	299958.0000	0.2856
4,6-Dinitro-2-Methylphenol	15.0	33269.0000	0.1001	25.0	69766.0000	0.1226	80.0	309661.0000	0.1546
4-Bromophenyl Phenyl Ether	15.0	75687.0000	0.2277	25.0	136009.0000	0.2389	80.0	486995.0000	0.2431
4-Chloroaniline	15.0	98391.0000	0.3338	25.0	175310.0000	0.3486	80.0	728850.0000	0.4160
4-Chlorophenyl Phenyl Ether	15.0	126466.0000	0.7176	25.0	228162.0000	0.7551	80.0	776165.0000	0.7391
4-Nitroaniline	15.0	52833.0000	0.2998	25.0	93263.0000	0.3086	80.0	355803.0000	0.3388
Acenaphthylene	15.0	313555.0000	1.779	25.0	552495.0000	1.828	80.0	1954854.0000	1.862
Anthracene	15.0	358114.0000	1.077	25.0	635656.0000	1.117	80.0	2192459.0000	1.094
Benzo[a]anthracene	15.0	402618.0000	1.085	25.0	722616.0000	1.141	80.0	2484677.0000	1.111
Benzo[b]fluoranthene	15.0	433023.0000	1.274	25.0	739982.0000	1.289	80.0	2512357.0000	1.307
Benzo[ghi]perylene	15.0	330281.0000	0.9719	25.0	586047.0000	1.021	80.0	2016298.0000	1.049
Benzo[k]fluoranthene	15.0	351339.0000	1.034	25.0	676127.0000	1.178	80.0	2341852.0000	1.219
Benzoic Acid	15.0	7205.00000	0.02440	25.0	34314.0000	0.06820	80.0	255203.0000	0.1456

INT_CAL - Modified 03/06/2008
PDF File ID: 2248513
Report generated 12/12/2011 10:32



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L11110795
Analytical Method:8270C

Instrument ID:HPMS4
Initial Calibration Date:02-DEC-11 16:01
Column ID:F

Analyte	WG383579-05			WG383579-06			WG383579-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	15.0	66648.0000	0.8059	25.0	116125.000	0.8206	80.0	411158.000	0.8630
Butyl Benzyl Phthalate	15.0	176049.000	0.4742	25.0	313771.000	0.4955	80.0	1075109.00	0.4807
Chrysene	15.0	393154.000	1.059	25.0	704332.000	1.112	80.0	2373537.00	1.061
Di-n-Butyl Phthalate	15.0	390836.000	1.176	25.0	692229.000	1.216	80.0	2300123.00	1.148
Dibenz[ah]anthracene	15.0	334649.000	0.9848	25.0	610675.000	1.064	80.0	2167853.00	1.128
Dibenzofuran	15.0	282017.000	1.600	25.0	495709.000	1.641	80.0	1698179.00	1.617
Diethylphthalate	15.0	236333.000	1.341	25.0	419151.000	1.387	80.0	1433103.00	1.365
Dimethylphthalate	15.0	231459.000	1.313	25.0	409810.000	1.356	80.0	1406889.00	1.340
Fluorene	15.0	242020.000	1.373	25.0	434149.000	1.437	80.0	1548166.00	1.474
Hexachlorobenzene	15.0	79582.0000	0.2394	25.0	140923.000	0.2475	80.0	490198.000	0.2447
Hexachloroethane	15.0	48263.0000	0.5836	25.0	86457.0000	0.6109	80.0	297147.000	0.6237
Indeno[1,2,3-cd]pyrene	15.0	403756.000	1.188	25.0	730620.000	1.273	80.0	2573795.00	1.339
Isophorone	15.0	209662.000	0.7113	25.0	366972.000	0.7297	80.0	1240675.00	0.7081
Naphthalene	15.0	299098.000	1.015	25.0	526822.000	1.048	80.0	1811743.00	1.034
Nitrobenzene	15.0	122943.000	0.4171	25.0	218045.000	0.4336	80.0	735721.000	0.4199
Phenanthrene	15.0	351394.000	1.057	25.0	625926.000	1.100	80.0	2141878.00	1.069
Pyrene	15.0	404071.000	1.088	25.0	721364.000	1.139	80.0	2424862.00	1.084
bis(2-Chloroethoxy)methane	15.0	154831.000	0.5253	25.0	277755.000	0.5523	80.0	979598.000	0.5591
bis(2-Chloroethyl)ether	15.0	99277.0000	1.200	25.0	174470.000	1.233	80.0	580876.000	1.219
bis(2-Chloroisopropyl)ether	15.0	181743.000	2.198	25.0	316544.000	2.237	80.0	1047139.00	2.198
bis(2-Ethylhexyl)phthalate	15.0	237002.000	0.6384	25.0	426428.000	0.6733	80.0	1459939.00	0.6528

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Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L11110795
Analytical Method:8270C

Instrument ID:HPMS4
Initial Calibration Date:02-DEC-11 16:01
Column ID:F

Analyte	WG383579-08			WG383579-09		
	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	100	549806.000	0.9079	120	672111.000	0.9211
Butyl Benzyl Phthalate	100	1374677.00	0.4988	120	1627616.00	0.4803
Chrysene	100	2994192.00	1.086	120	3513311.00	1.037
Di-n-Butyl Phthalate	100	2892917.00	1.192	120	3404003.00	1.171
Dibenz[ah]anthracene	100	2793334.00	1.214	120	3355187.00	1.192
Dibenzofuran	100	2166106.00	1.668	120	2544544.00	1.612
Diethylphthalate	100	1834862.00	1.413	120	2197517.00	1.392
Dimethylphthalate	100	1811207.00	1.395	120	2180458.00	1.381
Fluorene	100	1995564.00	1.537	120	2365246.00	1.498
Hexachlorobenzene	100	634022.000	0.2612	120	759825.000	0.2613
Hexachloroethane	100	394839.000	0.6520	120	477473.000	0.6544
Indeno[1,2,3-cd]pyrene	100	3325068.00	1.446	120	3979114.00	1.414
Isophorone	100	1624270.00	0.7304	120	1960046.00	0.7180
Naphthalene	100	2352024.00	1.058	120	2834258.00	1.038
Nitrobenzene	100	975982.000	0.4389	120	1178682.00	0.4317
Phenanthrene	100	2707461.00	1.115	120	3172689.00	1.091
Pyrene	100	3059969.00	1.110	120	3606432.00	1.064
bis(2-Chloroethoxy)methane	100	1264934.00	0.5688	120	1499523.00	0.5493
bis(2-Chloroethyl)ether	100	760749.000	1.256	120	906245.000	1.242
bis(2-Chloroisopropyl)ether	100	1370936.00	2.264	120	1650065.00	2.261
bis(2-Ethylhexyl)phthalate	100	1862581.00	0.6758	120	2210530.00	0.6523

INT_CAL - Modified 03/06/2008
PDF File ID: 2248513
Report generated 12/12/2011 10:32



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L11110795	Run Date: 12/02/2011	Sample ID: WG383579-10
Instrument ID: HPMS4	Run Time: 16:33	Method: 8270C
File ID: 4M58937	Analyst: CAA	QC Key: DOD4
ICal Workgroup: WG383579	Cal ID: HPMS4 - 02-DEC-11	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Benzo[k]fluoranthene	50000	53200	ug/L	1.23	6.40	20	
Benzoic Acid	50000	59200	ug/L	0.153	18.4	20	
Benzyl Alcohol	50000	54400	ug/L	0.926	8.80	20	
bis(2-Chloroethoxy)methane	50000	54900	ug/L	0.607	9.80	20	
bis(2-Chloroethyl)ether	50000	50200	ug/L	1.25	0.300	20	
bis(2-Chloroisopropyl)ether	50000	57500	ug/L	2.61	15.0	20	
bis(2-Ethylhexyl)phthalate	50000	52600	ug/L	0.699	5.20	20	
Butyl Benzyl Phthalate	50000	53400	ug/L	0.526	6.80	20	
Chrysene	50000	52900	ug/L	1.15	5.80	20	
Di-n-Butyl Phthalate	50000	49100	ug/L	1.18	1.90	20	
Dibenz[ah]anthracene	50000	52000	ug/L	1.14	3.90	20	
Dibenzofuran	50000	52800	ug/L	1.74	5.70	20	
Diethylphthalate	50000	50000	ug/L	1.40	0	20	
Dimethylphthalate	50000	49700	ug/L	1.36	0.600	20	
Fluorene	50000	51300	ug/L	1.50	2.60	20	
Hexachlorobenzene	50000	49800	ug/L	0.250	0.400	20	
Hexachloroethane	50000	50400	ug/L	0.635	0.800	20	
Indeno[1,2,3-cd]pyrene	50000	52100	ug/L	1.37	4.30	20	
Isophorone	50000	49000	ug/L	0.714	2.00	20	
Naphthalene	50000	51600	ug/L	1.09	3.30	20	
Nitrobenzene	50000	50000	ug/L	0.431	0.100	20	
Phenanthrene	50000	50700	ug/L	1.12	1.40	20	
Pyrene	50000	51500	ug/L	1.15	2.90	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2248515
Report generated 12/12/2011 10:30



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG383968-02
Instrument ID: HPMS4 Run Time: 08:32 Method: 8270C
File ID: 4M59011 Analyst: CAA QC Key: DOD4
Workgroup (AAB#): WG384176 Cal ID: HPMS4 - 02-DEC-11
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Benzo[k]fluoranthene	50000	54600	ug/L	1.26	9.25	20	
Benzoic Acid	50000	32200	ug/L	0.0572	35.6	20	*
Benzyl Alcohol	50000	52200	ug/L	0.888	4.45	20	
bis(2-Chloroethoxy)methane	50000	52200	ug/L	0.577	4.32	20	
bis(2-Chloroethyl) ether	50000	51200	ug/L	1.28	2.31	20	
bis(2-Chloroisopropyl) ether	50000	48700	ug/L	2.21	2.52	20	
bis(2-Ethylhexyl)phthalate	50000	50600	ug/L	0.672	1.22	20	
Butyl Benzyl Phthalate	50000	50000	ug/L	0.493	0.0390	20	
Chrysene	50000	50300	ug/L	1.10	0.582	20	
Di-n-Butyl Phthalate	50000	50200	ug/L	1.21	0.396	20	
Dibenz[ah]anthracene	50000	52100	ug/L	1.14	4.13	20	
Dibenzofuran	50000	51700	ug/L	1.70	3.33	20	
Diethylphthalate	50000	50600	ug/L	1.41	1.20	20	
Dimethylphthalate	50000	50400	ug/L	1.38	0.716	20	
Fluorene	50000	51700	ug/L	1.52	3.49	20	
Hexachlorobenzene	50000	51400	ug/L	0.258	2.87	20	
Hexachloroethane	50000	51000	ug/L	0.642	1.92	20	
Indeno[1,2,3-cd]pyrene	50000	52500	ug/L	1.38	5.03	20	
Isophorone	50000	50200	ug/L	0.732	0.437	20	
Naphthalene	50000	51300	ug/L	1.08	2.55	20	
Nitrobenzene	50000	50800	ug/L	0.438	1.59	20	
Phenanthrene	50000	50400	ug/L	1.11	0.772	20	
Pyrene	50000	50100	ug/L	1.12	0.266	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2248517
Report generated 12/12/2011 10:33



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/08/2011 Sample ID: WG384088-02
Instrument ID: HPMS4 Run Time: 08:02 Method: 8270C
File ID: 4M59034 Analyst: CAA QC Key: DOD4
Workgroup (AAB#): WG384176 Cal ID: HPMS4 - 02-DEC-11
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Benzo[k]fluoranthene	50000	53700	ug/L	1.24	7.39	20	
Benzoic Acid	50000	28000	ug/L	0.0446	44.0	20	*
Benzyl Alcohol	50000	51500	ug/L	0.876	3.04	20	
bis(2-Chloroethoxy)methane	50000	52700	ug/L	0.583	5.31	20	
bis(2-Chloroethyl) ether	50000	51000	ug/L	1.27	2.04	20	
bis(2-Chloroisopropyl) ether	50000	47900	ug/L	2.18	4.23	20	
bis(2-Ethylhexyl)phthalate	50000	50500	ug/L	0.671	1.09	20	
Butyl Benzyl Phthalate	50000	49600	ug/L	0.489	0.750	20	
Chrysene	50000	50600	ug/L	1.10	1.11	20	
Di-n-Butyl Phthalate	50000	50500	ug/L	1.22	1.00	20	
Dibenz[ah]anthracene	50000	51900	ug/L	1.14	3.79	20	
Dibenzofuran	50000	52900	ug/L	1.74	5.75	20	
Diethylphthalate	50000	51100	ug/L	1.43	2.29	20	
Dimethylphthalate	50000	50800	ug/L	1.40	1.68	20	
Fluorene	50000	52700	ug/L	1.55	5.43	20	
Hexachlorobenzene	50000	52000	ug/L	0.261	4.02	20	
Hexachloroethane	50000	51000	ug/L	0.642	1.96	20	
Indeno[1,2,3-cd]pyrene	50000	51900	ug/L	1.36	3.85	20	
Isophorone	50000	50000	ug/L	0.728	0.0608	20	
Naphthalene	50000	51800	ug/L	1.09	3.63	20	
Nitrobenzene	50000	50100	ug/L	0.433	0.295	20	
Phenanthrene	50000	50900	ug/L	1.12	1.85	20	
Pyrene	50000	49400	ug/L	1.11	1.16	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2248517
Report generated 12/12/2011 10:33



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS4
Workgroup (AAB#): WG384176

ICAL CCV Number: WG383579-02
CAL ID: HPMS4 - 02-DEC-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5	IS-6
WG383579-02	NA	NA	240042	523333	1121690	870766	985558	998287
Upper Limit	NA	NA	480084	1046666	2243380	1741532	1971116	1996574
Lower Limit	NA	NA	120021	261667	560845	435383	492779	499144
L11110795-01	1.00	01	158847	356283	784113	588026	723381	702598
L11110795-03	1.00	01	154813	348417	745356	576942	686728	652353
L11110795-05	1.00	01	155492	348479	748357	577476	691783	650392
L11110795-07	1.00	01	164996	382022	874996	635839	753653	724201
L11110795-09	1.00	01	165351	378577	849173	635635	737157	717126
L11110795-11	1.00	01	159396	356809	745086	592805	687348	650791
L11110795-12	1.00	01	154620	347212	735176	582268	673376	643731
L11110795-14	1.00	01	155121	345806	746842	577605	684346	649278
L11110795-15	1.00	01	148775	331011	704375	552015	642487	608379
L11110795-16	1.00	01	156214	352560	748600	585489	693681	654771
WG382865-03	1.00	02	179578	400363	841091	670186	768920	732284
WG382865-04	1.00	02	186990	420364	948653	707672	826824	784862

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Acenaphthene-d10
IS-3 - Chrysene-d12
IS-4 - Naphthalene-D8
IS-5 - Perylene-d12
IS-6 - Phenanthrene-d10

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS4
Workgroup (AAB#): WG384176

ICAL CCV Number: WG383579-02
CAL ID: HPMS4 - 02-DEC-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5	IS-6
WG383579-02	NA	NA	6.93	10	15.13	8.2	17.56	11.55
Upper Limit	NA	NA	7.43	10.5	15.63	8.7	18.06	12.05
Lower Limit	NA	NA	6.43	9.5	14.63	7.7	17.06	11.05
L11110795-01	1.00	01	6.93	9.99	15.12	8.2	17.55	11.54
L11110795-03	1.00	01	6.92	9.99	15.12	8.19	17.55	11.54
L11110795-05	1.00	01	6.92	9.99	15.12	8.2	17.54	11.54
L11110795-07	1.00	01	6.93	9.99	15.13	8.2	17.55	11.54
L11110795-09	1.00	01	6.93	9.99	15.13	8.2	17.55	11.54
L11110795-11	1.00	01	6.92	9.99	15.12	8.2	17.54	11.54
L11110795-12	1.00	01	6.93	9.99	15.12	8.2	17.55	11.54
L11110795-14	1.00	01	6.92	9.99	15.12	8.2	17.55	11.54
L11110795-15	1.00	01	6.92	9.99	15.12	8.19	17.54	11.54
L11110795-16	1.00	01	6.93	9.99	15.12	8.2	17.55	11.54
WG382865-03	1.00	02	6.93	9.99	15.13	8.2	17.55	11.54
WG382865-04	1.00	02	6.92	9.99	15.13	8.2	17.55	11.54

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Acenaphthene-d10
IS-3 - Chrysene-d12
IS-4 - Naphthalene-D8
IS-5 - Perylene-d12
IS-6 - Phenanthrene-d10

Underline = Response outside limits





Login Number: L11110795
Department: Semivolatiles
Analyst: Cassie A. Augenstein

METHOD

Preparation 3510C

Analysis SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 39449

Approved By: Mike Cochran



Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG382979 Sodium Sulfate, Anhydrous, Granular (Lot #: COA15761
Analyst: CAF Fortified Solution Lot #: RGT16743
Spike Analyst: CAF Methylene Chloride Lot #: COA15754
Method: 3510C
Run Date: 11/23/2011 17:30
SOP: EXA01 Revision 15
Spike Witness: RAH
Surr Solution: STD47368

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L11110722-01	SAMP		N	827-PAHL	980 mL	.25 mL			1 mL	Transparent
2	L11110795-01	SAMP		N	827-PAHL	980 mL	.25 mL			1 mL	Transparent
3	L11110795-03	RS01		N	827-PAHL	930 mL	.25 mL			1 mL	Transparent
4	L11110795-05	SAMP		N	827-PAHL	950 mL	.25 mL			1 mL	Transparent
5	L11110795-07	MS01	L11110795-03	N	827-PAHL	950 mL	.25 mL	1 mL	STD48047	1 mL	Transparent
6	L11110795-09	SD01	L11110795-03	N	827-PAHL	970 mL	.25 mL	1 mL	STD48047	1 mL	Transparent
7	L11110795-11	SAMP		N	827-PAHL	910 mL	.25 mL			1 mL	Transparent
8	L11110795-12	SAMP		N	827-PAHL	930 mL	.25 mL			1 mL	Transparent
9	L11110795-14	SAMP		N	827-PAHL	870 mL	.25 mL			1 mL	Transparent
10	L11110795-15	SAMP		N	827-PAHL	1000 mL	.25 mL			1 mL	Transparent
11	L11110795-16	SAMP		N	827-PAHL	890 mL	.25 mL			1 mL	Transparent
12	WG382979-01	REF	L11110795-03	N	827-PAHL	930 mL	.25 mL			1 mL	Transparent
13	WG382979-02	BLANK		N	827-PAHL	1000 mL	.25 mL			1 mL	Transparent
14	WG382979-03	LCS		N	827-PAHL	1000 mL	.25 mL	1 mL	STD48047	1 mL	Transparent
15	WG382979-04	MS	L11110795-03	N	827-PAHL	950 mL	.25 mL	1 mL	STD48047	1 mL	Transparent
16	WG382979-05	MSD	L11110795-03	N	827-PAHL	970 mL	.25 mL	1 mL	STD48047	1 mL	Transparent

Analyst: Cheryl A. Flowers

Reviewer: R. H. H. H.

EXTRACT - Modified 10/22/2008
PDF ID: 2235224
Report generated: 11/28/2011 08:26



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L11110795
Instrument Id: HPMS7
Workgroup (AAB#): WG383080

Method: 8270L
CAL ID: HPMS7 - 29-SEP-11
Matrix: Water

Sample Number	Dilution	Tag	1	2	3
L11110795-01	1.00	01	97.4	85.2	97.8
L11110795-03	1.00	01	96.7	89.1	101
L11110795-05	1.00	01	97.2	85.1	104
L11110795-07	1.00	01	91.9	84.4	102
L11110795-09	1.00	01	94.8	87.0	102
L11110795-11	1.00	01	92.4	87.0	104
L11110795-12	1.00	01	89.1	85.2	105
L11110795-14	1.00	01	94.7	88.4	101
L11110795-15	1.00	01	92.5	85.1	102
L11110795-16	1.00	01	83.2	78.1	98.4
WG382979-02	1.00	01	92.5	85.2	105
WG382979-03	1.00	01	95.2	87.5	102

Surrogates	Surrogate Limits		
1 - 2-Fluorobiphenyl	50	-	110
2 - Nitrobenzene-d5	35	-	114
3 - p-Terphenyl-d14	33	-	141

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2240899
Report generated: 12/05/2011 15:04



METHOD BLANK SUMMARY

Login Number: <u>L11110795</u>	Work Group: <u>WG383080</u>
Blank File ID: <u>7M53499</u>	Blank Sample ID: <u>WG382979-02</u>
Prep Date: <u>11/23/11 17:30</u>	Instrument ID: <u>HPMS7</u>
Analyzed Date: <u>11/29/11 09:05</u>	Method: <u>8270C</u>
Analyst: <u>CAA</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG382979-03	7M53500	11/29/11 09:32	01
40MW7GW112011	L11110795-01	7M53502	11/29/11 10:25	01
40MW5GW112011	L11110795-03	7M53503	11/29/11 10:52	01
40DUPGW112011	L11110795-05	7M53504	11/29/11 11:19	01
40MW5MSGW112011	L11110795-07	7M53505	11/29/11 11:46	01
40MW5MSDGW112011	L11110795-09	7M53506	11/29/11 12:12	01
40112011FB	L11110795-11	7M53507	11/29/11 12:39	01
40EQR112011	L11110795-12	7M53508	11/29/11 13:07	01
40MW6GW112011	L11110795-14	7M53509	11/29/11 13:34	01
40EQRG112111	L11110795-15	7M53510	11/29/11 14:01	01
40LFMW01GW112111	L11110795-16	7M53511	11/29/11 14:28	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2240890
 Report generated 12/05/2011 15:03



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/23/11 17:30 Sample ID: WG382979-02
 Instrument ID: HPMS7 Run Date: 11/29/11 09:05 Prep Method: 3510C
 File ID: 7M53499 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG383080 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS7 - 29-SEP-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Naphthalene	0.0250	0.0500	0.0250	1	U
Acenaphthylene	0.0250	0.0500	0.0250	1	U
Acenaphthene	0.0250	0.0500	0.0250	1	U
Fluorene	0.0250	0.0500	0.0250	1	U
Phenanthrene	0.0250	0.0500	0.0250	1	U
Anthracene	0.0250	0.0500	0.0250	1	U
Fluoranthene	0.0250	0.0500	0.0250	1	U
Pyrene	0.0250	0.0500	0.0250	1	U
Benzo (a) anthracene	0.0250	0.0500	0.0250	1	U
Chrysene	0.0250	0.0500	0.0250	1	U
Benzo (b) fluoranthene	0.0250	0.0500	0.0250	1	U
Benzo (k) fluoranthene	0.0250	0.0500	0.0250	1	U
Benzo (a) pyrene	0.0250	0.0500	0.0250	1	U
Indeno (1,2,3-cd) pyrene	0.0250	0.0500	0.0250	1	U
Dibenzo (a,h) anthracene	0.0250	0.0500	0.0250	1	U
Benzo (g,h,i) perylene	0.0250	0.0500	0.0250	1	U
1-Methylnaphthalene	0.0250	0.0500	0.0250	1	U
2-Methylnaphthalene	0.0250	0.0500	0.0250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	85.2	35 - 114	PASS
2-Fluorobiphenyl	92.5	50 - 110	PASS
p-Terphenyl-d14	105	33 - 141	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2240891

05-DEC-2011 15:03



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG382979-03
Instrument ID: HPMS7 Run Time: 09:32 Prep Method: 3510C
File ID: 7M53500 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG383080 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD48047 Cal ID: HPMS7 - 29-SEP-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Naphthalene	1.00	0.877	87.7	40 - 100	
Acenaphthylene	1.00	0.866	86.6	50 - 105	
Acenaphthene	1.00	0.886	88.6	45 - 110	
Fluorene	1.00	0.893	89.3	50 - 110	
Phenanthrene	1.00	0.942	94.2	50 - 115	
Anthracene	1.00	0.895	89.5	55 - 110	
Fluoranthene	1.00	0.997	99.7	55 - 115	
Pyrene	1.00	0.990	99.0	50 - 130	
Benzo (a) anthracene	1.00	0.977	97.7	55 - 110	
Chrysene	1.00	1.01	101	55 - 110	
Benzo (b) fluoranthene	1.00	0.994	99.4	45 - 120	
Benzo (k) fluoranthene	1.00	0.961	96.1	45 - 125	
Benzo (a) pyrene	1.00	1.01	101	55 - 110	
Indeno (1,2,3-cd) pyrene	1.00	1.00	100	45 - 125	
Dibenzo (a,h) anthracene	1.00	0.965	96.5	40 - 125	
Benzo (g,h,i) perylene	1.00	1.03	103	40 - 125	
1-Methylnaphthalene	1.00	0.851	85.1	31 - 111	
2-Methylnaphthalene	1.00	0.913	91.3	45 - 105	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	87.5	35 - 114	PASS
2-Fluorobiphenyl	95.2	50 - 110	PASS
p-Terphenyl-d14	102	33 - 141	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2240892
Report generated: 12/05/2011 15:03



MS/MSD REPORT

Loginnum: L11110795

Cal ID: HPMS7- 29-SEP-11

Worknum: WG383080

Instrument ID: HPMS7

Contract #:

Prep Method: 3510C

Parent ID: L11110795-03File ID: 7M53503Dil: 1

Method: 8270C

Sample ID: L11110795-07 MS

File ID: 7M53505Dil: 1

Matrix: Water

Sample ID: L11110795-09 MSD

File ID: 7M53506Dil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Naphthalene	U	1.05	0.879	83.5	1.03	0.870	84.4	1.00	40 - 100	30	
Acenaphthylene	U	1.05	0.886	84.2	1.03	0.890	86.3	0.437	50 - 105	30	
Acenaphthene	U	1.05	0.904	85.9	1.03	0.906	87.9	0.198	45 - 110	30	
Fluorene	U	1.05	0.920	87.4	1.03	0.920	89.2	0.103	50 - 110	30	
Phenanthrene	U	1.05	1.02	97	1.03	1.02	98.8	0.303	50 - 115	30	
Anthracene	U	1.05	0.962	91.4	1.03	0.958	92.9	0.415	55 - 110	30	
Fluoranthene	U	1.05	1.05	99.4	1.03	1.04	101	0.254	55 - 115	30	
Pyrene	U	1.05	1.02	96.4	1.03	0.998	96.8	1.73	50 - 130	30	
Benzo(a)anthracene	U	1.05	1.02	96.7	1.03	0.992	96.2	2.62	55 - 110	30	
Chrysene	U	1.05	1.03	98.1	1.03	1.01	98.4	1.78	55 - 110	30	
Benzo(b)fluoranthene	U	1.05	0.979	93	1.03	0.929	90.1	5.28	45 - 120	30	
Benzo(k)fluoranthene	U	1.05	0.990	94	1.03	0.985	95.6	0.463	45 - 125	30	
Benzo(a)pyrene	U	1.05	1.03	98.1	1.03	1.02	98.5	1.74	55 - 110	30	
Indeno(1,2,3-cd)pyrene	U	1.05	0.953	90.6	1.03	0.919	89.2	3.66	45 - 125	30	
Dibenzo(a,h)anthracene	U	1.05	0.912	86.7	1.03	0.862	83.7	5.60	40 - 125	30	
Benzo(g,h,i)perylene	U	1.05	0.999	94.9	1.03	0.964	93.5	3.63	40 - 125	30	
1-Methylnaphthalene	U	1.05	0.861	81.8	1.03	0.852	82.6	1.04	31 - 111	30	
2-Methylnaphthalene	U	1.05	0.929	88.2	1.03	0.918	89	1.20	45 - 105	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2240893

Report generated 12/05/2011 15:03



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11110795 Tune ID: WG377412-01
Instrument: HPMS7 Run Date: 09/29/2011
Analyst: CAA Run Time: 07:43
Workgroup: WG377412 File ID: 7M53015
Cal ID: HPMS7-29-SEP-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	45.9	14434	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	46.2	14528	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	50.2	15803	PASS
197	198	0	1.00	0.620	195	PASS
198	198	100	100	100	31458	PASS
199	198	5.00	9.00	7.04	2216	PASS
275	198	10.0	30.0	26.9	8451	PASS
365	198	1.00	100	3.22	1013	PASS
441	443	0.0100	100	74.2	3578	PASS
442	198	40.0	100	80.8	25405	PASS
443	442	17.0	23.0	19.0	4822	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG377412-02	STD-CCV	01	09/29/2011 08:27	
WG377412-03	STD	01	09/29/2011 08:54	
WG377412-04	STD	01	09/29/2011 09:21	
WG377412-05	STD	01	09/29/2011 09:48	
WG377412-06	STD	01	09/29/2011 10:15	
WG377412-07	STD	01	09/29/2011 10:41	
WG377412-08	STD	01	09/29/2011 11:08	
WG377412-09	SSCV	01	09/29/2011 11:35	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2240896
Report generated 12/05/2011 15:04



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L11110795 Tune ID: WG383187-01
Instrument: HPMS7 Run Date: 11/29/2011
Analyst: CAA Run Time: 08:21
Workgroup: WG383187 File ID: 7M53497
Cal ID: HPMS7 - 29-SEP-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	44.1	10172	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	44.4	10235	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	46.5	10730	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	23062	PASS
199	198	5.00	9.00	7.53	1737	PASS
275	198	10.0	30.0	24.5	5650	PASS
365	198	1.00	100	3.92	904	PASS
441	443	0.0100	100	70.3	2714	PASS
442	198	40.0	100	76.7	17692	PASS
443	442	17.0	23.0	21.8	3863	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG383187-02	CCV	01	11/29/2011 08:38	
WG382979-02	BLANK	01	11/29/2011 09:05	
WG382979-03	LCS	01	11/29/2011 09:32	
L11110795-01	40MW7GW112011	01	11/29/2011 10:25	
L11110795-03	40MW5GW112011	01	11/29/2011 10:52	
L11110795-05	40DUPGW112011	01	11/29/2011 11:19	
L11110795-07	40MW5MSGW112011	01	11/29/2011 11:46	
L11110795-09	40MW5MSDGW112011	01	11/29/2011 12:12	
L11110795-11	40112011FB	01	11/29/2011 12:39	
L11110795-12	40EQR112011	01	11/29/2011 13:07	
L11110795-14	40MW6GW112011	01	11/29/2011 13:34	
L11110795-15	40EQRG112111	01	11/29/2011 14:01	
L11110795-16	40LFMW01GW112111	01	11/29/2011 14:28	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2240896
Report generated 12/05/2011 15:04



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L11110795
Analytical Method: 8270C
ICAL Workgroup: WG377412

Instrument ID: HPMS7
Initial Calibration Date: 29-SEP-11 11:08
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Acenaphthene	CCC	1.219	7.60		
Benzo[a]pyrene	CCC	1.175	3.87		
Fluoranthene	CCC	1.266	4.89		
1-Methylnaphthalene		0.6823	6.39		
2-Methylnaphthalene		0.6689	4.93		
Acenaphthylene		1.608	8.28		
Anthracene		1.158	4.73		
Benzo[a]anthracene		1.165	4.45		
Benzo[b]fluoranthene		1.183	6.48		
Benzo[ghi]perylene		1.086	3.88		
Benzo[k]fluoranthene		1.209	11.5		
Chrysene		1.204	6.36		
Dibenz[ah]anthracene		1.074	3.83		
Fluorene		1.139	5.87		
Indeno[1,2,3-cd]pyrene		1.275	3.69		
Naphthalene		1.103	6.03		
Phenanthrene		1.102	3.46		
Pyrene		1.342	5.74		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
PDF File ID: 2240894
Report generated 12/05/2011 15:03



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L11110795
Analytical Method:8270C

Instrument ID:HPMS7
Initial Calibration Date:29-SEP-11 11:08
Column ID:F

Analyte	WG377412-02			WG377412-03			WG377412-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	1.00	158949.000	1.327	10.0	1246985.00	1.086	5.00	600878.000	1.278
Benzo[a]pyrene	1.00	213074.000	1.253	10.0	1801598.00	1.117	5.00	858972.000	1.161
Fluoranthene	1.00	232178.000	1.361	10.0	1895118.00	1.168	5.00	915213.000	1.218
1-Methylnaphthalene	1.00	123063.000	0.7406	10.0	1032423.00	0.6085	5.00	487844.000	0.6445
2-Methylnaphthalene	1.00	120451.000	0.7249	10.0	1056302.00	0.6226	5.00	494527.000	0.6533
Acenaphthylene	1.00	221481.000	1.850	10.0	1666828.00	1.451	5.00	796985.000	1.695
Anthracene	1.00	214991.000	1.260	10.0	1761790.00	1.086	5.00	847128.000	1.127
Benzo[a]anthracene	1.00	221140.000	1.253	10.0	1845707.00	1.088	5.00	849062.000	1.140
Benzo[b]fluoranthene	1.00	221123.000	1.300	10.0	1926988.00	1.195	5.00	892072.000	1.206
Benzo[ghi]perylene	1.00	196158.000	1.153	10.0	1684612.00	1.045	5.00	759510.000	1.027
Benzo[k]fluoranthene	1.00	219535.000	1.291	10.0	1752824.00	1.087	5.00	796619.000	1.077
Chrysene	1.00	222235.000	1.259	10.0	1819448.00	1.073	5.00	857805.000	1.152
Dibenz[ah]anthracene	1.00	195260.000	1.148	10.0	1686678.00	1.046	5.00	762221.000	1.031
Fluorene	1.00	143892.000	1.202	10.0	1199409.00	1.044	5.00	576935.000	1.227
Indeno[1,2,3-cd]pyrene	1.00	231020.000	1.358	10.0	1990771.00	1.234	5.00	903022.000	1.221
Naphthalene	1.00	196402.000	1.182	10.0	1691603.00	0.9970	5.00	794193.000	1.049
Phenanthrene	1.00	198816.000	1.165	10.0	1696947.00	1.046	5.00	814294.000	1.084
Pyrene	1.00	251993.000	1.427	10.0	2054198.00	1.211	5.00	971383.000	1.304

INT_CAL - Modified 03/06/2008
PDF File ID: 2240894
Report generated 12/05/2011 15:03



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L11110795
Analytical Method:8270C

Instrument ID:HPMS7
Initial Calibration Date:29-SEP-11 11:08
Column ID:F

Analyte	WG377412-05			WG377412-06			WG377412-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	2.50	308968.000	1.165	0.500	64484.0000	1.206	0.100	12681.0000	1.149
Benzo[a]pyrene	2.50	443276.000	1.181	0.500	88905.0000	1.209	0.100	17566.0000	1.135
Fluoranthene	2.50	476526.000	1.264	0.500	96304.0000	1.302	0.100	19292.0000	1.259
1-Methylnaphthalene	2.50	255167.000	0.6941	0.500	52866.0000	0.7092	0.100	10396.0000	0.6982
2-Methylnaphthalene	2.50	254561.000	0.6924	0.500	50309.0000	0.6749	0.100	9668.0000	0.6493
Acenaphthylene	2.50	416514.000	1.571	0.500	84194.0000	1.574	0.100	16486.0000	1.494
Anthracene	2.50	437242.000	1.159	0.500	87594.0000	1.184	0.100	17324.0000	1.130
Benzo[a]anthracene	2.50	456257.000	1.159	0.500	90408.0000	1.172	0.100	18524.0000	1.141
Benzo[b]fluoranthene	2.50	451241.000	1.202	0.500	89143.0000	1.212	0.100	16805.0000	1.086
Benzo[ghi]perylene	2.50	408972.000	1.089	0.500	81616.0000	1.110	0.100	16636.0000	1.075
Benzo[k]fluoranthene	2.50	418626.000	1.115	0.500	86481.0000	1.176	0.100	19489.0000	1.259
Chrysene	2.50	461362.000	1.172	0.500	95223.0000	1.234	0.100	20068.0000	1.236
Dibenz[ah]anthracene	2.50	409260.000	1.090	0.500	80790.0000	1.098	0.100	16102.0000	1.040
Fluorene	2.50	297654.000	1.123	0.500	59976.0000	1.121	0.100	11869.0000	1.075
Indeno[1,2,3-cd]pyrene	2.50	482993.000	1.286	0.500	95421.0000	1.297	0.100	19236.0000	1.243
Naphthalene	2.50	394357.000	1.073	0.500	84171.0000	1.129	0.100	16740.0000	1.124
Phenanthrene	2.50	417984.000	1.108	0.500	82275.0000	1.113	0.100	16507.0000	1.077
Pyrene	2.50	517234.000	1.314	0.500	105846.000	1.372	0.100	21646.0000	1.333

INT_CAL - Modified 03/06/2008
PDF File ID: 2240894
Report generated 12/05/2011 15:03



Login Number: L11110795
Analytical Method: 8270C

Instrument ID: HPMS7
Initial Calibration Date: 29-SEP-11 11:08
Column ID: F

Analyte	WG377412-08		
	CONC	RESP	RF
Acenaphthene	0.0500	7022.00000	1.322
Benzo[a]pyrene	0.0500	9183.00000	1.167
Fluoranthene	0.0500	10100.0000	1.293
1-Methylnaphthalene	0.0500	5197.00000	0.6807
2-Methylnaphthalene	0.0500	5074.00000	0.6646
Acenaphthylene	0.0500	8617.00000	1.622
Anthracene	0.0500	9058.00000	1.159
Benzo[a]anthracene	0.0500	9899.00000	1.201
Benzo[b]fluoranthene	0.0500	8515.00000	1.082
Benzo[ghi]perylene	0.0500	8662.00000	1.101
Benzo[k]fluoranthene	0.0500	11499.0000	1.461
Chrysene	0.0500	10720.0000	1.300
Dibenz[ah]anthracene	0.0500	8407.00000	1.068
Fluorene	0.0500	6261.00000	1.178
Indeno[1,2,3-cd]pyrene	0.0500	10113.0000	1.285
Naphthalene	0.0500	8910.00000	1.167
Phenanthrene	0.0500	8783.00000	1.124
Pyrene	0.0500	11804.0000	1.432

INT_CAL - Modified 03/06/2008
PDF File ID: 2240894
Report generated 12/05/2011 15:03



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L11110795	Run Date: 09/29/2011	Sample ID: WG377412-09
Instrument ID: HPMS7	Run Time: 11:35	Method: 8270C
File ID: 7M53024	Analyst: CAA	QC Key: DOD4
ICal Workgroup: WG377412	Cal ID: HPMS7 - 29-SEP-11	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1030	ug/L	1.25	2.80	30	
Fluoranthene	CCC	1000	989	ug/L	1.25	1.10	30	
Benzo[a]pyrene	CCC	1000	1010	ug/L	1.18	0.800	30	
Naphthalene		1000	1000	ug/L	1.11	0.500	30	
Acenaphthylene		1000	1030	ug/L	1.65	2.70	30	
Fluorene		1000	1030	ug/L	1.18	3.30	30	
Phenanthrene		1000	999	ug/L	1.10	0.200	30	
Anthracene		1000	1020	ug/L	1.18	2.20	30	
Pyrene		1000	1010	ug/L	1.35	0.800	30	
Benzo[a]anthracene		1000	940	ug/L	1.10	6.00	30	
Chrysene		1000	983	ug/L	1.18	1.70	30	
Benzo[b]fluoranthene		1000	962	ug/L	1.14	3.80	30	
Benzo[k]fluoranthene		1000	918	ug/L	1.11	8.20	30	
Indeno[1,2,3-cd]pyrene		1000	990	ug/L	1.26	1.10	30	
Dibenz[ah]anthracene		1000	955	ug/L	1.03	4.50	30	
Benzo[ghi]perylene		1000	991	ug/L	1.08	1.00	30	
1-Methylnaphthalene		1000	955	ug/L	0.651	4.50	30	
2-Methylnaphthalene		1000	1030	ug/L	0.691	3.40	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2240895
Report generated 12/05/2011 15:04



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383187-02
Instrument ID: HPMS7 Run Time: 08:38 Method: 8270C
File ID: 7M53498 Analyst: CAA QC Key: DOD4
Workgroup (AAB#): WG383080 Cal ID: HPMS7 - 29-SEP-11
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	994	ug/L	1.21	0.640	20	
Fluoranthene	CCC	1000	993	ug/L	1.26	0.690	20	
Benzo[a]pyrene	CCC	1000	1000	ug/L	1.18	0.460	20	
Naphthalene		1000	991	ug/L	1.09	0.940	20	
Acenaphthylene		1000	978	ug/L	1.57	2.24	20	
Fluorene		1000	983	ug/L	1.12	1.70	20	
Phenanthrene		1000	977	ug/L	1.08	2.35	20	
Anthracene		1000	939	ug/L	1.09	6.15	20	
Pyrene		1000	1020	ug/L	1.37	2.07	20	
Benzo[a]anthracene		1000	987	ug/L	1.15	1.31	20	
Chrysene		1000	996	ug/L	1.20	0.400	20	
Benzo[b]fluoranthene		1000	1030	ug/L	1.21	2.61	20	
Benzo[k]fluoranthene		1000	1020	ug/L	1.23	1.79	20	
Indeno[1,2,3-cd]pyrene		1000	1000	ug/L	1.28	0.340	20	
Dibenz[ah]anthracene		1000	998	ug/L	1.07	0.200	20	
Benzo[ghi]perylene		1000	1010	ug/L	1.09	0.530	20	
1-Methylnaphthalene		1000	1010	ug/L	0.686	0.510	20	
2-Methylnaphthalene		1000	994	ug/L	0.665	0.630	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2240897
Report generated 12/05/2011 15:04



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS7
Workgroup (AAB#): WG383080

ICAL CCV Number: WG377412-02
CAL ID: HPMS7 - 29-SEP-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG377412-02	NA	NA	119749	176548	166156	170114	170610
Upper Limit	NA	NA	239498	353096	332312	340228	341220
Lower Limit	NA	NA	59875	88274	83078	85057	85305
<u>L11110795-01</u>	<u>1.00</u>	<u>01</u>	<u>74611</u>	<u>119685</u>	<u>108338</u>	<u>119063</u>	<u>96942</u>
L11110795-03	1.00	01	75737	122399	109618	116483	108861
L11110795-05	1.00	01	74349	114138	108896	106781	108275
L11110795-07	1.00	01	84444	130046	125034	131755	117932
L11110795-09	1.00	01	79193	123045	118005	124176	110030
L11110795-11	1.00	01	69128	104540	102233	106951	98481
L11110795-12	1.00	01	68560	105436	100957	107019	98027
L11110795-14	1.00	01	69195	110016	103432	109730	98480
L11110795-15	1.00	01	75778	121251	113580	121826	108289
L11110795-16	1.00	01	66970	104158	100166	104633	98054
WG382979-02	1.00	01	82647	122919	118329	123833	114809
WG382979-03	1.00	01	78106	122031	115828	122907	112725

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2240898
Report generated 12/05/2011 15:04



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L11110795
Instrument ID: HPMS7
Workgroup (AAB#): WG383080

ICAL CCV Number: WG377412-02
CAL ID: HPMS7 - 29-SEP-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG377412-02	NA	NA	8.13	13.34	5.94	15.49	9.98
Upper Limit	NA	NA	8.63	13.84	6.44	15.99	10.48
Lower Limit	NA	NA	7.63	12.84	5.44	14.99	9.48
L11110795-01	1.00	01	8.04	13.26	5.87	15.35	9.9
L11110795-03	1.00	01	8.05	13.26	5.87	15.35	9.9
L11110795-05	1.00	01	8.05	13.26	5.87	15.35	9.9
L11110795-07	1.00	01	8.04	13.26	5.87	15.35	9.9
L11110795-09	1.00	01	8.05	13.26	5.87	15.35	9.9
L11110795-11	1.00	01	8.05	13.26	5.87	15.36	9.9
L11110795-12	1.00	01	8.05	13.26	5.87	15.36	9.9
L11110795-14	1.00	01	8.05	13.26	5.87	15.36	9.9
L11110795-15	1.00	01	8.05	13.26	5.87	15.35	9.9
L11110795-16	1.00	01	8.05	13.26	5.87	15.35	9.9
WG382979-02	1.00	01	8.05	13.26	5.87	15.35	9.9
WG382979-03	1.00	01	8.05	13.26	5.87	15.36	9.9

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits





Login Number: L11110795
Department: General Chromatography
Analyst: John W. Richards Jr.

METHOD

Analysis SW-846 6850

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Perchlorate. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration

is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 39506

Approved By: Mike Cochran



METHOD BLANK SUMMARY

Login Number: L11110795
 Blank File ID: 1LM.LM14775
 Prep Date: 11/29/11 15:08
 Analyzed Date: 11/29/11 16:05
 Analyst: JWR

Work Group: WG383266
 Blank Sample ID: WG383266-02
 Instrument ID: LCMS1
 Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG383266-07	1LM.LM14773	11/29/11 15:27	01
MCT	WG383266-01	1LM.LM14774	11/29/11 15:46	01
LCS	WG383266-03	1LM.LM14776	11/29/11 16:24	01
40MW7GW112011	L11110795-01	1LM.LM14777	11/29/11 16:43	01
40MW5GW112011	L11110795-03	1LM.LM14778	11/29/11 17:02	01
40DUPGW112011	L11110795-05	1LM.LM14779	11/29/11 17:21	01
40MW5MSGW112011	L11110795-07	1LM.LM14780	11/29/11 17:40	01
40MW5MSDGW112011	L11110795-09	1LM.LM14781	11/29/11 17:59	01
40112011FB	L11110795-11	1LM.LM14782	11/29/11 18:17	01
40EQR112011	L11110795-12	1LM.LM14783	11/29/11 18:36	01
QCMRL	WG383266-08	1LM.LM14785	11/29/11 19:14	01
40MW6GW112011	L11110795-14	1LM.LM14787	11/29/11 19:52	01
40EQRG112111	L11110795-15	1LM.LM14788	11/29/11 20:11	01
40LFMW01GW112111	L11110795-16	1LM.LM14789	11/29/11 20:30	01
QCMRL	WG383266-09	1LM.LM14793	11/29/11 21:46	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2238615
 Report generated 12/07/2011 11:04



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/29/11 15:08 Sample ID: WG383266-02
Instrument ID: LCMS1 Run Date: 11/29/11 16:05 Prep Method: 6850
File ID: 1LM.LM14775 Analyst: JWR Method: 6850
Workgroup (AAB#): WG383266 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-21-NOV-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Perchlorate	0.100	0.200	0.100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2238616

07-DEC-2011 11:04



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383266-03
Instrument ID: LCMS1 Run Time: 16:24 Prep Method: 6850
File ID: 1LM.LM14776 Analyst: JWR Method: 6850
Workgroup (AAB#): WG383266 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD48824 Cal ID: LCMS1-21-NOV-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	0.200	0.194	97.0	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2238617
Report generated: 12/07/2011 11:04



MS/MSD REPORT

Loginnum: L11110795 Cal ID: LCMS1- 21-NOV-11 Worknum: WG383266
Instrument ID: LCMS1 Contract #: _____ Prep Method: 6850
Parent ID: L11110795-03 File ID: ILM.LM14778 Dil: 1 Method: 6850
Sample ID: L11110795-07 MS File ID: ILM.LM14780 Dil: 1 Matrix: Water
Sample ID: L11110795-09 MSD File ID: ILM.LM14781 Dil: 1 Units: ug/L

Analyte	Parent	MS	MS	MS	MSD	MSD	MSD	%RPD	%Rec Limits	RPD Limit	Q
		Spiked	Found	%Rec	Spiked	Found	%Rec				
Perchlorate	1.55	0.200	1.73	90	0.200	1.70	75	1.75	80 - 120	15	*

* FAILS %REC LIMIT

FAILS RPD LIMIT



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L11110795 Instrument ID: LCMS1
Analytical Method: 6850 Initial Calibration Date: 21-NOV-11 17:54
ICAL Workgroup: WG382693 Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		0.9960	3.04	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2245966
Report generated 12/07/2011 11:04



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L11110795
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 21-NOV-11 17:54
Column ID: F

Analyte	WG382693-02			WG382693-03			WG382693-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	6650.00000	1.010	0.200	13200.0000	0.9830	0.500	33900.0000	1.018

INT_CAL - Modified 03/06/2008
PDF File ID: 2245966
Report generated 12/07/2011 11:04



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L11110795
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 21-NOV-11 17:54
Column ID: F

Analyte	WG382693-05			WG382693-06			WG382693-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	65600.0000	0.9820	2.00	137000.000	1.043	5.00	320000.000	0.9770

INT_CAL - Modified 03/06/2008
PDF File ID: 2245966
Report generated 12/07/2011 11:04



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L11110795
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 21-NOV-11 17:54
Column ID: F

Analyte	WG382693-08		
	CONC	RESP	RF
Perchlorate	10.0	628000.000	0.9590

INT_CAL - Modified 03/06/2008
PDF File ID: 2245966
Report generated 12/07/2011 11:04



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L11110795 Run Date: 11/21/2011 Sample ID: WG382693-09
Instrument ID: LCMS1 Run Time: 18:13 Method: 6850
File ID: 1LM.LM14672 Analyst: JWR QC Key: DOD4
ICal Workgroup: WG382693 Cal ID: LCMS1 - 21-NOV-11

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	0.957	ug/L	0.940	4.30	15	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2245967
Report generated 12/07/2011 11:04



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383267-01
Instrument ID: LCMS1 Run Time: 14:49 Method: 6850
File ID: 1LM.LM14771 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG383266 Cal ID: LCMS1 - 21-NOV-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2238621
Report generated 12/07/2011 11:04



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383267-04
Instrument ID: LCMS1 Run Time: 19:33 Method: 6850
File ID: 1LM.LM14786 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG383266 Cal ID: LCMS1 - 21-NOV-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2238621
Report generated 12/07/2011 11:04



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383267-06
Instrument ID: LCMS1 Run Time: 22:05 Method: 6850
File ID: 1LM.LM14794 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG383266 Cal ID: LCMS1 - 21-NOV-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2238621
Report generated 12/07/2011 11:04



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383267-02
Instrument ID: LCMS1 Run Time: 15:08 Method: 6850
File ID: 1LM.LM14772 Analyst: JWR QC Key: DOD4
Workgroup (AAB#): WG383266 Cal ID: LCMS1 - 21-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	1.04	ug/L	1.02	4.00	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2238620
Report generated 12/07/2011 11:04



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383267-03
Instrument ID: LCMS1 Run Time: 18:55 Method: 6850
File ID: 1LM.LM14784 Analyst: JWR QC Key: DOD4
Workgroup (AAB#): WG383266 Cal ID: LCMS1 - 21-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.982	ug/L	0.964	1.80	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2238620
Report generated 12/07/2011 11:04



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383267-05
Instrument ID: LCMS1 Run Time: 21:27 Method: 6850
File ID: 1LM.LM14792 Analyst: JWR QC Key: DOD4
Workgroup (AAB#): WG383266 Cal ID: LCMS1 - 21-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.991	ug/L	0.972	0.900	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2238620
Report generated 12/07/2011 11:04



QCMRL SAMPLE

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383266-07
Instrument ID: LCMS1 Run Time: 15:27 Prep Method: 6850
File ID: 1LM.LM14773 Analyst: JWR Method: 6850
Workgroup (AAB#): WG383266 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-21-NOV-11

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.206	103	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 2238619
Report generated 12/07/2011 11:04



QCMRL SAMPLE

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383266-08
Instrument ID: LCMS1 Run Time: 19:14 Prep Method: 6850
File ID: 1LM.LM14785 Analyst: JWR Method: 6850
Workgroup (AAB#): WG383266 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-21-NOV-11

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.204	102	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 2238619
Report generated 12/07/2011 11:04



QCMRL SAMPLE

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383266-09
Instrument ID: LCMS1 Run Time: 21:46 Prep Method: 6850
File ID: 1LM.LM14793 Analyst: JWR Method: 6850
Workgroup (AAB#): WG383266 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-21-NOV-11

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.210	105	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 2238619
Report generated 12/07/2011 11:04



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number: L11110795
Instrument ID: LCMS1
Workgroup (AAB#): WG383266

ICAL CCV Number: WG382693-05
CAL ID: LCMS1 - 21-NOV-11
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG382693	NA	NA	331000
Upper Limit	NA	NA	496500
Lower Limit	NA	NA	165500
L11110795-01	1.00	01	348000
L11110795-03	1.00	01	281000
L11110795-05	1.00	01	285000
L11110795-07	1.00	01	283000
L11110795-09	1.00	01	280000
L11110795-11	1.00	01	316000
L11110795-12	1.00	01	333000
L11110795-14	1.00	01	288000
L11110795-15	1.00	01	323000
L11110795-16	1.00	01	282000
WG383266-02	1.00	01	354000
WG383266-03	1.00	01	362000

IS-1 - 018LP

Underline = Response outside limits



Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 16:43

Samplenum: L11110795-01
File ID: 1LM.LM14777
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	305000	103000	2.96	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 17:02

Samplenum: L11110795-03
File ID: 1LM.LM14778
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	85400	30400	2.81	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
---------	------------	-------	-------	---

Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 17:21

Samplenum: L11110795-05
File ID: 1LM.LM14779
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	86300	30200	2.86	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 17:40

Samplenum: L11110795-07
File ID: 1LM.LM14780
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	95800	31300	3.06	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
---------	------------	-------	-------	---

Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 17:59

Samplenum: L11110795-09
File ID: 1LM.LM14781
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	93300	33400	2.79	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 18:17

Samplenum: L11110795-11
File ID: 1LM.LM14782
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	78.6	0.000	2.3	3.8	*

Analyte	% Recovery	Lower	Upper	Q
---------	------------	-------	-------	---

Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 18:36

Samplenum: L11110795-12
File ID: 1LM.LM14783
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	534	0.000	0.000	2.3	3.8	*

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 19:52

Samplenum: L11110795-14
File ID: 1LM.LM14787
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	50200	18600	2.70	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 20:11

Samplenum: L11110795-15
File ID: 1LM.LM14788
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 20:30

Samplenum: L11110795-16
File ID: 1LM.LM14789
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	531000	184000	2.89	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 11/21/2011 16:00

Samplenum: WG382693-02
File ID: 1LM.LM14665
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	6650	2510	2.65	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 11/21/2011 16:19

Samplenum: WG382693-03
File ID: 1LM.LM14666
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	13200	4850	2.72	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
---------	------------	-------	-------	---

Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 11/21/2011 16:38

Samplenum: WG382693-04
File ID: 1LM.LM14667
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	33900	11700	2.90	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
---------	------------	-------	-------	---

Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 11/21/2011 16:57

Samplenum: WG382693-05
File ID: 1LM.LM14668
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	65600	22900	2.86	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
---------	------------	-------	-------	---

Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 11/21/2011 17:16

Samplenum: WG382693-06
File ID: 1LM.LM14669
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	137000	46300	2.96	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
---------	------------	-------	-------	---



Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 11/21/2011 17:35

Samplenum: WG382693-07
File ID: 1LM.LM14670
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	320000	112000	2.86	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
---------	------------	-------	-------	---

Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 11/21/2011 17:54

Samplenum: WG382693-08
File ID: 1LM.LM14671
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	628000	217000	2.89	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 11/21/2011 18:13

Samplenum: WG382693-09
File ID: 1LM.LM14672
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	63400	22700	2.79	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
---------	------------	-------	-------	---

Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 15:46

Samplenum: WG383266-01
File ID: 1LM.LM14774
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	13900	4330	3.21	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 16:05

Samplenum: WG383266-02
File ID: 1LM.LM14775
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 16:24

Samplenum: WG383266-03
File ID: 1LM.LM14776
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	14300	5170	2.77	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
---------	------------	-------	-------	---

Login #: L11110795	Prep Method: 6850	Samplenum: WG383266-07
Instrument: LCMS1	Prep Date: 11/29/2011 15:08	File ID: 1LM.LM14773
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG383266	Analysis Date: 11/29/2011 15:27	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	14500	4580	3.17	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 19:14

Samplenum: WG383266-08
File ID: 1LM.LM14785
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	14100	4280	3.29	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: 6850
Prep Date: 11/29/2011 15:08
Anal Method: 6850
Analysis Date: 11/29/2011 21:46

Samplenum: WG383266-09
File ID: 1LM.LM14793
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	14400	4860	2.96	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 11/29/2011 14:49

Samplenum: WG383267-01
File ID: 1LM.LM14771
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	56.1	0.000	2.3	3.8	*

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 11/29/2011 15:08

Samplenum: WG383267-02
File ID: 1LM.LM14772
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	71000	24900	2.85	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 11/29/2011 18:55

Samplenum: WG383267-03
File ID: 1LM.LM14784
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	65600	24000	2.73	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 11/29/2011 19:33

Samplenum: WG383267-04
File ID: 1LM.LM14786
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	144	0.000	2.3	3.8	*

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 11/29/2011 21:27

Samplenum: WG383267-05
File ID: 1LM.LM14792
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	67200	23100	2.91	2.3	3.8	

Analyte	% Recovery	Lower	Upper	Q
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Login #: L11110795
Instrument: LCMS1
Analyst: JWR
Worknum: WG383266

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 11/29/2011 22:05

Samplenum: WG383267-06
File ID: 1LM.LM14794
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Analyte	% Recovery	Lower	Upper	Q
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Login Number: L11110795
Department: General Chromatography
Analyst: Eric Lawson

METHOD

Analysis SW-846 8081A

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 20%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Endrin ketone. Please see the applicable QC report for a detailed presentation of the failures.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Endrin ketone. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

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

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 39391

Approved By: Eric Lawson

A handwritten signature in black ink, appearing to read "Eric C. Lawson", is written over a light gray rectangular background.

Microbac Laboratories Inc.
Sample Extract Log

Workgroup:WG382978
Analyst:CPD
Spike Analyst:CPD
Method:3510C
Run Date:11/23/2011 16:00
SOP:EXP01 Revision 13
Spike Witness:CAF
Surr Solution:STD48283

Methylene Chloride Lot #:COA15754
Hexane Lot #:COA15768
Sodium Sulfate,Anhydrous,Granular (Lot #:COA15761
Florisol Disposable Column Lot #:COA15752
94:6 Hexane:Ether Lot #:RGT16717
50:50 Hexane:Ether Lot #:RGT16623

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L11110795-01	SAMP		N	8081	950 mL	.2 mL			10 mL	Transparent
2	L11110795-03	RS01		N	8081	920 mL	.2 mL			10 mL	Transparent
3	L11110795-05	SAMP		N	8081	850 mL	.2 mL			10 mL	Transparent
4	L11110795-07	MS01	L11110795-03	N	8081	850 mL	.2 mL	.25 mL	STD47832	10 mL	Transparent
5	L11110795-09	SD01	L11110795-03	N	8081	1000 mL	.2 mL	.25 mL	STD47832	10 mL	Transparent
6	L11110795-11	SAMP		N	8081	1000 mL	.2 mL			10 mL	Transparent
7	L11110795-12	SAMP		N	8081	900 mL	.2 mL			10 mL	Transparent
8	L11110795-14	SAMP		N	8081	1000 mL	.2 mL			10 mL	Transparent
9	L11110795-15	SAMP		N	8081	860 mL	.2 mL			10 mL	Transparent
10	L11110795-16	SAMP		N	8081	840 mL	.2 mL			10 mL	Transparent
11	L11110800-01	SAMP		N	608	1000 mL	.2 mL			10 mL	Transparent
12	WG382978-01	REF	L11110795-03	N	8081	920 mL	.2 mL			10 mL	Transparent
13	WG382978-02	BLANK		N	608	1000 mL	.2 mL			10 mL	Transparent
14	WG382978-03	LCS		N	608	1000 mL	.2 mL	.25 mL	STD47832	10 mL	Transparent
15	WG382978-04	MS	L11110795-03	N	8081	850 mL	.2 mL	.25 mL	STD47832	10 mL	Transparent
16	WG382978-05	MSD	L11110795-03	N	8081	1000 mL	.2 mL	.25 mL	STD47832	10 mL	Transparent

Clean-ups	
Florisol	3620B

Analyst: Cheryl A. Flowers

Reviewer: Cheryl A. Flowers

EXTRACT - Modified 10/22/2008
PDF ID: 2235222
Report generated: 11/28/2011 08:26



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L11110795
Instrument Id: HP15
Workgroup (AAB#): WG383059

Method: 8081
CAL ID: HP15 - 25-OCT-11
Matrix: Water

Sample Number	Dilution	Tag	1	2
L11110795-01	1.00	01	67.2	38.9
L11110795-03	1.00	01	80.0	76.1
L11110795-05	1.00	01	78.9	76.0
L11110795-07	1.00	01	87.1	76.3
L11110795-09	1.00	01	84.2	95.0
L11110795-11	1.00	01	71.9	106
L11110795-12	1.00	01	97.1	80.7
L11110795-14	1.00	01	91.9	112
L11110795-15	1.00	01	92.9	110
L11110795-16	1.00	01	91.8	51.9
WG382978-02	1.00	01	65.9	107
WG382978-03	1.00	01	70.6	110

Surrogates	Surrogate Limits
1 - 2,4,5,6-Tetrachloro-m-xylene	25 - 140
2 - Decachlorobiphenyl	30 - 135

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2238997
Report generated: 12/02/2011 11:57



METHOD BLANK SUMMARY

Login Number: <u>L11110795</u>	Work Group: <u>WG383059</u>
Blank File ID: <u>15G29323.R</u>	Blank Sample ID: <u>WG382978-02</u>
Prep Date: <u>11/23/11 16:00</u>	Instrument ID: <u>HP15</u>
Analyzed Date: <u>11/29/11 06:53</u>	Method: <u>8081A</u>
Analyst: <u>ECL</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG382978-03	15G29324.R	11/29/11 07:21	01
40MW7GW112011	L11110795-01	15G29326.R	11/29/11 08:18	01
40MW5GW112011	L11110795-03	15G29327.R	11/29/11 08:46	01
40MW5MSGW112011	L11110795-07	15G29328.R	11/29/11 09:14	01
40MW5MSDGW112011	L11110795-09	15G29329.R	11/29/11 09:43	01
40DUPGW112011	L11110795-05	15G29330.R	11/29/11 10:11	01
40112011FB	L11110795-11	15G29331.R	11/29/11 10:40	01
40EQR112011	L11110795-12	15G29332.R	11/29/11 11:08	01
40MW6GW112011	L11110795-14	15G29333.R	11/29/11 11:36	01
40EQRG112111	L11110795-15	15G29336.R	11/29/11 13:01	01
40LFMW01GW112111	L11110795-16	15G29337.R	11/29/11 13:30	01

Report Name: BLANK_SUMMARY
PDF File ID: 2239042
Report generated 12/02/2011 11:57



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/23/11 16:00 Sample ID: WG382978-02
 Instrument ID: HP15 Run Date: 11/29/11 06:53 Prep Method: 3510C
 File ID: 15G29323.R Analyst: ECL Method: 8081A
 Workgroup (AAB#): WG383059 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HP15 - 25-OCT-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
4,4'-DDD	0.0100	0.0500	0.0100	1	U
4,4'-DDE	0.0100	0.0500	0.0100	1	U
4,4'-DDT	0.0100	0.0500	0.0100	1	U
Aldrin	0.0100	0.0500	0.0100	1	U
alpha Chlordane	0.0100	0.0500	0.0100	1	U
alpha-BHC	0.0100	0.0500	0.0100	1	U
beta-BHC	0.0100	0.0500	0.0100	1	U
delta-BHC	0.0100	0.0500	0.0100	1	U
Dieldrin	0.0100	0.0500	0.0100	1	U
Endosulfan I	0.0100	0.0500	0.0100	1	U
Endosulfan II	0.0100	0.0500	0.0100	1	U
Endosulfan sulfate	0.0100	0.0500	0.0100	1	U
Endrin	0.0100	0.0500	0.0100	1	U
Endrin aldehyde	0.0100	0.0500	0.0100	1	U
Endrin ketone	0.0100	0.0500	0.0100	1	U
gamma Chlordane	0.0100	0.0500	0.0100	1	U
gamma-BHC (Lindane)	0.0100	0.0500	0.0100	1	U
Heptachlor	0.0100	0.0500	0.0100	1	U
Heptachlor epoxide	0.0100	0.0500	0.0100	1	U
Methoxychlor	0.0100	0.0500	0.0100	1	U
Toxaphene	0.300	1.00	0.300	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	65.9	25 - 140	PASS
Decachlorobiphenyl	107	30 - 135	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2239043

02-DEC-2011 11:57



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG382978-03
Instrument ID: HP15 Run Time: 07:21 Prep Method: 3510C
File ID: 15G29324.R Analyst: ECL Method: 8081A
Workgroup (AAB#): WG383059 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD47832 Cal ID: HP15 - 25-OCT-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
4,4'-DDD	0.500	0.582	116	25 - 150	
4,4'-DDE	0.500	0.579	116	35 - 140	
4,4'-DDT	0.500	0.578	116	45 - 140	
Aldrin	0.500	0.447	89.4	25 - 140	
alpha Chlordane	0.500	0.533	107	65 - 125	
alpha-BHC	0.500	0.447	89.4	60 - 130	
beta-BHC	0.500	0.492	98.5	65 - 125	
delta-BHC	0.500	0.560	112	45 - 135	
Dieldrin	0.500	0.553	111	60 - 130	
Endosulfan I	0.500	0.438	87.7	50 - 110	
Endosulfan II	0.500	0.452	90.3	30 - 130	
Endosulfan sulfate	0.500	0.464	92.7	55 - 135	
Endrin	0.500	0.500	100	55 - 135	
Endrin aldehyde	0.500	0.432	86.4	55 - 135	
Endrin ketone	0.500	0.549	110	75 - 125	
gamma Chlordane	0.500	0.545	109	60 - 125	
gamma-BHC (Lindane)	0.500	0.481	96.1	25 - 135	
Heptachlor	0.500	0.469	93.8	40 - 130	
Heptachlor epoxide	0.500	0.528	106	60 - 130	
Methoxychlor	0.500	0.536	107	55 - 150	

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	70.6	25 - 140	PASS
Decachlorobiphenyl	110	30 - 135	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2238995
Report generated: 12/02/2011 11:57



MS/MSD REPORT

Loginnum: L11110795

Cal ID: HP15- 25-OCT-11

Worknum: WG383059

Instrument ID: HP15

Contract #:

Prep Method: 3510C

Parent ID: L11110795-03

File ID: 15G29327.F

Dil: 1

Method: 8081A

Sample ID: L11110795-07 MS

File ID: 15G29328.F

Dil: 1

Matrix: Water

Sample ID: L11110795-09 MSD

File ID: 15G29329.F

Dil: 1

Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
4,4'-DDD	U	0.588	0.752	128	0.500	0.607	121	21.2	25 - 150	30	
4,4'-DDE	U	0.588	0.684	116	0.500	0.575	115	17.4	35 - 140	30	
4,4'-DDT	U	0.588	0.747	127	0.500	0.621	124	18.5	45 - 140	30	
Aldrin	U	0.588	0.517	87.9	0.500	0.442	88.4	15.7	25 - 140	30	
alpha Chlordane	U	0.588	0.682	116	0.500	0.573	115	17.4	65 - 125	30	
alpha-BHC	U	0.588	0.591	100	0.500	0.496	99.1	17.6	60 - 130	30	
beta-BHC	U	0.588	0.624	106	0.500	0.508	102	20.6	65 - 125	30	
delta-BHC	U	0.588	0.713	121	0.500	0.580	116	20.7	45 - 135	30	
Dieldrin	U	0.588	0.722	123	0.500	0.593	119	19.7	60 - 130	30	
Endosulfan I	U	0.588	0.536	91.2	0.500	0.442	88.4	19.2	50 - 110	30	
Endosulfan II	U	0.588	0.564	95.8	0.500	0.446	89.3	23.2	30 - 130	30	
Endosulfan sulfate	U	0.588	0.826	141	0.500	0.645	129	24.7	55 - 135	30	*
Endrin	U	0.588	0.668	114	0.500	0.544	109	20.4	55 - 135	30	
Endrin aldehyde	U	0.588	0.585	99.5	0.500	0.463	92.6	23.3	55 - 135	30	
Endrin ketone	U	0.588	0.753	128	0.500	0.591	118	24.2	75 - 125	30	*
gamma Chlordane	U	0.588	0.684	116	0.500	0.561	112	19.8	60 - 125	30	
gamma-BHC (Lindane)	U	0.588	0.595	101	0.500	0.495	99.1	18.2	25 - 135	30	
Heptachlor	U	0.588	0.570	96.9	0.500	0.479	95.7	17.4	40 - 130	30	
Heptachlor epoxide	U	0.588	0.635	108	0.500	0.526	105	18.8	60 - 130	30	
Methoxychlor	U	0.588	0.671	114	0.500	0.546	109	20.6	55 - 150	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2238996

Report generated 12/02/2011 11:57



MS/MSD REPORT

Loginnum: L11110795Cal ID: HP15- 25-OCT-11Worknum: WG383059Instrument ID: HP15

Contract #:

Prep Method: 3510CParent ID: L11110795-03File ID: 15G29327.RDil: 1Method: 8081ASample ID: L11110795-07 MSFile ID: 15G29328.RDil: 1Matrix: WaterSample ID: L11110795-09 MSDFile ID: 15G29329.RDil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
4,4'-DDD	U	0.588	0.769	131	0.500	0.636	127	18.8	25 - 150	30	
4,4'-DDE	U	0.588	0.751	128	0.500	0.631	126	17.4	35 - 140	30	
4,4'-DDT	U	0.588	0.762	130	0.500	0.640	128	17.4	45 - 140	30	
Aldrin	U	0.588	0.612	104	0.500	0.519	104	16.6	25 - 140	30	
alpha Chlordane	U	0.588	0.706	120	0.500	0.583	117	19.1	65 - 125	30	
alpha-BHC	U	0.588	0.619	105	0.500	0.525	105	16.6	60 - 130	30	
beta-BHC	U	0.588	0.635	108	0.500	0.525	105	19.0	65 - 125	30	
delta-BHC	U	0.588	0.617	105	0.500	0.499	99.8	21.1	45 - 135	30	
Dieldrin	U	0.588	0.731	124	0.500	0.605	121	18.8	60 - 130	30	
Endosulfan I	U	0.588	0.547	93	0.500	0.454	90.7	18.7	50 - 110	30	
Endosulfan II	U	0.588	0.578	98.3	0.500	0.469	93.9	20.8	30 - 130	30	
Endosulfan sulfate	U	0.588	0.649	110	0.500	0.508	102	24.3	55 - 135	30	
Endrin	U	0.588	0.666	113	0.500	0.552	110	18.6	55 - 135	30	
Endrin aldehyde	U	0.588	0.583	99.1	0.500	0.470	94	21.5	55 - 135	30	
Endrin ketone	U	0.588	0.754	128	0.500	0.599	120	22.8	75 - 125	30	*
gamma Chlordane	U	0.588	0.718	122	0.500	0.593	119	19.0	60 - 125	30	
gamma-BHC (Lindane)	U	0.588	0.646	110	0.500	0.544	109	17.1	25 - 135	30	
Heptachlor	U	0.588	0.620	105	0.500	0.525	105	16.5	40 - 130	30	
Heptachlor epoxide	U	0.588	0.691	117	0.500	0.585	117	16.5	60 - 130	30	
Methoxychlor	U	0.588	0.882	150	0.500	0.744	149	16.9	55 - 150	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2238996

Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L11110795
Analytical Method: 8081A
ICAL Workgroup: WG380130

Instrument ID: HP15
Initial Calibration Date: 25-OCT-11 18:23
Column ID: R

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Toxaphene-1		779300	6.57		
Toxaphene-2		2402000	1.88		
Toxaphene-3		697800	2.38		
Toxaphene-4		1771000	1.84		
Toxaphene-5		655900	4.38		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

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PDF File ID: 2239045
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Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L11110795
Analytical Method: 8081A
ICAL Workgroup: WG380132

Instrument ID: HP15
Initial Calibration Date: 25-OCT-11 21:41
Column ID: R

Analyte	AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
4,4'-DDD	63880000	8.16		
4,4'-DDE	77590000	2.53		
4,4'-DDT	63240000	3.14		
Aldrin	90230000	3.10		
Dieldrin	80810000	5.10		
Endosulfan I	78630000	10.3		
Endosulfan II	69660000	11.3		
Endosulfan Sulfate	60310000	15.3		
Endrin	74810000	7.87		
Endrin Aldehyde	56160000	13.8		
Endrin Ketone	63800000	10.7		
Heptachlor	93360000	6.17		
Heptachlor Epoxide	82430000	7.34		
Methoxychlor	31720000	14.1		
alpha-BHC	113400000	5.40		
alpha-Chlordane	85740000	10.1		
beta-BHC	48720000	10.0		
delta-BHC	104300000	4.02		
gamma-BHC	105500000	2.66		
gamma-Chlordane	87590000	5.33		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2239045
Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L11110795
Analytical Method: 8081A

Instrument ID: HP15
Initial Calibration Date: 25-OCT-11 18:23
Column ID: R

Analyte	WG380130-01			WG380130-02			WG380130-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Toxaphene-1	2000	1444344240	722200	1000	745943472	745900	500	389055808	778100
Toxaphene-2	2000	4743505280	2372000	1000	2421163750	2421000	500	1218944460	2438000
Toxaphene-3	2000	1361842320	680900	1000	694633192	694600	500	350570499	701100
Toxaphene-4	2000	3511650630	1756000	1000	1774264480	1774000	500	898758995	1798000
Toxaphene-5	2000	1370688440	685300	1000	675269887	675300	500	328563271	657100

INT_CAL - Modified 03/06/2008
PDF File ID: 2239045
Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L11110795
Analytical Method: 8081A

Instrument ID: HP15
Initial Calibration Date: 25-OCT-11 18:23
Column ID: R

Analyte	WG380130-04			WG380130-05		
	CONC	RESP	RF	CONC	RESP	RF
Toxaphene-1	200	158875480	794400	100	85602480.0	856000
Toxaphene-2	200	467838763	2339000	100	244204725	2442000
Toxaphene-3	200	137580707	687900	100	72416150.0	724200
Toxaphene-4	200	344597361	1723000	100	180260113	1803000
Toxaphene-5	200	122180913	610900	100	65067269.0	650700

INT_CAL - Modified 03/06/2008
PDF File ID: 2239045
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Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L11110795
Analytical Method:8081A

Instrument ID:HP15
Initial Calibration Date:25-OCT-11 21:41
Column ID:R

Analyte	WG380132-01			WG380132-02			WG380132-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
4,4'-DDD	200	12420218700	62100000	100	6159816450	61600000	20.0	1242285310	62110000
4,4'-DDE	200	15716036700	78580000	100	7833134470	78330000	20.0	1564045920	78200000
4,4'-DDT	200	12886489500	64430000	100	6358143010	63580000	20.0	1268048510	63400000
Aldrin	200	17439548800	87200000	100	9093257230	90930000	20.0	1853037830	92650000
Dieldrin	200	15542627100	77710000	100	7914837210	79150000	20.0	1627714160	81390000
Endosulfan I	200	14048230800	70240000	100	7210547970	72110000	20.0	1541795510	77090000
Endosulfan II	200	12584427600	62920000	100	6392681190	63930000	20.0	1369334890	68470000
Endosulfan Sulfate	200	10794015000	53970000	100	5385780160	53860000	20.0	1153064430	57650000
Endrin	200	13924882200	69620000	100	7110109890	71100000	20.0	1472445150	73620000
Endrin Aldehyde	200	9517253010	47590000	100	4854219640	48540000	20.0	1100544870	55030000
Endrin Ketone	200	11885430400	59430000	100	5936059260	59360000	20.0	1243692550	62180000
Heptachlor	200	17022505800	85110000	100	8926072350	89260000	20.0	1908067830	95400000
Heptachlor Epoxide	200	15002035300	75010000	100	7963982670	79640000	20.0	1693313390	84670000
Methoxychlor	200	5564589870	27820000	100	2799842690	28000000	20.0	610281144	30510000
alpha-BHC	200	23838120800	119200000	100	11950916300	119500000	20.0	2352758140	117600000
alpha-Chlordane	200	16124988100	80620000	100	8086801930	80870000	20.0	1664828380	83240000
beta-BHC	200	8917191790	44590000	100	4488022920	44880000	20.0	952968042	47650000
delta-BHC	200	21164888800	105800000	100	10610550500	106100000	20.0	2137728680	106900000
gamma-BHC	200	21450863300	107300000	100	10789139800	107900000	20.0	2156633440	107800000
gamma-Chlordane	200	17129177400	85650000	100	8549594280	85500000	20.0	1742183620	87110000

INT_CAL - Modified 03/06/2008
PDF File ID: 2239045
Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L11110795
Analytical Method:8081A

Instrument ID:HP15
Initial Calibration Date:25-OCT-11 21:41
Column ID:R

Analyte	WG380132-04			WG380132-05			WG380132-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
4,4'-DDD	10.0	595854884	59590000	4.00	254870656	63720000	1.00	74164091.0	74160000
4,4'-DDE	10.0	742926790	74290000	4.00	319188168	79800000	1.00	76319388.0	76320000
4,4'-DDT	10.0	605080112	60510000	4.00	245974615	61490000	1.00	66014195.0	66010000
Aldrin	10.0	882613222	88260000	4.00	352725192	88180000	1.00	94169459.0	94170000
Dieldrin	10.0	781927234	78190000	4.00	318523373	79630000	1.00	88807242.0	88810000
Endosulfan I	10.0	763421438	76340000	4.00	336511779	84130000	1.00	91865629.0	91870000
Endosulfan II	10.0	672133611	67210000	4.00	283259036	70810000	1.00	84633850.0	84630000
Endosulfan Sulfate	10.0	567212534	56720000	4.00	245706465	61430000	1.00	78213808.0	78210000
Endrin	10.0	709566228	70960000	4.00	314762795	78690000	1.00	84878328.0	84880000
Endrin Aldehyde	10.0	552778357	55280000	4.00	257066694	64270000	1.00	66274103.0	66270000
Endrin Ketone	10.0	605803036	60580000	4.00	255960870	63990000	1.00	77273890.0	77270000
Heptachlor	10.0	934432672	93440000	4.00	379792524	94950000	1.00	101993000	102000000
Heptachlor Epoxide	10.0	819809784	81980000	4.00	321407848	80350000	1.00	92947280.0	92950000
Methoxychlor	10.0	307485698	30750000	4.00	133859639	33460000	1.00	39784819.0	39780000
alpha-BHC	10.0	1111802860	111200000	4.00	427295957	106800000	1.00	106275506	106300000
alpha-Chlordane	10.0	817416395	81740000	4.00	339029731	84760000	1.00	103184853	103200000
beta-BHC	10.0	476826552	47680000	4.00	198625754	49660000	1.00	57867570.0	57870000
delta-BHC	10.0	1009157850	100900000	4.00	389839961	97460000	1.00	108442552	108400000
gamma-BHC	10.0	1032803840	103300000	4.00	404091339	101000000	1.00	105912000	105900000
gamma-Chlordane	10.0	846705677	84670000	4.00	342486323	85620000	1.00	96989918.0	96990000

INT_CAL - Modified 03/06/2008
PDF File ID: 2239045
Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L11110795 Run Date: 10/25/2011 Sample ID: WG380130-06
Instrument ID: HP15 Run Time: 18:51 Method: 8081A
File ID: 15G28861.R Analyst: ECL QC Key: DOD4
ICal Workgroup: WG380130 Cal ID: HP15 - 25-OCT-11

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Toxaphene		500	451	ug/L	1160000	9.70	20	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2239046
Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L11110795	Run Date: 10/25/2011	Sample ID: WG380132-07
Instrument ID: HP15	Run Time: 22:09	Method: 8081A
File ID: 15G28868.R	Analyst: ECL	QC Key: DOD4
ICal Workgroup: WG380132	Cal ID: HP15 - 25-OCT-11	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
4,4'-DDD	20.0	18.8	ug/L	60000000	6.10	20	
4,4'-DDE	20.0	19.6	ug/L	76200000	1.80	20	
4,4'-DDT	20.0	19.6	ug/L	62100000	1.80	20	
Aldrin	20.0	19.3	ug/L	87000000	3.60	20	
alpha-Chlordane	20.0	18.7	ug/L	80100000	6.50	20	
alpha-BHC	20.0	19.8	ug/L	112000000	1.00	20	
beta-BHC	20.0	18.9	ug/L	46100000	5.30	20	
delta-BHC	20.0	19.0	ug/L	99100000	5.00	20	
Dieldrin	20.0	19.2	ug/L	77600000	3.90	20	
Endosulfan I	20.0	19.1	ug/L	75100000	4.50	20	
Endosulfan II	20.0	18.7	ug/L	65000000	6.70	20	
Endosulfan Sulfate	20.0	18.2	ug/L	54900000	9.00	20	
Endrin	20.0	19.1	ug/L	71400000	4.60	20	
Endrin Aldehyde	20.0	17.9	ug/L	50300000	10.5	20	
Endrin Ketone	20.0	19.6	ug/L	62400000	2.20	20	
gamma-Chlordane	20.0	19.2	ug/L	84200000	3.90	20	
gamma-BHC	20.0	19.6	ug/L	103000000	2.10	20	
Heptachlor	20.0	19.8	ug/L	92300000	1.10	20	
Heptachlor Epoxide	20.0	19.7	ug/L	81000000	1.70	20	
Methoxychlor	20.0	19.4	ug/L	30700000	3.10	20	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2239046
Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383177-05
 Instrument ID: HP15 Run Time: 05:56 Method: 8081A
 File ID: 15G29321.R Analyst: ECL QC Key: DOD4
 Workgroup (AAB#): WG383059 Cal ID: HP15 - 25-OCT-11
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	20.0	22.7	ug/L	72400000	13.3	20	
4,4'-DDE	20.0	22.4	ug/L	86800000	11.8	20	
4,4'-DDT	20.0	20.7	ug/L	65500000	3.54	20	
Aldrin	20.0	20.7	ug/L	93300000	3.40	20	
alpha-Chlordane	20.0	21.0	ug/L	90000000	5.00	20	
alpha-BHC	20.0	22.1	ug/L	125000000	10.5	20	
beta-BHC	20.0	20.6	ug/L	50200000	3.13	20	
delta-BHC	20.0	21.8	ug/L	113000000	8.83	20	
Dieldrin	20.0	21.6	ug/L	87400000	8.12	20	
Endosulfan I	20.0	21.4	ug/L	84200000	7.12	20	
Endosulfan II	20.0	21.2	ug/L	73900000	6.06	20	
Endosulfan Sulfate	20.0	20.7	ug/L	62400000	3.50	20	
Endrin	20.0	21.7	ug/L	81100000	8.39	20	
Endrin Aldehyde	20.0	21.6	ug/L	60700000	8.08	20	
Endrin Ketone	20.0	21.4	ug/L	68200000	6.87	20	
gamma-Chlordane	20.0	21.6	ug/L	94400000	7.76	20	
gamma-BHC	20.0	22.4	ug/L	118000000	11.8	20	
Heptachlor	20.0	21.8	ug/L	102000000	8.97	20	
Heptachlor Epoxide	20.0	20.9	ug/L	86100000	4.49	20	
Methoxychlor	20.0	19.3	ug/L	30600000	3.46	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2239047
 Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383178-03
Instrument ID: HP15 Run Time: 06:24 Method: 8081A
File ID: 15G29322.R Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG383059 Cal ID: HP15 - 25-OCT-11
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		500	557	ug/L	1410000	11.5	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239047
Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383177-06
Instrument ID: HP15 Run Time: 12:05 Method: 8081A
File ID: 15G29334.R Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG383059 Cal ID: HP15 - 25-OCT-11
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	10.0	12.0	ug/L	76600000	19.9	20	
4,4'-DDE	10.0	11.9	ug/L	92200000	18.8	20	
4,4'-DDT	10.0	11.1	ug/L	70100000	10.9	20	
Aldrin	10.0	11.1	ug/L	99700000	10.5	20	
alpha-Chlordane	10.0	11.4	ug/L	98100000	14.4	20	
alpha-BHC	10.0	11.4	ug/L	129000000	14.1	20	
beta-BHC	10.0	11.1	ug/L	54300000	11.4	20	
delta-BHC	10.0	11.2	ug/L	117000000	12.1	20	
Dieldrin	10.0	11.7	ug/L	94600000	17.1	20	
Endosulfan I	10.0	11.8	ug/L	92600000	17.8	20	
Endosulfan II	10.0	11.7	ug/L	81300000	16.7	20	
Endosulfan Sulfate	10.0	11.5	ug/L	69400000	15.2	20	
Endrin	10.0	11.2	ug/L	84100000	12.5	20	
Endrin Aldehyde	10.0	11.2	ug/L	62900000	12.0	20	
Endrin Ketone	10.0	11.8	ug/L	75300000	18.0	20	
gamma-Chlordane	10.0	11.7	ug/L	102000000	16.6	20	
gamma-BHC	10.0	11.4	ug/L	120000000	13.8	20	
Heptachlor	10.0	11.3	ug/L	106000000	13.4	20	
Heptachlor Epoxide	10.0	11.8	ug/L	97300000	18.1	20	
Methoxychlor	10.0	10.9	ug/L	34400000	8.59	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239047
Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383178-04
Instrument ID: HP15 Run Time: 12:33 Method: 8081A
File ID: 15G29335.R Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG383059 Cal ID: HP15 - 25-OCT-11
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		200	227	ug/L	1430000	13.4	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239047
Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383177-08
Instrument ID: HP15 Run Time: 14:27 Method: 8081A
File ID: 15G29339.R Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG383059 Cal ID: HP15 - 25-OCT-11
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	20.0	22.4	ug/L	71400000	11.8	20	
4,4'-DDE	20.0	22.5	ug/L	87200000	12.3	20	
4,4'-DDT	20.0	21.3	ug/L	67400000	6.65	20	
Aldrin	20.0	21.3	ug/L	95900000	6.31	20	
alpha-Chlordane	20.0	21.4	ug/L	91800000	7.07	20	
alpha-BHC	20.0	22.2	ug/L	126000000	10.8	20	
beta-BHC	20.0	20.8	ug/L	50600000	3.90	20	
delta-BHC	20.0	21.9	ug/L	114000000	9.57	20	
Dieldrin	20.0	22.3	ug/L	90000000	11.3	20	
Endosulfan I	20.0	21.6	ug/L	85000000	8.14	20	
Endosulfan II	20.0	21.6	ug/L	75200000	8.00	20	
Endosulfan Sulfate	20.0	21.4	ug/L	64600000	7.14	20	
Endrin	20.0	21.0	ug/L	78700000	5.21	20	
Endrin Aldehyde	20.0	21.3	ug/L	59900000	6.63	20	
Endrin Ketone	20.0	22.2	ug/L	70800000	11.0	20	
gamma-Chlordane	20.0	22.0	ug/L	96400000	10.0	20	
gamma-BHC	20.0	21.9	ug/L	116000000	9.49	20	
Heptachlor	20.0	21.7	ug/L	101000000	8.70	20	
Heptachlor Epoxide	20.0	21.9	ug/L	90100000	9.28	20	
Methoxychlor	20.0	20.2	ug/L	32100000	1.11	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239047
Report generated 12/02/2011 11:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383178-05
Instrument ID: HP15 Run Time: 14:55 Method: 8081A
File ID: 15G29340.R Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG383059 Cal ID: HP15 - 25-OCT-11
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		500	580	ug/L	1470000	16.1	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239047
Report generated 12/02/2011 11:57



ENDRIN/4,4'-DDT BREAKDOWN (BRKDWN)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383177-04
Instrument ID: HP15 Run Time: 05:28 Method: 8081
File ID: 15G29320.R Analyst: ECL Column ID: REAR

DDT BREAKDOWN	
Analyte	Response
4,4'-DDD	94197838
4,4'-DDE	95071065
4,4'-DDT	3074607775
DDT % BREAKDOWN: 5.80	

ENDRIN BREAKDOWN	
Analyte	Response
ENDRIN	3616442223
ENDRIN ALDEHYDE	43626802
ENDRIN KETONE	98182317
ENDRIN % BREAKDOWN: 3.77	

* Exceeds 15% Criteria

Report Name: BRKDWN
PDF File ID: 2239044
Report generated 12/02/2011 11:57



ENDRIN/4,4'-DDT BREAKDOWN (BRKDWN)

Login Number: L11110795 Run Date: 11/29/2011 Sample ID: WG383177-07
Instrument ID: HP15 Run Time: 13:58 Method: 8081
File ID: 15G29338.R Analyst: ECL Column ID: REAR

DDT BREAKDOWN	
Analyte	Response
4,4'-DDD	70916902
4,4'-DDE	65560238
4,4'-DDT	3402193121
DDT % BREAKDOWN: 3.86	

ENDRIN BREAKDOWN	
Analyte	Response
ENDRIN	3967986615
ENDRIN ALDEHYDE	62368910
ENDRIN KETONE	133925639
ENDRIN % BREAKDOWN: 4.71	

* Exceeds 15% Criteria

Report Name: BRKDWN
PDF File ID: 2239044
Report generated 12/02/2011 11:57





Login Number: L11110795
Department: Metals
Analyst: Sheri Pfalzgraf

METHOD

Preparation: SW-846 3005

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG383508 - All acceptance criteria were met.

Matrix Spikes: WG383508 - Sample 03 was chosen by the client for MS/MSD analysis. Samples 07(MS) and 09(MSD) yielded noncompliant recoveries for two analytes. Sample 04 was chosen by the client for MS/MSD analysis. Samples 08(MS) and 10(MSD) yielded noncompliant recoveries for one analyte.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 39575

Approved By: Sheri Pfalzgraf

A handwritten signature in black ink, appearing to read "Sheri L. Pfalzgraf".

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG383247
Analyst: VC
Spike Analyst: VC
Method: 3005A
Run Date: 11/29/2011 12:05
Hotblock Start Temp: 95 @ 06:10
Hotblock End Temp: 95 @ 10:10

SOP: ME401 Revision 14
Spike Solution: STD48462
Spike Witness: BRG
HNO3 Lot #: COA15720
HCL Lot #: COA15760
ICP;WG378021 Filter Lot COA15782
Digestion Tubes Lot #: COA15719

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG383247-03	BLANK	1	50 mL	50 mL		
2	WG383247-04	LCS	1	50 mL	50 mL	5 mL	
3	L11110795-01	SAMP	1	50 mL	50 mL		12/02/11
4	L11110795-02	SAMP	1	50 mL	50 mL		12/02/11
5	WG383247-01	REF	1	50 mL	50 mL		
6	L11110795-03	RS01	1	50 mL	50 mL		12/02/11
7	WG383247-02	REF	1	50 mL	50 mL		
8	L11110795-04	RS02	1	50 mL	50 mL		12/02/11
9	L11110795-05	SAMP	1	50 mL	50 mL		12/02/11
10	L11110795-06	SAMP	1	50 mL	50 mL		12/02/11
11	WG383247-05	MS	1	50 mL	50 mL	5 mL	
12	L11110795-07	MS01	1	50 mL	50 mL	5 mL	12/02/11
13	WG383247-07	MS	1	50 mL	50 mL	5 mL	
14	L11110795-08	MS02	1	50 mL	50 mL	5 mL	12/02/11
15	WG383247-06	MSD	1	50 mL	50 mL	5 mL	
16	L11110795-09	SD01	1	50 mL	50 mL	5 mL	12/02/11
17	WG383247-08	MSD	1	50 mL	50 mL	5 mL	
18	L11110795-10	SD02	1	50 mL	50 mL	5 mL	12/02/11
19	L11110795-11	SAMP	1	50 mL	50 mL		12/02/11
20	L11110795-12	SAMP	1	50 mL	50 mL		12/02/11
21	L11110795-14	SAMP	1	50 mL	50 mL		12/02/11
22	L11110795-15	SAMP	1	50 mL	50 mL		12/02/11
23	L11110795-16	SAMP	1	50 mL	50 mL		12/02/11
24	L11110795-17	SAMP	1	50 mL	50 mL		12/02/11
25	L11110855-01	SAMP	1	50 mL	50 mL		12/02/11
26	L11110855-02	SAMP	1	50 mL	50 mL		12/02/11
27	L11110855-03	SAMP	1	50 mL	50 mL		12/02/11
28	L11110855-04	SAMP	1	50 mL	50 mL		12/02/11
29	L11110855-05	SAMP	1	50 mL	50 mL		12/02/11

L11110795-01	filtered digestate
L11110795-16	filtered digestate

Analyst: Vicki Collier

Reviewer: Brenda Gregory

HB_DIG - Modified 09/30/2009
PDF ID: 2237553
Report generated: 11/29/2011 12:05



METHOD BLANK SUMMARY

Login Number: <u>L11110795</u>	Work Group: <u>WG383508</u>
Blank File ID: <u>P2.120711.162937</u>	Blank Sample ID: <u>WG383247-03</u>
Prep Date: <u>11/29/11 12:05</u>	Instrument ID: <u>PE-ICP2</u>
Analyzed Date: <u>12/07/11 16:29</u>	Method: <u>6010B</u>
Analyst: <u>SLP</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG383247-04	P2.120711.163627	12/07/11 16:36	01
40MW7GW112011	L11110795-01	P2.120711.164321	12/07/11 16:43	01
40MW7GW112011	L11110795-02	P2.120711.170411	12/07/11 17:04	01
40MW5GW112011	L11110795-03	P2.120711.171107	12/07/11 17:11	01
40MW5GW112011	L11110795-04	P2.120711.171757	12/07/11 17:17	01
40DUPGW112011	L11110795-05	P2.120711.172450	12/07/11 17:24	01
40DUPGW112011	L11110795-06	P2.120711.173140	12/07/11 17:31	01
40MW5MSGW112011	L11110795-07	P2.120711.175217	12/07/11 17:52	01
40MW5MSGW112011	L11110795-08	P2.120711.175911	12/07/11 17:59	01
40MW5MSDGW112011	L11110795-09	P2.120711.180605	12/07/11 18:06	01
40MW5MSDGW112011	L11110795-10	P2.120711.181259	12/07/11 18:12	01
40112011FB	L11110795-11	P2.120711.181953	12/07/11 18:19	01
40EQR112011	L11110795-12	P2.120711.182644	12/07/11 18:26	01
40MW6GW112011	L11110795-14	P2.120711.183336	12/07/11 18:33	01
40EQRG112111	L11110795-15	P2.120711.184027	12/07/11 18:40	01
40LFMW01GW112111	L11110795-16	P2.120711.184718	12/07/11 18:47	01
40LFMW01GW112111	L11110795-17	P2.120711.185311	12/07/11 18:53	01

Report Name: BLANK_SUMMARY
PDF File ID: 2247327
Report generated 12/08/2011 10:52



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/29/11 12:05 Sample ID: WG383247-03
 Instrument ID: PE-ICP2 Run Date: 12/07/11 16:29 Prep Method: 3005A
 File ID: P2.120711.162937 Analyst: SLP Method: 6010B
 Workgroup (AAB#): WG383508 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: PE-ICP - 07-DEC-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Beryllium, Total	0.00100	0.00200	0.00100	1	U
Calcium, Total	0.100	0.200	0.100	1	U
Iron, Total	0.0500	0.100	0.0500	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Potassium, Total	0.500	1.00	0.500	1	U
Sodium, Total	0.250	0.500	0.250	1	U
Vanadium, Total	0.00500	0.0100	0.00500	1	U
Zinc, Total	0.0100	0.0200	0.0100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2247328

08-DEC-2011 10:52



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG383247-04
Instrument ID: PE-ICP2 Run Time: 16:36 Prep Method: 3005A
File ID: P2.120711.163627 Analyst: SLP Method: 6010B
Workgroup (AAB#): WG383508 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD48462 Cal ID: PE-ICP - 07-DEC-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Aluminum, Total	5.00	4.99	99.8	80 - 120	
Beryllium, Total	0.0250	0.0249	99.8	80 - 120	
Calcium, Total	5.00	4.76	95.1	80 - 120	
Iron, Total	2.00	1.99	99.3	80 - 120	
Magnesium, Total	5.00	5.00	100	80 - 120	
Potassium, Total	25.0	24.7	98.9	80 - 120	
Sodium, Total	25.0	26.5	106	80 - 120	
Vanadium, Total	0.500	0.506	101	80 - 120	
Zinc, Total	0.500	0.516	103	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2247329
Report generated: 12/08/2011 10:52



MS/MSD REPORT

Loginnum: L11110795 Cal ID: PE-ICP2- 07-DEC-11 Worknum: WG383508
 Instrument ID: PE-ICP2 Contract #: _____ Prep Method: 3005A
 Parent ID: L11110795-03 File ID: P2.120711.171107 Dil: 1 Method: 6010B
 Sample ID: L11110795-07 MS File ID: P2.120711.175217 Dil: 1 Matrix: Water
 Sample ID: L11110795-09 MSD File ID: P2.120711.180605 Dil: 1 Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Total	1.89	5.00	5.97	81.6	5.00	6.14	85	2.79	80 - 120	20	
Beryllium, Total	U	0.0250	0.0241	96.2	0.0250	0.0245	97.8	1.63	80 - 120	20	
Calcium, Total	87.2	5.00	91.3	80.2	5.00	93.1	117	1.98	80 - 120	20	
Iron, Total	2.04	2.00	2.69	32.6	2.00	2.73	34.5	1.45	80 - 120	20	*
Magnesium, Total	32.5	5.00	35.3	55.6	5.00	35.2	53.4	0.318	80 - 120	20	*
Potassium, Total	1.37	25.0	25.5	96.4	25.0	26.0	98.3	1.89	80 - 120	20	
Sodium, Total	5.22	25.0	31.3	104	25.0	31.8	106	1.60	80 - 120	20	
Vanadium, Total	U	0.500	0.482	96.4	0.500	0.492	98.3	1.93	80 - 120	20	
Zinc, Total	U	0.500	0.473	94.6	0.500	0.491	98.1	3.64	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
 PDF File ID: 2247330
 Report generated 12/08/2011 10:52



MS/MSD REPORT

Loginnum: <u>L11110795</u>	Cal ID: <u>PE-ICP2- 07-DEC-11</u>	Worknum: <u>WG383508</u>
Instrument ID: <u>PE-ICP2</u>	Contract #: _____	Prep Method: <u>3005A</u>
Parent ID: <u>L11110795-04</u>	File ID: <u>P2.120711.171757</u> Dil: <u>1</u>	Method: <u>6010B</u>
Sample ID: <u>L11110795-08 MS</u>	File ID: <u>P2.120711.175911</u> Dil: <u>1</u>	Matrix: <u>Water</u>
Sample ID: <u>L11110795-10 MSD</u>	File ID: <u>P2.120711.181259</u> Dil: <u>1</u>	Units: <u>mg/L</u>

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Dissolved	U	5.00	4.92	98.4	5.00	4.74	94.8	3.64	80 - 120	20	
Beryllium, Dissolved	U	0.0250	0.0249	99.5	0.0250	0.0244	97.7	1.83	80 - 120	20	
Calcium, Dissolved	82.8	5.00	90.3	150	5.00	89.8	139	0.578	80 - 120	20	*
Iron, Dissolved	0.0741	2.00	2.00	96.1	2.00	1.99	95.7	0.433	80 - 120	20	
Magnesium, Dissolved	29.8	5.00	33.9	83.3	5.00	34.5	94.8	1.69	80 - 120	20	
Potassium, Dissolved	1.08	25.0	25.7	98.6	25.0	25.1	96.1	2.45	80 - 120	20	
Sodium, Dissolved	5.35	25.0	32.1	107	25.0	30.5	101	5.17	80 - 120	20	
Vanadium, Dissolved	U	0.500	0.499	99.9	0.500	0.483	96.6	3.37	80 - 120	20	
Zinc, Dissolved	U	0.500	0.490	97.9	0.500	0.491	98.1	0.201	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
 PDF File ID: 2247330
 Report generated 12/08/2011 10:52



Microbac Laboratories Inc.
Serial Dilution Report

Login: L11110795 Worknum: WG383508
Instrument: PE-ICP2 Method: 6010B
Serial Dil: WG383508-02 File ID: P2.120711.165017 Dil: 5 Units: mg/L
Sample: L11110795-01 File ID: P2.120711.164321 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Aluminum	8.29		8.33		0.48	
Beryllium	ND	U	ND	U		
Calcium	190		187		1.59	
Iron	7.95		8.43		5.93	
Magnesium	61.9		63.5		2.51	
Potassium	4.25	X	4.37	F	2.79	
Sodium	66.7		68.1		2.01	
Vanadium	0.00926	F	ND	U		
Zinc	0.0685	X	0.0706	F	3.04	

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 50 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2247324

12/08/2011 10:52



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L11110795
Instrument ID: PE-ICP2
Post Spike ID: WG383508-01
Sample ID: L11110795-01

Worknum: WG383508
Method: 6010B
Units: mg/L
Matrix: Water

File ID: P2.120711.165712 Dil: 1
File ID: P2.120711.164321 Dil: 1

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
ALUMINUM	12.8		8.29		5	106.8	75 - 125	
BERYLLIUM	0.0255		0	U	.025	101.9	75 - 125	
CALCIUM	178		190		5	136.4	75 - 125	N
IRON	9.08		7.95		2	96.3	75 - 125	
MAGNESIUM	60.9		61.9		5	103.6	75 - 125	
POTASSIUM	29.0		4.25		25	100.9	75 - 125	
SODIUM	87.3		66.7		25	108.9	75 - 125	
VANADIUM	0.514		0.00926	F	.5	101.2	75 - 125	
ZINC	0.545		0.0685		.5	96.8	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2247325
Report generated: 12/08/2011 10:52



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L11110795</u>	Workgroup (AAB#):	<u>WG383508</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>PE-ICP2</u>
ICAL Worknum:	<u>WG384047</u>	Initial Calibration Date:	<u>07-DEC-2011 10:06</u>

	WG384047-01		WG384047-02		WG384047-03		WG384047-04		WG384047-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ALUMINUM	0	6.91	.1	427	.2	881	10	44800	20	89200	.999998	
BERYLLIUM	0	-555	.0005	259	.001	556	.05	26600	.1	53500	.999995	
CALCIUM	0	-8.62	NA	NA	.2	30.5	10	1080	20	2230	.999848	
IRON	0	-0.206	.04	7.96	.08	15.9	4	701	8	1390	.999997	
MAGNESIUM	0	5.50	.1	50.5	.2	108	10	5110	20	10200	.999997	
POTASSIUM	0	-5.31	.5	1270	1	2530	50	118000	100	235000	1	
SODIUM	0	61.5	.5	6280	1	13000	50	607000	100	1210000	1	
VANADIUM	0	4380	.01	1480	.02	2750	1	136000	2	273000	.999999	
ZINC	0	21.7	.01	285	.02	559	1	26600	2	52700	.999993	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2247333
Report generated: 08-DEC-2011 10:52



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-07
Instrument ID: PE-ICP2 Run Time: 10:20 Method: 6010B
File ID: P2.120711.102030 Analyst: SLP Units: mg/L
Workgroup (AAB#): WG383508 Cal ID: PE-ICP2 - 07-DEC-11
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BERYLLIUM	.001	.002	.001	U
CALCIUM	.1	.2	.1	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
POTASSIUM	.5	1	.5	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2247335
Report generated 12/08/2011 10:52



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-11
Instrument ID: PE-ICP2 Run Time: 10:46 Method: 6010B
File ID: P2.120711.104601 Analyst: SLP Units: mg/L
Workgroup (AAB#): WG383508 Cal ID: PE-ICP - 07-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2247338
Report generated 12/08/2011 10:52



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-17
Instrument ID: PE-ICP2 Run Time: 15:02 Method: 6010B
File ID: P2.120711.150229 Analyst: SLP Units: mg/L
Workgroup (AAB#): WG383508 Cal ID: PE-ICP - 07-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2247338
Report generated 12/08/2011 10:52



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-20
Instrument ID: PE-ICP2 Run Time: 16:22 Method: 6010B
File ID: P2.120711.162249 Analyst: SLP Units: mg/L
Workgroup (AAB#): WG383508 Cal ID: PE-ICP - 07-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-22
Instrument ID: PE-ICP2 Run Time: 17:45 Method: 6010B
File ID: P2.120711.174529 Analyst: SLP Units: mg/L
Workgroup (AAB#): WG383508 Cal ID: PE-ICP - 07-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-24
Instrument ID: PE-ICP2 Run Time: 19:07 Method: 6010B
File ID: P2.120711.190701 Analyst: SLP Units: mg/L
Workgroup (AAB#): WG383508 Cal ID: PE-ICP - 07-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-06
Instrument ID: PE-ICP2 Run Time: 10:13 Method: 6010B
File ID: P2.120711.101336 Analyst: SLP Units: mg/L
Workgroup (AAB#): WG383508 Cal ID: PE-ICP - 07-DEC-11
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	9.97	99.7	90 - 110	
Beryllium	.05	0.0504	101	90 - 110	
Calcium	10	9.72	97.2	90 - 110	
Iron	4	4.05	101	90 - 110	
Magnesium	10	10.0	100	90 - 110	
Potassium	50	50.3	101	90 - 110	
Sodium	50	50.1	100	90 - 110	
Vanadium	1	1.01	101	90 - 110	
Zinc	1	1.04	104	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
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Report generated 12/08/2011 10:52



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-10
Instrument ID: PE-ICP2 Run Time: 10:39 Method: 6010B
File ID: P2.120711.103904 Analyst: SLP QC Key: DOD4
Workgroup (AAB#): WG383508 Cal ID: PE-ICP - 07-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.96	mg/L	99.6	90 - 110		
Beryllium		0.0500	0.0501	mg/L	100	90 - 110		
Calcium		10.0	9.75	mg/L	97.5	90 - 110		
Iron		4.00	4.03	mg/L	101	90 - 110		
Magnesium		10.0	10.0	mg/L	100	90 - 110		
Potassium		50.0	50.7	mg/L	101	90 - 110		
Sodium		50.0	51.2	mg/L	102	90 - 110		
Vanadium		1.00	0.991	mg/L	99.1	90 - 110		
Zinc		1.00	1.01	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-16
Instrument ID: PE-ICP2 Run Time: 14:55 Method: 6010B
File ID: P2.120711.145532 Analyst: SLP QC Key: DOD4
Workgroup (AAB#): WG383508 Cal ID: PE-ICP - 07-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.0	mg/L	100	90 - 110		
Beryllium		0.0500	0.0504	mg/L	101	90 - 110		
Calcium		10.0	9.82	mg/L	98.2	90 - 110		
Iron		4.00	3.98	mg/L	99.6	90 - 110		
Magnesium		10.0	9.96	mg/L	99.6	90 - 110		
Potassium		50.0	51.1	mg/L	102	90 - 110		
Sodium		50.0	51.5	mg/L	103	90 - 110		
Vanadium		1.00	1.00	mg/L	100	90 - 110		
Zinc		1.00	1.01	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-19
Instrument ID: PE-ICP2 Run Time: 16:15 Method: 6010B
File ID: P2.120711.161552 Analyst: SLP QC Key: DOD4
Workgroup (AAB#): WG383508 Cal ID: PE-ICP - 07-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.81	mg/L	98.1	90 - 110		
Beryllium		0.0500	0.0503	mg/L	101	90 - 110		
Calcium		10.0	9.57	mg/L	95.7	90 - 110		
Iron		4.00	4.08	mg/L	102	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Potassium		50.0	49.3	mg/L	98.5	90 - 110		
Sodium		50.0	49.9	mg/L	99.8	90 - 110		
Vanadium		1.00	0.988	mg/L	98.8	90 - 110		
Zinc		1.00	1.01	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-21
Instrument ID: PE-ICP2 Run Time: 17:38 Method: 6010B
File ID: P2.120711.173833 Analyst: SLP QC Key: DOD4
Workgroup (AAB#): WG383508 Cal ID: PE-ICP - 07-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.89	mg/L	98.9	90 - 110		
Beryllium		0.0500	0.0519	mg/L	104	90 - 110		
Calcium		10.0	9.80	mg/L	98.0	90 - 110		
Iron		4.00	4.09	mg/L	102	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	49.4	mg/L	98.9	90 - 110		
Sodium		50.0	51.2	mg/L	102	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.04	mg/L	104	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047-23
Instrument ID: PE-ICP2 Run Time: 19:00 Method: 6010B
File ID: P2.120711.190004 Analyst: SLP QC Key: DOD4
Workgroup (AAB#): WG383508 Cal ID: PE-ICP - 07-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.92	mg/L	99.2	90 - 110		
Beryllium		0.0500	0.0514	mg/L	103	90 - 110		
Calcium		10.0	9.78	mg/L	97.8	90 - 110		
Iron		4.00	4.09	mg/L	102	90 - 110		
Magnesium		10.0	10.3	mg/L	103	90 - 110		
Potassium		50.0	50.6	mg/L	101	90 - 110		
Sodium		50.0	51.9	mg/L	104	90 - 110		
Vanadium		1.00	1.00	mg/L	100	90 - 110		
Zinc		1.00	1.03	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2247337
Report generated 12/08/2011 10:52



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L11110795
Instrument ID: PE-ICP2
Sol. A : WG384047-08
Sol. AB : WG384047-09

File ID: P2.120711.102718
File ID: P2.120711.103311

Workgroup (AAB#): WG383508
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	258	103	250	247	98.8	
Beryllium	NS	0.000340	NS	0.250	0.252	101	
Calcium	250	258	103	250	256	102	
Iron	100	94.2	94.2	100	95.4	95.4	
Magnesium	250	246	98.4	250	248	99.2	
Potassium	NS	-0.0300	NS	5.00	5.09	102	
Sodium	NS	0.0141	NS	5.00	5.05	101	
Vanadium	NS	-0.00145	NS	0.250	0.243	97.2	
Zinc	NS	-0.00236	NS	0.500	0.461	92.2	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
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LRC SAMPLE

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG384047
Instrument ID: PE-ICP2 Run Time: 10:06 Prep Method: 3005A
Analyst: SLP Method: 6010B
Workgroup (AAB#): WG383508 Matrix: Water Units: mg/L
Cal ID: 07-DEC-11 - 07-DEC-2011 10:06

Analytes	Expected	Found	% Rec	Limits	Q
Aluminum	500	483	96.6	90 - 110	
Calcium	500	517	103	90 - 110	
Iron	500	457	91.4	90 - 110	
Magnesium	500	510	102	90 - 110	
Zinc	50	46.8	93.6	90 - 110	

KEMRON FORMS - Modified 08/28/2006
Version 1.5 PDF File ID: 2247449
Report generated 12/08/2011 11:09

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L11110795
Instrument ID: PE-ICP2

Date: 02/14/2011
Method: 6010B

Analyte	Wave Length	AG	AL	AS	B	BA
ALUMINUM	396.15	0	0	0.206	0	0
ANTIMONY	206.84	0	0	-0.740	0	0
ARSENIC	188.98	0	0.0893	0	0	0
BARIUM	233.53	0	0.00932	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	1.12	0	0	0
CADMIUM	228.80	0	0	6.68	0	0
CALCIUM	227.55	0	0.195	10.0	0	0
CHROMIUM	267.72	0	0.0250	0	0	0
COBALT	228.62	0	0	0	0	0.337
COPPER	327.39	0	0	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	0	-0.0210	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	-0.185	0	-0.231	-0.0949	-0.230
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0.111	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0	0.200	0	0.0400
ZINC	206.20	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2247332
Report generated: 12/08/2011 10:52



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L11110795
Instrument ID: PE-ICP2

Date: 02/14/2011
Method: 6010B

Analyte	Wave Length	BE	CA	CD	CO	CR
ALUMINUM	396.15	0	0	0	0	0
ANTIMONY	206.84	0	0	0	0	6.33
ARSENIC	188.98	0	0.0200	-0.0875	0	-5.90
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	-0.0733
BORON	249.68	0	0	24.1	5.90	1.50
CADMIUM	228.80	0	0	0	-10.7	0
CALCIUM	227.55	0	0	0	300	0
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	-0.244
COPPER	327.39	0	0	0	0.380	-0.0400
IRON	239.56	0	0	0	1.91	0
LEAD	220.35	0	-0.0480	0	0.116	-0.0700
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	-1.04	0	-0.755	-0.0418	-0.110
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	-0.566	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	-0.250	0	-1.52	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0.0900	0	3.48	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	-0.0100	0	0	0.297
VANADIUM	290.88	0	0	0	0	0
ZINC	206.20	0	0	0	0	-3.64

CORR_FACTORS - Modified 03/05/2008
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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L11110795
Instrument ID: PE-ICP2

Date: 02/14/2011
Method: 6010B

Analyte	Wave Length	CU	FE	K	LI	MG
ALUMINUM	396.15	0	-0.0800	0	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	-0.139	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0.195	0	0	0
BORON	249.68	0	-4.66	0	0	0
CADMIUM	228.80	0	0.00130	0	0	0
CALCIUM	227.55	-2.00	-5.00	0	0	0.104
CHROMIUM	267.72	0	-0.000800	0	0	0
COBALT	228.62	0	0.0262	0	0	0
COPPER	327.39	0	-0.115	0	0.154	0
IRON	239.56	0	0	0	0	0.0276
LEAD	220.35	0.740	0.0440	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0.540	0	0	0
MANGANESE	257.61	-0.0457	-0.0453	-0.0181	-0.794	0.0147
MOLYBDENUM	202.03	0	-0.0494	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	-0.369	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0.0717	0.0498	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0.120	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0.134	0	0	0
ZINC	206.20	-0.200	0.0230	0	0	0

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PDF File ID: 2247332
Report generated: 12/08/2011 10:52



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L11110795
Instrument ID: PE-ICP2

Date: 02/14/2011
Method: 6010B

Analyte	Wave Length	MN	MO	NA	NI	PB
ALUMINUM	396.15	0	13.5	0	0	0
ANTIMONY	206.84	0	-7.69	0	0	0
ARSENIC	188.98	0	6.00	0	0	0
BARIUM	233.53	0	-0.548	0	0	0
BERYLLIUM	234.86	-0.131	-1.50	0	-0.00974	0
BORON	249.68	0	-2.20	0	0	0
CADMIUM	228.80	0	-0.00900	0	-0.398	0
CALCIUM	227.55	0	-8.00	0	-900	0
CHROMIUM	267.72	0.434	-0.00100	0	0	0
COBALT	228.62	0	-0.125	0	0.129	0
COPPER	327.39	0	-0.0774	0	0.150	0.257
IRON	239.56	0.480	0	0	0	0.407
LEAD	220.35	0.100	-5.00	0	0.100	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-5.00	0	0	0.0252
MANGANESE	257.61	0	-0.0482	-0.00916	-0.0340	-0.0413
MOLYBDENUM	202.03	-0.209	0	0	0.120	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	1.00	0	0
SELENIUM	196.03	0.451	0.300	0	0.0940	0
SILICON	251.61	0	15.0	0	0	0
SILVER	328.07	0.130	0.100	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	-1.50	1.20	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0.578	0	0	0
ZINC	206.20	0	0.180	0	-0.200	-0.100

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2247332
Report generated: 12/08/2011 10:52



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L11110795
Instrument ID: PE-ICP2

Date: 02/14/2011
Method: 6010B

Analyte	Wave Length	SB	SE	SI	SN	SR
ALUMINUM	396.15	0	0	0	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	0	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	2.79	0	0
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	0
COPPER	327.39	0	0.148	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	-0.0100	0	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-0.0924	0	0	0
MANGANESE	257.61	-0.0505	-0.0281	-0.185	-0.0445	-0.625
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	-0.0500	-0.0100	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0.200
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0	0	0	0
ZINC	206.20	-0.300	0	0	0	0

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PDF File ID: 2247332
Report generated: 12/08/2011 10:52



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INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L11110795
Instrument ID: PE-ICP2

Date: 02/14/2011
Method: 6010B

Analyte	Wave Length	TI	TL	V	ZN
ALUMINUM	396.15	0	0	0	0
ANTIMONY	206.84	0	0	0.000100	0
ARSENIC	188.98	0	0	0.0930	0
BARIUM	233.53	0	0	-2.29	0
BERYLLIUM	234.86	0	0	0	0
BORON	249.68	0	0	0	0
CADMIUM	228.80	0	0	0.0800	0
CALCIUM	227.55	0	0	60.0	0
CHROMIUM	267.72	0	0	-0.567	-0.0400
COBALT	228.62	2.21	0	0	0
COPPER	327.39	-1.05	0	-0.700	-0.0613
IRON	239.56	0	0	0	0
LEAD	220.35	0	0	0.0560	0
LITHIUM	670.78	0	0	0	0
MAGNESIUM	279.08	0	0	0	0
MANGANESE	257.61	-0.00931	-0.0414	-0.0601	-0.0552
MOLYBDENUM	202.03	0	0	-0.288	0
NICKEL	231.60	0	0.617	0	0
POTASSIUM	766.49	0	0	0	0
SELENIUM	196.03	-0.220	0	-0.126	0
SILICON	251.61	0	0	0	0
SILVER	328.07	0	0	-1.67	0
SODIUM	589.59	0	0	0	0
STRONTIUM	407.77	0	0	0	0
THALLIUM	190.80	-12.0	0.617	-1.41	0
TIN	189.93	0	0	0	0
TITANIUM	334.94	0	0	0	0
VANADIUM	290.88	0	0	0	0
ZINC	206.20	0	0	-0.100	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2247332
Report generated: 12/08/2011 10:52



Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L11110795

Date: 09/30/2011

Instrument ID: PE-ICP2

Method: 6010B

Analyte	Integration Time (Sec.)	Concentration (mg/L)
Aluminum	10.00	450.0
Antimony	10.00	45.0
Arsenic	10.00	9.0
Barium	10.00	9.0
Beryllium	10.00	4.5
Boron	10.00	45.0
Cadmium	10.00	9.0
Calcium	10.00	450.0
Chromium	10.00	45.0
Cobalt	10.00	45.0
Copper	10.00	45.0
Iron	10.00	450.0
Lead	10.00	90.0
Lithium	10.00	0.9
Magnesium	10.00	450.0
Manganese	10.00	27.0
Molybdenum	10.00	45.0
Nickel	10.00	45.0
Potassium	10.00	72.0
Selenium	10.00	45.0
Silicon	10.00	36.0
Silver	10.00	4.5
Sodium	10.00	180.0
Strontium	10.00	4.5
Thallium	10.00	45.0
Tin	10.00	45.0
Titanium	10.00	45.0
Vanadium	10.00	45.0
Zinc	10.00	45.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 2247331
Report generated: 12/08/2011 10:52





Login Number: L11110795
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: WG383211 - Due to continuing calibration verification failure for selenium on 01-Dec-2011 at 18:51, client samples 05, 06, 07, 09, 11, 12, and 14 through 17 were reanalyzed on a later calibration for selenium. For consistency with samples 07(MS) and 09(MSD), sample 03 was also reanalyzed for selenium.

Continuing Calibration Blank: WG383271 - The continuing calibration blank analyzed initially on 06-DEC-2011 at 10:06 yielded a noncompliant result for thallium. The continuing calibration blank was reanalyzed at 10:17 prior to sample analysis and was compliant for all analytes of concern.

Low Level Check: WG383211 - The low level initial calibration verification analyzed initially on 01-Dec-2011 at 12:57 yielded a noncompliant result for thallium. The low level calibration check was reanalyzed at 15:05 prior to sample analysis and was compliant for all analytes of concern.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG383271 - All acceptance criteria were met.

WG383211 - All acceptance criteria were met.

Matrix Spikes: WG383271 - Sample 04 was chosen by the client for MS/MSD analysis. Samples 08(MS) and 10(MSD) met all acceptance criteria.

WG383211 - Sample 03 was chosen by the client for MS/MSD analysis. Samples 07(MS) and 09(MSD) met all acceptance criteria.

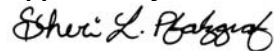
SAMPLES

Samples: WG383271 - Due to high levels of nontarget analytes, all client samples were analyzed at dilutions for all analytes.

WG383211 - Due to high levels of nontarget analytes, all client samples were analyzed at dilutions for all analytes.

Narrative ID: 39340

Approved By: Sheri Pfalzgraf



Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup:WG383037
Analyst:VC
Spike Analyst:VC
Run Date:11/28/2011 08:38
Method:3015
Balance:BAL016
Instrument:MW-2

SOP:ME407 Revision 12
Spike Solution:STD47574
Spike Witness:BRG
HNO3 Lot #:COA15720
Digestion Tubes Lot #:COA15719
MS WG# 381985 Lot #:COA15783

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG383037-03	BLANK	1	40 mL	100 mL	208.436 g	208.433 g		
2	WG383037-04	LCS	1	40 mL	100 mL	206.263 g	206.261 g	.25 mL	
3	L11110782-13	SAMP	1	40 mL	100 mL	206.255 g	206.251 g		12/06/11
4	L11110782-14	SAMP	1	40 mL	100 mL	209.493 g	209.476 g		12/06/11
5	L11110782-15	SAMP	1	40 mL	100 mL	207.421 g	207.4 g		12/06/11
6	L11110782-16	SAMP	1	40 mL	100 mL	206.278 g	206.259 g		12/06/11
7	L11110782-17	SAMP	1	40 mL	100 mL	205.81 g	205.792 g		12/06/11
8	L11110790-03	SAMP	1	40 mL	100 mL	207.39 g	207.384 g		12/02/11
9	L11110795-01	SAMP	1	40 mL	100 mL	206.302 g	206.29 g		12/02/11
10	L11110795-02	SAMP	1	40 mL	100 mL	205.949 g	205.933 g		12/02/11
11	WG383037-01	REF	1	40 mL	100 mL	208.298 g	208.292 g		
12	L11110795-03	RS01	1	40 mL	100 mL	208.298 g	208.292 g		12/02/11
13	L11110795-05	SAMP	1	40 mL	100 mL	206.195 g	206.182 g		12/02/11
14	L11110795-06	SAMP	1	40 mL	100 mL	206.217 g	206.21 g		12/02/11
15	WG383037-05	MS	1	40 mL	100 mL	208.047 g	208.042 g	.25 mL	
16	L11110795-07	MS01	1	40 mL	100 mL	208.047 g	208.042 g	.25 mL	12/02/11
17	WG383037-06	MSD	1	40 mL	100 mL	207.798 g	207.79 g	.25 mL	
18	L11110795-09	SD01	1	40 mL	100 mL	207.798 g	207.79 g	.25 mL	12/02/11
19	L11110795-11	SAMP	1	40 mL	100 mL	207.212 g	207.201 g		12/02/11
20	L11110795-12	SAMP	1	40 mL	100 mL	206.957 g	206.953 g		12/02/11
21	L11110795-14	SAMP	1	40 mL	100 mL	206.963 g	206.956 g		12/02/11
22	L11110795-15	SAMP	1	40 mL	100 mL	206.827 g	206.825 g		12/02/11
23	L11110795-16	SAMP	1	40 mL	100 mL	205.664 g	205.658 g		12/02/11
24	L11110795-17	SAMP	1	40 mL	100 mL	209.101 g	209.088 g		12/02/11
25	WG383037-02	REF	2	40 mL	100 mL	206.788 g	206.781 g		
26	L11110851-01	SAMP	2	40 mL	100 mL	206.788 g	206.781 g		12/01/11
27	WG383037-08	DUP	1	40 mL	100 mL	206.662 g	206.663 g		
28	WG383037-07	MS	1	40 mL	100 mL	207.572 g	207.577 g	.25 mL	

WG383037-07	digestate filtered
L11110790-03	digestate filtered
L11110795-01	digestate filtered
L11110795-03	digestate filtered
WG383037-01	digestate filtered
L11110795-05	digestate filtered
L11110795-16	digestate filtered
L11110795-17	digestate filtered
L11110851-01	digestate filtered

MW_DIG - Modified 09/30/2009
PDF ID: 2235415
Report generated: 11/28/2011 10:50



Microbac Laboratories Inc.
Microwave Digestion Log

WG383037-02	digestate filtered	SOP:
WG383037-08	digestate filtered	Spike Solution:
		Spike Witness:

Analyst: M. Veeh Collins
Balance: _____
Instrument: _____

Reviewer: Brenda Gregory

MW_DIG - Modified 09/30/2009
PDF ID: 2235415
Report generated: 11/28/2011 10:50



Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup:WG383215
Analyst:VC
Spike Analyst:VC
Run Date:11/29/2011 10:19
Method:3015
Balance:BAL016
Instrument:MW-2

SOP:ME407 Revision 12
Spike Solution:STD47574
Spike Witness:ERP
HNO3 Lot #:COA15720
Digestion Tubes Lot #:COA15719
MS WG# 381985 Lot #:COA15783

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG383215-04	BLANK	1	40 mL	100 mL	206.548 g	206.527 g		
2	WG383143-01	FBLK	18	40 mL	100 mL	207.91 g	207.893 g		
3	WG383215-05	LCS	1	40 mL	100 mL	206.066 g	206.046 g	.25 mL	
4	L11110782-01	SAMP	1	40 mL	100 mL	206.761 g	206.737 g		12/06/11
5	L11110782-02	SAMP	1	40 mL	100 mL	206.024 g	206.002 g		12/06/11
6	WG383215-01	REF	1	40 mL	100 mL	205.597 g	205.568 g		
7	L11110782-03	RS01	1	40 mL	100 mL	205.597 g	205.568 g		12/06/11
8	WG383215-02	REF	1	40 mL	100 mL	204.826 g	204.798 g		
9	L11110782-04	RS02	1	40 mL	100 mL	204.826 g	204.798 g		12/06/11
10	WG383215-06	MS	1	40 mL	100 mL	206.858 g	206.839 g	.25 mL	
11	L11110782-05	MS01	1	40 mL	100 mL	206.858 g	206.839 g	.25 mL	12/06/11
12	WG383215-08	MS	1	40 mL	100 mL	207.502 g	207.479 g	.25 mL	
13	L11110782-06	MS02	1	40 mL	100 mL	207.502 g	207.479 g	.25 mL	12/06/11
14	WG383215-07	MSD	1	40 mL	100 mL	206.821 g	206.8 g	.25 mL	
15	L11110782-07	SD01	1	40 mL	100 mL	206.821 g	206.8 g	.25 mL	12/06/11
16	WG383215-09	MSD	1	40 mL	100 mL	206.313 g	206.298 g	.25 mL	
17	L11110782-08	SD02	1	40 mL	100 mL	206.313 g	206.298 g	.25 mL	12/06/11
18	L11110782-09	SAMP	1	40 mL	100 mL	206.46 g	206.452 g		12/06/11
19	L11110782-10	SAMP	1	40 mL	100 mL	206.891 g	206.882 g		12/06/11
20	L11110782-11	SAMP	1	40 mL	100 mL	205.899 g	205.893 g		12/06/11
21	L11110782-12	SAMP	1	40 mL	100 mL	207.159 g	207.146 g		12/06/11
22	WG383215-03	REF	1	40 mL	100 mL	208.429 g	208.426 g		
23	L11110795-04	RS02	1	40 mL	100 mL	208.429 g	208.426 g		12/02/11
24	WG383215-10	MS	1	40 mL	100 mL	207.742 g	207.733 g	.25 mL	
25	L11110795-08	MS02	1	40 mL	100 mL	207.742 g	207.733 g	.25 mL	12/02/11
26	WG383215-11	MSD	1	40 mL	100 mL	208.511 g	208.498 g	.25 mL	
27	L11110795-10	SD02	1	40 mL	100 mL	208.511 g	208.498 g	.25 mL	12/02/11
28	L11110798-02	SAMP	18	40 mL	100 mL	206.351 g	206.336 g		11/30/11
29	L11110798-04	SAMP	18	40 mL	100 mL	208.137 g	208.127 g		11/30/11
30	L11110801-02	SAMP	18	40 mL	100 mL	205.948 g	205.939 g		11/30/11

Analyst: Vicki Collier

Reviewer: Evan Pottin



METHOD BLANK SUMMARY

Login Number: <u>L11110795</u>	Work Group: <u>WG383211</u>
Blank File ID: <u>EL.120111.151306</u>	Blank Sample ID: <u>WG383037-03</u>
Prep Date: <u>11/28/11 08:38</u>	Instrument ID: <u>ELAN-ICP</u>
Analyzed Date: <u>12/01/11 15:13</u>	Method: <u>6020</u>
Analyst: <u>JYH</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG383037-04	EL.120111.152022	12/01/11 15:20	01
DUP	WG383037-08	EL.120111.154210	12/01/11 15:42	DL01
40MW7GW112011	L11110795-01	EL.120111.161834	12/01/11 16:18	DL01
40MW7GW112011	L11110795-02	EL.120111.170931	12/01/11 17:09	DL01
40MW5GW112011	L11110795-03	EL.120111.171648	12/01/11 17:16	DL01
40DUPGW112011	L11110795-05	EL.120111.173839	12/01/11 17:38	DL01
40DUPGW112011	L11110795-06	EL.120111.174556	12/01/11 17:45	DL01
40MW5MSGW112011	L11110795-07	EL.120111.175314	12/01/11 17:53	DL01
40MW5MSDGW112011	L11110795-09	EL.120111.180033	12/01/11 18:00	DL01
40112011FB	L11110795-11	EL.120111.180751	12/01/11 18:07	DL01
40EQR112011	L11110795-12	EL.120111.181508	12/01/11 18:15	DL01
40MW6GW112011	L11110795-14	EL.120111.182224	12/01/11 18:22	DL01
40EQRG112111	L11110795-15	EL.120111.182940	12/01/11 18:29	DL01
40LFMW01GW112111	L11110795-16	EL.120111.183656	12/01/11 18:36	DL01
40LFMW01GW112111	L11110795-17	EL.120111.184413	12/01/11 18:44	DL01
40MW5GW112011	L11110795-03	EL.120611.223220	12/06/11 22:32	DL02
40DUPGW112011	L11110795-05	EL.120611.225501	12/06/11 22:55	DL02
40DUPGW112011	L11110795-06	EL.120611.230229	12/06/11 23:02	DL02
40MW5MSGW112011	L11110795-07	EL.120611.230957	12/06/11 23:09	DL02
40MW5MSDGW112011	L11110795-09	EL.120611.231726	12/06/11 23:17	DL02
40112011FB	L11110795-11	EL.120611.232454	12/06/11 23:24	DL02
40EQR112011	L11110795-12	EL.120611.233221	12/06/11 23:32	DL02
40MW6GW112011	L11110795-14	EL.120611.233948	12/06/11 23:39	DL02
40EQRG112111	L11110795-15	EL.120611.234716	12/06/11 23:47	DL02
40LFMW01GW112111	L11110795-16	EL.120611.235443	12/06/11 23:54	DL02
40LFMW01GW112111	L11110795-17	EL.120711.000210	12/07/11 00:02	DL02

Report Name: BLANK_SUMMARY
PDF File ID: 2241623
Report generated 12/07/2011 08:29



METHOD BLANK SUMMARY

Login Number: L11110795 Work Group: WG383271
Blank File ID: EL.120611.120155 Blank Sample ID: WG383215-04
Prep Date: 11/29/11 10:19 Instrument ID: ELAN-ICP
Analyzed Date: 12/06/11 12:01 Method: 6020
Analyst: JYH

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG383215-05	EL.120111.131953	12/01/11 13:19	01
LCS	WG383215-05	EL.120611.120920	12/06/11 12:09	02
40MW5GW112011	L11110795-04	EL.120611.125419	12/06/11 12:54	01
40MW5MSGW112011	L11110795-08	EL.120611.130146	12/06/11 13:01	01
40MW5MSDGW112011	L11110795-10	EL.120611.130914	12/06/11 13:09	01

Report Name: BLANK_SUMMARY
PDF File ID: 2241623
Report generated 12/07/2011 08:29



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/28/11 08:38 Sample ID: WG383037-03
 Instrument ID: ELAN-ICP Run Date: 12/01/11 15:13 Prep Method: 3015
 File ID: EL.120111.151306 Analyst: JYH Method: 6020
 Workgroup (AAB#): WG383211 Matrix: Water Units: mg/L
 Contract #: Cal ID: ELAN-I - 01-DEC-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Antimony, Total	0.000500	0.00100	0.000500	1	U
Arsenic, Total	0.000500	0.00100	0.000500	1	U
Barium, Total	0.00150	0.00300	0.00150	1	U
Cadmium, Total	0.000300	0.000600	0.000300	1	U
Chromium, Total	0.00100	0.00200	0.00100	1	U
Cobalt, Total	0.000500	0.00100	0.000500	1	U
Copper, Total	0.00100	0.00200	0.00100	1	U
Lead, Total	0.000500	0.00100	0.000500	1	U
Manganese, Total	0.00100	0.00200	0.00100	1	U
Nickel, Total	0.00200	0.00400	0.00200	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Silver, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit
 LOQ Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2241624

13-DEC-2011 14:14



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/29/11 10:19 Sample ID: WG383215-04
 Instrument ID: ELAN-ICP Run Date: 12/06/11 12:01 Prep Method: 3015
 File ID: EL.120611.120155 Analyst: JYH Method: 6020
 Workgroup (AAB#): WG383271 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: ELAN-I - 06-DEC-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Antimony, Dissolved	0.000500	0.00100	0.000500	1	U
Arsenic, Dissolved	0.000500	0.00100	0.000500	1	U
Barium, Dissolved	0.00150	0.00300	0.00150	1	U
Cadmium, Dissolved	0.000300	0.000600	0.000300	1	U
Chromium, Dissolved	0.00100	0.00200	0.00100	1	U
Cobalt, Dissolved	0.000500	0.00100	0.000500	1	U
Copper, Dissolved	0.00100	0.00200	0.00100	1	U
Lead, Dissolved	0.000500	0.00100	0.000500	1	U
Manganese, Dissolved	0.00100	0.00200	0.00100	1	U
Nickel, Dissolved	0.00200	0.00400	0.00200	1	U
Selenium, Dissolved	0.000500	0.00100	0.000500	1	U
Silver, Dissolved	0.000500	0.00100	0.000500	1	U
Thallium, Dissolved	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit
 LOQ Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2241624

13-DEC-2011 14:14



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383037-04
Instrument ID: ELAN-ICP Run Time: 15:20 Prep Method: 3015
File ID: EL.120111.152022 Analyst: JYH Method: 6020
Workgroup (AAB#): WG383211 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD47574 Cal ID: ELAN-I - 01-DEC-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Antimony, Total	0.0625	0.0649	104	80 - 120	
Arsenic, Total	0.0625	0.0667	107	80 - 120	
Barium, Total	0.0625	0.0647	104	80 - 120	
Cadmium, Total	0.0625	0.0636	102	80 - 120	
Chromium, Total	0.0625	0.0656	105	80 - 120	
Cobalt, Total	0.0625	0.0638	102	80 - 120	
Copper, Total	0.0625	0.0628	100	80 - 120	
Lead, Total	0.0625	0.0647	103	80 - 120	
Manganese, Total	0.0625	0.0677	108	80 - 120	
Nickel, Total	0.0625	0.0649	104	80 - 120	
Selenium, Total	0.0625	0.0694	111	80 - 120	
Silver, Total	0.0625	0.0626	100	80 - 120	
Thallium, Total	0.0625	0.0645	103	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2241625
Report generated: 12/13/2011 14:15



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383215-05
Instrument ID: ELAN-ICP Run Time: 12:09 Prep Method: 3015
File ID: EL.120611.120920 Analyst: JYH Method: 6020
Workgroup (AAB#): WG383271 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD47574 Cal ID: ELAN-I - 06-DEC-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Antimony, Dissolved	0.0625	0.0614	98.2	80 - 120	
Arsenic, Dissolved	0.0625	0.0600	95.9	80 - 120	
Barium, Dissolved	0.0625	0.0618	98.9	80 - 120	
Cadmium, Dissolved	0.0625	0.0624	99.9	80 - 120	
Chromium, Dissolved	0.0625	0.0614	98.3	80 - 120	
Cobalt, Dissolved	0.0625	0.0618	98.9	80 - 120	
Copper, Dissolved	0.0625	0.0626	100	80 - 120	
Lead, Dissolved	0.0625	0.0613	98.1	80 - 120	
Manganese, Dissolved	0.0625	0.0616	98.5	80 - 120	
Nickel, Dissolved	0.0625	0.0625	99.9	80 - 120	
Selenium, Dissolved	0.0625	0.0592	94.7	80 - 120	
Silver, Dissolved	0.0625	0.0615	98.4	80 - 120	
Thallium, Dissolved	0.0625	0.0605	96.9	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2241625
Report generated: 12/13/2011 14:15



MS/MSD REPORT

Loginnum: L11110795Cal ID: ELAN-ICP- 01-DEC-11Worknum: WG383211Instrument ID: ELAN-ICP

Contract #:

Prep Method: 3015Parent ID: L11110795-03File ID: EL.120111.171648Dil: 2Method: 6020Sample ID: L11110795-07 MSFile ID: EL.120111.175314Dil: 2Matrix: WaterSample ID: L11110795-09 MSDFile ID: EL.120111.180033Dil: 2Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Total	U	0.0625	0.0626	100	0.0625	0.0668	107	6.57	80 - 120	20	
Arsenic, Total	U	0.0625	0.0682	109	0.0625	0.0726	116	6.22	80 - 120	20	
Barium, Total	0.0571	0.0625	0.118	97.8	0.0625	0.127	112	7.15	80 - 120	20	
Cadmium, Total	U	0.0625	0.0629	101	0.0625	0.0666	107	5.70	80 - 120	20	
Chromium, Total	0.00389	0.0625	0.0671	101	0.0625	0.0706	107	5.17	80 - 120	20	
Cobalt, Total	U	0.0625	0.0622	99.6	0.0625	0.0673	108	7.86	80 - 120	20	
Copper, Total	U	0.0625	0.0606	96.9	0.0625	0.0643	103	6.02	80 - 120	20	
Lead, Total	U	0.0625	0.0641	103	0.0625	0.0693	111	7.78	80 - 120	20	
Manganese, Total	0.0152	0.0625	0.0702	88	0.0625	0.0760	97.2	7.91	80 - 120	20	
Nickel, Total	0.00453	0.0625	0.0656	97.7	0.0625	0.0698	104	6.18	80 - 120	20	
Silver, Total	U	0.0625	0.0582	93.1	0.0625	0.0629	101	7.69	80 - 120	20	
Thallium, Total	U	0.0625	0.0646	103	0.0625	0.0683	109	5.56	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 2241626

Report generated 12/07/2011 10:39



MS/MSD REPORT

Loginnum: L11110795 Cal ID: ELAN-ICP- 06-DEC-11 Worknum: WG383211
Instrument ID: ELAN-ICP Contract #: _____ Prep Method: 3015
Parent ID: L11110795-03 File ID: EL.120611.223220 Dil: 2 Method: 6020
Sample ID: L11110795-07 MS File ID: EL.120611.230957 Dil: 2 Matrix: Water
Sample ID: L11110795-09 MSD File ID: EL.120611.231726 Dil: 2 Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Selenium, Total	0.00131	0.0625	0.0622	97.3	0.0625	0.0635	99.5	2.13	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT



MS/MSD REPORT

Loginnum: L11110795Cal ID: ELAN-ICP- 06-DEC-11Worknum: WG383271Instrument ID: ELAN-ICP

Contract #:

Prep Method: 3015Parent ID: L11110795-04File ID: EL.120611.125419Dil: 1Method: 6020Sample ID: L11110795-08 MSFile ID: EL.120611.130146Dil: 1Matrix: WaterSample ID: L11110795-10 MSDFile ID: EL.120611.130914Dil: 1Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Dissolved	U	0.0625	0.0621	99.4	0.0625	0.0629	101	1.18	80 - 120	20	
Arsenic, Dissolved	U	0.0625	0.0606	97	0.0625	0.0606	97	0.0070	80 - 120	20	
Barium, Dissolved	0.0554	0.0625	0.122	106	0.0625	0.120	104	1.05	80 - 120	20	
Cadmium, Dissolved	U	0.0625	0.0622	99.4	0.0625	0.0602	96.3	3.25	80 - 120	20	
Chromium, Dissolved	0.00176	0.0625	0.0653	102	0.0625	0.0654	102	0.117	80 - 120	20	
Cobalt, Dissolved	U	0.0625	0.0647	104	0.0625	0.0642	103	0.813	80 - 120	20	
Copper, Dissolved	U	0.0625	0.0657	105	0.0625	0.0638	102	2.99	80 - 120	20	
Lead, Dissolved	U	0.0625	0.0658	105	0.0625	0.0654	105	0.705	80 - 120	20	
Manganese, Dissolved	U	0.0625	0.0649	104	0.0625	0.0647	104	0.342	80 - 120	20	
Nickel, Dissolved	0.00383	0.0625	0.0687	104	0.0625	0.0670	101	2.44	80 - 120	20	
Selenium, Dissolved	0.00119	0.0625	0.0575	90.1	0.0625	0.0569	89.1	1.13	80 - 120	20	
Silver, Dissolved	U	0.0625	0.0624	99.8	0.0625	0.0625	100	0.257	80 - 120	20	
Thallium, Dissolved	U	0.0625	0.0663	106	0.0625	0.0651	104	1.88	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2241626

Report generated 12/07/2011 10:39



Microbac Laboratories Inc.
Serial Dilution Report

Login: L11110795 Worknum: WG383211
Instrument: ELAN-ICP Method: 6020
Serial Dil: WG383211-02 File ID: EL.120111.155644 Dil: 10 Units: ug/L
Sample: L11110851-01 File ID: EL.120111.152737 Dil: 2

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	0.854	X	ND	U		
Arsenic	7.02	X	7.02	X	0.02	
Barium	32.8	X	29.4	X	10.10	
Cadmium	ND	U	ND	U		
Chromium	1.06	F	ND	U		
Cobalt	0.454	F	ND	U		
Copper	2.49	X	ND	U		
Lead	ND	U	ND	U		
Manganese	21.3	X	18.9	X	11.20	
Nickel	2.61	F	ND	U		
Selenium	0.938	X	ND	U		
Silver	ND	U	ND	U		
Thallium	0.628	X	0.404	F	35.60	

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2241620

12/07/2011 07:49



Microbac Laboratories Inc.
Serial Dilution Report

Login: L11110795 Worknum: WG383271
Instrument: ELAN-ICP Method: 6020
Serial Dil: WG383271-02 File ID: EL.120611.133137 Dil: 5 Units: ug/L
Sample: L11110782-01 File ID: EL.120611.131641 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	0.375	F	ND	U		
Barium	50.1	X	ND	U		
Cadmium	ND	U	ND	U		
Chromium	7.86	X	ND	U		
Cobalt	0.278	F	ND	U		
Copper	3.05	X	ND	U		
Lead	0.518	X	ND	U		
Manganese	1.71	X	ND	U		
Nickel	4.70	X	ND	U		
Selenium	1.82	X	ND	U		
Silver	ND	U	ND	U		
Thallium	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2241620

12/07/2011 07:49



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L11110795
Instrument ID: ELAN-ICP
Post Spike ID: WG383211-01
Sample ID: L11110851-01

Worknum: WG383211
Method: 6020
Units: ug/L
Matrix: Water

File ID: EL.120111.154927 Dil: 2
File ID: EL.120111.152737 Dil: 2

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
ANTIMONY	53.7		0.427		50	106.5	75 - 125	
ARSENIC	56.7		3.51		50	106.4	75 - 125	
BARIUM	69.3		16.4		50	105.8	75 - 125	
CADMIUM	51.2		0	U	50	102.3	75 - 125	
CHROMIUM	54.4		0.531	F	50	107.7	75 - 125	
COBALT	51.9		0.227	F	50	103.4	75 - 125	
COPPER	52.0		1.25		50	101.5	75 - 125	
LEAD	53.0		0	U	50	106.1	75 - 125	
MANGANESE	66.3		10.7		50	111.4	75 - 125	
NICKEL	52.2		1.31	F	50	101.8	75 - 125	
SELENIUM	52.5		0.469		50	104.0	75 - 125	
SILVER	51.0		0	U	50	102.0	75 - 125	
THALLIUM	53.5		0.314		50	106.4	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2241621
Report generated: 12/07/2011 07:49



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L11110795
Instrument ID: ELAN-ICP
Post Spike ID: WG383271-01
Sample ID: L11110782-01

Worknum: WG383271
Method: 6020
Units: ug/L
Matrix: Water

File ID: EL.120611.132409 Dil: 1
File ID: EL.120611.131641 Dil: 1

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
ANTIMONY	52.8		0	U	50	105.6	75 - 125	
ARSENIC	50.1		0.375	F	50	99.5	75 - 125	
BARIUM	105		50.1		50	109.5	75 - 125	
CADMIUM	51.5		0	U	50	103.0	75 - 125	
CHROMIUM	60.4		7.86		50	105.2	75 - 125	
COBALT	53.0		0.278	F	50	105.4	75 - 125	
COPPER	55.6		3.05		50	105.1	75 - 125	
LEAD	54.5		0.518		50	108.0	75 - 125	
MANGANESE	55.0		1.71		50	106.6	75 - 125	
NICKEL	57.0		4.70		50	104.7	75 - 125	
SELENIUM	47.4		1.82		50	91.1	75 - 125	
SILVER	48.6		0	U	50	97.2	75 - 125	
THALLIUM	53.7		0	U	50	107.3	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2241621
Report generated: 12/07/2011 07:49



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L11110795</u>	Workgroup (AAB#):	<u>WG383211</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ELAN-ICP</u>
ICAL Worknum:	<u>WG383524</u>	Initial Calibration Date:	<u>01-DEC-2011 11:51</u>

	WG383524-01		WG383524-02		WG383524-03		WG383524-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	7.28	.4	1410	50	186000	100	350000	.999858	
ARSENIC	0	-297	.4	256	50	79800	100	157000	.99998	
BARIUM	0	17.0	.4	643	50	78400	100	150000	.999982	
CADMIUM	0	2.96	.4	525	50	61800	100	120000	.999994	
CHROMIUM	0	13500	.4	18000	50	550000	100	1040000	.999992	
COBALT	0	72.7	.4	5000	50	608000	100	1140000	.999885	
COPPER	0	200	.4	1270	50	138000	100	254000	.999741	
LEAD	0	1010	.4	10400	50	1110000	100	2280000	.999992	
MANGANESE	0	432	.4	7060	50	770000	100	1480000	.999995	
NICKEL	0	42.0	.4	1130	50	127000	100	240000	.999912	
SELENIUM	0	10.2	.4	61.1	50	6380	100	12500	.999971	
SILVER	0	63.0	.4	2680	50	318000	100	618000	.999999	
THALLIUM	0	19.3	.4	2770	50	328000	100	662000	.999991	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2241629
Report generated: 07-DEC-2011 07:50



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L11110795</u>	Workgroup (AAB#):	<u>WG383211</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ELAN-ICP</u>
ICAL Worknum:	<u>WG383891</u>	Initial Calibration Date:	<u>06-DEC-2011 09:13</u>

	WG383891-01		WG383891-02		WG383891-03		WG383891-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	12.5	.4	1190	50	153000	100	288000	.999952	
ARSENIC	0	-501	.4	64.2	50	67700	100	131000	.999998	
BARIUM	0	17.0	.4	528	50	65400	100	124000	.99995	
CADMIUM	0	5.42	.4	431	50	54700	100	104000	.999986	
CHROMIUM	0	13800	.4	17300	50	486000	100	921000	1	
COBALT	0	86.7	.4	4210	50	511000	100	960000	.999924	
COPPER	0	72.3	.4	997	50	110000	100	205000	.999865	
LEAD	0	761	.4	7610	50	866000	100	1660000	.999972	
MANGANESE	0	385	.4	6080	50	675000	100	1300000	1	
NICKEL	0	37.7	.4	940	50	107000	100	200000	.999891	
SELENIUM	0	9.17	.4	44.4	50	5550	100	10700	1	
SILVER	0	58.0	.4	2230	50	272000	100	504000	.999857	
THALLIUM	0	14.0	.4	2010	50	254000	100	486000	.999985	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2241629
Report generated: 07-DEC-2011 07:50



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L11110795</u>	Workgroup (AAB#):	<u>WG383271</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ELAN-ICP</u>
ICAL Worknum:	<u>WG383891</u>	Initial Calibration Date:	<u>06-DEC-2011 09:13</u>

	WG383891-01		WG383891-02		WG383891-03		WG383891-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	12.5	.4	1190	50	153000	100	288000	.999952	
ARSENIC	0	-501	.4	64.2	50	67700	100	131000	.999998	
BARIUM	0	17.0	.4	528	50	65400	100	124000	.99995	
CADMIUM	0	5.42	.4	431	50	54700	100	104000	.999986	
CHROMIUM	0	13800	.4	17300	50	486000	100	921000	1	
COBALT	0	86.7	.4	4210	50	511000	100	960000	.999924	
COPPER	0	72.3	.4	997	50	110000	100	205000	.999865	
LEAD	0	761	.4	7610	50	866000	100	1660000	.999972	
MANGANESE	0	385	.4	6080	50	675000	100	1300000	1	
NICKEL	0	37.7	.4	940	50	107000	100	200000	.999891	
SELENIUM	0	9.17	.4	44.4	50	5550	100	10700	1	
SILVER	0	58.0	.4	2230	50	272000	100	504000	.999857	
THALLIUM	0	14.0	.4	2010	50	254000	100	486000	.999985	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2241629
Report generated: 07-DEC-2011 07:50



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-06
Instrument ID: ELAN-ICP Run Time: 12:06 Method: 6020
File ID: EL.120111.120602 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383211 Cal ID: ELAN-ICP - 01-DEC-11
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2241631
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-06
Instrument ID: ELAN-ICP Run Time: 09:28 Method: 6020
File ID: EL.120611.092816 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383211 Cal ID: ELAN-ICP - 06-DEC-11
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2241631
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-06
Instrument ID: ELAN-ICP Run Time: 09:28 Method: 6020
File ID: EL.120611.092816 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383271 Cal ID: ELAN-ICP - 06-DEC-11
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2241631
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-12
Instrument ID: ELAN-ICP Run Time: 12:50 Method: 6020
File ID: EL.120111.125025 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 01-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2241634
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-17
Instrument ID: ELAN-ICP Run Time: 14:58 Method: 6020
File ID: EL.120111.145831 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 01-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Report generated 12/07/2011 07:50



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Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-23
Instrument ID: ELAN-ICP Run Time: 16:11 Method: 6020
File ID: EL.120111.161118 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 01-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-25
Instrument ID: ELAN-ICP Run Time: 17:31 Method: 6020
File ID: EL.120111.173123 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 01-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-27
Instrument ID: ELAN-ICP Run Time: 18:58 Method: 6020
File ID: EL.120111.185847 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 01-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-12
Instrument ID: ELAN-ICP Run Time: 10:17 Method: 6020
File ID: EL.120611.101703 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-31
Instrument ID: ELAN-ICP Run Time: 21:47 Method: 6020
File ID: EL.120611.214728 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-33
Instrument ID: ELAN-ICP Run Time: 22:47 Method: 6020
File ID: EL.120611.224725 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG383891-35
Instrument ID: ELAN-ICP Run Time: 00:17 Method: 6020
File ID: EL.120711.001715 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-12
Instrument ID: ELAN-ICP Run Time: 10:17 Method: 6020
File ID: EL.120611.101703 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383271 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-14
Instrument ID: ELAN-ICP Run Time: 11:39 Method: 6020
File ID: EL.120611.113922 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383271 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Report generated 12/07/2011 07:50



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Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-16
Instrument ID: ELAN-ICP Run Time: 12:24 Method: 6020
File ID: EL.120611.122424 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383271 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Report generated 12/07/2011 07:50



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CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-18
Instrument ID: ELAN-ICP Run Time: 13:46 Method: 6020
File ID: EL.120611.134642 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383271 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.206	F
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Report generated 12/07/2011 07:50



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INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: <u>L11110795</u>	Run Date: <u>12/01/2011</u>	Sample ID: <u>WG383524-05</u>
Instrument ID: <u>ELAN-ICP</u>	Run Time: <u>11:58</u>	Method: <u>6020</u>
File ID: <u>EL.120111.115846</u>	Analyst: <u>JYH</u>	Units: <u>ug/L</u>
Workgroup (AAB#): <u>WG383211</u>	Cal ID: <u>ELAN-I - 01-DEC-11</u>	
QC Key: <u>DOD4</u>		

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	50.1	100	90 - 110	
Arsenic	50	50.2	100	90 - 110	
Barium	50	49.9	99.7	90 - 110	
Cadmium	50	49.9	99.9	90 - 110	
Chromium	50	50.4	101	90 - 110	
Cobalt	50	50.6	101	90 - 110	
Copper	50	50.4	101	90 - 110	
Lead	50	50.0	99.9	90 - 110	
Manganese	50	49.9	99.7	90 - 110	
Nickel	50	49.7	99.5	90 - 110	
Selenium	50	49.9	99.8	90 - 110	
Silver	50	48.9	97.8	90 - 110	
Thallium	50	50.4	101	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2241630
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: <u>L11110795</u>	Run Date: <u>12/06/2011</u>	Sample ID: <u>WG383891-05</u>
Instrument ID: <u>ELAN-ICP</u>	Run Time: <u>09:20</u>	Method: <u>6020</u>
File ID: <u>EL.120611.092040</u>	Analyst: <u>JYH</u>	Units: <u>ug/L</u>
Workgroup (AAB#): <u>WG383211</u>	Cal ID: <u>ELAN-I - 06-DEC-11</u>	
QC Key: <u>DOD4</u>		

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	51.7	103	90 - 110	
Arsenic	50	49.6	99.1	90 - 110	
Barium	50	50.3	101	90 - 110	
Cadmium	50	50.3	101	90 - 110	
Chromium	50	49.8	99.6	90 - 110	
Cobalt	50	50.6	101	90 - 110	
Copper	50	50.5	101	90 - 110	
Lead	50	50.1	100	90 - 110	
Manganese	50	49.6	99.3	90 - 110	
Nickel	50	50.2	100	90 - 110	
Selenium	50	51.0	102	90 - 110	
Silver	50	50.3	101	90 - 110	
Thallium	50	50.1	100	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
 PDF File ID: 2241630
 Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-05
Instrument ID: ELAN-ICP Run Time: 09:20 Method: 6020
File ID: EL.120611.092040 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG383271 Cal ID: ELAN-I - 06-DEC-11
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	51.7	103	90 - 110	
Arsenic	50	49.6	99.1	90 - 110	
Barium	50	50.3	101	90 - 110	
Cadmium	50	50.3	101	90 - 110	
Chromium	50	49.8	99.6	90 - 110	
Cobalt	50	50.6	101	90 - 110	
Copper	50	50.5	101	90 - 110	
Lead	50	50.1	100	90 - 110	
Manganese	50	49.6	99.3	90 - 110	
Nickel	50	50.2	100	90 - 110	
Selenium	50	51.0	102	90 - 110	
Silver	50	50.3	101	90 - 110	
Thallium	50	50.1	100	90 - 110	

* Exceeds LIMITS Limit

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-10
Instrument ID: ELAN-ICP Run Time: 12:35 Method: 6020
File ID: EL.120111.123517 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 01-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	51.3	ug/L	103	90 - 110		
Arsenic		50.0	49.3	ug/L	98.6	90 - 110		
Barium		50.0	50.7	ug/L	101	90 - 110		
Cadmium		50.0	49.4	ug/L	98.9	90 - 110		
Chromium		50.0	50.8	ug/L	102	90 - 110		
Cobalt		50.0	50.8	ug/L	102	90 - 110		
Copper		50.0	52.2	ug/L	104	90 - 110		
Lead		50.0	50.0	ug/L	100	90 - 110		
Manganese		50.0	49.9	ug/L	99.7	90 - 110		
Nickel		50.0	50.4	ug/L	101	90 - 110		
Selenium		50.0	49.2	ug/L	98.4	90 - 110		
Silver		50.0	49.5	ug/L	99.1	90 - 110		
Thallium		50.0	50.6	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-16
Instrument ID: ELAN-ICP Run Time: 14:51 Method: 6020
File ID: EL.120111.145114 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 01-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.0	ug/L	100	90 - 110		
Arsenic		50.0	52.3	ug/L	105	90 - 110		
Barium		50.0	50.1	ug/L	100	90 - 110		
Cadmium		50.0	50.0	ug/L	100	90 - 110		
Chromium		50.0	50.7	ug/L	101	90 - 110		
Cobalt		50.0	49.9	ug/L	99.7	90 - 110		
Copper		50.0	48.5	ug/L	97.1	90 - 110		
Lead		50.0	50.0	ug/L	100	90 - 110		
Manganese		50.0	50.6	ug/L	101	90 - 110		
Nickel		50.0	49.3	ug/L	98.6	90 - 110		
Selenium		50.0	54.2	ug/L	108	90 - 110		
Silver		50.0	49.3	ug/L	98.6	90 - 110		
Thallium		50.0	50.7	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2241633
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-22
Instrument ID: ELAN-ICP Run Time: 16:04 Method: 6020
File ID: EL.120111.160401 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 01-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.0	ug/L	99.9	90 - 110		
Arsenic		50.0	50.8	ug/L	102	90 - 110		
Barium		50.0	49.8	ug/L	99.5	90 - 110		
Cadmium		50.0	49.7	ug/L	99.4	90 - 110		
Chromium		50.0	50.3	ug/L	101	90 - 110		
Cobalt		50.0	49.7	ug/L	99.4	90 - 110		
Copper		50.0	48.2	ug/L	96.4	90 - 110		
Lead		50.0	49.6	ug/L	99.3	90 - 110		
Manganese		50.0	51.2	ug/L	102	90 - 110		
Nickel		50.0	48.3	ug/L	96.6	90 - 110		
Selenium		50.0	51.6	ug/L	103	90 - 110		
Silver		50.0	48.3	ug/L	96.5	90 - 110		
Thallium		50.0	50.5	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2241633
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-24
Instrument ID: ELAN-ICP Run Time: 17:24 Method: 6020
File ID: EL.120111.172406 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 01-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.9	ug/L	99.8	90 - 110		
Arsenic		50.0	52.0	ug/L	104	90 - 110		
Barium		50.0	50.2	ug/L	100	90 - 110		
Cadmium		50.0	48.4	ug/L	96.8	90 - 110		
Chromium		50.0	48.0	ug/L	96.0	90 - 110		
Cobalt		50.0	48.4	ug/L	96.8	90 - 110		
Copper		50.0	47.0	ug/L	94.0	90 - 110		
Lead		50.0	49.4	ug/L	98.7	90 - 110		
Manganese		50.0	49.3	ug/L	98.6	90 - 110		
Nickel		50.0	48.1	ug/L	96.2	90 - 110		
Selenium		50.0	54.0	ug/L	108	90 - 110		
Silver		50.0	46.9	ug/L	93.8	90 - 110		
Thallium		50.0	49.9	ug/L	99.8	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2241633
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-26
Instrument ID: ELAN-ICP Run Time: 18:51 Method: 6020
File ID: EL.120111.185130 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 01-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.0	ug/L	100	90 - 110		
Arsenic		50.0	53.5	ug/L	107	90 - 110		
Barium		50.0	50.9	ug/L	102	90 - 110		
Cadmium		50.0	49.3	ug/L	98.5	90 - 110		
Chromium		50.0	48.4	ug/L	96.9	90 - 110		
Cobalt		50.0	49.9	ug/L	99.8	90 - 110		
Copper		50.0	48.0	ug/L	95.9	90 - 110		
Lead		50.0	49.9	ug/L	99.8	90 - 110		
Manganese		50.0	50.1	ug/L	100	90 - 110		
Nickel		50.0	49.0	ug/L	98.1	90 - 110		
Selenium		50.0	56.6	ug/L	113	90 - 110		*
Silver		50.0	47.5	ug/L	95.0	90 - 110		
Thallium		50.0	50.3	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2241633
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-10
Instrument ID: ELAN-ICP Run Time: 09:58 Method: 6020
File ID: EL.120611.095851 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.9	ug/L	102	90 - 110		
Arsenic		50.0	48.8	ug/L	97.6	90 - 110		
Barium		50.0	52.0	ug/L	104	90 - 110		
Cadmium		50.0	49.5	ug/L	99.0	90 - 110		
Chromium		50.0	49.0	ug/L	98.0	90 - 110		
Cobalt		50.0	49.8	ug/L	99.6	90 - 110		
Copper		50.0	51.7	ug/L	103	90 - 110		
Lead		50.0	48.7	ug/L	97.4	90 - 110		
Manganese		50.0	48.3	ug/L	96.7	90 - 110		
Nickel		50.0	50.4	ug/L	101	90 - 110		
Selenium		50.0	48.2	ug/L	96.4	90 - 110		
Silver		50.0	49.7	ug/L	99.5	90 - 110		
Thallium		50.0	49.3	ug/L	98.6	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2241633
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-30
Instrument ID: ELAN-ICP Run Time: 21:39 Method: 6020
File ID: EL.120611.213951 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.4	ug/L	101	90 - 110		
Arsenic		50.0	49.4	ug/L	98.7	90 - 110		
Barium		50.0	53.3	ug/L	107	90 - 110		
Cadmium		50.0	51.0	ug/L	102	90 - 110		
Chromium		50.0	50.2	ug/L	100	90 - 110		
Cobalt		50.0	51.2	ug/L	102	90 - 110		
Copper		50.0	53.2	ug/L	106	90 - 110		
Lead		50.0	50.3	ug/L	101	90 - 110		
Manganese		50.0	49.7	ug/L	99.4	90 - 110		
Nickel		50.0	52.0	ug/L	104	90 - 110		
Selenium		50.0	50.1	ug/L	100	90 - 110		
Silver		50.0	51.5	ug/L	103	90 - 110		
Thallium		50.0	49.9	ug/L	99.8	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2241633
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-32
Instrument ID: ELAN-ICP Run Time: 22:39 Method: 6020
File ID: EL.120611.223948 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.9	ug/L	102	90 - 110		
Arsenic		50.0	48.4	ug/L	96.8	90 - 110		
Barium		50.0	53.8	ug/L	108	90 - 110		
Cadmium		50.0	51.1	ug/L	102	90 - 110		
Chromium		50.0	49.4	ug/L	98.9	90 - 110		
Cobalt		50.0	51.3	ug/L	103	90 - 110		
Copper		50.0	53.2	ug/L	106	90 - 110		
Lead		50.0	50.2	ug/L	100	90 - 110		
Manganese		50.0	49.8	ug/L	99.5	90 - 110		
Nickel		50.0	51.7	ug/L	103	90 - 110		
Selenium		50.0	48.6	ug/L	97.2	90 - 110		
Silver		50.0	51.8	ug/L	104	90 - 110		
Thallium		50.0	49.8	ug/L	99.6	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2241633
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/07/2011 Sample ID: WG383891-34
Instrument ID: ELAN-ICP Run Time: 00:09 Method: 6020
File ID: EL.120711.000938 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.2	ug/L	100	90 - 110		
Arsenic		50.0	48.3	ug/L	96.5	90 - 110		
Barium		50.0	53.3	ug/L	107	90 - 110		
Cadmium		50.0	49.7	ug/L	99.4	90 - 110		
Chromium		50.0	49.7	ug/L	99.4	90 - 110		
Cobalt		50.0	50.3	ug/L	101	90 - 110		
Copper		50.0	52.1	ug/L	104	90 - 110		
Lead		50.0	50.3	ug/L	101	90 - 110		
Manganese		50.0	49.6	ug/L	99.2	90 - 110		
Nickel		50.0	50.2	ug/L	100	90 - 110		
Selenium		50.0	48.4	ug/L	96.7	90 - 110		
Silver		50.0	50.6	ug/L	101	90 - 110		
Thallium		50.0	50.0	ug/L	100	90 - 110		

* Exceeds LIMITS Criteria

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Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-10
Instrument ID: ELAN-ICP Run Time: 09:58 Method: 6020
File ID: EL.120611.095851 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383271 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.9	ug/L	102	90 - 110		
Arsenic		50.0	48.8	ug/L	97.6	90 - 110		
Barium		50.0	52.0	ug/L	104	90 - 110		
Cadmium		50.0	49.5	ug/L	99.0	90 - 110		
Chromium		50.0	49.0	ug/L	98.0	90 - 110		
Cobalt		50.0	49.8	ug/L	99.6	90 - 110		
Copper		50.0	51.7	ug/L	103	90 - 110		
Lead		50.0	48.7	ug/L	97.4	90 - 110		
Manganese		50.0	48.3	ug/L	96.7	90 - 110		
Nickel		50.0	50.4	ug/L	101	90 - 110		
Selenium		50.0	48.2	ug/L	96.4	90 - 110		
Silver		50.0	49.7	ug/L	99.5	90 - 110		
Thallium		50.0	49.3	ug/L	98.6	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2241633
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-13
Instrument ID: ELAN-ICP Run Time: 11:31 Method: 6020
File ID: EL.120611.113145 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383271 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	53.0	ug/L	106	90 - 110		
Arsenic		50.0	50.0	ug/L	99.9	90 - 110		
Barium		50.0	50.4	ug/L	101	90 - 110		
Cadmium		50.0	52.1	ug/L	104	90 - 110		
Chromium		50.0	49.5	ug/L	99.0	90 - 110		
Cobalt		50.0	50.5	ug/L	101	90 - 110		
Copper		50.0	51.0	ug/L	102	90 - 110		
Lead		50.0	49.9	ug/L	99.9	90 - 110		
Manganese		50.0	48.8	ug/L	97.6	90 - 110		
Nickel		50.0	50.6	ug/L	101	90 - 110		
Selenium		50.0	50.0	ug/L	100	90 - 110		
Silver		50.0	51.6	ug/L	103	90 - 110		
Thallium		50.0	49.9	ug/L	99.9	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2241633
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-15
Instrument ID: ELAN-ICP Run Time: 12:16 Method: 6020
File ID: EL.120611.121647 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383271 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	51.0	ug/L	102	90 - 110		
Arsenic		50.0	50.0	ug/L	100	90 - 110		
Barium		50.0	49.9	ug/L	99.8	90 - 110		
Cadmium		50.0	51.3	ug/L	103	90 - 110		
Chromium		50.0	49.7	ug/L	99.3	90 - 110		
Cobalt		50.0	49.9	ug/L	99.8	90 - 110		
Copper		50.0	50.3	ug/L	101	90 - 110		
Lead		50.0	49.7	ug/L	99.4	90 - 110		
Manganese		50.0	49.3	ug/L	98.6	90 - 110		
Nickel		50.0	49.9	ug/L	99.9	90 - 110		
Selenium		50.0	51.2	ug/L	102	90 - 110		
Silver		50.0	50.1	ug/L	100	90 - 110		
Thallium		50.0	49.8	ug/L	99.6	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2241633
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-17
Instrument ID: ELAN-ICP Run Time: 13:39 Method: 6020
File ID: EL.120611.133906 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383271 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.2	ug/L	100	90 - 110		
Arsenic		50.0	49.6	ug/L	99.2	90 - 110		
Barium		50.0	50.8	ug/L	102	90 - 110		
Cadmium		50.0	49.6	ug/L	99.2	90 - 110		
Chromium		50.0	48.2	ug/L	96.5	90 - 110		
Cobalt		50.0	50.1	ug/L	100	90 - 110		
Copper		50.0	50.7	ug/L	101	90 - 110		
Lead		50.0	50.0	ug/L	99.9	90 - 110		
Manganese		50.0	48.4	ug/L	96.8	90 - 110		
Nickel		50.0	49.9	ug/L	99.8	90 - 110		
Selenium		50.0	52.0	ug/L	104	90 - 110		
Silver		50.0	49.2	ug/L	98.4	90 - 110		
Thallium		50.0	50.0	ug/L	100	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2241633
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L11110795 Run Date: 12/01/2011 Sample ID: WG383524-21
Instrument ID: ELAN-ICP Run Time: 15:05 Method: 6020
File ID: EL.120111.150548 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 01-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Cadmium		0.200	0.178	ug/L	89.0	80 - 120		
Thallium		0.0800	0.0707	ug/L	88.4	80 - 120		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 2241655
Report generated 12/13/2011 14:55



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-07
Instrument ID: ELAN-ICP Run Time: 09:35 Method: 6020
File ID: EL.120611.093554 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383211 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Cadmium		0.200	0.219	ug/L	109	80 - 120		
Thallium		0.0800	0.0892	ug/L	112	80 - 120		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 2241655
Report generated 12/13/2011 14:55



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L11110795 Run Date: 12/06/2011 Sample ID: WG383891-21
Instrument ID: ELAN-ICP Run Time: 15:10 Method: 6020
File ID: EL.120611.151045 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG383271 Cal ID: ELAN-I - 06-DEC-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Cadmium		0.200	0.202	ug/L	101	80 - 120		
Thallium		0.0800	0.0873	ug/L	109	80 - 120		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 2241655
Report generated 12/13/2011 14:55



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L11110795
Instrument ID: ELAN-ICP
Sol. A : WG383524-08
Sol. AB : WG383524-09

File ID: EL.120111.122039
File ID: EL.120111.122758

Workgroup (AAB#): WG383211
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0625	NS	100	94.6	94.6	
Arsenic	NS	0.0619	NS	100	88.0	88.0	
Barium	NS	0.0186	NS	100	92.5	92.5	
Cadmium	NS	0.0877	NS	100	89.8	89.8	
Chromium	NS	0.142	NS	100	89.8	89.8	
Cobalt	NS	0.00680	NS	100	90.8	90.8	
Copper	NS	0.153	NS	100	95.6	95.6	
Lead	NS	-0.00230	NS	100	89.5	89.5	
Manganese	NS	-0.00740	NS	100	89.8	89.8	
Nickel	NS	0.407	NS	100	93.0	93.0	
Selenium	NS	-0.0192	NS	100	84.3	84.3	
Silver	NS	-0.0104	NS	100	89.3	89.3	
Thallium	NS	-0.0218	NS	100	87.9	87.9	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2241632
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L11110795
Instrument ID: ELAN-ICP
Sol. A : WG383891-08
Sol. AB : WG383891-09

File ID: EL.120611.094334
File ID: EL.120611.095113

Workgroup (AAB#): WG383211
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0587	NS	100	109	109	
Arsenic	NS	0.00320	NS	100	106	106	
Barium	NS	0.0368	NS	100	114	114	
Cadmium	NS	0.0726	NS	100	107	107	
Chromium	NS	0.135	NS	100	99.7	99.7	
Cobalt	NS	0.0122	NS	100	106	106	
Copper	NS	0.182	NS	100	111	111	
Lead	NS	0.0175	NS	100	102	102	
Manganese	NS	0.0183	NS	100	99.6	99.6	
Nickel	NS	0.579	NS	100	108	108	
Selenium	NS	0.124	NS	100	106	106	
Silver	NS	-0.00580	NS	100	109	109	
Thallium	NS	0.00390	NS	100	101	101	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2241632
Report generated 12/07/2011 07:50



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L11110795
Instrument ID: ELAN-ICP
Sol. A : WG383891-08
Sol. AB : WG383891-09

File ID: EL.120611.094334
File ID: EL.120611.095113

Workgroup (AAB#): WG383271
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0587	NS	100	109	109	
Arsenic	NS	0.00320	NS	100	106	106	
Barium	NS	0.0368	NS	100	114	114	
Cadmium	NS	0.0726	NS	100	107	107	
Chromium	NS	0.135	NS	100	99.7	99.7	
Cobalt	NS	0.0122	NS	100	106	106	
Copper	NS	0.182	NS	100	111	111	
Lead	NS	0.0175	NS	100	102	102	
Manganese	NS	0.0183	NS	100	99.6	99.6	
Nickel	NS	0.579	NS	100	108	108	
Selenium	NS	0.124	NS	100	106	106	
Silver	NS	-0.00580	NS	100	109	109	
Thallium	NS	0.00390	NS	100	101	101	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2241632
Report generated 12/07/2011 07:50



INTERNAL STANDARD REPORT

Login: L11110795 Analytical Method: 6020
 Analytical Workgroup: WG383211 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 01-DEC-2011 11:30

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L11110795-01	SAMP	01-DEC-2011 16:18	104.543	92.454	98.477	95.234
L11110795-02	SAMP	01-DEC-2011 17:09	112.376	92.438	103.608	96.034
L11110795-03	SAMP	01-DEC-2011 17:16	115.261	91.444	105.122	96.202
L11110795-05	SAMP	01-DEC-2011 17:38	115.038	90.234	104.838	95.834
L11110795-06	SAMP	01-DEC-2011 17:45	115.202	90.676	106.087	95.853
L11110795-07	SAMP	01-DEC-2011 17:53	113.647	89.966	104.488	95.28
L11110795-09	SAMP	01-DEC-2011 18:00	113.3	89.833	103.699	95.245
L11110795-11	SAMP	01-DEC-2011 18:07	114.172	90.039	104.472	95.604
L11110795-12	SAMP	01-DEC-2011 18:15	117.018	90.508	106.819	96.768
L11110795-14	SAMP	01-DEC-2011 18:22	112.091	90.076	104.394	93.795
L11110795-15	SAMP	01-DEC-2011 18:29	115.464	91.557	106.321	96.714
L11110795-16	SAMP	01-DEC-2011 18:36	110.678	88.187	101.584	91.942
L11110795-17	SAMP	01-DEC-2011 18:44	113.41	92.141	105.205	96.457
WG383037-03	BLANK	01-DEC-2011 15:13	115.046	97.397	106.093	100.728
WG383037-04	LCS	01-DEC-2011 15:20	111.334	94.021	101.847	95.689
WG383211-01	PSPK	01-DEC-2011 15:49	105.387	94.525	99.121	94.619
WG383211-02	SERIAL	01-DEC-2011 15:56	109.711	93.842	99.78	93.802
WG383524-05	ICV	01-DEC-2011 11:58	102.407	99.723	103.248	99.741
WG383524-06	ICB	01-DEC-2011 12:06	102.17	99.179	101.717	99.201
WG383524-07	LLICV	01-DEC-2011 12:13	103.257	100.59	103.149	101.228
WG383524-08	ICS	01-DEC-2011 12:20	91.81	98.425	94.666	94.897
WG383524-09	ICS	01-DEC-2011 12:27	76.195	93.411	89.798	88.037
WG383524-10	CCV	01-DEC-2011 12:35	94.619	98.455	98.363	95.91
WG383524-12	CCB	01-DEC-2011 12:50	95.262	100.005	98.996	98.027
WG383524-13	LLCCV	01-DEC-2011 12:57	98.692	99.176	99.914	98.564
WG383524-16	CCV	01-DEC-2011 14:51	110.177	93.826	102.44	96.545
WG383524-17	CCB	01-DEC-2011 14:58	111.782	97.095	104.624	100.078
WG383524-21	LLCCV	01-DEC-2011 15:05	113.538	95.293	104.016	99.166
WG383524-22	CCV	01-DEC-2011 16:04	109.45	94.207	101.791	95.653
WG383524-23	CCB	01-DEC-2011 16:11	109.769	91.909	99.306	94.483
WG383524-24	CCV	01-DEC-2011 17:24	115.11	89.778	104.795	94.74
WG383524-25	CCB	01-DEC-2011 17:31	116.615	89.309	106.481	93.717
WG383524-26	CCV	01-DEC-2011 18:51	115.539	87.421	105.915	94.416
WG383524-27	CCB	01-DEC-2011 18:58	116.251	90.286	107.039	94.756
WG383524-34	LLCCV	01-DEC-2011 22:51	108.421	90.411	102.106	93.739

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2241654
 Report generated: 12/07/2011 08:29



INTERNAL STANDARD REPORT

Login: L11110795 Analytical Method: 6020
Analytical Workgroup: WG383211 Matrix: 2
Instrument: ELAN-ICP Analyst: JYH
ICAL Date: 01-DEC-2011 11:30

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L11110851-01	SAMP	01-DEC-2011 15:27	109.241	95.66	100.869	95.65

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
PDF File ID: 2241654
Report generated: 12/07/2011 08:29



INTERNAL STANDARD REPORT

Login: L11110795 Analytical Method: 6020
 Analytical Workgroup: WG383211 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 06-DEC-2011 08:52

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L11110795-03	SAMP	06-DEC-2011 22:32	84.447	93.715	94.259	84.065
L11110795-05	SAMP	06-DEC-2011 22:55	84.507	95.121	94.677	86.667
L11110795-06	SAMP	06-DEC-2011 23:02	87.073	95.339	97.012	86.629
L11110795-07	SAMP	06-DEC-2011 23:09	83.962	92.012	94.794	83.26
L11110795-09	SAMP	06-DEC-2011 23:17	86.474	92.638	96.356	83.931
L11110795-11	SAMP	06-DEC-2011 23:24	85.48	91.183	93.561	84.113
L11110795-12	SAMP	06-DEC-2011 23:32	88.845	93.799	96.82	85.793
L11110795-14	SAMP	06-DEC-2011 23:39	83.579	91.314	92.8	82.99
L11110795-15	SAMP	06-DEC-2011 23:47	88.002	94.706	96.758	85.753
L11110795-16	SAMP	06-DEC-2011 23:54	80.922	89.528	91.96	81.175
L11110795-17	SAMP	07-DEC-2011 00:02	85.84	93.393	94.808	84.149
WG383891-05	ICV	06-DEC-2011 09:20	97.584	95.994	98.108	95.616
WG383891-06	ICB	06-DEC-2011 09:28	93.128	93.436	94.347	92.822
WG383891-07	LLICV	06-DEC-2011 09:35	97.732	94.897	97.665	95.338
WG383891-08	ICS	06-DEC-2011 09:43	86.194	90.57	91.619	87.168
WG383891-09	ICS	06-DEC-2011 09:51	72.607	80.374	81.848	68.078
WG383891-10	CCV	06-DEC-2011 09:58	85.469	88.13	91.086	84.285
WG383891-12	CCB	06-DEC-2011 10:17	94.219	95.202	95.49	93.003
WG383891-21	LLCCV	06-DEC-2011 15:10	97.261	97.617	102.79	95.361
WG383891-30	CCV	06-DEC-2011 21:39	90.398	96.571	96.608	89.709
WG383891-31	CCB	06-DEC-2011 21:47	91.432	100.234	97.631	91.867
WG383891-32	CCV	06-DEC-2011 22:39	86.906	94.559	93.468	86.237
WG383891-33	CCB	06-DEC-2011 22:47	89.411	97.119	96.72	87.98
WG383891-34	CCV	07-DEC-2011 00:09	87.051	93.733	94.595	86.265
WG383891-35	CCB	07-DEC-2011 00:17	92.66	94.929	97.614	87.087
WG383891-42	LLCCV	07-DEC-2011 04:05	89.797	96.917	98.001	90.553

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2241654
 Report generated: 12/07/2011 08:29



INTERNAL STANDARD REPORT

Login: L11110795 Analytical Method: 6020
 Analytical Workgroup: WG383271 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 06-DEC-2011 08:52

			BISMUTH	GERMANIUM	INDIUM	TERBIUM
Sample	Type	Run Date	% Rec	% Rec	% Rec	% Rec
L11110782-01	SAMP	06-DEC-2011 13:16	85.047	85.96	92.632	85.153
L11110795-04	SAMP	06-DEC-2011 12:54	84.279	86.222	90.161	85.387
L11110795-08	SAMP	06-DEC-2011 13:01	88.081	88.506	94.909	88.139
L11110795-10	SAMP	06-DEC-2011 13:09	85.483	86.904	91.375	85.371
WG383215-04	BLANK	06-DEC-2011 12:01	96.176	91.121	95.328	91.953
WG383215-05	LCS	06-DEC-2011 12:09	91.321	90.81	93.156	89.563
WG383271-01	PSPK	06-DEC-2011 13:24	82.26	84.024	89.581	83.267
WG383271-02	SERIAL	06-DEC-2011 13:31	90.552	90.746	95.317	86.941
WG383891-05	ICV	06-DEC-2011 09:20	97.584	95.994	98.108	95.616
WG383891-06	ICB	06-DEC-2011 09:28	93.128	93.436	94.347	92.822
WG383891-07	LLICV	06-DEC-2011 09:35	97.732	94.897	97.665	95.338
WG383891-08	ICS	06-DEC-2011 09:43	86.194	90.57	91.619	87.168
WG383891-09	ICS	06-DEC-2011 09:51	72.607	80.374	81.848	68.078
WG383891-10	CCV	06-DEC-2011 09:58	85.469	88.13	91.086	84.285
WG383891-12	CCB	06-DEC-2011 10:17	94.219	95.202	95.49	93.003
WG383891-13	CCV	06-DEC-2011 11:31	94.615	91.937	92.349	91.885
WG383891-14	CCB	06-DEC-2011 11:39	93.183	91.554	94.217	91.635
WG383891-15	CCV	06-DEC-2011 12:16	94.491	90.825	94.332	91.738
WG383891-16	CCB	06-DEC-2011 12:24	91.767	90.935	93.077	90.384
WG383891-17	CCV	06-DEC-2011 13:39	91.378	88.297	93.75	88.252
WG383891-18	CCB	06-DEC-2011 13:46	95.844	90.791	97.246	90.261
WG383891-21	LLCCV	06-DEC-2011 15:10	97.261	97.617	102.79	95.361

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2241654
 Report generated: 12/07/2011 08:29



Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L11110795

Date: 10/03/2011

Instrument ID: ELAN-ICP

Method: 6020

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Uranium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 2241628
Report generated: 12/07/2011 07:50





Login Number: L11110795
Department: Metals - AA
Analyst: Erin Long

METHOD

Preparation: SW-846 7470

Analysis: SW-846 7470

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: WG383336 - The method blank analyzed on 30-NOV-2011 at 10:53 yielded a result for mercury that slightly exceeded the limit of detection. However, all client samples were less than the reporting limit. With permission from the project chemist, no further action was taken.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG383336 - All acceptance criteria were met.

Matrix Spikes: WG383336 - Sample 03 was chosen by the client for MS/MSD analysis. Samples 07(MS) and 09(MSD) met all acceptance criteria. Sample 04 was chosen by the client for MS/MSD analysis. Samples 08(MS) and 10(MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 39244

Approved By: Sheri Pfalzgraf

A handwritten signature in black ink, appearing to read "Sheri L. Pfalzgraf".

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG383242
Analyst: BRG
Spike Analyst: BRG
Method: 7470A
Run Date: 11/29/2011 11:37
Hotblock Start Temp: 97 @ 08:05
Hotblock End Temp: 96.4 @ 10:05

SOP: ME404 Revision 13
Spike Solution: STD48845
Spike Witness: ERP
HNO3 Lot #: COA15720
KMnO4 1:1 Lot #: RGT16755
H2SO4 Lot #: COA15776
K2S2O8 1:1 Lot #: RGT16482
Digestion Tubes Lot #: COA15719
Mercury Water ICV Lot #: STD48847
HG H2O STDS 10PPM Lot #: STD48853

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG383242-03	BLANK	1	40 mL	40 mL		
2	WG383242-04	LCS	1	40 mL	40 mL	4 mL	
3	L11110795-01	SAMP	1	40 mL	40 mL		12/02/11
4	L11110795-02	SAMP	1	40 mL	40 mL		12/02/11
5	WG383242-01	REF	1	40 mL	40 mL		
6	L11110795-03	RS01	1	40 mL	40 mL		12/02/11
7	WG383242-02	REF	1	40 mL	40 mL		
8	L11110795-04	RS02	1	40 mL	40 mL		12/02/11
9	L11110795-05	SAMP	1	40 mL	40 mL		12/02/11
10	L11110795-06	SAMP	1	40 mL	40 mL		12/02/11
11	WG383242-05	MS	1	36 mL	40 mL	4 mL	
12	L11110795-07	MS01	1	36 mL	40 mL	4 mL	12/02/11
13	WG383242-07	MS	1	36 mL	40 mL	4 mL	
14	L11110795-08	MS02	1	36 mL	40 mL	4 mL	12/02/11
15	WG383242-06	MSD	1	36 mL	40 mL	4 mL	
16	L11110795-09	SD01	1	36 mL	40 mL	4 mL	12/02/11
17	WG383242-08	MSD	1	36 mL	40 mL	4 mL	
18	L11110795-10	SD02	1	36 mL	40 mL	4 mL	12/02/11
19	L11110795-11	SAMP	1	40 mL	40 mL		12/02/11
20	L11110795-12	SAMP	1	40 mL	40 mL		12/02/11
21	L11110795-14	SAMP	1	40 mL	40 mL		12/02/11
22	L11110795-15	SAMP	1	40 mL	40 mL		12/02/11
23	L11110795-16	SAMP	1	40 mL	40 mL		12/02/11
24	L11110795-17	SAMP	1	40 mL	40 mL		12/02/11

Analyst: Brenda Gregory

Reviewer: Ed Pott



METHOD BLANK SUMMARY

Login Number: <u>L11110795</u>	Work Group: <u>WG383336</u>
Blank File ID: <u>HY.113011.105325</u>	Blank Sample ID: <u>WG383242-03</u>
Prep Date: <u>11/29/11 11:37</u>	Instrument ID: <u>HYDRA</u>
Analyzed Date: <u>11/30/11 10:53</u>	Method: <u>7470A</u>
Analyst: <u>EDL</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG383242-04	HY.113011.105558	11/30/11 10:55	01
40MW7GW112011	L11110795-01	HY.113011.105816	11/30/11 10:58	01
40MW7GW112011	L11110795-02	HY.113011.110154	11/30/11 11:01	01
40MW5GW112011	L11110795-03	HY.113011.110340	11/30/11 11:03	01
40MW5GW112011	L11110795-04	HY.113011.110548	11/30/11 11:05	01
40DUPGW112011	L11110795-05	HY.113011.110731	11/30/11 11:07	01
40DUPGW112011	L11110795-06	HY.113011.111007	11/30/11 11:10	01
40MW5MSGW112011	L11110795-07	HY.113011.111156	11/30/11 11:11	01
40MW5MSGW112011	L11110795-08	HY.113011.111746	11/30/11 11:17	01
40MW5MSDGW112011	L11110795-09	HY.113011.111943	11/30/11 11:19	01
40MW5MSDGW112011	L11110795-10	HY.113011.112147	11/30/11 11:21	01
40112011FB	L11110795-11	HY.113011.112445	11/30/11 11:24	01
40EQR112011	L11110795-12	HY.113011.112633	11/30/11 11:26	01
40MW6GW112011	L11110795-14	HY.113011.112819	11/30/11 11:28	01
40EQRG112111	L11110795-15	HY.113011.113008	11/30/11 11:30	01
40LFMW01GW112111	L11110795-16	HY.113011.113242	11/30/11 11:32	01
40LFMW01GW112111	L11110795-17	HY.113011.113431	11/30/11 11:34	01

Report Name: BLANK_SUMMARY
PDF File ID: 2239441
Report generated 11/30/2011 12:55



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/29/11 11:37 Sample ID: WG383242-03
Instrument ID: HYDRA Run Date: 11/30/11 10:53 Prep Method: 7470A
File ID: HY.113011.105325 Analyst: EDL Method: 7470A
Workgroup (AAB#): WG383336 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA - 30-NOV-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000106	1	*

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2239344

30-NOV-2011 12:55



METHOD BLANK REPORT

Login Number: L11110795 Prep Date: 11/29/11 11:37 Sample ID: WG383242-03
Instrument ID: HYDRA Run Date: 11/30/11 10:53 Prep Method: 7470A
File ID: HY.113011.105325 Analyst: EDL Method: 7470A
Workgroup (AAB#): WG383336 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA - 30-NOV-11

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Mercury, Dissolved	0.000100	0.000200	0.000106	1	*

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2239453

30-NOV-2011 12:56



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383242-04
Instrument ID: HYDRA Run Time: 10:55 Prep Method: 7470A
File ID: HY.113011.105558 Analyst: EDL Method: 7470A
Workgroup (AAB#): WG383336 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD48845 Cal ID: HYDRA - 30-NOV-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00449	112	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2239442
Report generated: 11/30/2011 12:55



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383242-04
Instrument ID: HYDRA Run Time: 10:55 Prep Method: 7470A
File ID: HY.113011.105558 Analyst: EDL Method: 7470A
Workgroup (AAB#): WG383336 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD48845 Cal ID: HYDRA - 30-NOV-11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury, Dissolved	0.00400	0.00449	112	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2239454
Report generated: 11/30/2011 12:56



MS/MSD REPORT

Loginnum: L11110795 Cal ID: HYDRA- 30-NOV-11 Worknum: WG383336
Instrument ID: HYDRA Contract #: _____ Prep Method: 7470A
Parent ID: L11110795-03 File ID: HY.113011.110340 Dil: 1 Method: 7470A
Sample ID: L11110795-07 MS File ID: HY.113011.111156 Dil: 1 Matrix: Water
Sample ID: L11110795-09 MSD File ID: HY.113011.111943 Dil: 1 Units: mg/L

Analyte	Parent	MS	MS	MS	MSD	MSD	MSD	%RPD	%Rec Limits	RPD Limit	Q
		Spiked	Found	%Rec	Spiked	Found	%Rec				
Mercury	U	0.00444	0.00492	111	0.00444	0.00502	113	2.01	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
PDF File ID: 2239443
Report generated 11/30/2011 12:55



MS/MSD REPORT

Loginnum: L11110795 Cal ID: HYDRA- 30-NOV-11 Worknum: WG383336
Instrument ID: HYDRA Contract #: _____ Prep Method: 7470A
Parent ID: L11110795-04 File ID: HY.113011.110548 Dil: 1 Method: 7470A
Sample ID: L11110795-08 MS File ID: HY.113011.111746 Dil: 1 Matrix: Water
Sample ID: L11110795-10 MSD File ID: HY.113011.112147 Dil: 1 Units: mg/L

Analyte	Parent	MS	MS	MS	MSD	MSD	MSD	%RPD	%Rec Limits	RPD Limit	Q
		Spiked	Found	%Rec	Spiked	Found	%Rec				
Mercury, Dissolved	U	0.00444	0.00498	112	0.00444	0.00486	109	2.49	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
PDF File ID: 2239455
Report generated 11/30/2011 12:56



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L11110795

Worknum: WG383336

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG383336-01

File ID: HY.113011.110012

Dil: 1

Units: ug/L

Sample ID: L11110795-01

File ID: HY.113011.105816

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
MERCURY	1.09		0	U	1	109.0	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2239439
Report generated: 11/30/2011 12:54



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L11110795

Worknum: WG383336

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG383336-01

File ID: HY.113011.110012

Dil: 1

Units: ug/L

Sample ID: L11110795-01

File ID: HY.113011.105816

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
MERCURY	1.09		0	U	1	109.0	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2239450
Report generated: 11/30/2011 12:55



Login Number: L11110795
Analytical Method: 7470A
ICAL Worknum: WG383375

Workgroup (AAB#): WG383336
Instrument ID: HYDRA
Initial Calibration Date: 11/30/2011 09:48

Analyte	WG383375-01		WG383375-02		WG383375-03		WG383375-04		WG383375-05		WG383375-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	20	0.200	419	1.00	2579	2.00	5521	5.00	14096	10.0	27222

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2239445
Report generated 11/30/2011 12:55



Login Number: L11110795
Analytical Method: 7470A
ICAL Worknum: WG383375

Workgroup (AAB#): WG383336
Instrument ID: HYDRA
Initial Calibration Date: 11/30/2011 09:48

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; $R < 0.995$

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2239445
Report generated 11/30/2011 12:55



Login Number: L11110795
Analytical Method: 7470A
ICAL Worknum: WG383375

Workgroup (AAB#): WG383336
Instrument ID: HYDRA
Initial Calibration Date: 11/30/2011 09:48

Analyte	WG383375-01		WG383375-02		WG383375-03		WG383375-04		WG383375-05		WG383375-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	20	0.200	419	1.00	2579	2.00	5521	5.00	14096	10.0	27222

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2239457
Report generated 11/30/2011 12:56



Login Number: L11110795
Analytical Method: 7470A
ICAL Worknum: WG383375

Workgroup (AAB#): WG383336
Instrument ID: HYDRA
Initial Calibration Date: 11/30/2011 09:48

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; $R < 0.995$

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2239457
Report generated 11/30/2011 12:56



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-08
Instrument ID: HYDRA Run Time: 09:53 Method: 7470A
File ID: HY.113011.095304 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2239447
Report generated 11/30/2011 12:55



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-08
Instrument ID: HYDRA Run Time: 09:53 Method: 7470A
File ID: HY.113011.095304 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2239459
Report generated 11/30/2011 12:56



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-10
Instrument ID: HYDRA Run Time: 09:56 Method: 7470A
File ID: HY.113011.095652 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2239449
Report generated 11/30/2011 12:55



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-14
Instrument ID: HYDRA Run Time: 10:50 Method: 7470A
File ID: HY.113011.105050 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2239449
Report generated 11/30/2011 12:55



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-16
Instrument ID: HYDRA Run Time: 11:15 Method: 7470A
File ID: HY.113011.111549 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2239449
Report generated 11/30/2011 12:55



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-18
Instrument ID: HYDRA Run Time: 11:39 Method: 7470A
File ID: HY.113011.113904 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2239449
Report generated 11/30/2011 12:55



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-10
Instrument ID: HYDRA Run Time: 09:56 Method: 7470A
File ID: HY.113011.095652 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2239461
Report generated 11/30/2011 12:56



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-14
Instrument ID: HYDRA Run Time: 10:50 Method: 7470A
File ID: HY.113011.105050 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2239461
Report generated 11/30/2011 12:56



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-16
Instrument ID: HYDRA Run Time: 11:15 Method: 7470A
File ID: HY.113011.111549 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2239461
Report generated 11/30/2011 12:56



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-18
Instrument ID: HYDRA Run Time: 11:39 Method: 7470A
File ID: HY.113011.113904 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2239461
Report generated 11/30/2011 12:56



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-07
Instrument ID: HYDRA Run Time: 09:51 Method: 7470A
File ID: HY.113011.095102 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.10	105	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2239446
Report generated 11/30/2011 12:55



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-07
Instrument ID: HYDRA Run Time: 09:51 Method: 7470A
File ID: HY.113011.095102 Analyst: EDL Units: ug/L
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.10	105	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2239458
Report generated 11/30/2011 12:56



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-09
Instrument ID: HYDRA Run Time: 09:54 Method: 7470A
File ID: HY.113011.095458 Analyst: EDL QC Key: DOD4
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00221	mg/L	111	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239448
Report generated 11/30/2011 12:55



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-13
Instrument ID: HYDRA Run Time: 10:49 Method: 7470A
File ID: HY.113011.104903 Analyst: EDL QC Key: DOD4
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00210	mg/L	105	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239448
Report generated 11/30/2011 12:55



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-15
Instrument ID: HYDRA Run Time: 11:13 Method: 7470A
File ID: HY.113011.111344 Analyst: EDL QC Key: DOD4
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00208	mg/L	104	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239448
Report generated 11/30/2011 12:55



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-17
Instrument ID: HYDRA Run Time: 11:37 Method: 7470A
File ID: HY.113011.113708 Analyst: EDL QC Key: DOD4
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00217	mg/L	109	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239448
Report generated 11/30/2011 12:55



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-09
Instrument ID: HYDRA Run Time: 09:54 Method: 7470A
File ID: HY.113011.095458 Analyst: EDL QC Key: DOD4
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00221	mg/L	111	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239460
Report generated 11/30/2011 12:56



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-13
Instrument ID: HYDRA Run Time: 10:49 Method: 7470A
File ID: HY.113011.104903 Analyst: EDL QC Key: DOD4
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00210	mg/L	105	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239460
Report generated 11/30/2011 12:56



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-15
Instrument ID: HYDRA Run Time: 11:13 Method: 7470A
File ID: HY.113011.111344 Analyst: EDL QC Key: DOD4
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00208	mg/L	104	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239460
Report generated 11/30/2011 12:56



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L11110795 Run Date: 11/30/2011 Sample ID: WG383375-17
Instrument ID: HYDRA Run Time: 11:37 Method: 7470A
File ID: HY.113011.113708 Analyst: EDL QC Key: DOD4
Workgroup (AAB#): WG383336 Cal ID: HYDRA - 30-NOV-11
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00217	mg/L	109	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2239460
Report generated 11/30/2011 12:56



Kemron-Radford Army Ammunition Plant Organic Worksheet (GCMS)

SDG: L11110795	Method: 8260B	Matrix: Water	Level III Lab Sample IDs: NA
Batch #s: WG383320; WG383370; WG383575; WG383461			Level IV Lab Sample IDs: L11110795-01, -03, -05, -07, -09, -011, -012 thru -016

Tuning: ☒ Pass ☐ Fail TICs Required? ☐ Yes ☒ No

(EPA Region III Limits¹)

Analyte (outliers)	Calibration				Method Blank	5X (10X) Method Blank	LCS %R	MS %R (-03)	MSD %R (-03)	MS/D RPD (-03)	EB (-12) ¹ (-15) ²	FB (-11)	TB (-13)	FD RPD (-03/ -05)
	RF ≥0.05	RSD/r ≤30% ≥0.995	ICV %D ±25%	CCV %D ±25%										
Methylene chloride	✓	✓	✓	✓	✓	NA	✓	✓	✓	✓	.404 ¹	.371	✓	✓
Chloroform	✓	✓	✓	✓	✓	NA	✓	✓	✓	✓	.15 ²	✓	✓	✓
Chloromethane	✓	✓	✓	✓	✓	NA	131 ³	✓	✓	✓	✓	✓	✓	✓
2-Chlorethyl vinyl ether	✓	✓	✓	✓	✓	NA	27.6	0	200	✓	✓	✓	✓	✓
Acetone	.039 ⁴	✓	✓	✓	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓
4-Methyl-2-pentanone	.046 ³	✓	✓	✓	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓

(Limits¹: 1,2-DCA-d4 76-114%) Surrogate Recovery Outliers (BFB 86-115% Tol-d8 88-110%)

Sample ID	1,2-DCA-d4	DBFM	BFB	Tol-d8	Sample ID	1,2-DCA-d4	DBFM	BFB	Tol-d8
None									

IS Outliers (-50% to +100%)

Sample ID	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
None										

Comments: HTs OK. ¹ERB 11/20/2011 ²ERB 11/21/11 ³-01, -03, -05 ⁴all samples except 12 thru -15

¹Derived laboratory limits used for compounds not listed in QAPP.

Kemron-Radford Army Ammunition Plant Organic Worksheet (GCMS)

SDG: L11110795	Method: 8270C	Matrix: Water	Level III Lab Sample IDs: NA
Batch #: WG384088			Level IV Lab Sample IDs: L11110795-01, -03, -05, -07, -09, -11, -12, -14 thru -16

Tuning: ☒ Pass ☐ Fail TICs Required? ☐ Yes ☒ No

(EPA Region III Limits¹)

Analyte (outliers)	Calibration				Method Blank	5X (10X) Method Blank	LCS %R	MS %R (-03)	MSD %R (-03)	MS/D RPD (-03)	EB (-12) ¹ (-15) ²	FB (-11)	FD RPD (-03/ -05)
	RF ≥0.05	RSD/r ≤30% ≥0.995	ICV %D ±25%	CCV %D ±25%									
Benzoic acid	✓	✓	✓	-44	✓	NA	✓	✓	✓	✓	✓	✓	✓
Bis(2-ethylhexyl)phthalate	✓	✓	✓	✓	42.9	(429)	✓	✓	✓	✓	✓	✓	✓
2,4,5-Trichlorophenol	✓	✓	✓	✓	✓	NA	✓	114	✓	✓	✓	✓	✓
Anthracene	✓	✓	✓	✓	✓	NA	✓	116	✓	✓	✓	✓	✓
Benzo(a)anthracene	✓	✓	✓	✓	✓	NA	✓	117	111	✓	✓	✓	✓
Benzo(a)pyrene	✓	✓	✓	✓	✓	NA	✓	114	✓	✓	✓	✓	✓
Chrysene	✓	✓	✓	✓	✓	NA	✓	119	112	✓	✓	✓	✓
Dibenzofuran	✓	✓	✓	✓	✓	NA	✓	112	✓	✓	✓	✓	✓
Fluoranthene	✓	✓	✓	✓	✓	NA	✓	120	✓	✓	✓	✓	✓
Fluorene	✓	✓	✓	✓	✓	NA	✓	111	✓	✓	✓	✓	✓
Hexachlorobenzene	✓	✓	✓	✓	✓	NA	✓	116	✓	✓	✓	✓	✓
Naphthalene	✓	✓	✓	✓	✓	NA	✓	102	✓	✓	✓	✓	✓
Pentachlorophenol	✓	✓	✓	✓	✓	NA	✓	129	121	✓	✓	✓	✓
Phenanthrene	✓	✓	✓	✓	✓	NA	✓	118	✓	✓	✓	✓	✓

(Limits: p-terp-d14 33-141% Phen-d5 10-110% NB-d5 35-114%) Surrogate Recovery Outliers (2-Flph 21-110% 2-Flbiph 43-116% 2,4,6-TBP 10-123%)

Sample ID	2,4,6-TBP												
-05	127												
-07(MS)	131												
-11	124	(within lab limits)											
IS Outliers (-50% to +100%)													
Sample ID	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area
None													

Comments: HTs OK. ¹ERB 11/20/2011 ²ERB 11/21/11

n-Nitrosodiphenylamine (CAS # 86-30-6) and 3,4-methylphenol (106-44-5) are missing from the Initial Calibration Summary included in the data package. The laboratory resubmitted a correct ICAL.

¹Derived laboratory limits used for compounds not listed.

Kemron-Radford Army Ammunition Plant Organic Worksheet (LCMS)

SDG: L11110795	Method: 6850	Matrix: Water	Level III Lab Sample IDs: NA
Batch #s: WG383267			Level IV Lab Sample IDs: L11110795-01, -03, -05, -07, -09, -11, -12, -14 thru -16

[illegible]

$^{35}\text{Cl}/_{37}\text{Cl}$ Isotope Ratio (<i>Theoretical ratio ~3.06</i>)								
Sample ID	Ratio							
None								

[illegible]

Comments: HTs OK. MSD=75% < lab limits but within the limits stipulated in the QAPP (75-125%).

¹Or method-specified limits, whichever is more stringent

Kemron-Radford Army Ammunition Plant Organic Worksheet (GC)

SDG: L11110795	Method: 8081A	Matrix: Water	Lab Sample IDs: L11110795-01, -03, -05, -07, -09, -11, -12, -14 thru -16
Batch #: WG382978			

Cleanup:	☐ GPC	☒ Sulfur	☐ Florisil	☐ H ₂ SO ₄	☐ KMnO ₄	*Resolution Check:	☐ Pass	☐ Fail
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[illegible]

Comments: HTs OK. -11(FB) -12,-15 (EB). All samples reported from rear column and all ND. No reported breakdown results associated with the ICAL. *No resolution checks performed – CCV met resolution criteria and therefore, no results qualified.

Kemron–Radford Army Ammunition Plant Data Validation Summary Worksheet

SDG#: L11110795	Laboratory: Microbac	Validator: Allison Felix	Validation Date: 1/6/11
Site: Radford	AR/COC#: 3287		Validation Level: ☐ III ☒ IV
Matrix: Water	# of Samples: 17	Tracking docs present: See sample receipt and log-in documentation	
COCs present: yes	COCs signed: yes	COCs dated: yes	Sample Container Integrity: OK
Analyses:			
☐ VOCs ☐ SVOCs ☐ PAHs ☐ GRO ☐ DRO ☐ Pests ☐ PCBs ☒ Metals ☐ Gen Chem			
☐ Other:			

Requested Analyses Not Reported		
Client Sample ID	Lab Sample ID	Analysis
None		

Hold Time/Preservation Outliers					
Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date
None					

Comments: Collected 11/20 and 11/21/11.

Kemron–Radford Army Ammunition Plant Inorganic Metals Worksheet

SDG: L11110795	Matrix: Water	Level III Lab Sample IDs: NA
Method/Batch #s: 6020/WG383211 and WG383271 (dissolved samples -04, -08, -10 only); 6010B/WG383508; 7470A/WG383336		
ICPMS Mass Cal: ☒ Pass ☐ Fail ☐ NA ICPMS Resolution: ☒ Pass ☐ Fail ☐ NA ICPMS %RSD: ☒ Pass ☐ Fail ☐ NA		

Analyte (outliers)	Calibration					ICP CRDL ±10%	Method Blank (<MDL)	5X MB	ICS A ±20% <IDL	ICS AB ±20%	LCS %R (80-120%)	MS %R (75-125%)	MSD %R (75-125%)	MS/D RPD (≤20%)	Serial Dil. %D (±10%)	PS (75- 125%)	FB (-11) mg/L
	r ≥0.995	ICV ±10% ¹	CCV ±10% ¹	ICB ug/L	CCB (<IDL)												
Hg	✓	✓	✓	✓	✓	NA	0.000106	0.00053	✓	✓	✓	✓	✓	✓	NA	✓	0.00017
Mn	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	0.0170
Fe (tot)	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	32.6	34.5	✓	✓	✓	✓
Mg (tot)	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	55.6*	53.4*	✓	✓	✓	✓
Ca (diss)	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	150*	130*	✓	✓	NA	✓
Ca	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	NA	NA	NA	✓	-240*	✓
Mg	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	NA	NA	NA	NA	-20*	✓
Ba	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	✓	✓	✓	100	✓	✓
Cd (12/1)	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tl (12/1)	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cr (12/1)	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cu (12/1)	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓
As (12/1)	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓
Se (12/1)	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sb (12/1)	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tl (12/6)	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓
Se (12/6)	✓	✓	✓	✓	✓	N	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sb	✓	✓	✓	✓	✓	NA	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓

IS Outliers ³ (60-120%)				IS Outliers ³ (60-120%)			
Sample ID	%Recovery	%Recovery	%Recovery	CCV/CCB ID	%Recovery	%Recovery	%Recovery
None				None			
				AMF 1/12/12			

Comments: HTs OK. *Parent sample concentration >4X spike. %R NA. Both ICP-MS Serials and PSs were performed on samples from other SDGs.

40EQR112011 (-12): Ca: 0.181 (5X=0.905)

40EQR112111 (-15): Ca: 0.144 (5X=0.72); Zn 0.0343 (5X=0.172)

5X FB: Hg: 0.00085; Mn: 0.085

¹20% for Hg

²For sample results <5X RL, $\pm$ RL

³Standard CLP NFG criteria used when no criteria specified in QAPP or Region III NFG

Revised 12/2010

	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10
Counts Analyte	2500	7968	14918	38006	186796	466414	918373	1997821	0	0
Counts IS	221517	213856	216066	219265	227441	220574	212767	212277	1	1
Conc Analyte	0.4	1	2	5	20	50	100	200	0	0
Conc IS	25	25	25	25	25	25	25	25	1	1
RF	0.70536	0.93147	0.86305	0.86667	1.02662	1.05727	1.07908	1.17642		
x-axis	0.016	0.040	0.080	0.200	0.800	2.000	4.000	8.000	0.000	0.000
y-axis	0.01129	0.03726	0.06904	0.17333	0.82129	2.11455	4.31633	9.41139	0.00000	0.00000

Perform Regression

Perform Regression
(Forced Zero)

Lab used weighted curve; see other spreadsheet for ICAL calcs.

Offset b	Slope m1	r ²
-8.8488E-02	1.1669E+00	0.99828
Lab reported -1.22E-02	1.13E+00	0.997

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

$$C_x = C_{IS} \left[\frac{(A_x)}{(A_{IS})(m1)} - \frac{b}{m1} \right]$$

11/18/2011	ICV	11/30/2011	CCV
Counts Analyte	442050		580728
Counts IS	217035		282468
Conc IS	25		25
Amount On Col (ug/L)	45.3312		45.7546
True value	50		50
%R	90.66		91.51

Water	LCS
Counts Analyte	206968.0
Counts IS	267175
Conc IS	25
Amount On Col (ug/L)	17.4083
Dilution factor	1
Sample Aliquot (mL)	5
Final Volume (mL)	5
Final Conc (ug/L)	17.4083
Amount Spiked	20
%Rec	87.04
RPD	

Weighted Linear Regression Calculator for SDG L11110795 1,2,4-Trichlorobenzene

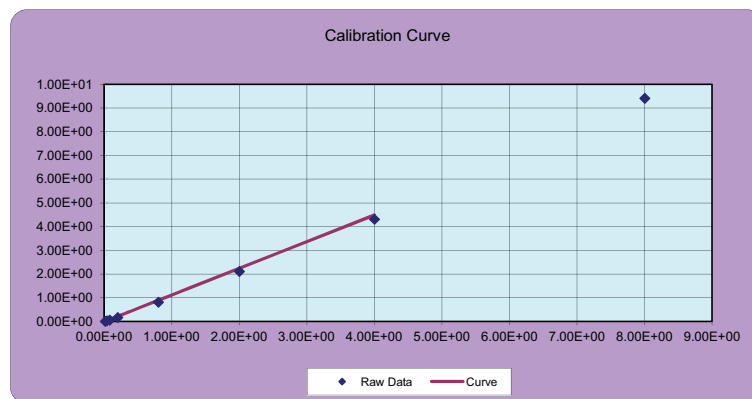
Conc. Analyte	0.4	1	2	5	20	50	100	200
Conc. IS	25	25	25	25	25	25	25	25
Resp. Analyte	2500	7968	14918	38006	186796	466414	918373	1997821
Resp. IS	221517	213856	216066	219265	227441	220574	212767	212277
X Values	1.600E-02	4.000E-02	8.000E-02	2.000E-01	8.000E-01	2.000E+00	4.000E+00	8.000E+00
Y Values	1.129E-02	3.726E-02	6.904E-02	1.733E-01	8.213E-01	2.115E+00	4.316E+00	9.411E+00
Weighting Factor	6.250E+01	2.500E+01	1.250E+01	5.000E+00	1.250E+00	5.000E-01	2.500E-01	1.250E-01

1/x

None	1	1	1	1	1	1	1	1
1/y	8.861E+01	2.684E+01	1.448E+01	5.769E+00	1.218E+00	4.729E-01	2.317E-01	1.063E-01
1/y ²	7.851E+03	7.204E+02	2.098E+02	3.328E+01	1.483E+00	2.236E-01	5.367E-02	1.129E-02
1/x	6.250E+01	2.500E+01	1.250E+01	5.000E+00	1.250E+00	5.000E-01	2.500E-01	1.250E-01
1/x ²	3.906E+03	6.250E+02	1.563E+02	2.500E+01	1.563E+00	2.500E-01	6.250E-02	1.563E-02

Regression Coefficients

Slope 1.1266E+00
Intercept -1.2199E-02
r² 0.99708



Curve Fit	5.827E-03	3.286E-02	7.793E-02	2.131E-01	8.891E-01	2.241E+00	4.494E+00
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Sample	Compound	RT	IS RT	Std. RT	Std IS RT	RRT diff	RT Diff
-01	Acetone	5.66	10.58	5.65	10.58	0.001	0.010
	Chloroform	9.06	10.58	9.06	10.58	0.000	0.000
-03	Chloroform	9.06	10.58	9.06	10.58	0.000	0.000
-05	Chloroform	9.06	10.58	9.06	10.58	0.000	0.000
-11	Methylene chloride	6.71	10.58	6.71	10.58	0.000	0.000
-12	Methylene chloride	7.09	10.39	7.09	10.39	0.000	0.000
-14	Chloroform	9.12	10.39	9.13	10.39	-0.001	-0.010
-15	Chloroform	9.13	10.39	9.13	10.39	0.000	0.000
-16	Chloroform	9.05	10.57	9.05	10.57	0.000	0.000

CCV Verification Worksheet AVG RF HPMS4 L11110795

$$CCRF = \frac{(Analyte Response)(IS Conc.)}{(IS Response)(Analyte Conc.)}$$

SVOC ICV # WG383579-10 12/02/2011

Int. Std. = 40

	Phenol	Naphthalene	Acenaphthene	Anthracene	Chrysene	Benzo(g,h,i)
Int. Std. Response	277880	1010105	593732	1129376	1223410	1075607
Analyte Response	518521	1371385	936505	1626097	1761552	1437102
Analyte Concentration	50	50	50	50	50	50
Int. Std. Concentration	40	40	40	40	40	40
CCRF	1.4928	1.0861	1.2619	1.1519	1.1519	1.0689
Ave RF	1.5550	1.0520	1.2510	1.1210	1.0890	1.0450
CCV %D	-4.00	3.24	0.87	2.75	5.78	2.28

SVOC CCV # WG384088-02 12/08/2011

	Phenol	Naphthalene	Acenaphthene	Anthracene	Chrysene	Benzo(g,h,i)
Int. Std. Response	253615	940713	586455	1140175	1315631	1140119
Analyte Response	490135	1281346	926942	1653864	1811093	1496723
Analyte Concentration	50	50	50	50	50	50
Int. Std. Concentration	40	40	40	40	40	40
CCRF	1.5461	1.0897	1.2645	1.1604	1.1013	1.0502
Ave RF	1.5550	1.0520	1.2510	1.1210	1.0890	1.0450
CCV %D	-0.57	3.58	1.08	3.52	1.13	0.50

	MB	LCS	-01	-03	MS	MSD
Dilution/DF	1	1	1	1	1	1
Final Volume (mL)	1	1	1	1	1	1
Sample Aliquot (mL)	1000	1000	940	1000	860	930
Internal STD Response	179578	707672	356283	652353	874996	165351
Surr Response	242222	289622	332672	215786	908979	270128
Surrogate #	1	3	4	5	6	1
Calibration R.F.	1.16626	0.43556	1.52025	0.11305	0.76479	1.16626
Surr spike Conc. (ug/L)	100	100	50	100	50	100
Surr spike Conc. (ug/L)	100.0	100.0	53.2	100.0	58.1	107.5
Surr Conc. ug/L	46.3	37.6	26.1	117.0	63.2	60.2
Surr %REC	46	38	49	117	109	56
	TC	bis(2EH)phth	bis(2EH)phthalate	TC	Chrysene	Chrysene
Internal STD Response		948653	784113		874996	849173
TC Response		823254	65015		1416359	1299333
Calibration R.F.		0.6641	0.6641		1.0890	1.0890
TC Conc. (ug/L)		52.3	5.31		69.1	60.4
Amount Spiked		50			58	54
%R		104.54			118.99	112.33
RPD					13.43	

	-05	-11	-12	-14	-15	-16
Dilution/DF	1	1	1	1	1	1
Final Volume (mL)	1	1	1	1	1	1
Sample Aliquot (mL)	840	1000	830	920	910	930
Internal STD Response	155492	592805	347212	649278	704375	156214
Surr Response	283904	327372	574096	219154	872511	251169
Surrogate #	1	3	4	5	6	1
Calibration R.F.	1.16626	0.43556	1.52025	0.11305	0.76479	1.16626
Surr spike Conc. (ug/L)	100	50	50	100	50	100
Surr spike Conc. (ug/L)	119.0	50.0	60.2	108.7	54.9	107.5
Surr Conc. ug/L	74.6	50.7	52.4	129.8	71.2	59.3
Surr %REC	63	101	87	119	130	55
	TC	TC	TC	TC	TC	TC
Internal STD Response						
TC Response						
Calibration R.F.						
TC Conc. (ug/L)						
Amount Spiked						
%R						
RPD						

Regression Calculator for a Linear RF Curve - Conc. Ratio On X-Axis Hexachlorocyclopentadiene

	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10
Counts Analyte	1014	12806	25435	61154	178556	294673	389153	466133	0	0
Counts IS	447262	470576	469970	483468	523333	525060	519401	526260	1	1
Conc Analyte	3	10	15	25	50	80	100	120	0	0
Conc IS	40	40	40	40	40	40	40	40	1	1
RF	0.03023	0.10885	0.14432	0.20238	0.27295	0.28061	0.29969	0.29525		
x-axis	0.075	0.250	0.375	0.625	1.250	2.000	2.500	3.000	0.000	0.000
y-axis	0.00227	0.02721	0.05412	0.12649	0.34119	0.56122	0.74923	0.88575	0.00000	0.00000

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

$$C_x = C_{IS} \left[\frac{(A_x)}{(A_{IS})(m1)} - \frac{b}{m1} \right]$$

Offset b	Slope m1	r ²
-5.0021E-02	3.1242E-01	0.99780
Lab reported 5.00E-02 3.12E-01 0.998		

	ICV	CCV1	CCV2
Counts Analyte	182870	198344	182866
Counts IS	593732	571219	586455
Conc IS	40	40	40
Amount On Col	45.8383	50.8608	46.3267
True value	50	50	50
%R	91.68	101.72	92.65
%D	-8.32	1.72	-7.35

	MS	MSD	LCS
Counts Analyte	39316.0	39213	41253.0
Counts IS	382022	378577	420364
Conc IS	40	40	40
Amount On Col (ug/L)	19.5808	19.6659	18.9689
Dilution factor	1	1	1
Sample Aliquot (mL)	860	930	1000
Final Volume (mL)	1	1	1
Final Conc (ug/L)	22.77	21.15	18.97
Amount Spiked	58.1	53.8	50.0
%Rec	39.19	39.31	37.94
RPD		7.69	

Regression Calculator for a Quadratic RF Curve - Conc. Ratio on X-Axis Benzoic acid

	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10	ICAL11	ICAL12
Counts Analyte	7205	34314	140667	255203	385177	528085	0	0	0	0	0	0
Counts IS	786048	804650	870766	876104	889500	910004	1	1	1	1	1	1
Conc Analyte	15	25	50	80	100	120	0	0	0	0	0	0
Conc IS	40	40	40	40	40	40	1	1	1	1	1	1
x-axis	0.375	0.625	1.250	2.000	2.500	3.000	0.000	0.000	0.000	0.000	0.000	0.000
x-axis^2	0.1406	0.3906	1.5625	4.0000	6.2500	9.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
y-axis	0.0092	0.0426	0.1615	0.2913	0.4330	0.5803	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
RF	0.0244	0.0682	0.1292	0.1456	0.1732	0.1934						

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standard)

Coefficients		
b	m1	m2
-2.9412E-02	9.7089E-02	3.5038E-02

Lab reported -2.94E-02 9.71E-02 3.50E-02 0.998

$$C_x = \frac{-m1 \pm \sqrt{m1^2 - 4 \times m2 \times \left(b - \frac{(A_x)}{(A_{IS})}\right)}}{2 \times m2} \times C_{IS}$$

	ICV	CCV	CCV
Counts Analyte	193017	65919	52451
Counts IS	1010105	921530	940713
Conc IS	40	40	40
Amount On Col	59.212	32.221	28.010
True Value	50	50	50
%R	118.42	64.44	56.02
%D	18.42	-35.56	-43.98

Sample	Compound	RT	IS RT	Std. RT	Std IS RT	RRT diff	RT Diff
-01	Bis(2-ethylhexyl)phthalate	15.04	15.12	15.05	15.13	0.000	-0.010

PAH Calibration Verification L11110795

Calibration: WG377412 HPMS7 9/29/2011

Average RF Int. Std. = 1 3 9 13

				Naphthalene		Acenaphthene		Anthracene	
Conc.	Internal Area #1	Internal Area #2	Internal Area #3	Area	RRF	Area	RRF	Area	RRF
0.05	152691	106270	156265	8910	1.167	7022	1.322	9058	1.159
0.1	148890	110380	153274	16740	1.124	12681	1.149	17324	1.130
0.5	149080	106985	147908	84171	1.129	64484	1.205	87594	1.184
1	166156	119749	170610	196402	1.182	158949	1.327	214991	1.260
2.5	147056	106047	150854	394357	1.073	308968	1.165	437242	1.159
5	151396	94042	150313	794193	1.049	600878	1.278	847128	1.127
10	169663	114854	162226	1691603	0.997	1246985	1.086	1761790	1.086
AveRF				1.103		1.219		1.158	
RSD				6.03		7.60		4.73	

				Chrysene		Benzo(b)fluoranthene	
Conc.	Internal Area #4	Internal Area #5		Area	RRF	Area	RRF
0.05	164878	157411		10720	1.300	8515	1.082
0.1	162395	154815		20068	1.236	16805	1.085
0.5	154342	147101		95223	1.234	89143	1.212
1	176548	170114		222235	1.259	221123	1.300
2.5	157515	150198		461362	1.172	451241	1.202
5	148935	147938		857805	1.152	892072	1.206
10	169596	161269		1819448	1.073	1926988	1.195
AveRF				1.204		1.183	
RSD				6.36		6.48	

Surrogates				Nitrobenzene-d5		2-Fluorobiphenyl		p-Terpheny-d14	
Conc.	Internal Area #1	Internal Area #2	Internal Area #4	Area	RRF	Area	RRF	Area	RRF
0.05	152691	106270	164878	2567	0.336	6286	1.183	6863	0.832
0.1	148890	110380	162395	5051	0.339	12014	1.088	13010	0.801
0.5	149080	106985	154342	27216	0.365	61161	1.143	67948	0.880
1	166156	119749	176548	67863	0.408	144386	1.206	161542	0.915
2.5	147056	106047	157515	142479	0.388	301082	1.136	333863	0.848
5	151396	94042	148935	295295	0.390	575399	1.224	629906	0.846
10	169663	114854	169596	656250	0.387	1221222	1.063	1358928	0.801
AveRF				0.37335		1.14903		0.84630	
RSD				7.34		5.17		4.86	

CCV Verification Worksheet AVG RF HPMS7 L11110795

$$CCRF = \frac{(Analyte Response)(IS Conc.)}{(IS Response)(Analyte Conc.)}$$

PAH ICV # WG377412-09 09/29/2011

Int. Std. = 1

	Naphthalene	Acenaphthene	Anthracene	Pyrene	Benzo(a)pyrene
Int. Std. Response	160179	107165	158688	165860	156576
Analyte Response	177541	134217	187772	224425	185325
Analyte Concentration	1	1	1	1	1
Int. Std. Concentration	1	1	1	1	1
CCRF	1.1084	1.2524	1.1833	1.3531	1.1836
Ave RF	1.1030	1.2190	1.1580	1.3420	1.1750
CCV %D	0.49	2.74	2.18	0.83	0.73

PAH CCV # WG383187-02 11/29/11

	2-MeNaphthalene	Acenaphthylene	Fluoranthene	Chrysene	Benzo(g,h,i)per
Int. Std. Response	136647	90819	129884	132021	134825
Analyte Response	90825	142759	163326	158258	147126
Analyte Concentration	1	1	1	1	1
Int. Std. Concentration	1	1	1	1	1
CCRF	0.6647	1.5719	1.2575	1.1987	1.0912
Ave RF	0.6689	1.6080	1.2660	1.2040	1.0860
CCV %D	-0.63	-2.24	-0.67	-0.44	0.48

	MB	LCS	-01	-03	MS	MSD
Dilution/DF	1	1	1	1	1	1
Final Volume (mL)	1	1	1	1	1	1
Sample Aliquot (mL)	1000	1000	980	930	950	970
Internal STD Response	118329	78106	119685	109618	84444	123045
Surr Response	94106	213609	247711	91200	223024	266232
Surrogate #	1	2	3	1	2	3
Calibration R.F.	0.37335	1.14903	0.8463	0.37335	1.14903	0.8463
Surr spike Conc. (ug/L)	2.5	2.5	2.5	2.5	2.5	2.5
Surr spike Conc. (ug/L)	2.5	2.5	2.6	2.7	2.6	2.6
Surr Conc. ug/L	2.1	2.4	2.5	2.4	2.4	2.6
Surr %REC	85	95	98	89	92	102
	TC	Fluorene	Naphthalene	TC	Chrysene	Chrysene
Internal STD Response		78106			130046	123045
TC Response		79461			153547	145718
Calibration R.F.		1.139	1.103		1.2040	1.2040
TC Conc. (ug/L)		0.9			1.0	1.0
Amount Spiked		1			1	1
%R		89.32			98.31	98.45
RPD					1.78	

	-05	-11	-12	-14	-15	-16
Dilution/DF	1	1	1	1	1	1
Final Volume (mL)	1	1	1	1	1	1
Sample Aliquot (mL)	950	910	930	870	1000	890
Internal STD Response	108896	69128	105436	103432	75778	104158
Surr Response	86514	183541	235262	85308	201247	216836
Surrogate #	1	2	3	1	2	3
Calibration R.F.	0.37335	1.14903	0.8463	0.37335	1.14903	0.8463
Surr spike Conc. (ug/L)	2.5	2.5	2.5	2.5	2.5	2.5
Surr spike Conc. (ug/L)	2.6	2.7	2.7	2.9	2.5	2.8
Surr Conc. ug/L	2.2	2.5	2.8	2.5	2.3	2.8
Surr %REC	85	92	105	88	92	98
	TC	TC	TC	TC	TC	TC
Internal STD Response						
TC Response						
Calibration R.F.						
TC Conc. (ug/L)						
Amount Spiked						
%R						
RPD						

Sample	Compound	RT	IS RT	Std. RT	Std IS RT	RRT diff	RT Diff
-1	Naphthalene	5.89	5.87	5.89	5.87	0.000	0.000

Regression Calculator for a Linear RF Curve - Conc. Ratio On X-Axis Perchlorate 85 using recalculated concentrations

Counts Analyte	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10
Counts IS	6650	13200	33900	65600	137000	320000	628000	0	0	0
Conc Analyte	0.09	0.19	0.51	1.00	2.14	5.01	9.85	0	0	0
Conc IS	5.00	5.00	5.00	5.00	5.00	5.00	5.00	1	1	1
RF	1.11953	1.03692	0.99806	0.98204	0.96998	0.97366	0.97487			
x-axis	0.018	0.038	0.102	0.200	0.428	1.002	1.970	0.000	0.000	0.000
y-axis	0.02015	0.03940	0.10180	0.19641	0.41515	0.97561	1.92049	0.00000	0.00000	0.00000

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

Calcs slightly off due to rounding.

Offset b	Slope m1	r ²
1.5368E-03	9.7346E-01	0.99999
Lab reported 1.74E-03 9.73E-01 0.9996		

$$C_x = C_{IS} \left[\frac{(A_x)}{(A_{IS})(m1)} - \frac{b}{m1} \right]$$

Counts Analyte	CCV1	CCB1/MB	CCV2	CCB2	CCV3	CCB3	QCMRL 1	QCMRL 2	QCMRL 3
Counts IS	71000	65600			67200		14500	14100	14400
Conc IS	348000	340000		5	345000		347000	339000	338000
Amount On Col (ug/L)	5	5			5		5	5	5
True value	1.0400	0.9831			0.9926		0.2067	0.2057	0.2109
%R	1	1			1		0.2	0.2	0.2
	104.00	98.31			99.26		103.37	102.87	105.47

Counts Analyte	MB	LCS	-01	-05	-11	-03	MS	MSD
Counts IS	14300.0	305000.0	86300.0			85400.0	95800.0	93300.0
Conc IS	362000	348000	285000		5	281000	283000	280000
Amount On Col (ug/L)	5	5	5		5	5	5	5
Dilution factor	1	0.1950	4.4938	1.5474		1.5531	1.7308	1.7036
Sample Aliquot (g)	30	30	30	30				
Final Volume (mL)	1	1	1	1				
%Solids	100	100	100	100				
Final Conc mg/kg	0.0000	0.0001		0.0001				
Amount Spiked								
%Rec								
RPD								

Counts Analyte	MB	LCS	-01	-05	-11	-03	MS	MSD
Counts IS	14300.0	305000.0	86300.0			85400.0	95800.0	93300.0
Conc IS	362000	348000	285000		5	281000	283000	280000
Amount On Col (ug/L)	5	5	5		5	5	5	5
Dilution factor	1	0.1950	4.4938	1.5474		1.5531	1.7308	1.7036
Sample Aliquot (mL)	1	1	1	1		1	1	1
Final Volume (mL)	1	1	1	1		1	1	1
Final Conc (ug/L)	1	0.1950	4.4938	1.5474		1.5531	1.7308	1.7036
Amount Spiked		0.2				0.2	0.2	0.2
%Rec		97.50				88.86	75.25	
RPD						1.59		

Pesticide Retention Time Windows

Rear Column								Lab RT Windows			M2 RT Windows		
	ICAL 1	ICAL 2	ICAL 3	ICAL 4	ICAL 5	ICAL 6	Average	RT Window	Lower	Upper	RT Window	Lower	Upper
alpha-BHC	10.48	10.48	10.48	10.48	10.47	10.47	10.48	0	10.48	10.48	0.05	10.43	10.53
gamma-BHC	11.21	11.21	11.21	11.21	11.21	11.2	11.21	0.017	11.19	11.23	0.05	11.16	11.26
beta-BHC	11.39	11.39	11.39	11.39	11.39	11.39	11.39	0.017	11.37	11.41	0.05	11.34	11.44
delta-BHC	11.96	11.96	11.96	11.96	11.96	11.95		0			0.05		
Heptachlor	12.07	12.07	12.07	12.07	12.07	12.07	12.07	0	12.07	12.07	0.05	12.02	12.12
Aldrin	12.68	12.68	12.68	12.68	12.68	12.67	12.68	0.017	12.66	12.70	0.05	12.63	12.73
Heptachlor epoxide	13.73	13.73	13.73	13.73	13.73	13.73	13.73	0	13.73	13.73	0.07	13.66	13.80
gamma-Chlordane	14.07	14.07	14.07	14.07	14.07	14.07	14.07	0	14.07	14.07	0.07	14.00	14.14
alpha-Chlrodane	14.33	14.33	14.33	14.33	14.33	14.33	14.33	0	14.33	14.33	0.07	14.26	14.40
Endosulfan I	14.42	14.42	14.42	14.42	14.42	14.42	14.42	0.017	14.40	14.44	0.07	14.35	14.49
4,4'-DDE	14.64	14.64	14.64	14.64	14.64	14.64	14.64	0	14.64	14.64	0.07	14.57	14.71
Dieldrin	14.9	14.9	14.9	14.9	14.9	14.9	14.90	0.017	14.88	14.92	0.07	14.83	14.97
Endrin	15.42	15.42	15.42	15.42	15.42	15.42	15.42	0	15.42	15.42	0.07	15.35	15.49
4,4'-DDD	15.64	15.64	15.64	15.64	15.64	15.64	15.64	0	15.64	15.64	0.07	15.57	15.71
Endosulfan II	15.79	15.79	15.79	15.79	15.79	15.78	15.79	0	15.79	15.79	0.07	15.72	15.86
4,4'-DDT	16.15	16.15	16.15	16.15	16.15	16.15	16.15	0	16.15	16.15	0.07	16.08	16.22
Endrin Aldehyde	16.32	16.32	16.32	16.32	16.32	16.32	16.32	0	16.32	16.32	0.07	16.25	16.39
Endosulfan Sulfate	16.73	16.73	16.73	16.73	16.73	16.73	16.73	0	16.73	16.73	0.07	16.66	16.80
Methoxychlor	17.12	17.12	17.13	17.13	17.12	17.12	17.12	0	17.12	17.12	0.07	17.05	17.19
Endrin Ketone	17.44	17.44	17.44	17.44	17.44	17.44	17.44	0.017	17.42	17.46	0.07	17.37	17.51
TCMX	9.12	9.11	9.12	9.11	9.11	9.11	9.11	0.017	9.10	9.13	0.05	9.06	9.16
DCB	18.87	18.87	18.87	18.87	18.87	18.87	18.87	0	18.87	18.87	0.1	18.77	18.97

Rear Column								Lab RT Windows			M2 RT Windows		
		ICAL 1	ICAL 2	ICAL 3	ICAL 4	ICAL 5	Average	RT Window	Lower	Upper	RT Window	Lower	Upper
	Tox 1	14.87	14.86	14.86	14.86	14.86	14.86		14.86	14.86	0.07	14.79	14.93
	Tox 2	15.93	15.93	15.93	15.93	15.92	15.93		15.93	15.93	0.07	15.86	16.00
	Tox 3	16.71	16.71	16.72	16.71	16.71	16.71		16.71	16.71	0.07	16.64	16.78
	Tox 4	17.06	17.06	17.06	17.06	17.06	17.06		17.06	17.06	0.07	16.99	17.13
	Tox 5	17.8	17.8	17.8	17.8	17.8	17.80		17.80	17.80	0.07	17.73	17.87

6010 METALS CALIBRATION VERIFICATION FOR L11110795

Date: WG383508 12/7/11

Analyte: As

Concentration	Mean Response
0	-555.2
0.0005	258.5
0.001	555.6
0.05	26584.4
0.1	53515.3

Correlation Coef. = 0.999953

12/7/2011

True Value

Reported

	ICV		%Rec
Be	0.05	0.05	100.8
	ICSAB		%Rec
Zn	0.50	0.46	92.2
	CCV5		%Rec
Ca	10.00	9.57	95.7
	CCV6		%Rec
Fe	4.00	4.09	102.3
	CCV7		%Rec
Mg	10.00	10.30	103.0

6010 METALS ICS CALCULATIONS FOR L11110795

ICSA Check

WG383508

12/1	MDL (ug/L)	CRQL (ug/L)	ICSA (ug/L)	>IDL/%R	TRUE
Al	0.050	0.100	258.0000	103.2	250.0000
Be	0.001	0.002	0.0006		
Ca	0.100	0.200	258.0000	103.2	250.0000
Fe	0.050	0.200	94.2000	94.2	100.0000
Mg	0.250	0.500	246.0000	98.4	250
K	0.500	1.000	-0.0300		
Na	0.250	0.500	0.0141		
V	0.005	0.010	0.0013		
Zn	0.010	0.020	-0.0024		

6010 METALS MATRIX SPIKE CALCULATION WORKSHEET FOR SDG L11110795

WG383508

12/7/2011	LCS	-07MS	09 MSD	-08MS	10 MSD	PS
Analyte	V	Fe	Fe	K	K	Zn
True Conc	0.5000	2.0000	2.0000	25.0000	25.0000	0.5000
Reported Conc	0.5060	2.6900	2.7300	25.7000	25.1000	0.5450
Sample Conc	0.0000	2.0400	2.0400	1.0800	1.0800	0.0685
%R	101.20	32.50	34.50	98.48	96.08	95.30
RPD		1.48		2.36		

12/7/2011	PS	PS	PS	PS	PS	PS	PS	PS	PS
Analyte	Al	Be	Ca	Fe	Mg	K	Na	V	Zn
True Conc	5.0000	0.0250	5.0000	2.0000	5.0000	25.0000	25.0000	0.5000	0.5000
Reported Conc	12.8000	0.0255	178.0000	9.0800	60.9000	29.0000	87.3000	0.5140	0.5450
Sample Conc	8.2900	0.0000	190.0000	7.9500	61.9000	4.2500	66.7000	0.0093	0.0685
%R	90.20	102.00	-240.00	56.50	-20.00	99.00	82.40	100.95	95.30

6010 METALS SERIAL DILUTION CALCULATIONS FOR SDG L11110795

WG383508

Analyte	Parent	Serial Dilution 5x		IDL	50 * IDL	> 50*IDL?	RPD Limit	%D	> %D Limit?
	ug/L	ug/L	ug/L	ug/L	ug/L				
Al	8.29	1.67	8.35	0.050	2.5	Y	10	0.72	
Be	0.00067	0.0002	0.001	0.001	0.1				
Ca	190	37.4	187	0.100	5.0	Y	10	1.58	
Fe	7.95	1.69	8.45	0.050	2.5	Y	10	6.29	
Mg	61.9	12.7	63.5	0.250	12.5	Y	10	2.58	
K	4.25	0.874	4.37	0.500	25.0				
Na	66.7	13.6	68.0	0.250	12.5	Y	10	1.95	
V	0.00926	0.0007	0.0035	0.005	0.3				
Zn	0.0685	0.0141	0.0705	0.010	0.5				

6020 METALS SAMPLE CALCULATION WORKSHEET FOR SDG L11110795

Water Sample Calculations: WG383271

1-Dec	MDL (mg/L)	CRQL (mg/L)			MB		LCS		-04 Dis		-08 MS		-10 MSD	
			Final Volume (ml)		100		100		100		100		100	
			Sample Aliquot (ml)		40		40		40		40		40	
					ug/L	mg/L	ug/L	mg/L	ug/L	mg/L	ug/L	mg/L	ug/L	mg/L
					DF	1	DF	1	DF	1	DF	1	DF	1
Sb	0.00020	0.00040			0.0524	0.0614	24.5506	0.0384	24.8481	0.0621	25.1437	0.0629	25.1437	0.0629
As	0.00020	0.00040			-0.032	0.0600	23.9831	0.0994	24.2511	0.0606	24.2528	0.0606	24.2528	0.0606
Ba	0.00060	0.00120			-0.0009	0.0618	24.7345	22.1706	48.6627	0.05543	48.1564	0.1204	48.1564	0.1204
Cd	0.00012	0.00024			-0.0031	0.0624	24.9759	0.0034	24.8624	0.0622	24.067	0.0602	24.067	0.0602
Cr	0.00040	0.00080			0.0199	0.0614	24.5694	0.7033	26.1345	0.00176	26.165	0.0654	26.165	0.0654
Co	0.00020	0.00040			-0.0172	0.0618	24.7231	0.0473	25.8781	0.0647	25.6686	0.0642	25.6686	0.0642
Cu	0.00040	0.00080			-0.018	0.0626	25.0359	0.1461	26.2903	0.0657	25.5158	0.0638	25.5158	0.0638
Pb	0.00020	0.00040			-0.0046	0.0613	24.5264	0.0096	26.3368	0.0658	26.1519	0.0654	26.1519	0.0654
Mn	0.00040	0.00080			-0.0133	0.0616	24.6303	0.0798	25.9783	0.0649	25.8897	0.0647	25.8897	0.0647
Ni	0.00080	0.00160			0.0118	0.0625	24.982	1.5317	27.4613	0.00383	26.779	0.0669	26.779	0.0669
Se	0.00020	0.00040			0.0455	0.0592	23.6835	0.4772	23.0025	0.00119	22.7435	0.0569	22.7435	0.0569
Ag	0.00010	0.00040			-0.0158	0.0624	24.9522	-0.0141	24.9415	0.0624	25.0056	0.0625	25.0056	0.0625
Tl	0.00004	0.00008			0.0062	0.0600	23.9912	0.0065	26.5579	0.06639	26.0426	0.0651	26.0426	0.0651

6020 METALS CALIBRATION VERIFICATION FOR L11110795

Date: WG383211 12/1/11

Date: WG383271 and WG 383211 12/6/11

Analyte: Sb

Concentration	Mean Response
0	7.28
0.4	1411.628
50	185670.311
100	350291.88

Corr. Coef. = 0.999526

Analyte: Se

Concentration	Mean Response
0	9.165
0.4	44.421
50	5547
100	10671.484

Corr. Coef. = 0.999798

12/1/2011	True Value	Reported	
	ICV		%Rec
Sb	50.00	50.14	100.3
	LLICV		%Rec
Cr	0.80	0.83	104.2
	ICSAB		%Rec
Cu	100.00	95.61	95.6
	CCV3		%Rec
Ag	50.00	49.32	98.6
	LLCCV		%Rec
Cd	0.20	0.178	89.0
	CCV4		%Rec
Pb	50.00	49.64	99.3
	CCV5		%Rec
Co	50.00	48.39	96.8
	CCV6		%Rec
As	50.00	53.50	107.0

12/6/2011	True Value	Reported	
	ICV		%Rec
Ag	50.00	50.28	100.6
	LLICV		%Rec
Tl	0.08	0.0892	111.5
	ICSAB		%Rec
Sb	100.00	108.81	108.8
	CCV2		%Rec
As	50.00	49.96	99.9
	CCV3		%Rec
Ba	50.00	49.90	99.8
	CCV4		%Rec
Cd	50.00	49.58	99.2
	CCV7		%Rec
Se	50.00	50.13	100.3
	CCV8		%Rec
Se	50.00	48.61	97.2
	CCV9		%Rec
Se	50.00	53.50	107.0

6020 METALS ICS CALCULATIONS FOR L11110795

ICSA Check

WG383211 12/1/11

12/1	MDL (ug/L)	CRQL (ug/L)	ICSA (ug/L)	>IDL
Sb	0.200	0.400	0.0625	
As	0.200	0.400	0.0619	
Ba	0.600	1.200	0.0186	
Cd	0.120	0.240	0.0877	
Cr	0.400	0.800	0.1420	
Co	0.200	0.400	0.0068	
Cu	0.400	0.800	0.1530	
Pb	0.200	0.400	-0.0023	
Mn	0.400	0.800	-0.0074	
Ni	0.800	1.600	0.4070	
Se	0.200	0.400	-0.0192	
Ag	0.200	0.400	-0.0104	
Tl	0.040	0.080	-0.0218	

WG383271 and WG383211 12/6

12/6	MDL (ug/L)	CRQL (ug/L)	ICSA (ug/L)
Sb	0.200	0.400	0.0587
As	0.200	0.400	0.0032
Ba	0.600	1.200	0.0368
Cd	0.120	0.240	0.0726
Cr	0.400	0.800	0.1350
Co	0.200	0.400	0.0122
Cu	0.400	0.800	0.1820
Pb	0.200	0.400	0.0175
Mn	0.400	0.800	0.1083
Ni	0.800	1.600	0.5790
Se	0.200	0.400	0.1240
Ag	0.200	0.400	-0.0058
Tl	0.040	0.080	0.0039

6020 METALS MATRIX SPIKE CALCULATION WORKSHEET FOR SDG L11110795

WG383211

12/1/2011	LCS	-07MS	09 MSD
Analyte	Ni	TI	TI
True Conc	0.0625	0.0625	0.0625
Reported Conc	0.0649	0.0646	0.0683
Sample Conc	0.0000	0.0000	0.0000
%R	103.84	103.36	109.28
RPD		5.57	

12/6/2011	-07MS	-09MSD
Analyte	Se	Se
True Conc	0.0625	0.0625
Reported Conc	0.0622	0.064
Sample Conc	0.001	0.001
%R	97.42	99.50
RPD	2.07	

WG383271

12/6/2011	LCS	08MS	10MSD
Analyte	Ba	Ni	Ni
True Conc	0.0625	0.0625	0.0625
Reported Conc	0.0618	0.0687	0.0670
Sample Conc	0.0000	0.0038	0.0038
%R	98.88	103.79	101.07
RPD	2.51		

WG383211 Parent from another SDG

12/1/2011	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
Analyte	Sb	As	Ba	Cd	Cr	Co	Cu	Pb	Mn	Ni	Se	Ag	TI
True Conc	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Reported Conc	53.7000	56.7000	69.3000	51.2000	54.4000	51.9000	52.0000	53.0000	66.3000	52.2000	52.5000	51.0000	53.5000
Sample Conc	0.4270	3.5100	16.4000	0.0000	0.5310	0.2270	1.2500	0.0000	10.7000	1.3100	0.4690	0.0000	0.3140
%R	106.55	106.38	105.80	102.40	107.74	103.35	101.50	106.00	111.20	101.78	104.06	102.00	106.37

WG383271 Parent from another SDG

12/1/2011	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
Analyte	Sb	As	Ba	Cd	Cr	Co	Cu	Pb	Mn	Ni	Se	Ag	TI
True Conc	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Reported Conc	52.8000	50.1000	105.0000	51.5000	60.4000	53.0000	55.6000	54.5000	55.0000	57.0000	47.4000	48.6000	53.7000
Sample Conc	0.0000	0.3750	50.1000	0.0000	7.8600	0.2780	3.0500	0.5180	1.7100	4.7000	1.8200	0.0000	0.0000
%R	105.60	99.45	109.80	103.00	105.08	105.44	105.10	107.96	106.58	104.60	91.16	97.20	107.40

6020 METALS SERIAL DILUTION CALCULATIONS FOR SDG L11110795

WG383211 Parent from another SDG

Analyte	Parent	Serial Dilution 5x		IDL	50 * IDL	> 50*IDL?	RPD Limit	%D	> %D Limit?
	ug/L	ug/L	ug/L	ug/L	ug/L				
Sb	0.4269	0.1473	0.7365	0.200	10.0				
As	3.5079	0.7017	3.5085	0.200	10.0				
Ba	16.3779	2.9435	14.7175	0.600	30.0				
Cd	0.0041	-0.0295	-0.1475	0.120	6.0				
Cr	0.5305	0.0321	0.1605	0.400	20.0				
Co	0.2268	0.0286	0.143	0.200	10.0				
Cu	1.2474	0.2257	1.1285	0.400	20.0				
Pb	0.1822	0.0242	0.121	0.200	10.0				
Mn	10.6533	1.8925	9.4625	0.400	20.0				
Ni	1.3068	0.2367	1.1835	0.800	40.0				
Se	0.4692	0.0812	0.406	0.200	10.0				
Ag	-0.0158	-0.0111	-0.0555	0.200	10.0				
Tl	0.3164	0.0512	0.256	0.040	2.0				

WG383271 Parent from another SDG

Analyte	Parent	Serial Dilution 5x		IDL	50 * IDL	> 50*IDL?	RPD Limit	%D	> %D Limit?
	ug/L	ug/L	ug/L	ug/L	ug/L				
Sb	0.0712	0.0642	0.321	0.200	10.0				
As	0.3749	-0.0244	-0.122	0.200	10.0				
Ba	50.1301	0.0056	0.028	0.600	30.0				
Cd	0.0166	0.0059	0.0295	0.120	6.0				
Cr	7.8591	-0.17	-0.85	0.400	20.0				
Co	0.2775	-0.0134	-0.067	0.200	10.0				
Cu	3.0524	-0.0404	-0.202	0.400	20.0				
Pb	0.5178	-0.002	-0.01	0.200	10.0				
Mn	1.7058	-0.0376	-0.188	0.400	20.0				
Ni	4.7004	-0.0183	-0.0915	0.800	40.0				
Se	1.8244	0.0715	0.3575	0.200	10.0				
Ag	-0.0099	-0.0111	-0.0555	0.200	10.0				
Tl	0.004	0.0112	0.056	0.040	2.0				

Hg CALIBRATION VERIFICATION FOR SDG L11110795

Calibration: 113011B

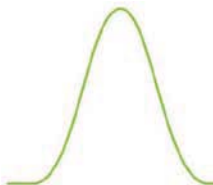
Concentration	Response		
0	20		
0.2	419	Intercept	-7.044722
1	2579	slope	2741.718
2	5521	correlation coefficient	0.999793
5	14096		
10	27222		

Numbers may be off due to rounding of initial ICAL responses.

	33	34	45	46	56	57
	ICV	ICB	CCV	CCB	CCV	CCB
Conc. (ug/L)	2.100	0.038	2.100	0.022	2.080	0.064
True Conc./MDL	2.000	0.10	2.00	0.10	2.00	0.10
%REC	105.00		105.00		104.00	108.50
%D	4.88	U	4.88	U	3.92	U

	MB	LCS	07MS	09MSD	08MS	10MSD	-01	-02	-03	-04
Dilution/DF	1	1	1	1	1	1	1	1	1	1
Final Volume (mL)	40	40	40	40	40	40	40	40	40	40
Sample Aliquot (mL)	40	40	36	36	36	36	40	40	40	40
Result (ug/L)	0.106	4.49	4.43	4.52	4.48	4.37	0.066	0.0070	-0.085	0.0160
Conc. (mg/L)	0.000106	0.00449	0.00492	0.00502	0.00498	0.00486	U	U	U	U
Spike Conc.		4.00	4.00	4.00	4.00	4.00	<MDL	<MDL	<MDL	<MDL
Spike Conc. (mg/L)		0.004	0.00444	0.00444	0.00444	0.00444				
%REC		112	111	113	112	109				
RPD			2.01		2.49					

	-05	06	-11	012	-014	-015	-016	-017	PS-01
Dilution/DF	1	1	1	1	1	1	1	1	1
Final Volume (mL)	40	40	40	40	40	40	40	40	40
Sample Aliquot (mL)	40	40	40	40	40	40	40	40	40
Result (ug/L)	-0.012	0.1230	0.117	0.0170	0.027	0.0540	0.157	0.1260	1.09
Conc. (mg/L)	U	0.000123	0.000117	U	U	U	0.000157	0.000126	NA
	<MDL			<MDL	<MDL	<MDL			1.00
									NA
									109.00



PO Box 21987
Albuquerque, NM 87154
1-888-678-5447
www.aqainc.net

Date: May 31, 2012

Subject: Data Validation for Lab Report L12030257 Revised
Radford Army Ammunition Plant

From: Jeanne Peterson
Project Manager, AQA

To: Mary Lou Rochotte
Kemron Environmental Services, Inc.

OVERVIEW

This data validation report was revised to correct the target analyte lists for EPA methods 6010B and 6020.

Microbac Laboratories Inc., Marietta, Ohio, received 11 field samples associated with the project work described in the *Radford Army Ammunition Plant Final SWMU 40 (RAAP-009) Landfill Nitro Area IMWP* (August 2011) (project QAPP) on March 8, 2012. The field samples were assigned laboratory sample delivery group (SDG) number L12030257 and included four normal water samples, one field duplicate water sample, one matrix spike pair, two equipment blanks, one field blank, and one trip blank. All samples were analyzed for volatile organic compounds (VOCs) using EPA method 8260B. All samples excluding the trip blank were also analyzed for semi-volatile organic compounds (SVOCs) by EPA method 8270C; polynuclear aromatic hydrocarbons (PAHs) by EPA method 8270C SIM; perchlorates by EPA method 6850; pesticides by EPA method 8081A; and metals by EPA methods 6010B, 6020, and 7470A as detailed in *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (SW-846)*, Third Edition, Final Update III.

SUMMARY

The samples were analyzed according to the quality control (QC) criteria of the applicable analytical method. The data for these samples were found to be compliant with the requirements of the project QAPP and/or EPA Region III's *Innovative Approaches to Data Validation* (June 1995) and *EPA Region III Modifications to the National Functional Guidelines for Organic Data Review* (September 1994) or *EPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses* (April 1993) (Region III NFG, collectively), as applicable, and the results for all target analytes *except* 2-chloroethyl vinyl ether, acetone, and benzoic acid are considered usable. The 2-chloroethyl vinyl ether results for all samples were rejected due to 0% matrix spike recovery and analysis on acidified sample aliquots. The acetone results for all samples were rejected due to initial and continuing calibration relative response factors (RRFs) <0.05. The benzoic acid results for all samples were rejected due to high continuing calibration verification (CCV) negative bias, no matrix spike recovery, and poor replicate precision.

MAJOR PROBLEMS

(Refer to Appendix B – Data Qualifier Summary)

- The 2-chloroethyl vinyl ether results for all samples were rejected due to 0% matrix spike recovery and analysis on acidified sample aliquots.
- The acetone results for all samples were rejected due to initial and continuing calibration RRFs <0.05.
- The benzoic acid results for all samples were rejected due to high CCV negative bias, no matrix spike recovery, and poor replicate precision.

MINOR PROBLEMS

(Refer to Appendix B – Data Qualifier Summary)

- 40MW7GW030612: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Vinyl acetate (UJ)
4-Methyl-2-pentanone (UJ)
Calcium 80.6 (J)
Selenium (UL)
Nickel 0.00554 (K)
- 40TB030612: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Vinyl acetate (UJ)
4-Methyl-2-pentanone (UJ)
- 40LFMW01GW030612: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Vinyl acetate (UJ)
4-Methyl-2-pentanone (UJ)
Calcium 71.4 (J)
Selenium (UL)
Nickel 0.00322 (K)
- 40DUPGW030612: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Vinyl acetate (UJ)
4-Methyl-2-pentanone (UJ)
Calcium 71.3 (J)
Selenium (UL)
Nickel 0.00421 (K)
- 40FB030612: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Selenium (UL)
- 40EQR030612: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Selenium (UL)

- 40MW5GW030712: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Calcium 93.4 (J)
Selenium 0.000775 (L)
Nickel 0.00470 (K)
- 40EQR030712: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Selenium (UL)
- 40MW6GW030712: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Calcium 98.4 (J)
Nickel 0.00292 (K)

NOTES

(Refer to Appendix D – Support Documentation)

Sample Chain of Custody (COC) Records

- The samples were listed on COC #3655. Data were reported for all required analyses.

Preservation and Holding Times

- The samples were correctly preserved and analyzed within the holding times specified in the project QAPP and the Region III NFG.

Instrument Tune

- The instrument tunes for all applicable analyses were within the criteria specified in the project QAPP and the Region III NFG with the following exception.
 - The perchlorate tune data were not included in the data package. The laboratory stated that the instrument was tuned after maintenance is performed and that the ion ratio was verified with every sample reported to demonstrate that the instrument was working properly. No sample data were qualified based on professional judgment.

Initial Calibration (ICAL)

- The initial calibration (ICAL) percent relative standard deviations (%RSDs) and/or correlation coefficients, as applicable, for all analyses were within the criteria specified in the project QAPP and the Region III NFG with the following exceptions.

- The ICAL RRFs associated with the higher concentration standards were <0.05 for acetone. The associated sample results were non-detects and, therefore, were **qualified R**.
- The ICAL RRF for the lowest concentration standard associated with batch WG392404 was <0.05 for 4-methyl-2-pentanone. The associated sample results were non-detects and, therefore, were **qualified UJ** based on professional judgment.

Initial Calibration Verification (ICV)/Continuing Calibration Verification (CCV)

- The initial and/or continuing calibration verification (ICV/CCV) RRFs, percent differences (%Ds), and/or recoveries, as applicable, for all analyses were within the criteria specified in the project QAPP and the Region III NFG with the following exceptions.
 - The ICV/CCV RRF associated with batch WG392260 was <0.05 for acetone. The associated sample results were non-detects and were **qualified R**.
 - The ICV %D associated with batch WG392404 was $>25\%$ with positive bias for dichlorodifluoromethane. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.
 - The ICV/CCV %Ds associated with batch WG392260 were $>25\%$ with positive bias for bromomethane, dichlorodifluoromethane, and vinyl acetate. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.
 - The CCV %D associated with batch WG392404 was $>25\%$ with negative bias for vinyl acetate. The associated sample results were non-detects and, therefore, were **qualified UJ**.
 - The CCV %D was $>25\%$ with negative bias for benzoic acid. The associated sample results were non-detects and, therefore, were **qualified UJ**.

Contract Required Detection Limit (CRDL)

- The perchlorate CRDL was analyzed at the reporting limit (RL) and not 2X the RL. No sample data were qualified as a result.
- The CRDL recovery associated with batch WG391810 was $<90\%$ but ≥ 75 for selenium. The selenium result for sample 40MW5GW030712 was a detect and, therefore, was **qualified L**. The remaining associated sample results were non-detects and, therefore, were **qualified UL**.
- The CRDL recoveries associated with batch WG391928 were $>110\%$ for selenium and thallium. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified.

- The CRDL recovery associated with batch WG391810 was >110% for selenium and thallium. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified.
- A CRDL standard was not analyzed for mercury. The low ICAL standard was at the RL and recalculated against the curve. The recovery for this standard was >110%. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified.

Inductively Coupled Plasma (ICP) Interference Check Sample

- ICP/ICP-MS interference check sample recoveries were within the project QAPP- and Region III-specified control limits, and all non-spiked ICS A results were < the MDL.
 - The ICP ICS A and ICS AB were analyzed at the beginning of the analytical sequence only for method 6010B; however, the results of the ICP ICS A and ICS AB analyses were not applicable because the concentrations of one or more of the interferents in all samples were < those in the ICS solutions.
 - The ICP-MS ICS A and ICS AB associated with batch WG391810 were analyzed at the beginning of the analytical sequence only; however, method 6020 requires the ICS analyses to be performed at the beginning of the sequence or every 12 hours, whichever is more frequent. Because the samples were analyzed within six hours, no sample data were qualified based on professional judgment.
 - The results of the ICP-MS ICS A and ICS AB analyses were applicable to all samples *except* field blank and equipment rinse samples because the concentrations of one or more of the interferents in those samples were > those in the ICS solutions.
 - The results of the ICP-MS ICS A and ICS AB analyses were not applicable to the field blank and equipment rinse samples because the concentrations of the interferents in those samples were < those in the ICS solutions.
 - Cadmium and nickel were detected in the ICS A associated with batch WG391810, and nickel was detected in the ICS A associated with batch WG391928. The nickel results for all associated samples were detects and, therefore, were **qualified K**. The associated cadmium results were non-detects and not affected by the high bias and, therefore, were not qualified.

Field Blanks

- Chloroform, methylene chloride, and toluene were detected in equipment blank 40EQR030612. The chloroform result for sample 40MW7GW030612 was a detect >5X the equipment blank concentration and, therefore, was not qualified. The remaining associated sample results were non-detects and, therefore, were not qualified.

Laboratory Method Blanks

- No target analytes were detected in the method blanks.

Laboratory Calibration Blanks

- No target analytes were detected in the calibration blanks.

Laboratory Control Samples/Laboratory Control Sample Duplicates (LCSs/LCSDs)

- The LCS/LCSD recoveries met project QAPP- and Region III-specified QC acceptance criteria with the following exception.
 - The vinyl acetate recovery was > the upper acceptance limit for the LCS associated with batch WG392260. The associated sample results were non-detects and not affected by the positive bias and, therefore, were not qualified based on professional judgment.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

- One MS/MSD pair was analyzed on sample 40LFMW01GW030612 for all analyses.
 - The MS/MSD recoveries were 0% for 2-chloroethyl vinyl ether. The MS and MSD were performed on an acidified sample aliquot; however, highly reactive VOC compounds such as 2-chloroethyl vinyl ether can be lost due to acidification. This was confirmed by the acceptable 2-chloroethyl vinyl ether recovery for the unacidified LCS. VOC analysis was performed on acidified sample aliquots for all samples and, therefore, the 2-chloroethyl vinyl ether results for all samples were **qualified R** based on professional judgment.
 - The MS/MSD recoveries were > the upper acceptance limit for vinyl chloride. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.
 - The MS recovery was 0% for benzoic acid. The CCV %D had a high negative bias, and the relative percent difference between the MS and MSD was 200%. The associated sample results were non-detects and, therefore, were **qualified R** based on professional judgment.
 - The MS/MSD recoveries for perchlorate were <10%; however the parent sample concentrations were >4X the spike concentrations and, therefore, the associated sample results were not qualified.
 - The MS/MSD analyses were performed on a non-project sample for ICP-MS batch WG391928 and, therefore, were not reported in this data package. The recoveries were hand-calculated and for validation.

ICP Serial Dilution Analyses

- The serial dilution %Ds met project QAPP- and Region III-specified QC acceptance criteria with the following exception.
 - The ICP serial dilution was performed on a field blank. The associated calcium results for all field samples were detects within the linear range of the instrument but were >100X the RL and, therefore, were **qualified J**. The remaining associated sample results were either detects <100X the RL or non-detects and, therefore, were not qualified based on professional judgment.

Laboratory Sample Duplicate

- MSDs were analyzed as the laboratory duplicates for all analyses and met project QAPP- and Region III-specified QC acceptance criteria. In addition, a duplicate analysis was performed on a non-project sample for ICP-MS batch WG391928; project QAPP- and Region III-specified QC acceptance criteria were met.

Field Sample Duplicate

- Sample 40LFMW01GW30612 was collected and analyzed in duplicate (sample 40DUPGW030612) for all analyses. The RPDs between the sample and duplicate results were within the project QAPP-specified control limits.

Analyte	L12030257-03		L12030257-06		RPD	>35%
	Result	RL	Result	RL		
Perchlorate	8.88	0.2	8.93	0.2	0.56	
4,4'-DDD	0.0253	0.0543	0	0.05	<RL	
Aluminum	0.123	0.1	0.112	0.1	9.36	
Calcium	71.4	0.2	71.3	0.2	0.14	
Iron	0.093	0.1	0.0875	0.1	<RL	
Magnesium	28.1	0.5	27.8	0.5	1.07	
Potassium	0.885	1	0.943	1	<RL	
Sodium	7.69	0.5	7.86	0.5	2.19	
Barium	0.0941	0.003	0.0947	0.003	0.64	
Chromium	0.00374	0.002	0.00328	0.002	13.11	
Manganese	0.00152	0.002	0.00125	0.002	<RL	
Nickel	0.00322	0.004	0.00421	0.004	*	

*One result <RL and one result >RL; absolute difference <RL.

NOTE: All non-detect results were not listed in the table.

Sample Surrogate Spikes

- Surrogate spikes added to all field samples analyzed for VOCs, SVOCs, PAHs, and pesticides were within the project QAPP-specified control limits with the following exceptions.
 - The TCMX recoveries were $<$ the lower acceptance limit but $\geq 10\%$ on both columns for the LCS and on one column for the toxaphene LCS. The LCS samples are QC samples and, therefore, no sample data were qualified.

Sample Internal Standard Recoveries

- The internal standard recoveries for VOCs, SVOCs, and perchlorates were within the project QAPP- and Region III-specified control limits.
- The internal standard recoveries for metals by method 6020 were within the 60-125% limits provided in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (NFG) (October 2004).

Sample Results

- 2-Chloroethyl vinyl ether was analyzed for on acidified aliquots for all samples. Highly reactive VOC compounds such as 2-chloroethyl vinyl ether can be lost due to acidification as illustrated by the MS/MSD recoveries. The associated sample results for the acidified samples were non-detects and, therefore, were **qualified R**.
- The samples were analyzed for the methods requested on the COC. Method detection limits (MDLs) and reporting limits (RLs) were reported for all analyses and met project-specified MDLs and RLs with the following exceptions.
 - The MDLs for method 6010B analytes chromium, cobalt, copper, iron, nickel, potassium, and zinc and method 6020 target analyte antimony were $>$ the MDLs specified in the project QAPP; however, the associated RLs were $\leq$ the RLs specified in the project QAPP.
- The samples were not diluted.

Action Level Notification

- No results were above the action levels specified in the Region III NFG.

Usability Statement

- There were 1619 field sample data points associated with the data package for SDG L12030257. Of these field sample data points, 1569 (96.91% of the total) were assessed and left unqualified, 26 (1.61% of the total) were assessed and qualified R, 4 (0.25% of the total) were assessed and qualified J, 5 (0.31% of the total) were assessed and qualified

K, 1 (0.06% of the total) was assessed and qualified L, 6 (0.37% of the total) were assessed and qualified UL, and 8 (0.49% of the total) were assessed and qualified UJ.

- *The field sample data points that were qualified R must be categorized as unusable data.*
- The field sample data points that were qualified J can be categorized as definitive data with positively identified analyte concentrations that are only estimates due to QC deficiencies, the field sample data points that were qualified K can be categorized as definitive data with positively identified analyte concentrations that are only estimates and may be qualified high due to QC deficiencies, the field sample data point that was qualified L can be categorized as definitive data with a positively identified analyte concentration that is only an estimate and may be qualified low due to QC deficiencies, the field sample data points that were assessed and qualified UL can be categorized as definitive data with nondetectable analyte concentrations that are only estimates and may be biased low due to QC deficiencies, and the field sample data points that were assessed and qualified UJ can be categorized as definitive data with nondetectable analyte concentrations that are only estimates due to QC deficiencies.
- The unqualified field sample data points can be categorized as definitive data with no associated QC deficiencies.

Report Content Statement

This report has been formatted for consistency with Appendix B, Region III Standard Operating Procedures for Data Validation Reports, contained in the guidance *EPA Region III Modifications to the National Functional Guidelines for Organic Data Review* (September 1994). The laboratory data were reviewed in accordance with the EPA Region III's *Innovative Approaches to Data Validation* (June 1995) and *EPA Region III Modifications to the National Functional Guidelines for Organic Data Review* (September 1994) or *EPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses* (April 1993) (Region III NFG, collectively), as applicable; and the *Radford Army Ammunition Plant Final SWMU 40 (RAAP-009) Landfill Nitro Area IMWP* (August 2011) (project QAPP); and the applicable SW-846 methods. This report only addresses those problems and issues that may affect data usability.

Attachments

Appendix A – Glossary of Data Qualifiers

Appendix B – Data Qualifier Summary

Appendix C – Laboratory Report Results/Data Summary

Appendix D – Support Documentation

Appendix A – Glossary of Data Qualifiers

Data Qualifier Codes

Codes Related to Identification

- U Not detected. The associated number indicates the approximate sample concentration necessary to be detected.
- B Not detected substantially above the level reported in laboratory or field blanks.
- R Unusable result. Analyte may or may not be present in the sample.

Codes Related to Quantitation

- J Analyte present. Reported value may or may not be accurate or precise.
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ Not detected. Quantitation limit may be inaccurate or imprecise.
- UL The analyte was not detected, and the reported quantitation limit is probably higher than reported.

Appendix B – Data Qualifier Summary

Data Qualifier Summary

Note: The results listed in this table are detects and qualified non-detects only. Unqualified non-detects are not listed.

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40MW7GW030612 L12030257-01	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	ICAL relative response factor <0.05
	Benzoic acid	R	U	CCV percent difference > -25%; matrix spike 0% recovery
	Vinyl acetate	UJ	U	CCV percent difference > -25%
	4-Methyl-2-pentanone	UJ	U	Low individual ICAL RRF <0.05
	Calcium	J		Serial dilution performed on field blank
	Manganese Selenium	J UL	J U	>MDL, <RL
	Nickel	K		Low CRI recovery Positive ICS A result
40TB030612 L12030257-02	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	ICAL relative response factor <0.05
	Vinyl acetate	UJ	U	CCV percent difference > -25%
	4-Methyl-2-pentanone	UJ	U	Low individual ICAL RRF <0.05

B-1

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40LFMW01GW030612 L12030257-03	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	ICAL relative response factor <0.05
	Benzoic acid	R	U	CCV percent difference > -25%; matrix spike 0% recovery
	Vinyl acetate	UJ	U	CCV percent difference > -25%
	4-Methyl-2-pentanone	UJ	U	Low individual ICAL RRF <0.05
	4,4'-DDD	J	J	>MDL, <RL
	Calcium	J		Serial dilution performed on field blank
	Iron	J	J	>MDL, <RL
	Potassium	J	J	>MDL, <RL
	Selenium	UL	U	Low CRI recovery
	Nickel	K	J	Positive ICS A result
	4,4'-DDD	J	J	>MDL, <RL
40LFMW01GW030612 CF01 L12030257-03				

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40DUPGW030612 L12030257-06	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	ICAL relative response factor <0.05
	Benzoic acid	R	U	CCV percent difference > -25%; matrix spike 0% recovery
	Vinyl acetate	UJ	U	CCV percent difference > -25%
	4-Methyl-2-pentanone	UJ	U	Low individual ICAL RRF <0.05
	Calcium	J		Serial dilution performed on field blank
	Iron	J	J	>MDL, <RL
	Potassium	J	J	>MDL, <RL
	Selenium	UL	U	Low CRI recovery
	Nickel	K		Positive ICS A result
40FB030612 L12030257-07	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	ICAL relative response factor <0.05
	Benzoic acid	R	U	CCV percent difference > -25%; matrix spike 0% recovery
	Selenium	UL	U	Low CRI recovery

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40EQR030612 L12030257-08	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	ICAL relative response factor <0.05
	Benzoic acid	R	U	CCV percent difference > -25%; matrix spike 0% recovery
	Chloroform	J	J	>MDL, <RL
	Methylene chloride	J	J	>MDL, <RL
	Toluene	J	J	>MDL, <RL
	Selenium	UL	U	Low CRI recovery
40MW5GW030712 L12030257-09	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	ICAL relative response factor <0.05
	Benzoic acid	R	U	CCV percent difference > -25%; matrix spike 0% recovery
	Calcium	J		Serial dilution performed on field blank
	Selenium	L	J	Low CRI recovery; >MDL, <RL
	Nickel	K		Positive ICS A result
40EQR030712 L12030257-10	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	ICAL relative response factor <0.05
	Benzoic acid	R	U	CCV percent difference > -25%; matrix spike 0% recovery
	Selenium	UL	U	Low CRI recovery

B-4

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40MW6GW030712 L12030257-11	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	ICAL relative response factor <0.05
	Benzoic acid	R	U	CCV percent difference > -25%; matrix spike 0% recovery
	Chloroform	J	J	>MDL, <RL
	Calcium	J		Serial dilution performed on field blank
	Nickel	K	J	Positive ICS A result

Appendix C – Laboratory Report Results/Data Summary

Certificate of Analysis

Sample #: L12030257-01	PrePrep Method: N/A	Instrument: HPMS8
Client ID: 40MW7GW030612	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 03/06/2012 17:28
Workgroup #: WG392260	Analyst: ADC	Run Date: 03/15/2012 19:40
Collect Date: 03/06/2012 12:04	Dilution: 1	File ID: 8M377611
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.94		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	94.8	70	120		
4-Bromofluorobenzene	100	75	120		
Dibromofluoromethane	107	85	115		
Toluene-d8	105	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12030257-01

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40MW7GW030612

Prep Method: 3520C

Prep Date: 03/12/2012 08:30

Matrix: Water

Analytical Method: 8270C

Cal Date: 02/29/2012 13:55

Workgroup #: WG392169

Analyst: CAA

Run Date: 03/15/2012 10:44

Collect Date: 03/06/2012 12:04

Dilution: 1

File ID: 12M38929

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.43	2.72
1,2-Dichlorobenzene	95-50-1		U	5.43	2.72
1,3-Dichlorobenzene	541-73-1		U	5.43	2.72
1,4-Dichlorobenzene	106-46-7		U	5.43	2.72
2,4,5-Trichlorophenol	95-95-4		U	5.43	2.72
2,4,6-Trichlorophenol	88-06-2		U	5.43	2.72
2,4-Dichlorophenol	120-83-2		U	5.43	2.72
2,4-Dimethylphenol	105-67-9		U	5.43	2.72
2,4-Dinitrophenol	51-28-5		U	27.2	13.6
2,4-Dinitrotoluene	121-14-2		U	5.43	2.72
2,6-Dinitrotoluene	606-20-2		U	5.43	2.72
2-Chloronaphthalene	91-58-7		U	5.43	2.72
2-Chlorophenol	95-57-8		U	5.43	2.72
2-Methylnaphthalene	91-57-6		U	5.43	2.72
2-Methylphenol	95-48-7		U	5.43	2.72
2-Nitroaniline	88-74-4		U	27.2	13.6
2-Nitrophenol	88-75-5		U	5.43	2.72
3,3'-Dichlorobenzidine	91-94-1		U	10.9	2.72
3-,4-Methylphenol	106-44-5		U	5.43	2.72
3-Nitroaniline	99-09-2		U	27.2	13.6
4,6-Dinitro-2-methylphenol	534-52-1		U	27.2	13.6
4-Bromophenyl-phenylether	101-55-3		U	5.43	2.72
4-Chloro-3-methylphenol	59-50-7		U	5.43	2.72
4-Chloroaniline	106-47-8		U	5.43	2.72
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.43	2.72
4-Nitroaniline	100-01-6		U	27.2	13.6
4-Nitrophenol	100-02-7		U	27.2	13.6
Acenaphthene	83-32-9		U	5.43	2.72
Acenaphthylene	208-96-8		U	5.43	2.72
Anthracene	120-12-7		U	5.43	2.72
Benzo(a)anthracene	56-55-3		U	5.43	2.72
Benzo(a)pyrene	50-32-8		U	5.43	2.72
Benzo(b)fluoranthene	205-99-2		U	5.43	2.72

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(g,h,i)Perylene	191-24-2		U	5.43	2.72
Benzo(k)fluoranthene	207-08-9		U	5.43	2.72
Benzoic acid	65-85-0		U	27.2	13.6
Benzyl alcohol	100-51-6		U	5.43	2.72
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.43	2.72
Bis(2-Chloroethyl)ether	111-44-4		U	5.43	2.72
bis(2-Chloroisopropyl)ether	108-60-1		U	5.43	2.72
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.9	3.26
Butylbenzylphthalate	85-68-7		U	5.43	2.72
Chrysene	218-01-9		U	5.43	2.72
Di-N-Butylphthalate	84-74-2		U	5.43	2.72
Di-n-octylphthalate	117-84-0		U	5.43	2.72
Dibenzo(a,h)Anthracene	53-70-3		U	5.43	2.72
Dibenzofuran	132-64-9		U	5.43	2.72
Diethylphthalate	84-66-2		U	5.43	2.72
Dimethylphthalate	131-11-3		U	5.43	2.72
Fluoranthene	206-44-0		U	5.43	2.72
Fluorene	86-73-7		U	5.43	2.72
Hexachlorobenzene	118-74-1		U	5.43	2.72
Hexachlorobutadiene	87-68-3		U	5.43	2.72
Hexachlorocyclopentadiene	77-47-4		U	5.43	2.72
Hexachloroethane	67-72-1		U	5.43	2.72
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.43	2.72
Isophorone	78-59-1		U	5.43	2.72
N-Nitrosodiphenylamine	86-30-6		U	5.43	2.72
N-Nitrosodipropylamine	621-64-7		U	5.43	2.72
Naphthalene	91-20-3		U	5.43	2.72
Nitrobenzene	98-95-3		U	5.43	2.72
Pentachlorophenol	87-86-5		U	27.2	13.6
Phenanthrene	85-01-8		U	5.43	2.72
Phenol	108-95-2		U	5.43	2.72
Pyrene	129-00-0		U	5.43	2.72
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	69.6	40	125		
2-Fluorobiphenyl	57.6	50	110		
2-Fluorophenol	63.1	20	110		
Nitrobenzene-d5	59.5	40	110		
p-Terphenyl-d14	86.7	50	135		
Phenol-d5	67.1	10	115		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Sample #: L12030257-01	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW7GW030612	Prep Method: 3510C	Prep Date: 03/12/2012 10:45
Matrix: Water	Analytical Method: 8270C	Cal Date: 03/13/2012 10:25
Workgroup #: WG391960	Analyst: CAA	Run Date: 03/13/2012 12:37
Collect Date: 03/06/2012 12:04	Dilution: 1	File ID: 7M54458
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0538	0.0269
Acenaphthylene	208-96-8		U	0.0538	0.0269
Acenaphthene	83-32-9		U	0.0538	0.0269
Fluorene	86-73-7		U	0.0538	0.0269
Phenanthrene	85-01-8		U	0.0538	0.0269
Anthracene	120-12-7		U	0.0538	0.0269
Fluoranthene	206-44-0		U	0.0538	0.0269
Pyrene	129-00-0		U	0.0538	0.0269
Benzo(a)anthracene	56-55-3		U	0.0538	0.0269
Chrysene	218-01-9		U	0.0538	0.0269
Benzo(b)fluoranthene	205-99-2		U	0.0538	0.0269
Benzo(k)fluoranthene	207-08-9		U	0.0538	0.0269
Benzo(a)pyrene	50-32-8		U	0.0538	0.0269
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0538	0.0269
Dibenzo(a,h)anthracene	53-70-3		U	0.0538	0.0269
Benzo(g,h,i)perylene	191-24-2		U	0.0538	0.0269
1-Methylnaphthalene	90-12-0		U	0.0538	0.0269
2-Methylnaphthalene	91-57-6		U	0.0538	0.0269
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	67.6	35	114		
2-Fluorobiphenyl	59.5	50	110		
p-Terphenyl-d14	75.8	33	141		

U	Analyte was not detected. The concentration is below the reported LOD.
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Sample #: L12030257-01	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW7GW030612	Prep Method: 6850	Prep Date: 03/15/2012 12:26
Matrix: Water	Analytical Method: 6850	Cal Date: 01/24/2012 17:25
Workgroup #: WG392280	Analyst: JWR	Run Date: 03/15/2012 14:00
Collect Date: 03/06/2012 12:04	Dilution: 1	File ID: 1LM.LM15536
Sample Tag: 01	Units: ug/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	4.18		0.200	0.100

Sample #: L12030257-01	PrePrep Method: N/A	Instrument: HP15
Client ID: 40MW7GW030612	Prep Method: 3510C	Prep Date: 03/12/2012 08:31
Matrix: Water	Analytical Method: 8081A	Cal Date: 03/01/2012 00:01
Workgroup #: WG391981	Analyst: ECL	Run Date: 03/13/2012 18:59
Collect Date: 03/06/2012 12:04	Dilution: 1	File ID: 15G30856.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0521	0.0104
4,4'-DDE	72-55-9		U	0.0521	0.0104
4,4'-DDT	50-29-3		U	0.0521	0.0104
Aldrin	309-00-2		U	0.0521	0.0104
alpha Chlordane	5103-71-9		U	0.0521	0.0104
alpha-BHC	319-84-6		U	0.0521	0.0104
beta-BHC	319-85-7		U	0.0521	0.0104
delta-BHC	319-86-8		U	0.0521	0.0104
Dieldrin	60-57-1		U	0.0521	0.0104
Endosulfan I	959-98-8		U	0.0521	0.0104
Endosulfan II	33213-65-9		U	0.0521	0.0104
Endosulfan sulfate	1031-07-8		U	0.0521	0.0104
Endrin	72-20-8		U	0.0521	0.0104
Endrin aldehyde	7421-93-4		U	0.0521	0.0104
Endrin ketone	53494-70-5		U	0.0521	0.0104
gamma Chlordane	5103-74-2		U	0.0521	0.0104
gamma-BHC (Lindane)	58-89-9		U	0.0521	0.0104
Heptachlor	76-44-8		U	0.0521	0.0104
Heptachlor epoxide	1024-57-3		U	0.0521	0.0104
Methoxychlor	72-43-5		U	0.0521	0.0104
Toxaphene	8001-35-2		U	1.04	0.313

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	78.4	25	140	
Decachlorobiphenyl	65.1	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12030257-01	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: 40MW7GW030612	Prep Method: 3005A	Prep Date: 03/12/2012 08:58
Matrix: Water	Analytical Method: 6010B	Cal Date: 03/12/2012 09:19
Workgroup #: WG391918	Analyst: KHR	Run Date: 03/12/2012 14:40
Collect Date: 03/06/2012 12:04	Dilution: 1	File ID: T2.031212.144053
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.344		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	80.6		0.200	0.100
Iron, Total	7439-89-6	0.263		0.100	0.0500
Magnesium, Total	7439-95-4	36.1		0.500	0.250
Potassium, Total	7440-09-7	1.72		1.00	0.500
Sodium, Total	7440-23-5	8.54		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-01	PrePrep Method: N/A	Instrument: ELAN-ICP
Client ID: 40MW7GW030612	Prep Method: 3015	Prep Date: 03/09/2012 06:57
Matrix: Water	Analytical Method: 6020	Cal Date: 03/09/2012 09:46
Workgroup #: WG391810	Analyst: JYH	Run Date: 03/09/2012 15:38
Collect Date: 03/06/2012 12:04	Dilution: 1	File ID: EL.030912.153855
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.145		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00915		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00144	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.0108		0.00200	0.00100
Nickel, Total	7440-02-0	0.00554		0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Sample #: L12030257-01	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW7GW030612	Prep Method: 7470A	Prep Date: 03/13/2012 14:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 03/14/2012 08:36
Workgroup #: WG392134	Analyst: PDM	Run Date: 03/14/2012 08:54
Collect Date: 03/06/2012 12:04	Dilution: 1	File ID: HY.031412.085433
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-02	PrePrep Method: N/A	Instrument: HPMS8
Client ID: 40TB030612	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 03/06/2012 17:28
Workgroup #: WG392260	Analyst: ADC	Run Date: 03/15/2012 14:09
Collect Date: 03/06/2012 00:01	Dilution: 1	File ID: 8M377600
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	96.3	70	120		
4-Bromofluorobenzene	101	75	120		
Dibromofluoromethane	106	85	115		
Toluene-d8	105	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-03

PrePrep Method: N/A

Instrument: HPMS8

Client ID: 40LFMW01GW030612

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 03/06/2012 17:28

Workgroup #: WG392260

Analyst: ADC

Run Date: 03/15/2012 20:09

Collect Date: 03/06/2012 16:06

Dilution: 1

File ID: 8M377612

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	98.1	70	120		
4-Bromofluorobenzene	99.3	75	120		
Dibromofluoromethane	107	85	115		
Toluene-d8	103	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-03

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40LFMW01GW030612

Prep Method: 3520C

Prep Date: 03/12/2012 08:30

Matrix: Water

Analytical Method: 8270C

Cal Date: 02/29/2012 13:55

Workgroup #: WG392169

Analyst: CAA

Run Date: 03/15/2012 11:18

Collect Date: 03/06/2012 16:06

Dilution: 1

File ID: 12M38930

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.38	2.69
1,2-Dichlorobenzene	95-50-1		U	5.38	2.69
1,3-Dichlorobenzene	541-73-1		U	5.38	2.69
1,4-Dichlorobenzene	106-46-7		U	5.38	2.69
2,4,5-Trichlorophenol	95-95-4		U	5.38	2.69
2,4,6-Trichlorophenol	88-06-2		U	5.38	2.69
2,4-Dichlorophenol	120-83-2		U	5.38	2.69
2,4-Dimethylphenol	105-67-9		U	5.38	2.69
2,4-Dinitrophenol	51-28-5		U	26.9	13.4
2,4-Dinitrotoluene	121-14-2		U	5.38	2.69
2,6-Dinitrotoluene	606-20-2		U	5.38	2.69
2-Chloronaphthalene	91-58-7		U	5.38	2.69
2-Chlorophenol	95-57-8		U	5.38	2.69
2-Methylnaphthalene	91-57-6		U	5.38	2.69
2-Methylphenol	95-48-7		U	5.38	2.69
2-Nitroaniline	88-74-4		U	26.9	13.4

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
2-Nitrophenol	88-75-5		U	5.38	2.69
3,3'-Dichlorobenzidine	91-94-1		U	10.8	2.69
3-,4-Methylphenol	106-44-5		U	5.38	2.69
3-Nitroaniline	99-09-2		U	26.9	13.4
4,6-Dinitro-2-methylphenol	534-52-1		U	26.9	13.4
4-Bromophenyl-phenylether	101-55-3		U	5.38	2.69
4-Chloro-3-methylphenol	59-50-7		U	5.38	2.69
4-Chloroaniline	106-47-8		U	5.38	2.69
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.38	2.69
4-Nitroaniline	100-01-6		U	26.9	13.4
4-Nitrophenol	100-02-7		U	26.9	13.4
Acenaphthene	83-32-9		U	5.38	2.69
Acenaphthylene	208-96-8		U	5.38	2.69
Anthracene	120-12-7		U	5.38	2.69
Benzo(a)anthracene	56-55-3		U	5.38	2.69
Benzo(a)pyrene	50-32-8		U	5.38	2.69
Benzo(b)fluoranthene	205-99-2		U	5.38	2.69
Benzo(g,h,i)Perylene	191-24-2		U	5.38	2.69
Benzo(k)fluoranthene	207-08-9		U	5.38	2.69
Benzoic acid	65-85-0		U	26.9	13.4
Benzyl alcohol	100-51-6		U	5.38	2.69
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.38	2.69
Bis(2-Chloroethyl)ether	111-44-4		U	5.38	2.69
bis(2-Chloroisopropyl)ether	108-60-1		U	5.38	2.69
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.8	3.23
Butylbenzylphthalate	85-68-7		U	5.38	2.69
Chrysene	218-01-9		U	5.38	2.69
Di-N-Butylphthalate	84-74-2		U	5.38	2.69
Di-n-octylphthalate	117-84-0		U	5.38	2.69
Dibenzo(a,h)Anthracene	53-70-3		U	5.38	2.69
Dibenzofuran	132-64-9		U	5.38	2.69
Diethylphthalate	84-66-2		U	5.38	2.69
Dimethylphthalate	131-11-3		U	5.38	2.69
Fluoranthene	206-44-0		U	5.38	2.69
Fluorene	86-73-7		U	5.38	2.69
Hexachlorobenzene	118-74-1		U	5.38	2.69
Hexachlorobutadiene	87-68-3		U	5.38	2.69
Hexachlorocyclopentadiene	77-47-4		U	5.38	2.69
Hexachloroethane	67-72-1		U	5.38	2.69

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.38	2.69
Isophorone	78-59-1		U	5.38	2.69
N-Nitrosodiphenylamine	86-30-6		U	5.38	2.69
N-Nitrosodipropylamine	621-64-7		U	5.38	2.69
Naphthalene	91-20-3		U	5.38	2.69
Nitrobenzene	98-95-3		U	5.38	2.69
Pentachlorophenol	87-86-5		U	26.9	13.4
Phenanthrene	85-01-8		U	5.38	2.69
Phenol	108-95-2		U	5.38	2.69
Pyrene	129-00-0		U	5.38	2.69
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	65.9	40	125		
2-Fluorobiphenyl	57.4	50	110		
2-Fluorophenol	60.4	20	110		
Nitrobenzene-d5	56.8	40	110		
p-Terphenyl-d14	85.4	50	135		
Phenol-d5	63.1	10	115		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-03

PrePrep Method: N/A

Instrument: HPMS7

Client ID: 40LFMW01GW030612

Prep Method: 3510C

Prep Date: 03/12/2012 10:45

Matrix: Water

Analytical Method: 8270C

Cal Date: 03/13/2012 10:25

Workgroup #: WG391960

Analyst: CAA

Run Date: 03/13/2012 13:03

Collect Date: 03/06/2012 16:06

Dilution: 1

File ID: 7M54459

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0538	0.0269
Acenaphthylene	208-96-8		U	0.0538	0.0269
Acenaphthene	83-32-9		U	0.0538	0.0269
Fluorene	86-73-7		U	0.0538	0.0269
Phenanthrene	85-01-8		U	0.0538	0.0269
Anthracene	120-12-7		U	0.0538	0.0269
Fluoranthene	206-44-0		U	0.0538	0.0269
Pyrene	129-00-0		U	0.0538	0.0269
Benzo(a)anthracene	56-55-3		U	0.0538	0.0269
Chrysene	218-01-9		U	0.0538	0.0269
Benzo(b)fluoranthene	205-99-2		U	0.0538	0.0269
Benzo(k)fluoranthene	207-08-9		U	0.0538	0.0269
Benzo(a)pyrene	50-32-8		U	0.0538	0.0269

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0538	0.0269
Dibenzo(a,h)anthracene	53-70-3		U	0.0538	0.0269
Benzo(g,h,i)perylene	191-24-2		U	0.0538	0.0269
1-Methylnaphthalene	90-12-0		U	0.0538	0.0269
2-Methylnaphthalene	91-57-6		U	0.0538	0.0269
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	72.0	35	114		
2-Fluorobiphenyl	67.5	50	110		
p-Terphenyl-d14	89.3	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-03	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40LFMW01GW030612	Prep Method: 6850	Prep Date: 03/15/2012 12:26
Matrix: Water	Analytical Method: 6850	Cal Date: 01/24/2012 17:25
Workgroup #: WG392280	Analyst: JWR	Run Date: 03/15/2012 14:19
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: 1LM.LM15537
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	8.88		0.200	0.100

Sample #: L12030257-03	PrePrep Method: N/A	Instrument: HP15
Client ID: 40LFMW01GW030612	Prep Method: 3510C	Prep Date: 03/12/2012 08:31
Matrix: Water	Analytical Method: 8081A	Cal Date: 03/01/2012 00:01
Workgroup #: WG391981	Analyst: ECL	Run Date: 03/13/2012 18:59
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: 15G30857.F
Sample Tag: CF01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.0225	J	0.0543	0.0109
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	71.0	25	140		
Decachlorobiphenyl	87.2	30	135		
J	Estimated value ; the analyte concentration was less than the LOQ.				

Certificate of Analysis

Sample #: L12030257-03

PrePrep Method: N/A

Instrument: HP15

Client ID: 40LFMW01GW030612

Prep Method: 3510C

Prep Date: 03/12/2012 08:31

Matrix: Water

Analytical Method: 8081A

Cal Date: 03/01/2012 00:01

Workgroup #: WG391981

Analyst: ECL

Run Date: 03/13/2012 19:27

Collect Date: 03/06/2012 16:06

Dilution: 1

File ID: 15G30857.R

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.0253	J	0.0543	0.0109
4,4'-DDE	72-55-9		U	0.0543	0.0109
4,4'-DDT	50-29-3		U	0.0543	0.0109
Aldrin	309-00-2		U	0.0543	0.0109
alpha Chlordane	5103-71-9		U	0.0543	0.0109
alpha-BHC	319-84-6		U	0.0543	0.0109
beta-BHC	319-85-7		U	0.0543	0.0109
delta-BHC	319-86-8		U	0.0543	0.0109
Dieldrin	60-57-1		U	0.0543	0.0109
Endosulfan I	959-98-8		U	0.0543	0.0109
Endosulfan II	33213-65-9		U	0.0543	0.0109
Endosulfan sulfate	1031-07-8		U	0.0543	0.0109
Endrin	72-20-8		U	0.0543	0.0109
Endrin aldehyde	7421-93-4		U	0.0543	0.0109
Endrin ketone	53494-70-5		U	0.0543	0.0109
gamma Chlordane	5103-74-2		U	0.0543	0.0109
gamma-BHC (Lindane)	58-89-9		U	0.0543	0.0109
Heptachlor	76-44-8		U	0.0543	0.0109
Heptachlor epoxide	1024-57-3		U	0.0543	0.0109
Methoxychlor	72-43-5		U	0.0543	0.0109
Toxaphene	8001-35-2		U	1.09	0.326
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	76.4	25	140		
Decachlorobiphenyl	100	30	135		
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12030257-03	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: 40LFMW01GW030612	Prep Method: 3005A	Prep Date: 03/12/2012 08:58
Matrix: Water	Analytical Method: 6010B	Cal Date: 03/12/2012 09:19
Workgroup #: WG391918	Analyst: KHR	Run Date: 03/12/2012 14:44
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: T2.031212.144417
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.123		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	71.4		0.200	0.100
Iron, Total	7439-89-6	0.0930	J	0.100	0.0500
Magnesium, Total	7439-95-4	28.1		0.500	0.250
Potassium, Total	7440-09-7	0.885	J	1.00	0.500
Sodium, Total	7440-23-5	7.69		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-03	PrePrep Method: N/A	Instrument: ELAN-ICP
Client ID: 40LFMW01GW030612	Prep Method: 3015	Prep Date: 03/09/2012 06:57
Matrix: Water	Analytical Method: 6020	Cal Date: 03/09/2012 09:46
Workgroup #: WG391810	Analyst: JYH	Run Date: 03/09/2012 11:30
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: EL.030912.113046
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0941		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00374		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00152	J	0.00200	0.00100
Nickel, Total	7440-02-0	0.00322	J	0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

Certificate of Analysis

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Sample #: L12030257-03	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40LFMW01GW030612	Prep Method: 7470A	Prep Date: 03/13/2012 14:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 03/14/2012 08:36
Workgroup #: WG392134	Analyst: PDM	Run Date: 03/14/2012 08:58
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: HY.031412.085810
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-04	PrePrep Method: N/A	Instrument: HPMS8
Client ID: 40LFMW01MSGW030612	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 03/06/2012 17:28
Workgroup #: WG392260	Analyst: ADC	Run Date: 03/15/2012 12:09
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: 8M377596
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6	20.8		1.00	0.250
1,1,1-Trichloroethane	71-55-6	20.9		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	20.9		1.00	0.200
1,1,2-Trichloroethane	79-00-5	19.3		1.00	0.250
1,1-Dichloroethane	75-34-3	19.2		1.00	0.125
1,1-Dichloroethene	75-35-4	18.8		1.00	0.500
1,1-Dichloropropene	563-58-6	20.5		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	19.1		1.00	0.150
1,2,3-Trichloropropane	96-18-4	18.4		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	18.9		1.00	0.200
1,2,4-Trimethylbenzene	95-63-6	20.3		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.0		5.00	1.00
1,2-Dibromoethane	106-93-4	19.5		1.00	0.250
1,2-Dichlorobenzene	95-50-1	19.9		1.00	0.125
1,2-Dichloroethane	107-06-2	18.4		1.00	0.250
1,2-Dichloropropane	78-87-5	18.9		1.00	0.200
1,3,5-Trimethylbenzene	108-67-8	21.1		1.00	0.250
1,3-Dichlorobenzene	541-73-1	20.0		1.00	0.250
1,3-Dichloropropane	142-28-9	18.7		1.00	0.200

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,4-Dichlorobenzene	106-46-7	20.0		1.00	0.125
2,2-Dichloropropane	594-20-7	20.8		1.00	0.250
2-Butanone	78-93-3	15.1		10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8	18.8		1.00	0.125
2-Hexanone	591-78-6	15.4		10.0	2.50
4-Chlorotoluene	106-43-4	20.7		1.00	0.250
4-Methyl-2-pentanone	108-10-1	15.8		10.0	2.50
Acetone	67-64-1	16.3		10.0	2.50
Benzene	71-43-2	19.9		1.00	0.125
Bromobenzene	108-86-1	19.8		1.00	0.125
Bromochloromethane	74-97-5	19.8		1.00	0.200
Bromodichloromethane	75-27-4	20.0		1.00	0.250
Bromoform	75-25-2	19.1		1.00	0.500
Bromomethane	74-83-9	25.3		1.00	0.500
Carbon disulfide	75-15-0	20.6		1.00	0.500
Carbon tetrachloride	56-23-5	22.5		1.00	0.250
Chlorobenzene	108-90-7	19.8		1.00	0.125
Chlorodibromomethane	124-48-1	18.8		1.00	0.250
Chloroethane	75-00-3	20.1		1.00	0.500
Chloroform	67-66-3	18.5		1.00	0.125
Chloromethane	74-87-3	21.7		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.3		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	20.0		1.00	0.250
Dibromomethane	74-95-3	18.6		1.00	0.250
Dichlorodifluoromethane	75-71-8	30.0		1.00	0.250
Ethylbenzene	100-41-4	19.9		1.00	0.250
Hexachlorobutadiene	87-68-3	19.7		1.00	0.250
Isopropylbenzene	98-82-8	17.7		1.00	0.250
m-,p-Xylene	179601-23-1	40.2		1.00	0.500
Methylene chloride	75-09-2	18.8		5.00	0.250
n-Butylbenzene	104-51-8	20.2		1.00	0.250
n-Propylbenzene	103-65-1	20.2		1.00	0.125
Naphthalene	91-20-3	19.0		1.00	0.200
o-Xylene	95-47-6	19.8		1.00	0.250
p-Isopropyltoluene	99-87-6	19.3		1.00	0.250
sec-Butylbenzene	135-98-8	20.4		1.00	0.250
Styrene	100-42-5	19.8		1.00	0.125
tert-Butylbenzene	98-06-6	20.7		1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Tetrachloroethene	127-18-4	20.3		1.00	0.250
Toluene	108-88-3	20.0		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	19.3		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	17.9		1.00	0.500
Trichloroethene	79-01-6	20.3		1.00	0.250
Trichlorofluoromethane	75-69-4	21.4		1.00	0.250
Vinyl acetate	108-05-4	42.0		10.0	2.50
Vinyl chloride	75-01-4	22.8		1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	90.4	70	120		
4-Bromofluorobenzene	102	75	120		
Dibromofluoromethane	104	85	115		
Toluene-d8	106	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-04

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40LFMW01MSGW030612

Prep Method: 3520C

Prep Date: 03/12/2012 08:30

Matrix: Water

Analytical Method: 8270C

Cal Date: 02/29/2012 13:55

Workgroup #: WG392169

Analyst: CAA

Run Date: 03/15/2012 11:51

Collect Date: 03/06/2012 16:06

Dilution: 1

File ID: 12M38931

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1	29.4		5.21	2.60
1,2-Dichlorobenzene	95-50-1	29.0		5.21	2.60
1,3-Dichlorobenzene	541-73-1	26.2		5.21	2.60
1,4-Dichlorobenzene	106-46-7	26.9		5.21	2.60
2,4,5-Trichlorophenol	95-95-4	42.1		5.21	2.60
2,4,6-Trichlorophenol	88-06-2	42.5		5.21	2.60
2,4-Dichlorophenol	120-83-2	41.2		5.21	2.60
2,4-Dimethylphenol	105-67-9	39.4		5.21	2.60
2,4-Dinitrophenol	51-28-5	50.3		26.0	13.0
2,4-Dinitrotoluene	121-14-2	46.7		5.21	2.60
2,6-Dinitrotoluene	606-20-2	43.2		5.21	2.60
2-Chloronaphthalene	91-58-7	37.1		5.21	2.60
2-Chlorophenol	95-57-8	35.7		5.21	2.60
2-Methylnaphthalene	91-57-6	36.1		5.21	2.60
2-Methylphenol	95-48-7	40.9		5.21	2.60
2-Nitroaniline	88-74-4	46.0		26.0	13.0
2-Nitrophenol	88-75-5	39.6		5.21	2.60

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
3,3'-Dichlorobenzidine	91-94-1	43.0		10.4	2.60
3-,4-Methylphenol	106-44-5	41.2		5.21	2.60
3-Nitroaniline	99-09-2	48.2		26.0	13.0
4,6-Dinitro-2-methylphenol	534-52-1	50.8		26.0	13.0
4-Bromophenyl-phenylether	101-55-3	42.2		5.21	2.60
4-Chloro-3-methylphenol	59-50-7	44.6		5.21	2.60
4-Chloroaniline	106-47-8	33.1		5.21	2.60
4-Chlorophenyl-phenyl ether	7005-72-3	39.9		5.21	2.60
4-Nitroaniline	100-01-6	48.0		26.0	13.0
4-Nitrophenol	100-02-7	48.9		26.0	13.0
Acenaphthene	83-32-9	40.8		5.21	2.60
Acenaphthylene	208-96-8	37.1		5.21	2.60
Anthracene	120-12-7	44.8		5.21	2.60
Benzo(a)anthracene	56-55-3	49.5		5.21	2.60
Benzo(a)pyrene	50-32-8	48.0		5.21	2.60
Benzo(b)fluoranthene	205-99-2	45.4		5.21	2.60
Benzo(g,h,i)Perylene	191-24-2	48.9		5.21	2.60
Benzo(k)fluoranthene	207-08-9	50.6		5.21	2.60
Benzoic acid	65-85-0		U	26.0	13.0
Benzyl alcohol	100-51-6	40.9		5.21	2.60
Bis(2-Chloroethoxy)Methane	111-91-1	29.3		5.21	2.60
Bis(2-Chloroethyl)ether	111-44-4	37.9		5.21	2.60
bis(2-Chloroisopropyl)ether	108-60-1	46.4		5.21	2.60
bis(2-Ethylhexyl)phthalate	117-81-7	52.1		10.4	3.13
Butylbenzylphthalate	85-68-7	48.7		5.21	2.60
Chrysene	218-01-9	51.3		5.21	2.60
Di-N-Butylphthalate	84-74-2	45.5		5.21	2.60
Di-n-octylphthalate	117-84-0	51.9		5.21	2.60
Dibenzo(a,h)Anthracene	53-70-3	49.2		5.21	2.60
Dibenzofuran	132-64-9	40.5		5.21	2.60
Diethylphthalate	84-66-2	44.8		5.21	2.60
Dimethylphthalate	131-11-3	41.4		5.21	2.60
Fluoranthene	206-44-0	47.4		5.21	2.60
Fluorene	86-73-7	41.6		5.21	2.60
Hexachlorobenzene	118-74-1	45.2		5.21	2.60
Hexachlorobutadiene	87-68-3	31.3		5.21	2.60
Hexachlorocyclopentadiene	77-47-4	19.9		5.21	2.60
Hexachloroethane	67-72-1	25.2		5.21	2.60
Indeno(1,2,3-cd)pyrene	193-39-5	49.1		5.21	2.60

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Isophorone	78-59-1	42.5		5.21	2.60
N-Nitrosodiphenylamine	86-30-6	41.4		5.21	2.60
N-Nitrosodipropylamine	621-64-7	42.0		5.21	2.60
Naphthalene	91-20-3	38.8		5.21	2.60
Nitrobenzene	98-95-3	39.1		5.21	2.60
Pentachlorophenol	87-86-5	49.2		26.0	13.0
Phenanthrene	85-01-8	46.0		5.21	2.60
Phenol	108-95-2	39.3		5.21	2.60
Pyrene	129-00-0	46.6		5.21	2.60
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	80.8	40	125		
2-Fluorobiphenyl	61.7	50	110		
2-Fluorophenol	58.9	20	110		
Nitrobenzene-d5	60.5	40	110		
p-Terphenyl-d14	82.0	50	135		
Phenol-d5	67.7	10	115		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-04

PrePrep Method: N/A

Instrument: HPMS7

Client ID: 40LFMW01MSGW030612

Prep Method: 3510C

Prep Date: 03/12/2012 10:45

Matrix: Water

Analytical Method: 8270C

Cal Date: 03/13/2012 10:25

Workgroup #: WG391960

Analyst: CAA

Run Date: 03/13/2012 13:30

Collect Date: 03/06/2012 16:06

Dilution: 1

File ID: 7M54460

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	0.640		0.0500	0.0250
Acenaphthylene	208-96-8	0.706		0.0500	0.0250
Acenaphthene	83-32-9	0.674		0.0500	0.0250
Fluorene	86-73-7	0.692		0.0500	0.0250
Phenanthrene	85-01-8	0.782		0.0500	0.0250
Anthracene	120-12-7	0.760		0.0500	0.0250
Fluoranthene	206-44-0	0.698		0.0500	0.0250
Pyrene	129-00-0	0.859		0.0500	0.0250
Benzo(a)anthracene	56-55-3	0.737		0.0500	0.0250
Chrysene	218-01-9	0.735		0.0500	0.0250
Benzo(b)fluoranthene	205-99-2	0.720		0.0500	0.0250
Benzo(k)fluoranthene	207-08-9	0.625		0.0500	0.0250
Benzo(a)pyrene	50-32-8	0.753		0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5	0.704		0.0500	0.0250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Dibenzo(a,h)anthracene	53-70-3	0.706		0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2	0.723		0.0500	0.0250
1-Methylnaphthalene	90-12-0	0.603		0.0500	0.0250
2-Methylnaphthalene	91-57-6	0.687		0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	70.2	35	114		
2-Fluorobiphenyl	62.1	50	110		
p-Terphenyl-d14	87.5	33	141		

Sample #: L12030257-04	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40LFMW01MSGW030612	Prep Method: 6850	Prep Date: 03/15/2012 12:26
Matrix: Water	Analytical Method: 6850	Cal Date: 01/24/2012 17:25
Workgroup #: WG392280	Analyst: JWR	Run Date: 03/15/2012 14:38
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: 1LM.LM15538
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	8.87		0.200	0.100

Sample #: L12030257-04	PrePrep Method: N/A	Instrument: HP15
Client ID: 40LFMW01MSGW030612	Prep Method: 3510C	Prep Date: 03/12/2012 08:31
Matrix: Water	Analytical Method: 8081A	Cal Date: 03/01/2012 00:01
Workgroup #: WG391981	Analyst: ECL	Run Date: 03/13/2012 19:56
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: 15G30858.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.516		0.0510	0.0102
4,4'-DDE	72-55-9	0.503		0.0510	0.0102
4,4'-DDT	50-29-3	0.529		0.0510	0.0102
Aldrin	309-00-2	0.455		0.0510	0.0102
alpha Chlordane	5103-71-9	0.478		0.0510	0.0102
alpha-BHC	319-84-6	0.458		0.0510	0.0102
beta-BHC	319-85-7	0.449		0.0510	0.0102
delta-BHC	319-86-8	0.413		0.0510	0.0102
Dieldrin	60-57-1	0.489		0.0510	0.0102
Endosulfan I	959-98-8	0.382		0.0510	0.0102
Endosulfan II	33213-65-9	0.398		0.0510	0.0102
Endosulfan sulfate	1031-07-8	0.397		0.0510	0.0102
Endrin	72-20-8	0.461		0.0510	0.0102

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Endrin aldehyde	7421-93-4	0.413		0.0510	0.0102
Endrin ketone	53494-70-5	0.466		0.0510	0.0102
gamma Chlordane	5103-74-2	0.483		0.0510	0.0102
gamma-BHC (Lindane)	58-89-9	0.459		0.0510	0.0102
Heptachlor	76-44-8	0.467		0.0510	0.0102
Heptachlor epoxide	1024-57-3	0.466		0.0510	0.0102
Methoxychlor	72-43-5	0.565		0.0510	0.0102
Toxaphene	8001-35-2		U	1.02	0.306
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	73.6	25	140		
Decachlorobiphenyl	79.8	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-04	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: 40LFMW01MSGW030612	Prep Method: 3005A	Prep Date: 03/12/2012 08:57
Matrix: Water	Analytical Method: 6010B	Cal Date: 03/12/2012 09:19
Workgroup #: WG391918	Analyst: KHR	Run Date: 03/12/2012 14:47
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: T2.031212.144745
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	5.12		0.100	0.0500
Beryllium, Total	7440-41-7	0.0254		0.00200	0.00100
Calcium, Total	7440-70-2	76.5		0.200	0.100
Iron, Total	7439-89-6	2.05		0.100	0.0500
Magnesium, Total	7439-95-4	32.9		0.500	0.250
Potassium, Total	7440-09-7	25.8		1.00	0.500
Sodium, Total	7440-23-5	33.8		0.500	0.250
Vanadium, Total	7440-62-2	0.502		0.0100	0.00500
Zinc, Total	7440-66-6	0.512		0.0200	0.0100

Sample #: L12030257-04	PrePrep Method: N/A	Instrument: ELAN-ICP
Client ID: 40LFMW01MSGW030612	Prep Method: 3015	Prep Date: 03/09/2012 06:57
Matrix: Water	Analytical Method: 6020	Cal Date: 03/09/2012 09:46
Workgroup #: WG391810	Analyst: JYH	Run Date: 03/09/2012 11:37
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: EL.030912.113733
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0640		0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Arsenic, Total	7440-38-2	0.0647		0.00100	0.000500
Barium, Total	7440-39-3	0.166		0.00300	0.00150
Cadmium, Total	7440-43-9	0.0658		0.000600	0.000300
Chromium, Total	7440-47-3	0.0735		0.00200	0.00100
Cobalt, Total	7440-48-4	0.0705		0.00100	0.000500
Copper, Total	7440-50-8	0.0664		0.00200	0.00100
Lead, Total	7439-92-1	0.0674		0.00100	0.000500
Manganese, Total	7439-96-5	0.0704		0.00200	0.00100
Nickel, Total	7440-02-0	0.0724		0.00400	0.00200
Selenium, Total	7782-49-2	0.0643		0.00100	0.000500
Silver, Total	7440-22-4	0.0639		0.00100	0.000500
Thallium, Total	7440-28-0	0.0642		0.000200	0.000100

Sample #: L12030257-04	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40LFMW01MSGW030612	Prep Method: 7470A	Prep Date: 03/13/2012 14:11
Matrix: Water	Analytical Method: 7470A	Cal Date: 03/14/2012 08:36
Workgroup #: WG392134	Analyst: PDM	Run Date: 03/14/2012 08:59
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: HY.031412.085954
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00437		0.000222	0.000111

Sample #: L12030257-05	PrePrep Method: N/A	Instrument: HPMS8
Client ID: 40LFMW01MSDGW030612	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 03/06/2012 17:28
Workgroup #: WG392260	Analyst: ADC	Run Date: 03/15/2012 12:39
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: 8M377597
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6	20.6		1.00	0.250
1,1,1-Trichloroethane	71-55-6	20.3		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	21.3		1.00	0.200
1,1,2-Trichloroethane	79-00-5	19.6		1.00	0.250
1,1-Dichloroethane	75-34-3	18.8		1.00	0.125
1,1-Dichloroethene	75-35-4	18.3		1.00	0.500
1,1-Dichloropropene	563-58-6	19.3		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	19.2		1.00	0.150
1,2,3-Trichloropropane	96-18-4	18.9		1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1	19.3		1.00	0.200
1,2,4-Trimethylbenzene	95-63-6	20.1		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.7		5.00	1.00
1,2-Dibromoethane	106-93-4	19.4		1.00	0.250
1,2-Dichlorobenzene	95-50-1	20.0		1.00	0.125
1,2-Dichloroethane	107-06-2	18.2		1.00	0.250
1,2-Dichloropropane	78-87-5	18.4		1.00	0.200
1,3,5-Trimethylbenzene	108-67-8	20.8		1.00	0.250
1,3-Dichlorobenzene	541-73-1	19.8		1.00	0.250
1,3-Dichloropropane	142-28-9	18.7		1.00	0.200
1,4-Dichlorobenzene	106-46-7	19.8		1.00	0.125
2,2-Dichloropropane	594-20-7	20.0		1.00	0.250
2-Butanone	78-93-3	15.4		10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8	20.1		1.00	0.125
2-Hexanone	591-78-6	16.3		10.0	2.50
4-Chlorotoluene	106-43-4	18.9		1.00	0.250
4-Methyl-2-pentanone	108-10-1	16.1		10.0	2.50
Acetone	67-64-1	16.5		10.0	2.50
Benzene	71-43-2	19.5		1.00	0.125
Bromobenzene	108-86-1	19.9		1.00	0.125
Bromochloromethane	74-97-5	19.5		1.00	0.200
Bromodichloromethane	75-27-4	20.0		1.00	0.250
Bromoform	75-25-2	19.3		1.00	0.500
Bromomethane	74-83-9	25.2		1.00	0.500
Carbon disulfide	75-15-0	19.9		1.00	0.500
Carbon tetrachloride	56-23-5	22.1		1.00	0.250
Chlorobenzene	108-90-7	19.7		1.00	0.125
Chlorodibromomethane	124-48-1	19.1		1.00	0.250
Chloroethane	75-00-3	19.9		1.00	0.500
Chloroform	67-66-3	18.4		1.00	0.125
Chloromethane	74-87-3	21.6		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.9		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	20.1		1.00	0.250
Dibromomethane	74-95-3	18.7		1.00	0.250
Dichlorodifluoromethane	75-71-8	29.2		1.00	0.250
Ethylbenzene	100-41-4	19.7		1.00	0.250
Hexachlorobutadiene	87-68-3	19.3		1.00	0.250
Isopropylbenzene	98-82-8	17.4		1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
m-,p-Xylene	179601-23-1	39.7		1.00	0.500
Methylene chloride	75-09-2	19.0		5.00	0.250
n-Butylbenzene	104-51-8	19.9		1.00	0.250
n-Propylbenzene	103-65-1	19.9		1.00	0.125
Naphthalene	91-20-3	19.7		1.00	0.200
o-Xylene	95-47-6	19.7		1.00	0.250
p-Isopropyltoluene	99-87-6	18.9		1.00	0.250
sec-Butylbenzene	135-98-8	20.0		1.00	0.250
Styrene	100-42-5	19.8		1.00	0.125
tert-Butylbenzene	98-06-6	20.8		1.00	0.250
Tetrachloroethene	127-18-4	19.8		1.00	0.250
Toluene	108-88-3	19.6		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	18.8		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	17.9		1.00	0.500
Trichloroethene	79-01-6	19.9		1.00	0.250
Trichlorofluoromethane	75-69-4	20.4		1.00	0.250
Vinyl acetate	108-05-4	42.3		10.0	2.50
Vinyl chloride	75-01-4	21.7		1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	89.8	70	120		
4-Bromofluorobenzene	102	75	120		
Dibromofluoromethane	102	85	115		
Toluene-d8	105	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-05	PrePrep Method: N/A	Instrument: HPMS12
Client ID: 40LFMW01MSDGW030612	Prep Method: 3520C	Prep Date: 03/12/2012 08:30
Matrix: Water	Analytical Method: 8270C	Cal Date: 02/29/2012 13:55
Workgroup #: WG392169	Analyst: CAA	Run Date: 03/15/2012 12:24
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: 12M38932
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1	28.1		5.32	2.66
1,2-Dichlorobenzene	95-50-1	26.4		5.32	2.66
1,3-Dichlorobenzene	541-73-1	23.3		5.32	2.66
1,4-Dichlorobenzene	106-46-7	24.5		5.32	2.66
2,4,5-Trichlorophenol	95-95-4	42.4		5.32	2.66
2,4,6-Trichlorophenol	88-06-2	43.3		5.32	2.66
2,4-Dichlorophenol	120-83-2	41.6		5.32	2.66

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
2,4-Dimethylphenol	105-67-9	39.9		5.32	2.66
2,4-Dinitrophenol	51-28-5	51.5		26.6	13.3
2,4-Dinitrotoluene	121-14-2	45.9		5.32	2.66
2,6-Dinitrotoluene	606-20-2	42.7		5.32	2.66
2-Chloronaphthalene	91-58-7	37.7		5.32	2.66
2-Chlorophenol	95-57-8	37.1		5.32	2.66
2-Methylnaphthalene	91-57-6	35.9		5.32	2.66
2-Methylphenol	95-48-7	41.5		5.32	2.66
2-Nitroaniline	88-74-4	44.2		26.6	13.3
2-Nitrophenol	88-75-5	41.0		5.32	2.66
3,3'-Dichlorobenzidine	91-94-1	43.0		10.6	2.66
3-,4-Methylphenol	106-44-5	41.6		5.32	2.66
3-Nitroaniline	99-09-2	45.8		26.6	13.3
4,6-Dinitro-2-methylphenol	534-52-1	50.5		26.6	13.3
4-Bromophenyl-phenylether	101-55-3	42.4		5.32	2.66
4-Chloro-3-methylphenol	59-50-7	44.5		5.32	2.66
4-Chloroaniline	106-47-8	32.8		5.32	2.66
4-Chlorophenyl-phenyl ether	7005-72-3	40.0		5.32	2.66
4-Nitroaniline	100-01-6	45.2		26.6	13.3
4-Nitrophenol	100-02-7	47.5		26.6	13.3
Acenaphthene	83-32-9	41.5		5.32	2.66
Acenaphthylene	208-96-8	37.7		5.32	2.66
Anthracene	120-12-7	44.2		5.32	2.66
Benzo(a)anthracene	56-55-3	50.2		5.32	2.66
Benzo(a)pyrene	50-32-8	49.0		5.32	2.66
Benzo(b)fluoranthene	205-99-2	48.3		5.32	2.66
Benzo(g,h,i)Perylene	191-24-2	49.7		5.32	2.66
Benzo(k)fluoranthene	207-08-9	52.5		5.32	2.66
Benzoic acid	65-85-0	22.1	J	26.6	13.3
Benzyl alcohol	100-51-6	41.7		5.32	2.66
Bis(2-Chloroethoxy)Methane	111-91-1	29.0		5.32	2.66
Bis(2-Chloroethyl)ether	111-44-4	38.6		5.32	2.66
bis(2-Chloroisopropyl)ether	108-60-1	46.1		5.32	2.66
bis(2-Ethylhexyl)phthalate	117-81-7	50.7		10.6	3.19
Butylbenzylphthalate	85-68-7	49.1		5.32	2.66
Chrysene	218-01-9	51.9		5.32	2.66
Di-N-Butylphthalate	84-74-2	45.3		5.32	2.66
Di-n-octylphthalate	117-84-0	52.0		5.32	2.66
Dibenzo(a,h)Anthracene	53-70-3	49.9		5.32	2.66

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Dibenzofuran	132-64-9	40.9		5.32	2.66
Diethylphthalate	84-66-2	43.7		5.32	2.66
Dimethylphthalate	131-11-3	40.9		5.32	2.66
Fluoranthene	206-44-0	47.4		5.32	2.66
Fluorene	86-73-7	41.2		5.32	2.66
Hexachlorobenzene	118-74-1	44.5		5.32	2.66
Hexachlorobutadiene	87-68-3	28.4		5.32	2.66
Hexachlorocyclopentadiene	77-47-4	21.1		5.32	2.66
Hexachloroethane	67-72-1	21.1		5.32	2.66
Indeno(1,2,3-cd)pyrene	193-39-5	49.8		5.32	2.66
Isophorone	78-59-1	42.0		5.32	2.66
N-Nitrosodiphenylamine	86-30-6	42.5		5.32	2.66
N-Nitrosodipropylamine	621-64-7	41.5		5.32	2.66
Naphthalene	91-20-3	37.9		5.32	2.66
Nitrobenzene	98-95-3	39.0		5.32	2.66
Pentachlorophenol	87-86-5	49.0		26.6	13.3
Phenanthrene	85-01-8	45.2		5.32	2.66
Phenol	108-95-2	40.3		5.32	2.66
Pyrene	129-00-0	47.8		5.32	2.66
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	77.6	40	125		
2-Fluorobiphenyl	61.3	50	110		
2-Fluorophenol	61.1	20	110		
Nitrobenzene-d5	59.2	40	110		
p-Terphenyl-d14	80.3	50	135		
Phenol-d5	66.9	10	115		
J	Estimated value ; the analyte concentration was less than the LOQ.				

Sample #: L12030257-05

PrePrep Method: N/A

Instrument: HPMS7

Client ID: 40LFMW01MSDGW030612

Prep Method: 3510C

Prep Date: 03/12/2012 10:45

Matrix: Water

Analytical Method: 8270C

Cal Date: 03/13/2012 10:25

Workgroup #: WG391960

Analyst: CAA

Run Date: 03/13/2012 13:56

Collect Date: 03/06/2012 16:06

Dilution: 1

File ID: 7M54461

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	0.565		0.0515	0.0258
Acenaphthylene	208-96-8	0.585		0.0515	0.0258
Acenaphthene	83-32-9	0.594		0.0515	0.0258
Fluorene	86-73-7	0.611		0.0515	0.0258

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Phenanthrene	85-01-8	0.714		0.0515	0.0258
Anthracene	120-12-7	0.683		0.0515	0.0258
Fluoranthene	206-44-0	0.667		0.0515	0.0258
Pyrene	129-00-0	0.798		0.0515	0.0258
Benzo(a)anthracene	56-55-3	0.695		0.0515	0.0258
Chrysene	218-01-9	0.704		0.0515	0.0258
Benzo(b)fluoranthene	205-99-2	0.692		0.0515	0.0258
Benzo(k)fluoranthene	207-08-9	0.671		0.0515	0.0258
Benzo(a)pyrene	50-32-8	0.738		0.0515	0.0258
Indeno(1,2,3-cd)pyrene	193-39-5	0.740		0.0515	0.0258
Dibenzo(a,h)anthracene	53-70-3	0.755		0.0515	0.0258
Benzo(g,h,i)perylene	191-24-2	0.739		0.0515	0.0258
1-Methylnaphthalene	90-12-0	0.542		0.0515	0.0258
2-Methylnaphthalene	91-57-6	0.607		0.0515	0.0258
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	57.9	35	114		
2-Fluorobiphenyl	55.4	50	110		
p-Terphenyl-d14	78.5	33	141		

Sample #: L12030257-05

PrePrep Method: N/A

Instrument: LCMS1

Client ID: 40LFMW01MSDGW030612

Prep Method: 6850

Prep Date: 03/15/2012 12:26

Matrix: Water

Analytical Method: 6850

Cal Date: 01/24/2012 17:25

Workgroup #: WG392280

Analyst: JWR

Run Date: 03/15/2012 14:57

Collect Date: 03/06/2012 16:06

Dilution: 1

File ID: 1LM.LM15539

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	8.75		0.200	0.100

Sample #: L12030257-05

PrePrep Method: N/A

Instrument: HP15

Client ID: 40LFMW01MSDGW030612

Prep Method: 3510C

Prep Date: 03/12/2012 08:31

Matrix: Water

Analytical Method: 8081A

Cal Date: 03/01/2012 00:01

Workgroup #: WG391981

Analyst: ECL

Run Date: 03/13/2012 20:24

Collect Date: 03/06/2012 16:06

Dilution: 1

File ID: 15G30859.R

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.546		0.0521	0.0104
4,4'-DDE	72-55-9	0.537		0.0521	0.0104
4,4'-DDT	50-29-3	0.568		0.0521	0.0104

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Aldrin	309-00-2	0.454		0.0521	0.0104
alpha Chlordane	5103-71-9	0.501		0.0521	0.0104
alpha-BHC	319-84-6	0.439		0.0521	0.0104
beta-BHC	319-85-7	0.462		0.0521	0.0104
delta-BHC	319-86-8	0.430		0.0521	0.0104
Dieldrin	60-57-1	0.509		0.0521	0.0104
Endosulfan I	959-98-8	0.393		0.0521	0.0104
Endosulfan II	33213-65-9	0.424		0.0521	0.0104
Endosulfan sulfate	1031-07-8	0.427		0.0521	0.0104
Endrin	72-20-8	0.479		0.0521	0.0104
Endrin aldehyde	7421-93-4	0.436		0.0521	0.0104
Endrin ketone	53494-70-5	0.503		0.0521	0.0104
gamma Chlordane	5103-74-2	0.499		0.0521	0.0104
gamma-BHC (Lindane)	58-89-9	0.446		0.0521	0.0104
Heptachlor	76-44-8	0.458		0.0521	0.0104
Heptachlor epoxide	1024-57-3	0.481		0.0521	0.0104
Methoxychlor	72-43-5	0.633		0.0521	0.0104
Toxaphene	8001-35-2		U	1.04	0.313
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	66.7	25	140		
Decachlorobiphenyl	106	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-05	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: 40LFMW01MSDGW030612	Prep Method: 3005A	Prep Date: 03/12/2012 08:58
Matrix: Water	Analytical Method: 6010B	Cal Date: 03/12/2012 09:19
Workgroup #: WG391918	Analyst: KHR	Run Date: 03/12/2012 14:50
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: T2.031212.145057
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	5.03		0.100	0.0500
Beryllium, Total	7440-41-7	0.0253		0.00200	0.00100
Calcium, Total	7440-70-2	76.0		0.200	0.100
Iron, Total	7439-89-6	2.04		0.100	0.0500
Magnesium, Total	7439-95-4	32.8		0.500	0.250
Potassium, Total	7440-09-7	25.6		1.00	0.500
Sodium, Total	7440-23-5	33.6		0.500	0.250
Vanadium, Total	7440-62-2	0.501		0.0100	0.00500
Zinc, Total	7440-66-6	0.508		0.0200	0.0100

Certificate of Analysis

Sample #: L12030257-05	PrePrep Method: N/A	Instrument: ELAN-ICP
Client ID: 40LFMW01MSDGW030612	Prep Method: 3015	Prep Date: 03/09/2012 06:57
Matrix: Water	Analytical Method: 6020	Cal Date: 03/09/2012 09:46
Workgroup #: WG391810	Analyst: JYH	Run Date: 03/09/2012 11:44
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: EL.030912.114420
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0691		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0680		0.00100	0.000500
Barium, Total	7440-39-3	0.166		0.00300	0.00150
Cadmium, Total	7440-43-9	0.0677		0.000600	0.000300
Chromium, Total	7440-47-3	0.0721		0.00200	0.00100
Cobalt, Total	7440-48-4	0.0679		0.00100	0.000500
Copper, Total	7440-50-8	0.0674		0.00200	0.00100
Lead, Total	7439-92-1	0.0681		0.00100	0.000500
Manganese, Total	7439-96-5	0.0710		0.00200	0.00100
Nickel, Total	7440-02-0	0.0711		0.00400	0.00200
Selenium, Total	7782-49-2	0.0665		0.00100	0.000500
Silver, Total	7440-22-4	0.0673		0.00100	0.000500
Thallium, Total	7440-28-0	0.0661		0.000200	0.000100

Sample #: L12030257-05	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40LFMW01MSDGW030612	Prep Method: 7470A	Prep Date: 03/13/2012 14:12
Matrix: Water	Analytical Method: 7470A	Cal Date: 03/14/2012 08:36
Workgroup #: WG392134	Analyst: PDM	Run Date: 03/14/2012 09:01
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: HY.031412.090137
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00434		0.000222	0.000111

Sample #: L12030257-06	PrePrep Method: N/A	Instrument: HPMS8
Client ID: 40DUPGW030612	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 03/06/2012 17:28
Workgroup #: WG392260	Analyst: ADC	Run Date: 03/15/2012 20:40
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: 8M377613
Sample Tag: 01	Units: ug/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	96.9	70	120		
4-Bromofluorobenzene	100	75	120		
Dibromofluoromethane	107	85	115		
Toluene-d8	104	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-06

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40DUPGW030612

Prep Method: 3520C

Prep Date: 03/12/2012 08:30

Matrix: Water

Analytical Method: 8270C

Cal Date: 02/29/2012 13:55

Workgroup #: WG392169

Analyst: CAA

Run Date: 03/15/2012 12:57

Collect Date: 03/06/2012 16:06

Dilution: 1

File ID: 12M38933

Sample Tag: 01

Units: ug/L

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.26	2.63
1,2-Dichlorobenzene	95-50-1		U	5.26	2.63
1,3-Dichlorobenzene	541-73-1		U	5.26	2.63
1,4-Dichlorobenzene	106-46-7		U	5.26	2.63
2,4,5-Trichlorophenol	95-95-4		U	5.26	2.63
2,4,6-Trichlorophenol	88-06-2		U	5.26	2.63
2,4-Dichlorophenol	120-83-2		U	5.26	2.63
2,4-Dimethylphenol	105-67-9		U	5.26	2.63
2,4-Dinitrophenol	51-28-5		U	26.3	13.2
2,4-Dinitrotoluene	121-14-2		U	5.26	2.63
2,6-Dinitrotoluene	606-20-2		U	5.26	2.63
2-Chloronaphthalene	91-58-7		U	5.26	2.63
2-Chlorophenol	95-57-8		U	5.26	2.63
2-Methylnaphthalene	91-57-6		U	5.26	2.63
2-Methylphenol	95-48-7		U	5.26	2.63
2-Nitroaniline	88-74-4		U	26.3	13.2
2-Nitrophenol	88-75-5		U	5.26	2.63
3,3'-Dichlorobenzidine	91-94-1		U	10.5	2.63
3-,4-Methylphenol	106-44-5		U	5.26	2.63
3-Nitroaniline	99-09-2		U	26.3	13.2
4,6-Dinitro-2-methylphenol	534-52-1		U	26.3	13.2
4-Bromophenyl-phenylether	101-55-3		U	5.26	2.63
4-Chloro-3-methylphenol	59-50-7		U	5.26	2.63
4-Chloroaniline	106-47-8		U	5.26	2.63
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.26	2.63
4-Nitroaniline	100-01-6		U	26.3	13.2
4-Nitrophenol	100-02-7		U	26.3	13.2
Acenaphthene	83-32-9		U	5.26	2.63
Acenaphthylene	208-96-8		U	5.26	2.63
Anthracene	120-12-7		U	5.26	2.63
Benzo(a)anthracene	56-55-3		U	5.26	2.63
Benzo(a)pyrene	50-32-8		U	5.26	2.63
Benzo(b)fluoranthene	205-99-2		U	5.26	2.63
Benzo(g,h,i)Perylene	191-24-2		U	5.26	2.63
Benzo(k)fluoranthene	207-08-9		U	5.26	2.63
Benzoic acid	65-85-0		U	26.3	13.2
Benzyl alcohol	100-51-6		U	5.26	2.63
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.26	2.63
Bis(2-Chloroethyl)ether	111-44-4		U	5.26	2.63

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
bis(2-Chloroisopropyl)ether	108-60-1		U	5.26	2.63
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.5	3.16
Butylbenzylphthalate	85-68-7		U	5.26	2.63
Chrysene	218-01-9		U	5.26	2.63
Di-N-Butylphthalate	84-74-2		U	5.26	2.63
Di-n-octylphthalate	117-84-0		U	5.26	2.63
Dibenzo(a,h)Anthracene	53-70-3		U	5.26	2.63
Dibenzofuran	132-64-9		U	5.26	2.63
Diethylphthalate	84-66-2		U	5.26	2.63
Dimethylphthalate	131-11-3		U	5.26	2.63
Fluoranthene	206-44-0		U	5.26	2.63
Fluorene	86-73-7		U	5.26	2.63
Hexachlorobenzene	118-74-1		U	5.26	2.63
Hexachlorobutadiene	87-68-3		U	5.26	2.63
Hexachlorocyclopentadiene	77-47-4		U	5.26	2.63
Hexachloroethane	67-72-1		U	5.26	2.63
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.26	2.63
Isophorone	78-59-1		U	5.26	2.63
N-Nitrosodiphenylamine	86-30-6		U	5.26	2.63
N-Nitrosodipropylamine	621-64-7		U	5.26	2.63
Naphthalene	91-20-3		U	5.26	2.63
Nitrobenzene	98-95-3		U	5.26	2.63
Pentachlorophenol	87-86-5		U	26.3	13.2
Phenanthrene	85-01-8		U	5.26	2.63
Phenol	108-95-2		U	5.26	2.63
Pyrene	129-00-0		U	5.26	2.63
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	68.7	40	125		
2-Fluorobiphenyl	57.4	50	110		
2-Fluorophenol	61.9	20	110		
Nitrobenzene-d5	58.5	40	110		
p-Terphenyl-d14	79.2	50	135		
Phenol-d5	64.9	10	115		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12030257-06	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40DUPGW030612	Prep Method: 3510C	Prep Date: 03/12/2012 10:45
Matrix: Water	Analytical Method: 8270C	Cal Date: 03/13/2012 10:25
Workgroup #: WG391960	Analyst: CAA	Run Date: 03/13/2012 14:23
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: 7M54462
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0521	0.0260
Acenaphthylene	208-96-8		U	0.0521	0.0260
Acenaphthene	83-32-9		U	0.0521	0.0260
Fluorene	86-73-7		U	0.0521	0.0260
Phenanthrene	85-01-8		U	0.0521	0.0260
Anthracene	120-12-7		U	0.0521	0.0260
Fluoranthene	206-44-0		U	0.0521	0.0260
Pyrene	129-00-0		U	0.0521	0.0260
Benzo(a)anthracene	56-55-3		U	0.0521	0.0260
Chrysene	218-01-9		U	0.0521	0.0260
Benzo(b)fluoranthene	205-99-2		U	0.0521	0.0260
Benzo(k)fluoranthene	207-08-9		U	0.0521	0.0260
Benzo(a)pyrene	50-32-8		U	0.0521	0.0260
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0521	0.0260
Dibenzo(a,h)anthracene	53-70-3		U	0.0521	0.0260
Benzo(g,h,i)perylene	191-24-2		U	0.0521	0.0260
1-Methylnaphthalene	90-12-0		U	0.0521	0.0260
2-Methylnaphthalene	91-57-6		U	0.0521	0.0260
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	71.4	35	114		
2-Fluorobiphenyl	57.6	50	110		
p-Terphenyl-d14	90.9	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-06	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40DUPGW030612	Prep Method: 6850	Prep Date: 03/15/2012 12:26
Matrix: Water	Analytical Method: 6850	Cal Date: 01/24/2012 17:25
Workgroup #: WG392280	Analyst: JWR	Run Date: 03/15/2012 15:16
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: 1LM.LM15540
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	8.93		0.200	0.100

Certificate of Analysis

Sample #: L12030257-06	PrePrep Method: N/A	Instrument: HP15
Client ID: 40DUPGW030612	Prep Method: 3510C	Prep Date: 03/12/2012 08:31
Matrix: Water	Analytical Method: 8081A	Cal Date: 03/01/2012 00:01
Workgroup #: WG391981	Analyst: ECL	Run Date: 03/13/2012 20:53
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: 15G30860.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0500	0.0100
4,4'-DDE	72-55-9		U	0.0500	0.0100
4,4'-DDT	50-29-3		U	0.0500	0.0100
Aldrin	309-00-2		U	0.0500	0.0100
alpha Chlordane	5103-71-9		U	0.0500	0.0100
alpha-BHC	319-84-6		U	0.0500	0.0100
beta-BHC	319-85-7		U	0.0500	0.0100
delta-BHC	319-86-8		U	0.0500	0.0100
Dieldrin	60-57-1		U	0.0500	0.0100
Endosulfan I	959-98-8		U	0.0500	0.0100
Endosulfan II	33213-65-9		U	0.0500	0.0100
Endosulfan sulfate	1031-07-8		U	0.0500	0.0100
Endrin	72-20-8		U	0.0500	0.0100
Endrin aldehyde	7421-93-4		U	0.0500	0.0100
Endrin ketone	53494-70-5		U	0.0500	0.0100
gamma Chlordane	5103-74-2		U	0.0500	0.0100
gamma-BHC (Lindane)	58-89-9		U	0.0500	0.0100
Heptachlor	76-44-8		U	0.0500	0.0100
Heptachlor epoxide	1024-57-3		U	0.0500	0.0100
Methoxychlor	72-43-5		U	0.0500	0.0100
Toxaphene	8001-35-2		U	1.00	0.300
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	78.1	25	140		
Decachlorobiphenyl	97.4	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12030257-06	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: 40DUPGW030612	Prep Method: 3005A	Prep Date: 03/12/2012 08:58
Matrix: Water	Analytical Method: 6010B	Cal Date: 03/12/2012 09:19
Workgroup #: WG391918	Analyst: KHR	Run Date: 03/12/2012 14:54
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: T2.031212.145408
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.112		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	71.3		0.200	0.100
Iron, Total	7439-89-6	0.0875	J	0.100	0.0500
Magnesium, Total	7439-95-4	27.8		0.500	0.250
Potassium, Total	7440-09-7	0.943	J	1.00	0.500
Sodium, Total	7440-23-5	7.86		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-06	PrePrep Method: N/A	Instrument: ELAN-ICP
Client ID: 40DUPGW030612	Prep Method: 3015	Prep Date: 03/09/2012 06:57
Matrix: Water	Analytical Method: 6020	Cal Date: 03/09/2012 09:46
Workgroup #: WG391810	Analyst: JYH	Run Date: 03/09/2012 15:45
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: EL.030912.154543
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0947		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00328		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00125	J	0.00200	0.00100
Nickel, Total	7440-02-0	0.00421		0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

Certificate of Analysis

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Sample #: L12030257-06	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40DUPGW030612	Prep Method: 7470A	Prep Date: 03/13/2012 14:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 03/14/2012 08:36
Workgroup #: WG392134	Analyst: PDM	Run Date: 03/14/2012 09:03
Collect Date: 03/06/2012 16:06	Dilution: 1	File ID: HY.031412.090321
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-07	PrePrep Method: N/A	Instrument: HPMS6
Client ID: 40FB030612	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 02/13/2012 18:44
Workgroup #: WG392404	Analyst: ADC	Run Date: 03/16/2012 14:30
Collect Date: 03/06/2012 17:00	Dilution: 1	File ID: 6M106525
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	82.5	70	120		
4-Bromofluorobenzene	93.3	75	120		
Dibromofluoromethane	88.2	85	115		
Toluene-d8	96.4	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-07

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40FB030612

Prep Method: 3520C

Prep Date: 03/12/2012 08:30

Matrix: Water

Analytical Method: 8270C

Cal Date: 02/29/2012 13:55

Workgroup #: WG392169

Analyst: CAA

Run Date: 03/15/2012 13:31

Collect Date: 03/06/2012 17:00

Dilution: 1

File ID: 12M38934

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.38	2.69
1,2-Dichlorobenzene	95-50-1		U	5.38	2.69
1,3-Dichlorobenzene	541-73-1		U	5.38	2.69
1,4-Dichlorobenzene	106-46-7		U	5.38	2.69
2,4,5-Trichlorophenol	95-95-4		U	5.38	2.69
2,4,6-Trichlorophenol	88-06-2		U	5.38	2.69
2,4-Dichlorophenol	120-83-2		U	5.38	2.69
2,4-Dimethylphenol	105-67-9		U	5.38	2.69
2,4-Dinitrophenol	51-28-5		U	26.9	13.4
2,4-Dinitrotoluene	121-14-2		U	5.38	2.69
2,6-Dinitrotoluene	606-20-2		U	5.38	2.69
2-Chloronaphthalene	91-58-7		U	5.38	2.69
2-Chlorophenol	95-57-8		U	5.38	2.69
2-Methylnaphthalene	91-57-6		U	5.38	2.69
2-Methylphenol	95-48-7		U	5.38	2.69
2-Nitroaniline	88-74-4		U	26.9	13.4
2-Nitrophenol	88-75-5		U	5.38	2.69

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
3,3'-Dichlorobenzidine	91-94-1		U	10.8	2.69
3-,4-Methylphenol	106-44-5		U	5.38	2.69
3-Nitroaniline	99-09-2		U	26.9	13.4
4,6-Dinitro-2-methylphenol	534-52-1		U	26.9	13.4
4-Bromophenyl-phenylether	101-55-3		U	5.38	2.69
4-Chloro-3-methylphenol	59-50-7		U	5.38	2.69
4-Chloroaniline	106-47-8		U	5.38	2.69
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.38	2.69
4-Nitroaniline	100-01-6		U	26.9	13.4
4-Nitrophenol	100-02-7		U	26.9	13.4
Acenaphthene	83-32-9		U	5.38	2.69
Acenaphthylene	208-96-8		U	5.38	2.69
Anthracene	120-12-7		U	5.38	2.69
Benzo(a)anthracene	56-55-3		U	5.38	2.69
Benzo(a)pyrene	50-32-8		U	5.38	2.69
Benzo(b)fluoranthene	205-99-2		U	5.38	2.69
Benzo(g,h,i)Perylene	191-24-2		U	5.38	2.69
Benzo(k)fluoranthene	207-08-9		U	5.38	2.69
Benzoic acid	65-85-0		U	26.9	13.4
Benzyl alcohol	100-51-6		U	5.38	2.69
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.38	2.69
Bis(2-Chloroethyl)ether	111-44-4		U	5.38	2.69
bis(2-Chloroisopropyl)ether	108-60-1		U	5.38	2.69
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.8	3.23
Butylbenzylphthalate	85-68-7		U	5.38	2.69
Chrysene	218-01-9		U	5.38	2.69
Di-N-Butylphthalate	84-74-2		U	5.38	2.69
Di-n-octylphthalate	117-84-0		U	5.38	2.69
Dibenzo(a,h)Anthracene	53-70-3		U	5.38	2.69
Dibenzofuran	132-64-9		U	5.38	2.69
Diethylphthalate	84-66-2		U	5.38	2.69
Dimethylphthalate	131-11-3		U	5.38	2.69
Fluoranthene	206-44-0		U	5.38	2.69
Fluorene	86-73-7		U	5.38	2.69
Hexachlorobenzene	118-74-1		U	5.38	2.69
Hexachlorobutadiene	87-68-3		U	5.38	2.69
Hexachlorocyclopentadiene	77-47-4		U	5.38	2.69
Hexachloroethane	67-72-1		U	5.38	2.69
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.38	2.69

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Isophorone	78-59-1		U	5.38	2.69
N-Nitrosodiphenylamine	86-30-6		U	5.38	2.69
N-Nitrosodipropylamine	621-64-7		U	5.38	2.69
Naphthalene	91-20-3		U	5.38	2.69
Nitrobenzene	98-95-3		U	5.38	2.69
Pentachlorophenol	87-86-5		U	26.9	13.4
Phenanthrene	85-01-8		U	5.38	2.69
Phenol	108-95-2		U	5.38	2.69
Pyrene	129-00-0		U	5.38	2.69
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	68.2	40	125		
2-Fluorobiphenyl	60.0	50	110		
2-Fluorophenol	61.5	20	110		
Nitrobenzene-d5	61.0	40	110		
p-Terphenyl-d14	83.6	50	135		
Phenol-d5	64.4	10	115		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-07

PrePrep Method: N/A

Instrument: HPMS7

Client ID: 40FB030612

Prep Method: 3510C

Prep Date: 03/12/2012 10:45

Matrix: Water

Analytical Method: 8270C

Cal Date: 03/13/2012 10:25

Workgroup #: WG391960

Analyst: CAA

Run Date: 03/13/2012 14:50

Collect Date: 03/06/2012 17:00

Dilution: 1

File ID: 7M54463

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0532	0.0266
Acenaphthylene	208-96-8		U	0.0532	0.0266
Acenaphthene	83-32-9		U	0.0532	0.0266
Fluorene	86-73-7		U	0.0532	0.0266
Phenanthrene	85-01-8		U	0.0532	0.0266
Anthracene	120-12-7		U	0.0532	0.0266
Fluoranthene	206-44-0		U	0.0532	0.0266
Pyrene	129-00-0		U	0.0532	0.0266
Benzo(a)anthracene	56-55-3		U	0.0532	0.0266
Chrysene	218-01-9		U	0.0532	0.0266
Benzo(b)fluoranthene	205-99-2		U	0.0532	0.0266
Benzo(k)fluoranthene	207-08-9		U	0.0532	0.0266
Benzo(a)pyrene	50-32-8		U	0.0532	0.0266
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0532	0.0266

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Dibenzo(a,h)anthracene	53-70-3		U	0.0532	0.0266
Benzo(g,h,i)perylene	191-24-2		U	0.0532	0.0266
1-Methylnaphthalene	90-12-0		U	0.0532	0.0266
2-Methylnaphthalene	91-57-6		U	0.0532	0.0266
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	74.2	35	114		
2-Fluorobiphenyl	63.1	50	110		
p-Terphenyl-d14	84.5	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-07

PrePrep Method: N/A

Instrument: LCMS1

Client ID: 40FB030612

Prep Method: 6850

Prep Date: 03/15/2012 12:26

Matrix: Water

Analytical Method: 6850

Cal Date: 01/24/2012 17:25

Workgroup #: WG392280

Analyst: JWR

Run Date: 03/15/2012 15:35

Collect Date: 03/06/2012 17:00

Dilution: 1

File ID: 1LM.LM15541

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-07

PrePrep Method: N/A

Instrument: HP15

Client ID: 40FB030612

Prep Method: 3510C

Prep Date: 03/12/2012 08:31

Matrix: Water

Analytical Method: 8081A

Cal Date: 03/01/2012 00:01

Workgroup #: WG391981

Analyst: ECL

Run Date: 03/13/2012 21:21

Collect Date: 03/06/2012 17:00

Dilution: 1

File ID: 15G30861.R

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0532	0.0106
4,4'-DDE	72-55-9		U	0.0532	0.0106
4,4'-DDT	50-29-3		U	0.0532	0.0106
Aldrin	309-00-2		U	0.0532	0.0106
alpha Chlordane	5103-71-9		U	0.0532	0.0106
alpha-BHC	319-84-6		U	0.0532	0.0106
beta-BHC	319-85-7		U	0.0532	0.0106
delta-BHC	319-86-8		U	0.0532	0.0106
Dieldrin	60-57-1		U	0.0532	0.0106
Endosulfan I	959-98-8		U	0.0532	0.0106
Endosulfan II	33213-65-9		U	0.0532	0.0106

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Endosulfan sulfate	1031-07-8		U	0.0532	0.0106
Endrin	72-20-8		U	0.0532	0.0106
Endrin aldehyde	7421-93-4		U	0.0532	0.0106
Endrin ketone	53494-70-5		U	0.0532	0.0106
gamma Chlordane	5103-74-2		U	0.0532	0.0106
gamma-BHC (Lindane)	58-89-9		U	0.0532	0.0106
Heptachlor	76-44-8		U	0.0532	0.0106
Heptachlor epoxide	1024-57-3		U	0.0532	0.0106
Methoxychlor	72-43-5		U	0.0532	0.0106
Toxaphene	8001-35-2		U	1.06	0.319
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	66.9	25	140		
Decachlorobiphenyl	78.6	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-07

PrePrep Method: N/A

Instrument: ICP-THERMO2

Client ID: 40FB030612

Prep Method: 3005A

Prep Date: 03/12/2012 08:58

Matrix: Water

Analytical Method: 6010B

Cal Date: 03/12/2012 09:19

Workgroup #: WG391918

Analyst: KHR

Run Date: 03/12/2012 14:57

Collect Date: 03/06/2012 17:00

Dilution: 1

File ID: T2.031212.145729

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2		U	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12030257-07	PrePrep Method: N/A	Instrument: ELAN-ICP
Client ID: 40FB030612	Prep Method: 3015	Prep Date: 03/09/2012 06:57
Matrix: Water	Analytical Method: 6020	Cal Date: 03/09/2012 09:46
Workgroup #: WG391810	Analyst: JYH	Run Date: 03/09/2012 15:53
Collect Date: 03/06/2012 17:00	Dilution: 1	File ID: EL.030912.155303
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3		U	0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00109	J	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5		U	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-07	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40FB030612	Prep Method: 7470A	Prep Date: 03/13/2012 14:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 03/14/2012 08:36
Workgroup #: WG392134	Analyst: PDM	Run Date: 03/14/2012 09:08
Collect Date: 03/06/2012 17:00	Dilution: 1	File ID: HY.031412.090850
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12030257-08	PrePrep Method: N/A	Instrument: HPMS6
Client ID: 40EQR030612	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 02/13/2012 18:44
Workgroup #: WG392404	Analyst: ADC	Run Date: 03/16/2012 18:51
Collect Date: 03/06/2012 17:30	Dilution: 1	File ID: 6M106533
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.257	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2	0.294	J	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.523	J	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	85.4	70	120		
4-Bromofluorobenzene	93.0	75	120		
Dibromofluoromethane	91.2	85	115		
Toluene-d8	96.1	85	120		
J	Estimated value ; the analyte concentration was less than the LOQ.				

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Sample #: L12030257-08	PrePrep Method: N/A	Instrument: HPMS12
Client ID: 40EQR030612	Prep Method: 3520C	Prep Date: 03/12/2012 08:30
Matrix: Water	Analytical Method: 8270C	Cal Date: 02/29/2012 13:55
Workgroup #: WG392169	Analyst: CAA	Run Date: 03/15/2012 14:04
Collect Date: 03/06/2012 17:30	Dilution: 1	File ID: 12M38935
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.49	2.75
1,2-Dichlorobenzene	95-50-1		U	5.49	2.75
1,3-Dichlorobenzene	541-73-1		U	5.49	2.75
1,4-Dichlorobenzene	106-46-7		U	5.49	2.75
2,4,5-Trichlorophenol	95-95-4		U	5.49	2.75
2,4,6-Trichlorophenol	88-06-2		U	5.49	2.75
2,4-Dichlorophenol	120-83-2		U	5.49	2.75
2,4-Dimethylphenol	105-67-9		U	5.49	2.75
2,4-Dinitrophenol	51-28-5		U	27.5	13.7
2,4-Dinitrotoluene	121-14-2		U	5.49	2.75
2,6-Dinitrotoluene	606-20-2		U	5.49	2.75
2-Chloronaphthalene	91-58-7		U	5.49	2.75
2-Chlorophenol	95-57-8		U	5.49	2.75
2-Methylnaphthalene	91-57-6		U	5.49	2.75
2-Methylphenol	95-48-7		U	5.49	2.75
2-Nitroaniline	88-74-4		U	27.5	13.7
2-Nitrophenol	88-75-5		U	5.49	2.75
3,3'-Dichlorobenzidine	91-94-1		U	11.0	2.75
3-,4-Methylphenol	106-44-5		U	5.49	2.75
3-Nitroaniline	99-09-2		U	27.5	13.7
4,6-Dinitro-2-methylphenol	534-52-1		U	27.5	13.7
4-Bromophenyl-phenylether	101-55-3		U	5.49	2.75
4-Chloro-3-methylphenol	59-50-7		U	5.49	2.75
4-Chloroaniline	106-47-8		U	5.49	2.75
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.49	2.75
4-Nitroaniline	100-01-6		U	27.5	13.7
4-Nitrophenol	100-02-7		U	27.5	13.7
Acenaphthene	83-32-9		U	5.49	2.75
Acenaphthylene	208-96-8		U	5.49	2.75
Anthracene	120-12-7		U	5.49	2.75
Benzo(a)anthracene	56-55-3		U	5.49	2.75

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(a)pyrene	50-32-8		U	5.49	2.75
Benzo(b)fluoranthene	205-99-2		U	5.49	2.75
Benzo(g,h,i)Perylene	191-24-2		U	5.49	2.75
Benzo(k)fluoranthene	207-08-9		U	5.49	2.75
Benzoic acid	65-85-0		U	27.5	13.7
Benzyl alcohol	100-51-6		U	5.49	2.75
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.49	2.75
Bis(2-Chloroethyl)ether	111-44-4		U	5.49	2.75
bis(2-Chloroisopropyl)ether	108-60-1		U	5.49	2.75
bis(2-Ethylhexyl)phthalate	117-81-7		U	11.0	3.30
Butylbenzylphthalate	85-68-7		U	5.49	2.75
Chrysene	218-01-9		U	5.49	2.75
Di-N-Butylphthalate	84-74-2		U	5.49	2.75
Di-n-octylphthalate	117-84-0		U	5.49	2.75
Dibenzo(a,h)Anthracene	53-70-3		U	5.49	2.75
Dibenzofuran	132-64-9		U	5.49	2.75
Diethylphthalate	84-66-2		U	5.49	2.75
Dimethylphthalate	131-11-3		U	5.49	2.75
Fluoranthene	206-44-0		U	5.49	2.75
Fluorene	86-73-7		U	5.49	2.75
Hexachlorobenzene	118-74-1		U	5.49	2.75
Hexachlorobutadiene	87-68-3		U	5.49	2.75
Hexachlorocyclopentadiene	77-47-4		U	5.49	2.75
Hexachloroethane	67-72-1		U	5.49	2.75
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.49	2.75
Isophorone	78-59-1		U	5.49	2.75
N-Nitrosodiphenylamine	86-30-6		U	5.49	2.75
N-Nitrosodipropylamine	621-64-7		U	5.49	2.75
Naphthalene	91-20-3		U	5.49	2.75
Nitrobenzene	98-95-3		U	5.49	2.75
Pentachlorophenol	87-86-5		U	27.5	13.7
Phenanthrene	85-01-8		U	5.49	2.75
Phenol	108-95-2		U	5.49	2.75
Pyrene	129-00-0		U	5.49	2.75
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	70.0	40	125		
2-Fluorobiphenyl	56.6	50	110		
2-Fluorophenol	57.4	20	110		
Nitrobenzene-d5	54.2	40	110		

Certificate of Analysis

p-Terphenyl-d14	85.0	50	135	
Phenol-d5	61.0	10	115	

U	Analyte was not detected. The concentration is below the reported LOD.
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Sample #: L12030257-08

PrePrep Method: N/A

Instrument: HPMS7

Client ID: 40EQR030612

Prep Method: 3510C

Prep Date: 03/12/2012 10:45

Matrix: Water

Analytical Method: 8270C

Cal Date: 03/13/2012 10:25

Workgroup #: WG391960

Analyst: CAA

Run Date: 03/13/2012 15:16

Collect Date: 03/06/2012 17:30

Dilution: 1

File ID: 7M54464

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0543	0.0272
Acenaphthylene	208-96-8		U	0.0543	0.0272
Acenaphthene	83-32-9		U	0.0543	0.0272
Fluorene	86-73-7		U	0.0543	0.0272
Phenanthrene	85-01-8		U	0.0543	0.0272
Anthracene	120-12-7		U	0.0543	0.0272
Fluoranthene	206-44-0		U	0.0543	0.0272
Pyrene	129-00-0		U	0.0543	0.0272
Benzo(a)anthracene	56-55-3		U	0.0543	0.0272
Chrysene	218-01-9		U	0.0543	0.0272
Benzo(b)fluoranthene	205-99-2		U	0.0543	0.0272
Benzo(k)fluoranthene	207-08-9		U	0.0543	0.0272
Benzo(a)pyrene	50-32-8		U	0.0543	0.0272
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0543	0.0272
Dibenzo(a,h)anthracene	53-70-3		U	0.0543	0.0272
Benzo(g,h,i)perylene	191-24-2		U	0.0543	0.0272
1-Methylnaphthalene	90-12-0		U	0.0543	0.0272
2-Methylnaphthalene	91-57-6		U	0.0543	0.0272

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Nitrobenzene-d5	67.2	35	114	
2-Fluorobiphenyl	59.0	50	110	
p-Terphenyl-d14	77.8	33	141	

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12030257-08	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40EQR030612	Prep Method: 6850	Prep Date: 03/15/2012 12:26
Matrix: Water	Analytical Method: 6850	Cal Date: 01/24/2012 17:25
Workgroup #: WG392280	Analyst: JWR	Run Date: 03/15/2012 15:54
Collect Date: 03/06/2012 17:30	Dilution: 1	File ID: 1LM.LM15542
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-08	PrePrep Method: N/A	Instrument: HP15
Client ID: 40EQR030612	Prep Method: 3510C	Prep Date: 03/12/2012 08:31
Matrix: Water	Analytical Method: 8081A	Cal Date: 03/01/2012 00:01
Workgroup #: WG391981	Analyst: ECL	Run Date: 03/13/2012 21:49
Collect Date: 03/06/2012 17:30	Dilution: 1	File ID: 15G30862.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0543	0.0109
4,4'-DDE	72-55-9		U	0.0543	0.0109
4,4'-DDT	50-29-3		U	0.0543	0.0109
Aldrin	309-00-2		U	0.0543	0.0109
alpha Chlordane	5103-71-9		U	0.0543	0.0109
alpha-BHC	319-84-6		U	0.0543	0.0109
beta-BHC	319-85-7		U	0.0543	0.0109
delta-BHC	319-86-8		U	0.0543	0.0109
Dieldrin	60-57-1		U	0.0543	0.0109
Endosulfan I	959-98-8		U	0.0543	0.0109
Endosulfan II	33213-65-9		U	0.0543	0.0109
Endosulfan sulfate	1031-07-8		U	0.0543	0.0109
Endrin	72-20-8		U	0.0543	0.0109
Endrin aldehyde	7421-93-4		U	0.0543	0.0109
Endrin ketone	53494-70-5		U	0.0543	0.0109
gamma Chlordane	5103-74-2		U	0.0543	0.0109
gamma-BHC (Lindane)	58-89-9		U	0.0543	0.0109
Heptachlor	76-44-8		U	0.0543	0.0109
Heptachlor epoxide	1024-57-3		U	0.0543	0.0109
Methoxychlor	72-43-5		U	0.0543	0.0109
Toxaphene	8001-35-2		U	1.09	0.326
Surrogate	Recovery	Lower Limit	Upper Limit	Q	

Certificate of Analysis

2,4,5,6-Tetrachloro-m-xylene	73.0	25	140	
Decachlorobiphenyl	79.5	30	135	

U	Analyte was not detected. The concentration is below the reported LOD.			
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Sample #: L12030257-08	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: 40EQR030612	Prep Method: 3005A	Prep Date: 03/12/2012 08:58
Matrix: Water	Analytical Method: 6010B	Cal Date: 03/12/2012 09:19
Workgroup #: WG391918	Analyst: KHR	Run Date: 03/12/2012 15:17
Collect Date: 03/06/2012 17:30	Dilution: 1	File ID: T2.031212.151747
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2		U	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-08	PrePrep Method: N/A	Instrument: ELAN-ICP
Client ID: 40EQR030612	Prep Method: 3015	Prep Date: 03/09/2012 06:57
Matrix: Water	Analytical Method: 6020	Cal Date: 03/09/2012 09:46
Workgroup #: WG391810	Analyst: JYH	Run Date: 03/09/2012 15:59
Collect Date: 03/06/2012 17:30	Dilution: 1	File ID: EL.030912.155950
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3		U	0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00107	J	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5		U	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-08 **PrePrep Method:** N/A **Instrument:** HYDRA
Client ID: 40EQR030612 **Prep Method:** 7470A **Prep Date:** 03/13/2012 14:14
Matrix: Water **Analytical Method:** 7470A **Cal Date:** 03/14/2012 08:36
Workgroup #: WG392134 **Analyst:** PDM **Run Date:** 03/14/2012 09:10
Collect Date: 03/06/2012 17:30 **Dilution:** 1 **File ID:** HY.031412.091033
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-09 **PrePrep Method:** N/A **Instrument:** HPMS6
Client ID: 40MW5GW030712 **Prep Method:** 5030B/5030C/5035A **Prep Date:** N/A
Matrix: Water **Analytical Method:** 8260B **Cal Date:** 02/13/2012 18:44
Workgroup #: WG392404 **Analyst:** ADC **Run Date:** 03/16/2012 19:23
Collect Date: 03/07/2012 09:42 **Dilution:** 1 **File ID:** 6M106534
Sample Tag: 01 **Units:** ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.71		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	85.7	70	120		
4-Bromofluorobenzene	91.6	75	120		
Dibromofluoromethane	91.4	85	115		
Toluene-d8	96.7	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-09	PrePrep Method: N/A	Instrument: HPMS12
Client ID: 40MW5GW030712	Prep Method: 3520C	Prep Date: 03/12/2012 08:30
Matrix: Water	Analytical Method: 8270C	Cal Date: 02/29/2012 13:55
Workgroup #: WG392169	Analyst: CAA	Run Date: 03/15/2012 14:37
Collect Date: 03/07/2012 09:42	Dilution: 1	File ID: 12M38936
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.10	2.55
1,2-Dichlorobenzene	95-50-1		U	5.10	2.55
1,3-Dichlorobenzene	541-73-1		U	5.10	2.55
1,4-Dichlorobenzene	106-46-7		U	5.10	2.55
2,4,5-Trichlorophenol	95-95-4		U	5.10	2.55
2,4,6-Trichlorophenol	88-06-2		U	5.10	2.55
2,4-Dichlorophenol	120-83-2		U	5.10	2.55
2,4-Dimethylphenol	105-67-9		U	5.10	2.55
2,4-Dinitrophenol	51-28-5		U	25.5	12.8
2,4-Dinitrotoluene	121-14-2		U	5.10	2.55
2,6-Dinitrotoluene	606-20-2		U	5.10	2.55
2-Chloronaphthalene	91-58-7		U	5.10	2.55
2-Chlorophenol	95-57-8		U	5.10	2.55

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
2-Methylnaphthalene	91-57-6		U	5.10	2.55
2-Methylphenol	95-48-7		U	5.10	2.55
2-Nitroaniline	88-74-4		U	25.5	12.8
2-Nitrophenol	88-75-5		U	5.10	2.55
3,3'-Dichlorobenzidine	91-94-1		U	10.2	2.55
3-,4-Methylphenol	106-44-5		U	5.10	2.55
3-Nitroaniline	99-09-2		U	25.5	12.8
4,6-Dinitro-2-methylphenol	534-52-1		U	25.5	12.8
4-Bromophenyl-phenylether	101-55-3		U	5.10	2.55
4-Chloro-3-methylphenol	59-50-7		U	5.10	2.55
4-Chloroaniline	106-47-8		U	5.10	2.55
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.10	2.55
4-Nitroaniline	100-01-6		U	25.5	12.8
4-Nitrophenol	100-02-7		U	25.5	12.8
Acenaphthene	83-32-9		U	5.10	2.55
Acenaphthylene	208-96-8		U	5.10	2.55
Anthracene	120-12-7		U	5.10	2.55
Benzo(a)anthracene	56-55-3		U	5.10	2.55
Benzo(a)pyrene	50-32-8		U	5.10	2.55
Benzo(b)fluoranthene	205-99-2		U	5.10	2.55
Benzo(g,h,i)Perylene	191-24-2		U	5.10	2.55
Benzo(k)fluoranthene	207-08-9		U	5.10	2.55
Benzoic acid	65-85-0		U	25.5	12.8
Benzyl alcohol	100-51-6		U	5.10	2.55
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.10	2.55
Bis(2-Chloroethyl)ether	111-44-4		U	5.10	2.55
bis(2-Chloroisopropyl)ether	108-60-1		U	5.10	2.55
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.2	3.06
Butylbenzylphthalate	85-68-7		U	5.10	2.55
Chrysene	218-01-9		U	5.10	2.55
Di-N-Butylphthalate	84-74-2		U	5.10	2.55
Di-n-octylphthalate	117-84-0		U	5.10	2.55
Dibenzo(a,h)Anthracene	53-70-3		U	5.10	2.55
Dibenzofuran	132-64-9		U	5.10	2.55
Diethylphthalate	84-66-2		U	5.10	2.55
Dimethylphthalate	131-11-3		U	5.10	2.55
Fluoranthene	206-44-0		U	5.10	2.55
Fluorene	86-73-7		U	5.10	2.55
Hexachlorobenzene	118-74-1		U	5.10	2.55

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Hexachlorobutadiene	87-68-3		U	5.10	2.55
Hexachlorocyclopentadiene	77-47-4		U	5.10	2.55
Hexachloroethane	67-72-1		U	5.10	2.55
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.10	2.55
Isophorone	78-59-1		U	5.10	2.55
N-Nitrosodiphenylamine	86-30-6		U	5.10	2.55
N-Nitrosodipropylamine	621-64-7		U	5.10	2.55
Naphthalene	91-20-3		U	5.10	2.55
Nitrobenzene	98-95-3		U	5.10	2.55
Pentachlorophenol	87-86-5		U	25.5	12.8
Phenanthrene	85-01-8		U	5.10	2.55
Phenol	108-95-2		U	5.10	2.55
Pyrene	129-00-0		U	5.10	2.55
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	63.4	40	125		
2-Fluorobiphenyl	54.2	50	110		
2-Fluorophenol	58.6	20	110		
Nitrobenzene-d5	57.5	40	110		
p-Terphenyl-d14	81.4	50	135		
Phenol-d5	63.8	10	115		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-09

PrePrep Method: N/A

Instrument: HPMS7

Client ID: 40MW5GW030712

Prep Method: 3510C

Prep Date: 03/12/2012 10:45

Matrix: Water

Analytical Method: 8270C

Cal Date: 03/13/2012 10:25

Workgroup #: WG391960

Analyst: CAA

Run Date: 03/13/2012 15:42

Collect Date: 03/07/2012 09:42

Dilution: 1

File ID: 7M54465

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0510	0.0255
Acenaphthylene	208-96-8		U	0.0510	0.0255
Acenaphthene	83-32-9		U	0.0510	0.0255
Fluorene	86-73-7		U	0.0510	0.0255
Phenanthrene	85-01-8		U	0.0510	0.0255
Anthracene	120-12-7		U	0.0510	0.0255
Fluoranthene	206-44-0		U	0.0510	0.0255
Pyrene	129-00-0		U	0.0510	0.0255
Benzo(a)anthracene	56-55-3		U	0.0510	0.0255
Chrysene	218-01-9		U	0.0510	0.0255

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	0.0510	0.0255
Benzo(k)fluoranthene	207-08-9		U	0.0510	0.0255
Benzo(a)pyrene	50-32-8		U	0.0510	0.0255
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0510	0.0255
Dibenzo(a,h)anthracene	53-70-3		U	0.0510	0.0255
Benzo(g,h,i)perylene	191-24-2		U	0.0510	0.0255
1-Methylnaphthalene	90-12-0		U	0.0510	0.0255
2-Methylnaphthalene	91-57-6		U	0.0510	0.0255
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	74.7	35	114		
2-Fluorobiphenyl	65.7	50	110		
p-Terphenyl-d14	89.4	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-09

PrePrep Method: N/A

Instrument: LCMS1

Client ID: 40MW5GW030712

Prep Method: 6850

Prep Date: 03/15/2012 12:26

Matrix: Water

Analytical Method: 6850

Cal Date: 01/24/2012 17:25

Workgroup #: WG392280

Analyst: JWR

Run Date: 03/15/2012 17:10

Collect Date: 03/07/2012 09:42

Dilution: 1

File ID: 1LM.LM15546

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.931		0.200	0.100

Sample #: L12030257-09

PrePrep Method: N/A

Instrument: HP15

Client ID: 40MW5GW030712

Prep Method: 3510C

Prep Date: 03/12/2012 08:31

Matrix: Water

Analytical Method: 8081A

Cal Date: 03/01/2012 00:01

Workgroup #: WG391981

Analyst: ECL

Run Date: 03/13/2012 23:15

Collect Date: 03/07/2012 09:42

Dilution: 1

File ID: 15G30865.R

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0515	0.0103
4,4'-DDE	72-55-9		U	0.0515	0.0103
4,4'-DDT	50-29-3		U	0.0515	0.0103
Aldrin	309-00-2		U	0.0515	0.0103
alpha Chlordane	5103-71-9		U	0.0515	0.0103
alpha-BHC	319-84-6		U	0.0515	0.0103
beta-BHC	319-85-7		U	0.0515	0.0103
delta-BHC	319-86-8		U	0.0515	0.0103

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Dieldrin	60-57-1		U	0.0515	0.0103
Endosulfan I	959-98-8		U	0.0515	0.0103
Endosulfan II	33213-65-9		U	0.0515	0.0103
Endosulfan sulfate	1031-07-8		U	0.0515	0.0103
Endrin	72-20-8		U	0.0515	0.0103
Endrin aldehyde	7421-93-4		U	0.0515	0.0103
Endrin ketone	53494-70-5		U	0.0515	0.0103
gamma Chlordane	5103-74-2		U	0.0515	0.0103
gamma-BHC (Lindane)	58-89-9		U	0.0515	0.0103
Heptachlor	76-44-8		U	0.0515	0.0103
Heptachlor epoxide	1024-57-3		U	0.0515	0.0103
Methoxychlor	72-43-5		U	0.0515	0.0103
Toxaphene	8001-35-2		U	1.03	0.309
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	71.6	25	140		
Decachlorobiphenyl	97.5	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-09	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: 40MW5GW030712	Prep Method: 3005A	Prep Date: 03/12/2012 08:58
Matrix: Water	Analytical Method: 6010B	Cal Date: 03/12/2012 09:19
Workgroup #: WG391918	Analyst: KHR	Run Date: 03/12/2012 15:21
Collect Date: 03/07/2012 09:42	Dilution: 1	File ID: T2.031212.152113
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.221		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	93.4		0.200	0.100
Iron, Total	7439-89-6	0.156		0.100	0.0500
Magnesium, Total	7439-95-4	33.5		0.500	0.250
Potassium, Total	7440-09-7	1.16		1.00	0.500
Sodium, Total	7440-23-5	4.79		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12030257-09	PrePrep Method: N/A	Instrument: ELAN-ICP
Client ID: 40MW5GW030712	Prep Method: 3015	Prep Date: 03/09/2012 06:57
Matrix: Water	Analytical Method: 6020	Cal Date: 03/09/2012 09:46
Workgroup #: WG391810	Analyst: JYH	Run Date: 03/09/2012 16:06
Collect Date: 03/07/2012 09:42	Dilution: 1	File ID: EL.030912.160635
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0572		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00483		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00111	J	0.00200	0.00100
Nickel, Total	7440-02-0	0.00470		0.00400	0.00200
Selenium, Total	7782-49-2	0.000775	J	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-09	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW5GW030712	Prep Method: 7470A	Prep Date: 03/13/2012 14:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 03/14/2012 08:36
Workgroup #: WG392134	Analyst: PDM	Run Date: 03/14/2012 09:12
Collect Date: 03/07/2012 09:42	Dilution: 1	File ID: HY.031412.091225
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12030257-10

PrePrep Method: N/A

Instrument: HPMS6

Client ID: 40EQR030712

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 02/13/2012 18:44

Workgroup #: WG392404

Analyst: ADC

Run Date: 03/16/2012 19:56

Collect Date: 03/07/2012 10:30

Dilution: 1

File ID: 6M106535

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	84.9	70	120		
4-Bromofluorobenzene	91.0	75	120		
Dibromofluoromethane	91.6	85	115		
Toluene-d8	94.9	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12030257-10

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40EQR030712

Prep Method: 3520C

Prep Date: 03/12/2012 08:30

Matrix: Water

Analytical Method: 8270C

Cal Date: 02/29/2012 13:55

Workgroup #: WG392169

Analyst: CAA

Run Date: 03/15/2012 15:10

Collect Date: 03/07/2012 10:30

Dilution: 1

File ID: 12M38937

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.38	2.69
1,2-Dichlorobenzene	95-50-1		U	5.38	2.69
1,3-Dichlorobenzene	541-73-1		U	5.38	2.69
1,4-Dichlorobenzene	106-46-7		U	5.38	2.69
2,4,5-Trichlorophenol	95-95-4		U	5.38	2.69
2,4,6-Trichlorophenol	88-06-2		U	5.38	2.69
2,4-Dichlorophenol	120-83-2		U	5.38	2.69
2,4-Dimethylphenol	105-67-9		U	5.38	2.69
2,4-Dinitrophenol	51-28-5		U	26.9	13.4
2,4-Dinitrotoluene	121-14-2		U	5.38	2.69
2,6-Dinitrotoluene	606-20-2		U	5.38	2.69
2-Chloronaphthalene	91-58-7		U	5.38	2.69
2-Chlorophenol	95-57-8		U	5.38	2.69
2-Methylnaphthalene	91-57-6		U	5.38	2.69
2-Methylphenol	95-48-7		U	5.38	2.69
2-Nitroaniline	88-74-4		U	26.9	13.4
2-Nitrophenol	88-75-5		U	5.38	2.69
3,3'-Dichlorobenzidine	91-94-1		U	10.8	2.69
3-,4-Methylphenol	106-44-5		U	5.38	2.69
3-Nitroaniline	99-09-2		U	26.9	13.4
4,6-Dinitro-2-methylphenol	534-52-1		U	26.9	13.4
4-Bromophenyl-phenylether	101-55-3		U	5.38	2.69
4-Chloro-3-methylphenol	59-50-7		U	5.38	2.69
4-Chloroaniline	106-47-8		U	5.38	2.69
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.38	2.69
4-Nitroaniline	100-01-6		U	26.9	13.4
4-Nitrophenol	100-02-7		U	26.9	13.4
Acenaphthene	83-32-9		U	5.38	2.69
Acenaphthylene	208-96-8		U	5.38	2.69
Anthracene	120-12-7		U	5.38	2.69
Benzo(a)anthracene	56-55-3		U	5.38	2.69
Benzo(a)pyrene	50-32-8		U	5.38	2.69
Benzo(b)fluoranthene	205-99-2		U	5.38	2.69

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(g,h,i)Perylene	191-24-2		U	5.38	2.69
Benzo(k)fluoranthene	207-08-9		U	5.38	2.69
Benzoic acid	65-85-0		U	26.9	13.4
Benzyl alcohol	100-51-6		U	5.38	2.69
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.38	2.69
Bis(2-Chloroethyl)ether	111-44-4		U	5.38	2.69
bis(2-Chloroisopropyl)ether	108-60-1		U	5.38	2.69
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.8	3.23
Butylbenzylphthalate	85-68-7		U	5.38	2.69
Chrysene	218-01-9		U	5.38	2.69
Di-N-Butylphthalate	84-74-2		U	5.38	2.69
Di-n-octylphthalate	117-84-0		U	5.38	2.69
Dibenzo(a,h)Anthracene	53-70-3		U	5.38	2.69
Dibenzofuran	132-64-9		U	5.38	2.69
Diethylphthalate	84-66-2		U	5.38	2.69
Dimethylphthalate	131-11-3		U	5.38	2.69
Fluoranthene	206-44-0		U	5.38	2.69
Fluorene	86-73-7		U	5.38	2.69
Hexachlorobenzene	118-74-1		U	5.38	2.69
Hexachlorobutadiene	87-68-3		U	5.38	2.69
Hexachlorocyclopentadiene	77-47-4		U	5.38	2.69
Hexachloroethane	67-72-1		U	5.38	2.69
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.38	2.69
Isophorone	78-59-1		U	5.38	2.69
N-Nitrosodiphenylamine	86-30-6		U	5.38	2.69
N-Nitrosodipropylamine	621-64-7		U	5.38	2.69
Naphthalene	91-20-3		U	5.38	2.69
Nitrobenzene	98-95-3		U	5.38	2.69
Pentachlorophenol	87-86-5		U	26.9	13.4
Phenanthrene	85-01-8		U	5.38	2.69
Phenol	108-95-2		U	5.38	2.69
Pyrene	129-00-0		U	5.38	2.69
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	72.1	40	125		
2-Fluorobiphenyl	56.0	50	110		
2-Fluorophenol	57.2	20	110		
Nitrobenzene-d5	55.4	40	110		
p-Terphenyl-d14	86.6	50	135		
Phenol-d5	65.4	10	115		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Sample #: L12030257-10	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40EQR030712	Prep Method: 3510C	Prep Date: 03/12/2012 10:45
Matrix: Water	Analytical Method: 8270C	Cal Date: 03/13/2012 10:25
Workgroup #: WG391960	Analyst: CAA	Run Date: 03/13/2012 16:09
Collect Date: 03/07/2012 10:30	Dilution: 1	File ID: 7M54466
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0543	0.0272
Acenaphthylene	208-96-8		U	0.0543	0.0272
Acenaphthene	83-32-9		U	0.0543	0.0272
Fluorene	86-73-7		U	0.0543	0.0272
Phenanthrene	85-01-8		U	0.0543	0.0272
Anthracene	120-12-7		U	0.0543	0.0272
Fluoranthene	206-44-0		U	0.0543	0.0272
Pyrene	129-00-0		U	0.0543	0.0272
Benzo(a)anthracene	56-55-3		U	0.0543	0.0272
Chrysene	218-01-9		U	0.0543	0.0272
Benzo(b)fluoranthene	205-99-2		U	0.0543	0.0272
Benzo(k)fluoranthene	207-08-9		U	0.0543	0.0272
Benzo(a)pyrene	50-32-8		U	0.0543	0.0272
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0543	0.0272
Dibenzo(a,h)anthracene	53-70-3		U	0.0543	0.0272
Benzo(g,h,i)perylene	191-24-2		U	0.0543	0.0272
1-Methylnaphthalene	90-12-0		U	0.0543	0.0272
2-Methylnaphthalene	91-57-6		U	0.0543	0.0272
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	67.4	35	114		
2-Fluorobiphenyl	61.4	50	110		
p-Terphenyl-d14	80.5	33	141		

U	Analyte was not detected. The concentration is below the reported LOD.
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Sample #: L12030257-10	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40EQR030712	Prep Method: 6850	Prep Date: 03/15/2012 12:26
Matrix: Water	Analytical Method: 6850	Cal Date: 01/24/2012 17:25
Workgroup #: WG392280	Analyst: JWR	Run Date: 03/15/2012 17:29
Collect Date: 03/07/2012 10:30	Dilution: 1	File ID: 1LM.LM15547
Sample Tag: 01	Units: ug/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-10

PrePrep Method: N/A

Instrument: HP15

Client ID: 40EQR030712

Prep Method: 3510C

Prep Date: 03/12/2012 08:31

Matrix: Water

Analytical Method: 8081A

Cal Date: 03/01/2012 00:01

Workgroup #: WG391981

Analyst: ECL

Run Date: 03/13/2012 23:43

Collect Date: 03/07/2012 10:30

Dilution: 1

File ID: 15G30866.R

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0526	0.0105
4,4'-DDE	72-55-9		U	0.0526	0.0105
4,4'-DDT	50-29-3		U	0.0526	0.0105
Aldrin	309-00-2		U	0.0526	0.0105
alpha Chlordane	5103-71-9		U	0.0526	0.0105
alpha-BHC	319-84-6		U	0.0526	0.0105
beta-BHC	319-85-7		U	0.0526	0.0105
delta-BHC	319-86-8		U	0.0526	0.0105
Dieldrin	60-57-1		U	0.0526	0.0105
Endosulfan I	959-98-8		U	0.0526	0.0105
Endosulfan II	33213-65-9		U	0.0526	0.0105
Endosulfan sulfate	1031-07-8		U	0.0526	0.0105
Endrin	72-20-8		U	0.0526	0.0105
Endrin aldehyde	7421-93-4		U	0.0526	0.0105
Endrin ketone	53494-70-5		U	0.0526	0.0105
gamma Chlordane	5103-74-2		U	0.0526	0.0105
gamma-BHC (Lindane)	58-89-9		U	0.0526	0.0105
Heptachlor	76-44-8		U	0.0526	0.0105
Heptachlor epoxide	1024-57-3		U	0.0526	0.0105
Methoxychlor	72-43-5		U	0.0526	0.0105
Toxaphene	8001-35-2		U	1.05	0.316
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	64.9	25	140		
Decachlorobiphenyl	84.4	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12030257-10	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: 40EQR030712	Prep Method: 3005A	Prep Date: 03/12/2012 08:58
Matrix: Water	Analytical Method: 6010B	Cal Date: 03/12/2012 09:19
Workgroup #: WG391918	Analyst: KHR	Run Date: 03/12/2012 15:24
Collect Date: 03/07/2012 10:30	Dilution: 1	File ID: T2.031212.152434
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2		U	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-10	PrePrep Method: N/A	Instrument: ELAN-ICP
Client ID: 40EQR030712	Prep Method: 3015	Prep Date: 03/09/2012 06:57
Matrix: Water	Analytical Method: 6020	Cal Date: 03/09/2012 09:46
Workgroup #: WG391810	Analyst: JYH	Run Date: 03/09/2012 16:13
Collect Date: 03/07/2012 10:30	Dilution: 1	File ID: EL.030912.161321
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3		U	0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00118	J	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5		U	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Sample #: L12030257-10	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40EQR030712	Prep Method: 7470A	Prep Date: 03/13/2012 14:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 03/14/2012 08:36
Workgroup #: WG392134	Analyst: PDM	Run Date: 03/14/2012 09:14
Collect Date: 03/07/2012 10:30	Dilution: 1	File ID: HY.031412.091412
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-11	PrePrep Method: N/A	Instrument: HPMS6
Client ID: 40MW6GW030712	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 02/13/2012 18:44
Workgroup #: WG392404	Analyst: ADC	Run Date: 03/16/2012 20:28
Collect Date: 03/07/2012 12:23	Dilution: 1	File ID: 6M106536
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.277	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	85.0	70	120		
4-Bromofluorobenzene	92.6	75	120		
Dibromofluoromethane	91.2	85	115		
Toluene-d8	96.3	85	120		
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-11

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40MW6GW030712

Prep Method: 3520C

Prep Date: 03/12/2012 08:30

Matrix: Water

Analytical Method: 8270C

Cal Date: 02/29/2012 13:55

Workgroup #: WG392169

Analyst: CAA

Run Date: 03/15/2012 15:44

Collect Date: 03/07/2012 12:23

Dilution: 1

File ID: 12M38938

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.32	2.66
1,2-Dichlorobenzene	95-50-1		U	5.32	2.66
1,3-Dichlorobenzene	541-73-1		U	5.32	2.66
1,4-Dichlorobenzene	106-46-7		U	5.32	2.66
2,4,5-Trichlorophenol	95-95-4		U	5.32	2.66
2,4,6-Trichlorophenol	88-06-2		U	5.32	2.66
2,4-Dichlorophenol	120-83-2		U	5.32	2.66
2,4-Dimethylphenol	105-67-9		U	5.32	2.66
2,4-Dinitrophenol	51-28-5		U	26.6	13.3
2,4-Dinitrotoluene	121-14-2		U	5.32	2.66
2,6-Dinitrotoluene	606-20-2		U	5.32	2.66
2-Chloronaphthalene	91-58-7		U	5.32	2.66
2-Chlorophenol	95-57-8		U	5.32	2.66
2-Methylnaphthalene	91-57-6		U	5.32	2.66
2-Methylphenol	95-48-7		U	5.32	2.66
2-Nitroaniline	88-74-4		U	26.6	13.3
2-Nitrophenol	88-75-5		U	5.32	2.66

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
3,3'-Dichlorobenzidine	91-94-1		U	10.6	2.66
3-,4-Methylphenol	106-44-5		U	5.32	2.66
3-Nitroaniline	99-09-2		U	26.6	13.3
4,6-Dinitro-2-methylphenol	534-52-1		U	26.6	13.3
4-Bromophenyl-phenylether	101-55-3		U	5.32	2.66
4-Chloro-3-methylphenol	59-50-7		U	5.32	2.66
4-Chloroaniline	106-47-8		U	5.32	2.66
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.32	2.66
4-Nitroaniline	100-01-6		U	26.6	13.3
4-Nitrophenol	100-02-7		U	26.6	13.3
Acenaphthene	83-32-9		U	5.32	2.66
Acenaphthylene	208-96-8		U	5.32	2.66
Anthracene	120-12-7		U	5.32	2.66
Benzo(a)anthracene	56-55-3		U	5.32	2.66
Benzo(a)pyrene	50-32-8		U	5.32	2.66
Benzo(b)fluoranthene	205-99-2		U	5.32	2.66
Benzo(g,h,i)Perylene	191-24-2		U	5.32	2.66
Benzo(k)fluoranthene	207-08-9		U	5.32	2.66
Benzoic acid	65-85-0		U	26.6	13.3
Benzyl alcohol	100-51-6		U	5.32	2.66
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.32	2.66
Bis(2-Chloroethyl)ether	111-44-4		U	5.32	2.66
bis(2-Chloroisopropyl)ether	108-60-1		U	5.32	2.66
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.6	3.19
Butylbenzylphthalate	85-68-7		U	5.32	2.66
Chrysene	218-01-9		U	5.32	2.66
Di-N-Butylphthalate	84-74-2		U	5.32	2.66
Di-n-octylphthalate	117-84-0		U	5.32	2.66
Dibenzo(a,h)Anthracene	53-70-3		U	5.32	2.66
Dibenzofuran	132-64-9		U	5.32	2.66
Diethylphthalate	84-66-2		U	5.32	2.66
Dimethylphthalate	131-11-3		U	5.32	2.66
Fluoranthene	206-44-0		U	5.32	2.66
Fluorene	86-73-7		U	5.32	2.66
Hexachlorobenzene	118-74-1		U	5.32	2.66
Hexachlorobutadiene	87-68-3		U	5.32	2.66
Hexachlorocyclopentadiene	77-47-4		U	5.32	2.66
Hexachloroethane	67-72-1		U	5.32	2.66
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.32	2.66

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Isophorone	78-59-1		U	5.32	2.66
N-Nitrosodiphenylamine	86-30-6		U	5.32	2.66
N-Nitrosodipropylamine	621-64-7		U	5.32	2.66
Naphthalene	91-20-3		U	5.32	2.66
Nitrobenzene	98-95-3		U	5.32	2.66
Pentachlorophenol	87-86-5		U	26.6	13.3
Phenanthrene	85-01-8		U	5.32	2.66
Phenol	108-95-2		U	5.32	2.66
Pyrene	129-00-0		U	5.32	2.66
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	70.0	40	125		
2-Fluorobiphenyl	55.7	50	110		
2-Fluorophenol	60.2	20	110		
Nitrobenzene-d5	57.5	40	110		
p-Terphenyl-d14	85.1	50	135		
Phenol-d5	66.4	10	115		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-11

PrePrep Method: N/A

Instrument: HPMS7

Client ID: 40MW6GW030712

Prep Method: 3510C

Prep Date: 03/12/2012 10:45

Matrix: Water

Analytical Method: 8270C

Cal Date: 03/13/2012 10:25

Workgroup #: WG391960

Analyst: CAA

Run Date: 03/13/2012 16:35

Collect Date: 03/07/2012 12:23

Dilution: 1

File ID: 7M54467

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0538	0.0269
Acenaphthylene	208-96-8		U	0.0538	0.0269
Acenaphthene	83-32-9		U	0.0538	0.0269
Fluorene	86-73-7		U	0.0538	0.0269
Phenanthrene	85-01-8		U	0.0538	0.0269
Anthracene	120-12-7		U	0.0538	0.0269
Fluoranthene	206-44-0		U	0.0538	0.0269
Pyrene	129-00-0		U	0.0538	0.0269
Benzo(a)anthracene	56-55-3		U	0.0538	0.0269
Chrysene	218-01-9		U	0.0538	0.0269
Benzo(b)fluoranthene	205-99-2		U	0.0538	0.0269
Benzo(k)fluoranthene	207-08-9		U	0.0538	0.0269
Benzo(a)pyrene	50-32-8		U	0.0538	0.0269
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0538	0.0269

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Dibenzo(a,h)anthracene	53-70-3		U	0.0538	0.0269
Benzo(g,h,i)perylene	191-24-2		U	0.0538	0.0269
1-Methylnaphthalene	90-12-0		U	0.0538	0.0269
2-Methylnaphthalene	91-57-6		U	0.0538	0.0269
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	69.9	35	114		
2-Fluorobiphenyl	61.6	50	110		
p-Terphenyl-d14	86.5	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-11

PrePrep Method: N/A

Instrument: LCMS1

Client ID: 40MW6GW030712

Prep Method: 6850

Prep Date: 03/15/2012 12:26

Matrix: Water

Analytical Method: 6850

Cal Date: 01/24/2012 17:25

Workgroup #: WG392280

Analyst: JWR

Run Date: 03/15/2012 17:47

Collect Date: 03/07/2012 12:23

Dilution: 1

File ID: 1LM.LM15548

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.526		0.200	0.100

Sample #: L12030257-11

PrePrep Method: N/A

Instrument: HP15

Client ID: 40MW6GW030712

Prep Method: 3510C

Prep Date: 03/12/2012 08:31

Matrix: Water

Analytical Method: 8081A

Cal Date: 03/01/2012 00:01

Workgroup #: WG391981

Analyst: ECL

Run Date: 03/14/2012 00:11

Collect Date: 03/07/2012 12:23

Dilution: 1

File ID: 15G30867.R

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0521	0.0104
4,4'-DDE	72-55-9		U	0.0521	0.0104
4,4'-DDT	50-29-3		U	0.0521	0.0104
Aldrin	309-00-2		U	0.0521	0.0104
alpha Chlordane	5103-71-9		U	0.0521	0.0104
alpha-BHC	319-84-6		U	0.0521	0.0104
beta-BHC	319-85-7		U	0.0521	0.0104
delta-BHC	319-86-8		U	0.0521	0.0104
Dieldrin	60-57-1		U	0.0521	0.0104
Endosulfan I	959-98-8		U	0.0521	0.0104
Endosulfan II	33213-65-9		U	0.0521	0.0104
Endosulfan sulfate	1031-07-8		U	0.0521	0.0104

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Endrin	72-20-8		U	0.0521	0.0104
Endrin aldehyde	7421-93-4		U	0.0521	0.0104
Endrin ketone	53494-70-5		U	0.0521	0.0104
gamma Chlordane	5103-74-2		U	0.0521	0.0104
gamma-BHC (Lindane)	58-89-9		U	0.0521	0.0104
Heptachlor	76-44-8		U	0.0521	0.0104
Heptachlor epoxide	1024-57-3		U	0.0521	0.0104
Methoxychlor	72-43-5		U	0.0521	0.0104
Toxaphene	8001-35-2		U	1.04	0.313
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	67.2	25	140		
Decachlorobiphenyl	95.2	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-11

PrePrep Method: N/A

Instrument: ICP-THERMO2

Client ID: 40MW6GW030712

Prep Method: 3005A

Prep Date: 03/12/2012 08:58

Matrix: Water

Analytical Method: 6010B

Cal Date: 03/12/2012 09:19

Workgroup #: WG391918

Analyst: KHR

Run Date: 03/12/2012 15:28

Collect Date: 03/07/2012 12:23

Dilution: 1

File ID: T2.031212.152803

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.210		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	98.4		0.200	0.100
Iron, Total	7439-89-6	0.155		0.100	0.0500
Magnesium, Total	7439-95-4	36.1		0.500	0.250
Potassium, Total	7440-09-7	1.02		1.00	0.500
Sodium, Total	7440-23-5	4.40		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-11

PrePrep Method: N/A

Instrument: ELAN-ICP

Client ID: 40MW6GW030712

Prep Method: 3015

Prep Date: 03/12/2012 12:58

Matrix: Water

Analytical Method: 6020

Cal Date: 03/16/2012 09:26

Workgroup #: WG391928

Analyst: JYH

Run Date: 03/16/2012 15:53

Collect Date: 03/07/2012 12:23

Dilution: 1

File ID: EL.031612.155337

Sample Tag: 02

Units: mg/L

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Chromium, Total	7440-47-3	0.00146	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-11	PrePrep Method: N/A	Instrument: ELAN-ICP
Client ID: 40MW6GW030712	Prep Method: 3015	Prep Date: 03/12/2012 12:58
Matrix: Water	Analytical Method: 6020	Cal Date: 03/12/2012 12:50
Workgroup #: WG391928	Analyst: JYH	Run Date: 03/12/2012 18:21
Collect Date: 03/07/2012 12:23	Dilution: 1	File ID: EL.031212.182111
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0538		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00114	J	0.00200	0.00100
Manganese, Total	7439-96-5	0.00109	J	0.00200	0.00100
Nickel, Total	7440-02-0	0.00292	J	0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12030257-11	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW6GW030712	Prep Method: 7470A	Prep Date: 03/13/2012 14:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 03/14/2012 08:36
Workgroup #: WG392134	Analyst: PDM	Run Date: 03/14/2012 09:16
Collect Date: 03/07/2012 12:23	Dilution: 1	File ID: HY.031412.091644
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Appendix D – Support Documentation

Laboratory Report Number: L12030257 (Revised)

Revised to report additional metals by 6020

Mary Lou Rochette
Kemron Environmental Services
156 Starlite Drive
Marietta, OH 45750

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on May 21 2012



David Vandenberg – Managing Director

State of Origin: VA
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 4.1



Microbac Laboratories * Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 * T: (740) 373-4071 F: (740) 373-4835 * www.microbac.com

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

There were no discrepancies.

Discrepancy	Resolution
-------------	------------

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #
0010295	H	0.0		
0013649	H	2.0		
0016642	H	1.0		
0016482	H	1.0		
0015747	H	0.0		
0013621	H	0.0		

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	NA
2	Were custody seals intact?	NA
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
40MW7GW030612	L12030257-01	03/06/2012 12:04	03/08/2012 13:01
40TB030612	L12030257-02	03/06/2012 00:01	03/08/2012 13:01
40LFMW01GW030612	L12030257-03	03/06/2012 16:06	03/08/2012 13:01
40LFMW01MSGW030612	L12030257-04	03/06/2012 16:06	03/08/2012 13:01
40LFMW01MSDGW030612	L12030257-05	03/06/2012 16:06	03/08/2012 13:01
40DUPGW030612	L12030257-06	03/06/2012 16:06	03/08/2012 13:01
40FB030612	L12030257-07	03/06/2012 17:00	03/08/2012 13:01
40EQR030612	L12030257-08	03/06/2012 17:30	03/08/2012 13:01
40MW5GW030712	L12030257-09	03/07/2012 09:42	03/08/2012 13:01
40EQR030712	L12030257-10	03/07/2012 10:30	03/08/2012 13:01
40MW6GW030712	L12030257-11	03/07/2012 12:23	03/08/2012 13:01

COC No. A 3655

156 Starlite Drive
Marietta, OH 45750Phone: 740-373-4308
Fax: 740-376-2536**KEMRON**

ENVIRONMENTAL SERVICES

CHAIN-OF-CUSTODY RECORD

Company Name: KEMRON		Contact Phone #: 740-373-4308	
Project Contact: MARY LNU TOUCHETTE		Location: RADFORD, VA	
Turn Around Requirements: 14-DAY			
Project ID: MR0669 SWMU 40 RTHAP (LTM QNL 2)			
Sampler (print): JONATH ANDERSON		Signature: <i>[Signature]</i>	

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	Hold	NUMBER OF CONTAINERS	VOC	TCL	SVC + SIM	TCL	THL	PEACH/LUMATS	Program	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
40MW76W030612	X	X	3-6-12	1204	W	9	9	3	2	2	1	1	1	PBR		★
40TB030612			3-6-12		W	2	2	2	2	1	1	1	1	QAPP		
40LFMW016W	X	X	3-6-12	1606	W	9	9	3	2	2	1	1	1	SWMU		
40LFMW01MS6W	X	X	3-6-12	1606	W	9	9	3	2	2	1	1	1	40		
40LFMW01MS6W	X	X	3-6-12	1606	W	9	9	3	2	2	1	1	1	PCAPP		
40DUP6W030612	X	X	3-6-12	1606	W	9	9	3	2	2	1	1	1			
40FB030612	X	X	3-6-12	1700	W	9	9	3	2	2	1	1	1			
40FQR030612	X	X	3-6-12	1730	W	9	9	3	2	2	1	1	1			
40MNS6W030712	X	X	3-7-12	0942	W	9	9	3	2	2	1	1	1			
40FQR030712	X	X	3-7-12	1030	W	9	9	3	2	2	1	1	1			
40MW6W030712	X	X	3-7-12	1203	W	9	9	3	2	2	1	1	1			
 Microbac OVD Received: 03/08/2012 13:01 By: BRENDA GREENWALT 221000022999																

Relinquished by: <i>[Signature]</i>	Date: 3-8-12	Time: 1237	Received by: <i>[Signature]</i>	Date: 3-8-12	Time: 1237
Relinquished by: <i>[Signature]</i>	Date: 3-8-12	Time: 1237	Received by: <i>[Signature]</i>	Date: 3-8-12	Time: 1237

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Page _____ of _____



Login Number: L12030257
Department: Volatiles
Analyst: Anthony Canter

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260B

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analytes: Dichlorodifluoromethane, Bromomethane, Vinyl Acetate. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: Vinyl Acetate. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Vinyl Acetate. Please see the applicable QC report for a detailed presentation of the failures.

Matrix Spikes: Recoveries out of range were observed for the following analytes: 2-Chloroethyl vinyl ether, Vinyl acetate. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Other: None.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 43602

Approved By: Michael Albertson



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12030257
Instrument Id: HPMS6
Workgroup (AAB#): WG392404

Method: 8260
CAL ID: HPMS6 - 13-FEB-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L12030257-07	1.00	01	82.5	88.2	93.3	96.4
L12030257-08	1.00	01	85.4	91.2	93.0	96.1
L12030257-09	1.00	01	85.7	91.4	91.6	96.7
L12030257-10	1.00	01	84.9	91.6	91.0	94.9
L12030257-11	1.00	01	85.0	91.2	92.6	96.3
WG392404-01	1.00	01	83.4	90.0	94.0	97.1
WG392404-02	1.00	01	83.5	89.2	89.5	97.6

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2339433
Report generated: 03/20/2012 11:55



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12030257
Instrument Id: HPMS8
Workgroup (AAB#): WG392260

Method: 8260
CAL ID: HPMS8 - 06-MAR-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L12030257-01	1.00	01	94.8	107	100	105
L12030257-02	1.00	01	96.3	106	101	105
L12030257-03	1.00	01	98.1	107	99.3	103
L12030257-04	1.00	01	90.4	104	102	106
L12030257-05	1.00	01	89.8	102	102	105
L12030257-06	1.00	01	96.9	107	100	104
WG392260-01	1.00	01	93.8	107	102	105
WG392260-02	1.00	01	86.4	99.7	103	104

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2339433
Report generated: 03/20/2012 11:55



METHOD BLANK SUMMARY

Login Number: L12030257 Work Group: WG392404
Blank File ID: 6M106521 Blank Sample ID: WG392404-01
Prep Date: 03/16/12 12:20 Instrument ID: HPMS6
Analyzed Date: 03/16/12 12:20 Method: 8260B
Analyst: ADC

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG392404-02	6M106522	03/16/12 12:52	01
40FB030612	L12030257-07	6M106525	03/16/12 14:30	01
40EQR030612	L12030257-08	6M106533	03/16/12 18:51	01
40MW5GW030712	L12030257-09	6M106534	03/16/12 19:23	01
40EQR030712	L12030257-10	6M106535	03/16/12 19:56	01
40MW6GW030712	L12030257-11	6M106536	03/16/12 20:28	01

Report Name: BLANK_SUMMARY
PDF File ID: 2343167
Report generated 03/20/2012 11:55



METHOD BLANK SUMMARY

Login Number: <u>L12030257</u>	Work Group: <u>WG392260</u>
Blank File ID: <u>8M377594</u>	Blank Sample ID: <u>WG392260-01</u>
Prep Date: <u>03/15/12 11:09</u>	Instrument ID: <u>HPMS8</u>
Analyzed Date: <u>03/15/12 11:09</u>	Method: <u>8260B</u>
Analyst: <u>ADC</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG392260-02	8M377595	03/15/12 11:39	01
40LFMW01MSGW030612	L12030257-04	8M377596	03/15/12 12:09	01
40LFMW01MSDGW030612	L12030257-05	8M377597	03/15/12 12:39	01
40TB030612	L12030257-02	8M377600	03/15/12 14:09	01
40MW7GW030612	L12030257-01	8M377611	03/15/12 19:40	01
40LFMW01GW030612	L12030257-03	8M377612	03/15/12 20:09	01
40DUPGW030612	L12030257-06	8M377613	03/15/12 20:40	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2343167
 Report generated 03/20/2012 11:55



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/16/12 12:20 Sample ID: WG392404-01
 Instrument ID: HPMS6 Run Date: 03/16/12 12:20 Prep Method: 5030B/5030C/503
 File ID: 6M106521 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG392404 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS6 - 13-FEB-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 2343168

20-MAR-2012 11:55



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/16/12 12:20 Sample ID: WG392404-01
 Instrument ID: HPMS6 Run Date: 03/16/12 12:20 Prep Method: 5030B/5030C/503
 File ID: 6M106521 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG392404 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS6 - 13-FEB-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Naphthalene	0.200	1.00	0.200	1	U
o-Xylene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	83.4	70 - 120	PASS
4-Bromofluorobenzene	94.0	75 - 120	PASS
Dibromofluoromethane	90.0	85 - 115	PASS
Toluene-d8	97.1	85 - 120	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2343168

20-MAR-2012 11:55



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/15/12 11:09 Sample ID: WG392260-01
 Instrument ID: HPMS8 Run Date: 03/15/12 11:09 Prep Method: 5030B/5030C/503
 File ID: 8M377594 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG392260 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS8 - 06-MAR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 2343168

20-MAR-2012 11:55



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/15/12 11:09 Sample ID: WG392260-01
 Instrument ID: HPMS8 Run Date: 03/15/12 11:09 Prep Method: 5030B/5030C/503
 File ID: 8M377594 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG392260 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS8 - 06-MAR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Naphthalene	0.200	1.00	0.200	1	U
o-Xylene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	93.8	70 - 120	PASS
4-Bromofluorobenzene	102	75 - 120	PASS
Dibromofluoromethane	107	85 - 115	PASS
Toluene-d8	105	85 - 120	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2343168

20-MAR-2012 11:55



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L12030257</u>	Run Date: <u>03/16/2012</u>	Sample ID: <u>WG392404-02</u>
Instrument ID: <u>HPMS6</u>	Run Time: <u>12:52</u>	Prep Method: <u>5030B/5030C/503</u>
File ID: <u>6M106522</u>	Analyst: <u>ADC</u>	Method: <u>8260B</u>
Workgroup (AAB#): <u>WG392404</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
QC Key: <u>DOD4</u>	Lot#: <u>STD50600</u>	Cal ID: <u>HPMS6 - 13-FEB-12</u>

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,1,1,2-Tetrachloroethane	20.0	19.9	99.4	80	-	130	
1,1,1-Trichloroethane	20.0	18.9	94.5	65	-	130	
1,1,2,2-Tetrachloroethane	20.0	20.5	102	65	-	130	
1,1,2-Trichloroethane	20.0	20.8	104	75	-	125	
1,1-Dichloroethane	20.0	18.0	89.8	70	-	135	
1,1-Dichloroethene	20.0	17.9	89.4	70	-	130	
1,1-Dichloropropene	20.0	18.8	94.0	75	-	130	
1,2,3-Trichlorobenzene	20.0	19.6	97.9	55	-	140	
1,2,3-Trichloropropane	20.0	21.6	108	75	-	125	
1,2,4-Trichlorobenzene	20.0	19.0	94.9	65	-	135	
1,2,4-Trimethylbenzene	20.0	19.8	98.8	75	-	130	
1,2-Dibromo-3-chloropropane	20.0	18.5	92.5	50	-	130	
1,2-Dibromoethane	20.0	19.1	95.3	80	-	120	
1,2-Dichlorobenzene	20.0	20.1	100	70	-	120	
1,2-Dichloroethane	20.0	18.8	94.2	70	-	130	
1,2-Dichloropropane	20.0	18.3	91.3	75	-	125	
1,3,5-Trimethylbenzene	20.0	19.8	98.8	75	-	130	
1,3-Dichlorobenzene	20.0	20.0	99.9	75	-	125	
1,3-Dichloropropane	20.0	20.7	103	75	-	125	
1,4-Dichlorobenzene	20.0	19.8	99.2	75	-	125	
2,2-Dichloropropane	20.0	18.7	93.7	70	-	135	
2-Butanone	20.0	18.8	94.0	30	-	150	
2-Chloroethyl vinyl ether	20.0	16.0	79.9	45	-	160	
2-Chlorotoluene	20.0	18.7	93.7	75	-	125	
2-Hexanone	20.0	17.4	86.9	55	-	130	
4-Chlorotoluene	20.0	19.3	96.3	75	-	130	
4-Methyl-2-pentanone	20.0	17.3	86.3	60	-	135	
Acetone	20.0	21.0	105	40	-	140	
Benzene	20.0	18.5	92.5	80	-	120	
Bromobenzene	20.0	20.8	104	75	-	125	
Bromochloromethane	20.0	20.9	104	65	-	130	
Bromodichloromethane	20.0	19.2	95.9	75	-	120	
Bromoform	20.0	18.6	93.2	70	-	130	
Bromomethane	20.0	16.3	81.3	30	-	145	
Carbon disulfide	20.0	19.1	95.4	35	-	160	
Carbon tetrachloride	20.0	19.9	99.7	65	-	140	
Chlorobenzene	20.0	20.3	101	80	-	120	
Chlorodibromomethane	20.0	22.8	114	60	-	135	
Chloroethane	20.0	19.7	98.4	60	-	135	
Chloroform	20.0	17.8	89.0	65	-	135	
Chloromethane	20.0	22.5	112	40	-	125	

LCS - Modified 03/06/2008
PDF File ID: 2339426
Report generated: 03/20/2012 11:55



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392404-02
Instrument ID: HPMS6 Run Time: 12:52 Prep Method: 5030B/5030C/503
File ID: 6M106522 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG392404 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD50600 Cal ID: HPMS6 - 13-FEB-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
cis-1,2-Dichloroethene	20.0	19.9	99.7	70 - 125	
cis-1,3-Dichloropropene	20.0	17.3	86.7	70 - 130	
Dibromomethane	20.0	17.2	85.9	75 - 125	
Dichlorodifluoromethane	20.0	28.6	143	30 - 155	
Ethylbenzene	20.0	20.2	101	75 - 125	
Hexachlorobutadiene	20.0	18.7	93.5	50 - 140	
Isopropylbenzene	20.0	17.6	88.2	75 - 125	
m-,p-Xylene	40.0	41.1	103	75 - 130	
Methylene chloride	20.0	18.5	92.7	55 - 140	
n-Butylbenzene	20.0	16.5	82.4	70 - 135	
n-Propylbenzene	20.0	19.1	95.7	70 - 130	
Naphthalene	20.0	20.6	103	55 - 140	
o-Xylene	20.0	20.2	101	80 - 120	
p-Isopropyltoluene	20.0	18.4	91.8	75 - 130	
sec-Butylbenzene	20.0	19.3	96.6	70 - 125	
Styrene	20.0	19.3	96.6	65 - 135	
tert-Butylbenzene	20.0	19.1	95.6	70 - 130	
Tetrachloroethene	20.0	21.1	106	45 - 150	
Toluene	20.0	20.4	102	75 - 120	
trans-1,2-Dichloroethene	20.0	19.1	95.7	60 - 140	
trans-1,3-Dichloropropene	20.0	17.3	86.3	55 - 140	
Trichloroethene	20.0	20.4	102	70 - 125	
Trichlorofluoromethane	20.0	20.4	102	60 - 145	
Vinyl acetate	20.0	18.5	92.6	10 - 190	
Vinyl chloride	20.0	24.8	124	50 - 145	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	83.5	70 - 120	PASS
4-Bromofluorobenzene	89.5	75 - 120	PASS
Dibromofluoromethane	89.2	85 - 115	PASS
Toluene-d8	97.6	85 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2339426
Report generated: 03/20/2012 11:55



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L12030257</u>	Run Date: <u>03/15/2012</u>	Sample ID: <u>WG392260-02</u>
Instrument ID: <u>HPMS8</u>	Run Time: <u>11:39</u>	Prep Method: <u>5030B/5030C/503</u>
File ID: <u>8M377595</u>	Analyst: <u>ADC</u>	Method: <u>8260B</u>
Workgroup (AAB#): <u>WG392260</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
QC Key: <u>DOD4</u>	Lot#: <u>STD50600</u>	Cal ID: <u>HPMS8 - 06-MAR-12</u>

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,1,1,2-Tetrachloroethane	20.0	20.8	104	80	-	130	
1,1,1-Trichloroethane	20.0	19.4	96.8	65	-	130	
1,1,2,2-Tetrachloroethane	20.0	20.5	102	65	-	130	
1,1,2-Trichloroethane	20.0	19.4	96.8	75	-	125	
1,1-Dichloroethane	20.0	17.6	88.1	70	-	135	
1,1-Dichloroethene	20.0	17.8	88.9	70	-	130	
1,1-Dichloropropene	20.0	18.9	94.7	75	-	130	
1,2,3-Trichlorobenzene	20.0	19.1	95.4	55	-	140	
1,2,3-Trichloropropane	20.0	18.6	93.0	75	-	125	
1,2,4-Trichlorobenzene	20.0	18.8	94.2	65	-	135	
1,2,4-Trimethylbenzene	20.0	20.1	101	75	-	130	
1,2-Dibromo-3-chloropropane	20.0	18.8	94.2	50	-	130	
1,2-Dibromoethane	20.0	19.6	98.0	80	-	120	
1,2-Dichlorobenzene	20.0	19.5	97.5	70	-	120	
1,2-Dichloroethane	20.0	17.5	87.3	70	-	130	
1,2-Dichloropropane	20.0	18.1	90.5	75	-	125	
1,3,5-Trimethylbenzene	20.0	20.8	104	75	-	130	
1,3-Dichlorobenzene	20.0	19.9	99.3	75	-	125	
1,3-Dichloropropane	20.0	18.5	92.3	75	-	125	
1,4-Dichlorobenzene	20.0	19.7	98.3	75	-	125	
2,2-Dichloropropane	20.0	18.2	91.1	70	-	135	
2-Butanone	20.0	14.8	74.0	30	-	150	
2-Chloroethyl vinyl ether	20.0	17.1	85.4	45	-	160	
2-Chlorotoluene	20.0	20.8	104	75	-	125	
2-Hexanone	20.0	15.8	79.1	55	-	130	
4-Chlorotoluene	20.0	18.3	91.4	75	-	130	
4-Methyl-2-pentanone	20.0	15.3	76.3	60	-	135	
Acetone	20.0	15.3	76.6	40	-	140	
Benzene	20.0	19.2	96.0	80	-	120	
Bromobenzene	20.0	19.7	98.5	75	-	125	
Bromochloromethane	20.0	18.3	91.7	65	-	130	
Bromodichloromethane	20.0	19.1	95.3	75	-	120	
Bromoform	20.0	18.9	94.3	70	-	130	
Bromomethane	20.0	22.9	114	30	-	145	
Carbon disulfide	20.0	19.6	98.2	35	-	160	
Carbon tetrachloride	20.0	20.8	104	65	-	140	
Chlorobenzene	20.0	19.2	95.9	80	-	120	
Chlorodibromomethane	20.0	19.0	94.8	60	-	135	
Chloroethane	20.0	19.6	97.9	60	-	135	
Chloroform	20.0	17.3	86.6	65	-	135	
Chloromethane	20.0	21.1	106	40	-	125	

LCS - Modified 03/06/2008
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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392260-02
Instrument ID: HPMS8 Run Time: 11:39 Prep Method: 5030B/5030C/503
File ID: 8M377595 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG392260 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD50600 Cal ID: HPMS8 - 06-MAR-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
cis-1,2-Dichloroethene	20.0	19.0	95.1	70 - 125	
cis-1,3-Dichloropropene	20.0	19.3	96.4	70 - 130	
Dibromomethane	20.0	17.7	88.3	75 - 125	
Dichlorodifluoromethane	20.0	29.6	148	30 - 155	
Ethylbenzene	20.0	19.6	97.9	75 - 125	
Hexachlorobutadiene	20.0	19.3	96.6	50 - 140	
Isopropylbenzene	20.0	17.1	85.5	75 - 125	
m-,p-Xylene	40.0	38.9	97.2	75 - 130	
Methylene chloride	20.0	17.6	88.2	55 - 140	
n-Butylbenzene	20.0	19.9	99.4	70 - 135	
n-Propylbenzene	20.0	20.0	100	70 - 130	
Naphthalene	20.0	18.7	93.7	55 - 140	
o-Xylene	20.0	19.1	95.7	80 - 120	
p-Isopropyltoluene	20.0	19.1	95.6	75 - 130	
sec-Butylbenzene	20.0	20.3	102	70 - 125	
Styrene	20.0	19.3	96.5	65 - 135	
tert-Butylbenzene	20.0	21.0	105	70 - 130	
Tetrachloroethene	20.0	19.7	98.7	45 - 150	
Toluene	20.0	19.2	96.0	75 - 120	
trans-1,2-Dichloroethene	20.0	17.8	89.1	60 - 140	
trans-1,3-Dichloropropene	20.0	17.5	87.5	55 - 140	
Trichloroethene	20.0	19.2	96.0	70 - 125	
Trichlorofluoromethane	20.0	19.6	98.2	60 - 145	
Vinyl acetate	20.0	39.0	195	10 - 190	*
Vinyl chloride	20.0	21.6	108	50 - 145	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	86.4	70 - 120	PASS
4-Bromofluorobenzene	103	75 - 120	PASS
Dibromofluoromethane	99.7	85 - 115	PASS
Toluene-d8	104	85 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2339426
Report generated: 03/20/2012 11:55



MS/MSD REPORT

Loginnum: L12030257

Cal ID: HPMS8- 06-MAR-12

Worknum: WG392260

Instrument ID: HPMS8

Contract #:

Prep Method: 5030B/5030C/

Parent ID: L12030257-03

File ID: 8M377612

Dil: 1

Method: 5035A

Sample ID: L12030257-04 MS

File ID: 8M377596

Dil: 1

Matrix: 8260B

Sample ID: L12030257-05 MSD

File ID: 8M377597

Dil: 1

Units: Water

ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1,2-Tetrachloroethane	U	20.0	20.8	104	20.0	20.6	103	0.995	80 - 130	30	
1,1,1-Trichloroethane	U	20.0	20.9	105	20.0	20.3	102	3.00	65 - 130	30	
1,1,2,2-Tetrachloroethane	U	20.0	20.9	105	20.0	21.3	107	1.78	65 - 130	30	
1,1,2-Trichloroethane	U	20.0	19.3	96.4	20.0	19.6	98.1	1.73	75 - 125	30	
1,1-Dichloroethane	U	20.0	19.2	96	20.0	18.8	93.8	2.27	70 - 135	30	
1,1-Dichloroethene	U	20.0	18.8	94.2	20.0	18.3	91.4	3.05	70 - 130	30	
1,1-Dichloropropene	U	20.0	20.5	102	20.0	19.3	96.5	5.81	75 - 130	30	
1,2,3-Trichlorobenzene	U	20.0	19.1	95.7	20.0	19.2	96.2	0.570	55 - 140	30	
1,2,3-Trichloropropane	U	20.0	18.4	92	20.0	18.9	94.7	2.87	75 - 125	30	
1,2,4-Trichlorobenzene	U	20.0	18.9	94.6	20.0	19.3	96.6	2.10	65 - 135	30	
1,2,4-Trimethylbenzene	U	20.0	20.3	101	20.0	20.1	100	1.00	75 - 130	30	
1,2-Dibromo-3-chloropropane	U	20.0	19.0	95	20.0	19.7	98.6	3.73	50 - 130	30	
1,2-Dibromoethane	U	20.0	19.5	97.3	20.0	19.4	96.8	0.471	80 - 120	30	
1,2-Dichlorobenzene	U	20.0	19.9	99.7	20.0	20.0	100	0.384	70 - 120	30	
1,2-Dichloroethane	U	20.0	18.4	92.1	20.0	18.2	90.8	1.41	70 - 130	30	
1,2-Dichloropropane	U	20.0	18.9	94.6	20.0	18.4	92.1	2.68	75 - 125	30	
1,3,5-Trimethylbenzene	U	20.0	21.1	106	20.0	20.8	104	1.51	75 - 130	30	
1,3-Dichlorobenzene	U	20.0	20.0	100	20.0	19.8	98.9	1.17	75 - 125	30	
1,3-Dichloropropane	U	20.0	18.7	93.6	20.0	18.7	93.3	0.323	75 - 125	30	
1,4-Dichlorobenzene	U	20.0	20.0	99.9	20.0	19.8	98.9	1.00	75 - 125	30	
2,2-Dichloropropane	U	20.0	20.8	104	20.0	20.0	100	3.68	70 - 135	30	
2-Butanone	U	20.0	15.1	75.7	20.0	15.4	76.8	1.50	30 - 150	30	
2-Chloroethyl vinyl ether	U	20.0	0	0	20.0	0	0	NA	58 - 160	20	##
2-Chlorotoluene	U	20.0	18.8	94	20.0	20.1	101	6.68	75 - 125	30	
2-Hexanone	U	20.0	15.4	77	20.0	16.3	81.4	5.60	55 - 130	30	
4-Chlorotoluene	U	20.0	20.7	104	20.0	18.9	94.4	9.41	75 - 130	30	
4-Methyl-2-pentanone	U	20.0	15.8	78.8	20.0	16.1	80.5	2.11	60 - 135	30	
Acetone	U	20.0	16.3	81.3	20.0	16.5	82.4	1.37	40 - 140	30	
Benzene	U	20.0	19.9	99.5	20.0	19.5	97.4	2.17	80 - 120	30	
Bromobenzene	U	20.0	19.8	98.9	20.0	19.9	99.3	0.375	75 - 125	30	
Bromochloromethane	U	20.0	19.8	98.9	20.0	19.5	97.4	1.51	65 - 130	30	
Bromodichloromethane	U	20.0	20.0	100	20.0	20.0	100	0.0801	75 - 120	30	
Bromoform	U	20.0	19.1	95.6	20.0	19.3	96.6	1.12	70 - 130	30	
Bromomethane	U	20.0	25.3	126	20.0	25.2	126	0.431	30 - 145	30	
Carbon disulfide	U	20.0	20.6	103	20.0	19.9	99.4	3.73	35 - 160	30	
Carbon tetrachloride	U	20.0	22.5	112	20.0	22.1	110	1.69	65 - 140	30	
Chlorobenzene	U	20.0	19.8	98.9	20.0	19.7	98.6	0.343	80 - 120	30	
Chlorodibromomethane	U	20.0	18.8	94.1	20.0	19.1	95.7	1.60	60 - 135	30	
Chloroethane	U	20.0	20.1	100	20.0	19.9	99.4	0.967	60 - 135	30	
Chloroform	U	20.0	18.5	92.3	20.0	18.4	92.2	0.0979	65 - 135	30	
Chloromethane	U	20.0	21.7	109	20.0	21.6	108	0.697	40 - 125	30	

MS MSD - Modified 03/06/2008

PDF File ID: 2339427

Report generated 03/20/2012 11:55



MS/MSD REPORT

Loginnum: L12030257 Cal ID: HPMS8 06-MAR-12
 Instrument ID: HPMS8 Contract #: _____
 Parent ID: L12030257-03 File ID: 8M377612 Dil: 1
 Sample ID: L12030257-04 MS File ID: 8M377596 Dil: 1
 Sample ID: L12030257-05 MSD File ID: 8M377597 Dil: 1

Worknum: WG392260
 Prep Method: 5030B/5030C/
 Method: 5035A
 Matrix: 8260B
 Units: Water
ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
cis-1,2-Dichloroethene	U	20.0	20.3	101	20.0	19.9	99.4	1.95	70 - 125	30	
cis-1,3-Dichloropropene	U	20.0	20.0	100	20.0	20.1	101	0.344	70 - 130	30	
Dibromomethane	U	20.0	18.6	93.1	20.0	18.7	93.6	0.577	75 - 125	30	
Dichlorodifluoromethane	U	20.0	30.0	150	20.0	29.2	146	2.63	30 - 155	30	
Ethylbenzene	U	20.0	19.9	99.6	20.0	19.7	98.6	0.986	75 - 125	30	
Hexachlorobutadiene	U	20.0	19.7	98.6	20.0	19.3	96.3	2.36	50 - 140	30	
Isopropylbenzene	U	20.0	17.7	88.5	20.0	17.4	87	1.76	75 - 125	30	
m-,p-Xylene	U	40.0	40.2	101	40.0	39.7	99.2	1.42	75 - 130	30	
Methylene chloride	U	20.0	18.8	93.9	20.0	19.0	94.8	0.939	55 - 140	30	
n-Butylbenzene	U	20.0	20.2	101	20.0	19.9	99.4	1.79	70 - 135	30	
n-Propylbenzene	U	20.0	20.2	101	20.0	19.9	99.4	1.42	70 - 130	30	
Naphthalene	U	20.0	19.0	95.2	20.0	19.7	98.7	3.57	55 - 140	30	
o-Xylene	U	20.0	19.8	99	20.0	19.7	98.7	0.381	80 - 120	30	
p-Isopropyltoluene	U	20.0	19.3	96.6	20.0	18.9	94.4	2.33	75 - 130	30	
sec-Butylbenzene	U	20.0	20.4	102	20.0	20.0	100	2.17	70 - 125	30	
Styrene	U	20.0	19.8	98.8	20.0	19.8	99.1	0.339	65 - 135	30	
tert-Butylbenzene	U	20.0	20.7	104	20.0	20.8	104	0.498	70 - 130	30	
Tetrachloroethene	U	20.0	20.3	101	20.0	19.8	98.8	2.59	45 - 150	30	
Toluene	U	20.0	20.0	99.8	20.0	19.6	98.2	1.55	75 - 120	30	
trans-1,2-Dichloroethene	U	20.0	19.3	96.4	20.0	18.8	93.9	2.59	60 - 140	30	
trans-1,3-Dichloropropene	U	20.0	17.9	89.3	20.0	17.9	89.3	0.0888	55 - 140	30	
Trichloroethene	U	20.0	20.3	102	20.0	19.9	99.5	1.99	70 - 125	30	
Trichlorofluoromethane	U	20.0	21.4	107	20.0	20.4	102	4.89	60 - 145	30	
Vinyl acetate	U	20.0	42.0	210	20.0	42.3	211	0.572	10 - 190	20	*
Vinyl chloride	U	20.0	22.8	114	20.0	21.7	108	5.28	50 - 145	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12030257 Tune ID: WG387846-01
Instrument: HPMS6 Run Date: 01/25/2012
Analyst: ADC Run Time: 08:08
Workgroup: WG387846 File ID: 6M105367
Cal ID: HPMS6-29-NOV-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.4	3936	PASS
75.0	95.0	30.0	60.0	46.9	9059	PASS
95.0	95.0	100	100	100	19320	PASS
96.0	95.0	5.00	9.00	6.53	1262	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	91.6	17704	PASS
175	174	5.00	9.00	6.91	1223	PASS
176	174	95.0	101	96.1	17017	PASS
177	176	5.00	9.00	5.94	1011	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG388587-01	STD	01	01/25/2012 10:12	
WG388587-02	STD	01	01/25/2012 10:45	
WG388587-03	STD	01	01/25/2012 11:17	
WG388587-04	STD-CCV	01	01/25/2012 11:49	
WG388587-05	STD	01	01/25/2012 12:22	
WG388587-06	STD	01	01/25/2012 12:55	
WG388587-07	STD	01	01/25/2012 13:27	
WG388587-08	SSCV	01	01/25/2012 14:00	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2343169
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12030257 Tune ID: WG389416-01
Instrument: HPMS6 Run Date: 02/13/2012
Analyst: ADC Run Time: 13:28
Workgroup: WG389416 File ID: 6M105652
Cal ID: HPMS6-13-FEB-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	21.3	6012	PASS
75.0	95.0	30.0	60.0	46.5	13128	PASS
95.0	95.0	100	100	100	28208	PASS
96.0	95.0	5.00	9.00	6.35	1790	PASS
173	174	0	2.00	0.632	138	PASS
174	95.0	50.0	100	77.4	21837	PASS
175	174	5.00	9.00	7.49	1635	PASS
176	174	95.0	101	96.3	21032	PASS
177	176	5.00	9.00	6.82	1435	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG389416-02	STD	01	02/13/2012 13:52	
WG389416-03	STD	01	02/13/2012 14:25	
WG389416-04	STD	01	02/13/2012 14:57	
WG389416-05	STD	01	02/13/2012 15:30	
WG389416-06	STD	01	02/13/2012 16:02	
WG389416-07	STD	01	02/13/2012 16:34	
WG389416-08	STD-CCV	01	02/13/2012 17:07	
WG389416-09	STD	01	02/13/2012 17:39	
WG389416-10	STD	01	02/13/2012 18:11	
WG389416-11	STD	01	02/13/2012 18:44	
WG389416-12	SSCV	01	02/13/2012 22:51	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2343169
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12030257
Instrument: HPMS6
Analyst: ADC
Workgroup: WG392403

Tune ID: WG392403-01
Run Date: 03/16/2012
Run Time: 10:49
File ID: 6M106518

Cal ID: HPMS6-13-FEB-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	21.3	3179	PASS
75.0	95.0	30.0	60.0	47.8	7115	PASS
95.0	95.0	100	100	100	14891	PASS
96.0	95.0	5.00	9.00	7.63	1136	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	81.9	12196	PASS
175	174	5.00	9.00	7.16	873	PASS
176	174	95.0	101	97.4	11880	PASS
177	176	5.00	9.00	6.31	750	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG392403-02	CCV	01	03/16/2012 11:14	
WG392404-01	BLANK	01	03/16/2012 12:20	
WG392404-02	LCS	01	03/16/2012 12:52	
L12030257-07	40FB030612	01	03/16/2012 14:30	
L12030257-08	40EQR030612	01	03/16/2012 18:51	
L12030257-09	40MW5GW030712	01	03/16/2012 19:23	
L12030257-10	40EQR030712	01	03/16/2012 19:56	
L12030257-11	40MW6GW030712	01	03/16/2012 20:28	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2343169
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12030257 Tune ID: WG387844-01
Instrument: HPMS8 Run Date: 01/25/2012
Analyst: ADC Run Time: 10:52
Workgroup: WG387844 File ID: 8M376554
Cal ID: HPMS8-12-DEC-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.8	8808	PASS
75.0	95.0	30.0	60.0	45.0	19993	PASS
95.0	95.0	100	100	100	44392	PASS
96.0	95.0	5.00	9.00	6.71	2979	PASS
173	174	0	2.00	0.970	324	PASS
174	95.0	50.0	100	75.3	33405	PASS
175	174	5.00	9.00	7.47	2495	PASS
176	174	95.0	101	97.5	32579	PASS
177	176	5.00	9.00	6.44	2099	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG387881-01	STD	01	01/25/2012 12:43	
WG387881-02	STD	01	01/25/2012 13:28	
WG387881-03	STD	01	01/25/2012 13:58	
WG387881-04	STD-CCV	01	01/25/2012 14:29	
WG387881-05	STD	01	01/25/2012 14:59	
WG387881-06	STD	01	01/25/2012 15:29	
WG387881-07	STD	01	01/25/2012 15:59	
WG387881-08	SSCV	01	01/25/2012 16:29	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2343169
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12030257

Tune ID: WG391464-01

Instrument: HPMS8

Run Date: 03/06/2012

Analyst: ADC

Run Time: 11:53

Workgroup: WG391464

File ID: 8M377361

Cal ID: HPMS8-06-MAR-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.6	6292	PASS
75.0	95.0	30.0	60.0	46.4	14188	PASS
95.0	95.0	100	100	100	30605	PASS
96.0	95.0	5.00	9.00	6.43	1968	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	81.9	25051	PASS
175	174	5.00	9.00	7.87	1971	PASS
176	174	95.0	101	97.2	24357	PASS
177	176	5.00	9.00	6.98	1699	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG391464-02	STD	01	03/06/2012 12:47	
WG391464-03	STD	01	03/06/2012 13:18	
WG391464-04	STD	01	03/06/2012 13:49	
WG391464-05	STD	01	03/06/2012 14:21	
WG391464-06	STD	01	03/06/2012 14:53	
WG391464-07	STD	01	03/06/2012 15:24	
WG391464-08	STD-CCV	01	03/06/2012 15:55	
WG391464-09	STD	01	03/06/2012 16:27	
WG391464-10	STD	01	03/06/2012 16:58	
WG391464-11	STD	01	03/06/2012 17:28	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2343169
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12030257

Tune ID: WG391606-01

Instrument: HPMS8

Run Date: 03/07/2012

Analyst: ADC

Run Time: 11:18

Workgroup: WG391606

File ID: 8M377375

Cal ID: HPMS8-06-MAR-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.9	10028	PASS
75.0	95.0	30.0	60.0	45.9	22052	PASS
95.0	95.0	100	100	100	48032	PASS
96.0	95.0	5.00	9.00	6.67	3203	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	96.0	46122	PASS
175	174	5.00	9.00	7.99	3687	PASS
176	174	95.0	101	97.3	44858	PASS
177	176	5.00	9.00	6.49	2913	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG391464-12	SSCV	01	03/07/2012 13:11	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2343169
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12030257
Instrument: HPMS8
Analyst: ADC
Workgroup: WG392258

Tune ID: WG392258-01
Run Date: 03/15/2012
Run Time: 09:06
File ID: 8M377590

Cal ID: HPMS8-06-MAR-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.5	6499	PASS
75.0	95.0	30.0	60.0	45.4	14367	PASS
95.0	95.0	100	100	100	31659	PASS
96.0	95.0	5.00	9.00	7.04	2229	PASS
173	174	0	2.00	0.538	146	PASS
174	95.0	50.0	100	85.7	27120	PASS
175	174	5.00	9.00	7.49	2031	PASS
176	174	95.0	101	96.8	26256	PASS
177	176	5.00	9.00	6.84	1797	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG392258-02	CCV	01	03/15/2012 10:09	
WG392260-01	BLANK	01	03/15/2012 11:09	
WG392260-02	LCS	01	03/15/2012 11:39	
L12030257-04	40LFMW01MSGW030612	01	03/15/2012 12:09	
L12030257-05	40LFMW01MSDGW030612	01	03/15/2012 12:39	
L12030257-02	40TB030612	01	03/15/2012 14:09	
L12030257-01	40MW7GW030612	01	03/15/2012 19:40	
L12030257-03	40LFMW01GW030612	01	03/15/2012 20:09	
L12030257-06	40DUPGW030612	01	03/15/2012 20:40	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2343169
Report generated 03/20/2012 11:55



Calibration Table Report
Method: A9FOOWTR.M
Title: A9-FOO Water - IC: 01/25/12 - HPMS6
Last Calibration: Thu Feb 02 09:44:46 2012
Curve: WG388587
Calibration Files

Compound	5	20	50	100	200	300	400	R^2		
	6M105371.D	6M105372.D	6M105373.D	6M105374.D	6M105375.D	6M105376.D	6M105377.D	Avg	%RSD	LINEAR
Fluorobenzene	ISTD									
Acetonitrile	0.018	0.021	0.024	0.024	0.024	0.025	0.025	0.023	11.902	
3-Chloro-1-propene	0.472	0.497	0.558	0.566	0.573	0.567	0.568	0.543	7.526	
2-Chloro-1,3-butadiene	0.409	0.461	0.530	0.541	0.554	0.549	0.549	0.513	10.953	
Ethyl Acetate	0.123	0.135	0.147	0.153	0.159	0.163	0.167	0.150	10.598	
Methacrylonitrile	0.050	0.054	0.064	0.065	0.068	0.070	0.070	0.063	12.553	
Isobutyl Alcohol		0.006	0.006	0.007	0.007	0.007	0.007	0.007	7.775	
1-Butanol			0.002	0.001	0.002	0.002	0.002	0.002	30.823	FAIL
Methyl methacrylate	0.107	0.132	0.158	0.168	0.176	0.183	0.184	0.158	18.144	1.000
2-Nitropropane	0.030	0.037	0.043	0.047	0.050	0.053	0.055	0.045	19.886	0.999
Chlorobenzene-d5	ISTD									
1,4-Dichlorobenzene-d4	ISTD									
Cyclohexanone		0.017	0.023	0.025	0.029	0.032	0.032	0.026	22.204	0.998

Thu Feb 02 09:47:01 2012



1,2,3-Trichloropropane X			0.094	0.116	0.132	0.141	0.143	0.137	0.142	0.12928	14.0749	
trans-1,4-Dichloro-2-Butene			0.041	0.139	0.143	0.169	0.178	0.185	0.19	0.14917	34.677	0.999
n-Propylbenzene X	2.934	2.916	3.478	3.388	3.747	3.788	3.749	3.834		3.47934	10.7994	
Bromobenzene X	0.849	0.72	0.595	0.772	0.748	0.805	0.828	0.827	0.874	0.7798	10.9041	
1,3,5-Trimethylbenzene X	2.125	1.921	2.213	2.239	2.482	2.552	2.554	2.729		2.3519	11.4642	
2-Chlorotoluene X	1.973	1.943	2.239	2.169	2.168	2.246	2.388	2.549		2.2093	9.04127	
4-Chlorotoluene X	1.957	1.795	2.071	2.047	2.339	2.384	2.261	2.314		2.1459	9.80053	
a-Methylstyrene			1.084	1.085	1.361	1.458	1.506	1.6		1.34884	16.2305	0.998
tert-Butylbenzene X			0.435	0.506	0.474	0.528	0.538	0.541	0.583	0.51505	9.46708	
1,2,4-Trimethylbenzene X	2.037	1.996	2.368	2.367	2.591	2.679	2.714	2.843		2.44941	12.7828	
sec-Butylbenzene X	2.218	2.319	2.775	2.668	2.943	3.021	3.001	3.12		2.75812	12.1522	
p-Isopropyltoluene X	1.898	1.848	2.242	2.203	2.467	2.568	2.579	2.717		2.31521	13.9414	
1,3-Dichlorobenzene X	1.405	1.231	1.421	1.373	1.466	1.536	1.537	1.624		1.44904	8.33636	
1,4-Dichlorobenzene X	1.66	1.338	1.335	1.468	1.415	1.509	1.551	1.537	1.624	1.49307	7.72339	
n-Butylbenzene X		1.491	1.667	1.969	1.95	2.192	2.27	2.276	2.403	2.02728	15.78	0.999
1,2-Dichlorobenzene X	1.406	1.162	1.176	1.252	1.22	1.31	1.346	1.338	1.406	1.2908	7.1611	
1,2-Dibromo-3-Chloropropane X				0.041	0.055	0.066	0.074	0.073	0.081	0.06501	22.8587	0.997
1,2,4-Trichlorobenzene X	0.629	0.681	0.798	0.776	0.837	0.858	0.868	0.944		0.79893	12.8712	
Hexachlorobutadiene X	0.126	0.259	0.282	0.276	0.301	0.311	0.306	0.332		0.27416	23.2825	0.998
Naphthalene X	1.102	1.058	1.153	1.225	1.348	1.386	1.382	1.496		1.26874	12.3589	
1,2,3-Trichlorobenzene X	0.712	0.607	0.613	0.646	0.643	0.682	0.684	0.689	0.754	0.66999	7.08466	

Thu Feb 16 16:33:40 2012



Calibration Table Report
Method: A9FOOWT.M
Title: A9-FOO Water - IC: 01/25/12- HPMS8
Last Calibration: Wed Feb 01 15:35:09 2012
Curve: WG387881
Calibration Files

Compound	5	20	50	100	200	300	400	500	Linear	
	8M376558.D	8M376559.D	8M376560.D	8M376561.D	8M376562.D	8M376563.D	8M376564.D	8M367713.D	Avg	%RSD
Fluorobenzene	ISTD									
Acetonitrile	0.018	0.017	0.018	0.019	0.020	0.019	0.019		0.019	5.995
3-Chloro-1-propene	0.376	0.390	0.392	0.395	0.408	0.388	0.382		0.390	2.658
2-Chloro-1,3-butadiene	0.465	0.465	0.468	0.464	0.475	0.452	0.445		0.462	2.198
Ethyl Acetate	0.125	0.125	0.128	0.137	0.138	0.133	0.126		0.130	4.168
Methacrylonitrile	0.053	0.050	0.054	0.055	0.056	0.054	0.053		0.054	4.009
Isobutyl Alcohol		0.005	0.006	0.006	0.006	0.006	0.006		0.006	7.894
1-Butanol		0.001	0.002	0.003	0.003	0.003	0.003		0.003	23.485 0.996
Methyl methacrylate	0.141	0.155	0.162	0.167	0.172	0.164	0.159		0.160	6.259
2-Nitropropane	0.043	0.051	0.055	0.059	0.063	0.060	0.058		0.056	11.690
Chlorobenzene-d5	ISTD									
1,4-Dichlorobenzene-d4	ISTD									
Cyclohexanone		0.025	0.024	0.024	0.025	0.026	0.024		0.025	3.783

Wed Feb 01 15:40:12 2012



1,2,3-Trichloropropane X			0.138	0.168	0.139	0.157	0.158	0.15	0.132	0.1489	8.7624
trans-1,4-Dichloro-2-Butene			0.115	0.115	0.124	0.147	0.16	0.156	0.138	0.1364	13.879
n-Propylbenzene X	3.361	3.464	3.515	3.349	3.477	3.402	3.159	3.004		3.3415	5.2414
Bromobenzene X	0.921	0.798	0.858	0.84	0.795	0.826	0.817	0.775	0.755	0.8206	6.0086
1,3,5-Trimethylbenzene X		2.455	2.506	2.649	2.487	2.584	2.522	2.375	2.312	2.4863	4.339
2-Chlorotoluene X		2.095	2.287	2.297	2.128	2.213	2.214	2.107	1.94	2.1602	5.4543
4-Chlorotoluene X		2.302	2.156	2.121	1.985	2.053	1.984	1.818	1.878	2.037	7.6591
a-Methylstyrene			1.49	1.423	1.454	1.521	1.53	1.442	1.411	1.4673	3.1997
tert-Butylbenzene X		0.476	0.52	0.554	0.537	0.555	0.552	0.528	0.536	0.5323	4.9015
1,2,4-Trimethylbenzene X		2.686	2.781	2.762	2.635	2.664	2.598	2.437	2.36	2.6152	5.6774
sec-Butylbenzene X		3.168	3.11	3.295	3.068	3.172	3.093	2.87	2.776	3.069	5.4974
p-Isopropyltoluene X		2.792	2.956	2.995	2.771	2.881	2.795	2.617	2.521	2.7909	5.7496
1,3-Dichlorobenzene X			1.678	1.698	1.668	1.577	1.66	1.605	1.521	1.6092	5.1497
1,4-Dichlorobenzene X	1.785	1.656	1.687	1.649	1.575	1.642	1.607	1.517	1.448	1.6185	6.0495
n-Butylbenzene X		2.326	2.358	2.457	2.265	2.391	2.328	2.181	2.145	2.3064	4.5395
1,2-Dichlorobenzene X	1.584	1.448	1.538	1.532	1.471	1.524	1.474	1.399	1.314	1.476	5.5557
1,2-Dibromo-3-Chloropropane X				0.061	0.069	0.08	0.089	0.087	0.076	0.0771	13.997
1,2,4-Trichlorobenzene X		0.997	1.113	1.116	1.037	1.103	1.085	1.044	0.978	1.059	5.0352
HexachlorobutadieneX		0.396	0.396	0.404	0.384	0.408	0.415	0.405	0.428	0.4042	3.2819
Naphthalene X		1.933	2.121	2.131	2.014	2.155	2.095	1.977	1.66	2.0108	8.0751
1,2,3-Trichlorobenzene X	1.02	0.875	0.933	0.914	0.825	0.93	0.904	0.88	0.801	0.8979	7.1682

Thu Mar 08 10:41:48 2012

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12030257	Run Date: 02/13/2012	Sample ID: WG389416-12
Instrument ID: HPMS6	Run Time: 22:51	Method: 8260B
File ID: 6M105667	Analyst: ADC	QC Key: DOD4
ICal Workgroup: WG389416	Cal ID: HPMS6 - 13-FEB-12	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	51.1	ug/L	0.536	2.20	25	
1,2-Dichloropropane	CCC	50.0	53.8	ug/L	0.342	7.50	25	
Chloroform	CCC	50.0	50.2	ug/L	0.554	0.300	25	
Ethylbenzene	CCC	50.0	55.3	ug/L	0.586	10.6	25	
Toluene	CCC	50.0	53.4	ug/L	1.66	6.70	25	
Vinyl Chloride	CCC	50.0	56.1	ug/L	0.559	12.2	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	55.1	ug/L	0.527	10.1	25	
1,1-Dichloroethane	SPCC	50.0	51.1	ug/L	0.630	2.20	25	
Bromoform	SPCC	50.0	47.3	ug/L	0.193	5.40	25	
Chlorobenzene	SPCC	50.0	53.1	ug/L	1.07	6.20	25	
Chloromethane	SPCC	50.0	54.6	ug/L	0.726	9.20	25	
1,1,1,2-Tetrachloroethane		50.0	51.1	ug/L	0.401	2.30	25	
1,1,1-Trichloroethane		50.0	53.2	ug/L	0.491	6.40	25	
1,1,2-Trichloroethane		50.0	55.2	ug/L	0.273	10.4	25	
1,1-Dichloropropene		50.0	53.6	ug/L	0.426	7.20	25	
1,2,3-Trichlorobenzene		50.0	51.8	ug/L	0.694	3.60	25	
1,2,3-Trichloropropane		50.0	55.3	ug/L	0.143	10.5	25	
1,2,4-Trichlorobenzene		50.0	52.3	ug/L	0.836	4.70	25	
1,2,4-Trimethylbenzene		50.0	55.4	ug/L	2.71	10.7	25	
1,2-Dibromo-3-Chloropropane		50.0	47.2	ug/L	0.0720	5.60	25	
1,2-Dibromoethane		50.0	50.3	ug/L	0.266	0.600	25	
1,2-Dichlorobenzene		50.0	52.1	ug/L	1.35	4.20	25	
1,2-Dichloroethane		50.0	55.0	ug/L	0.406	9.90	25	
1,3,5-Trimethylbenzene		50.0	56.3	ug/L	2.65	12.5	25	
1,3-Dichlorobenzene		50.0	53.2	ug/L	1.54	6.40	25	
1,3-Dichloropropane		50.0	54.9	ug/L	0.484	9.80	25	
1,4-Dichlorobenzene		50.0	52.5	ug/L	1.57	4.90	25	
2,2-Dichloropropane		50.0	55.6	ug/L	0.490	11.3	25	
2-Butanone		50.0	53.5	ug/L	0.0738	7.00	25	
2-Chloroethyl Vinyl Ether		50.0	47.0	ug/L	0.133	6.00	30	
2-Chlorotoluene		50.0	55.4	ug/L	2.45	10.8	25	
2-Hexanone		50.0	51.0	ug/L	0.127	2.00	25	
4-Chlorotoluene		50.0	51.8	ug/L	2.23	3.70	25	
4-Methyl-2-Pentanone		50.0	53.4	ug/L	0.0631	6.70	25	
Acetone		50.0	47.4	ug/L	0.0482	5.10	25	
Benzene		50.0	52.4	ug/L	1.21	4.90	25	
Bromobenzene		50.0	53.9	ug/L	0.840	7.70	25	
Bromochloromethane		50.0	55.6	ug/L	0.182	11.1	25	
Bromodichloromethane		50.0	55.7	ug/L	0.390	11.4	25	
Bromomethane		50.0	56.2	ug/L	0.242	12.5	25	
Carbon Disulfide		50.0	53.4	ug/L	0.958	6.80	25	
Carbon Tetrachloride		50.0	55.6	ug/L	0.446	11.3	25	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2339429
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L12030257</u>	Run Date: <u>02/13/2012</u>	Sample ID: <u>WG389416-12</u>
Instrument ID: <u>HPMS6</u>	Run Time: <u>22:51</u>	Method: <u>8260B</u>
File ID: <u>6M105667</u>	Analyst: <u>ADC</u>	QC Key: <u>DOD4</u>
ICal Workgroup: <u>WG389416</u>	Cal ID: <u>HPMS6 - 13-FEB-12</u>	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Dibromochloromethane	50.0	58.9	ug/L	0.341	17.9	25	
Chloroethane	50.0	54.3	ug/L	0.271	8.50	25	
cis-1,2-Dichloroethene	50.0	54.3	ug/L	0.336	8.60	25	
cis-1,3-Dichloropropene	50.0	51.9	ug/L	0.455	3.90	25	
Dibromomethane	50.0	48.1	ug/L	0.154	3.80	25	
Dichlorodifluoromethane	50.0	72.3	ug/L	0.470	44.6	25	*
Hexachlorobutadiene	50.0	49.9	ug/L	0.319	0.100	25	
Isopropylbenzene	50.0	48.3	ug/L	1.48	3.30	25	
m-,p-Xylene	100	112	ug/L	0.728	11.8	25	
Methylene Chloride	50.0	51.4	ug/L	0.311	2.70	25	
n-Butylbenzene	50.0	49.1	ug/L	2.29	1.70	25	
n-Propylbenzene	50.0	54.2	ug/L	3.77	8.50	25	
Naphthalene	50.0	55.9	ug/L	1.42	11.7	25	
o-Xylene	50.0	54.8	ug/L	0.683	9.60	25	
p-Isopropyltoluene	50.0	52.7	ug/L	2.44	5.40	25	
sec-Butylbenzene	50.0	55.7	ug/L	3.07	11.4	25	
Styrene	50.0	50.9	ug/L	1.14	1.80	25	
tert-Butylbenzene	50.0	52.6	ug/L	0.541	5.10	25	
Tetrachloroethene	50.0	52.4	ug/L	0.423	4.70	25	
trans-1,2-Dichloroethene	50.0	52.8	ug/L	0.316	5.70	25	
trans-1,3-Dichloropropene	50.0	47.1	ug/L	0.480	5.70	25	
Trichloroethene	50.0	54.7	ug/L	0.314	9.30	25	
Trichlorofluoromethane	50.0	51.8	ug/L	0.564	3.50	25	
Vinyl Acetate	50.0	59.2	ug/L	0.504	18.4	40	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2339429
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12030257	Run Date: 03/07/2012	Sample ID: WG391464-12
Instrument ID: HPMS8	Run Time: 13:11	Method: 8260B
File ID: 8M377379	Analyst: ADC	QC Key: DOD4
ICal Workgroup: WG391464	Cal ID: HPMS8 - 06-MAR-12	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	49.0	ug/L	0.343	2.00	25	
1,2-Dichloropropane	CCC	50.0	53.7	ug/L	0.278	7.50	25	
Chloroform	CCC	50.0	49.6	ug/L	0.411	0.700	25	
Ethylbenzene	CCC	50.0	49.3	ug/L	0.522	1.30	25	
Toluene	CCC	50.0	49.0	ug/L	1.33	2.10	25	
Vinyl Chloride	CCC	50.0	57.8	ug/L	0.308	15.6	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	50.7	ug/L	0.425	1.50	25	
1,1-Dichloroethane	SPCC	50.0	50.9	ug/L	0.422	1.80	25	
Bromoform	SPCC	50.0	48.6	ug/L	0.183	2.80	25	
Chlorobenzene	SPCC	50.0	48.6	ug/L	0.953	2.90	25	
Chloromethane	SPCC	50.0	57.1	ug/L	0.405	14.2	25	
1,1,1,2-Tetrachloroethane		50.0	54.1	ug/L	0.354	8.10	25	
1,1,1-Trichloroethane		50.0	54.6	ug/L	0.412	9.20	25	
1,1,2-Trichloroethane		50.0	51.2	ug/L	0.224	2.30	25	
1,1-Dichloropropene		50.0	54.6	ug/L	0.368	9.30	25	
1,2,3-Trichlorobenzene		50.0	46.7	ug/L	0.839	6.60	25	
1,2,3-Trichloropropane		50.0	47.5	ug/L	0.142	4.90	25	
1,2,4-Trichlorobenzene		50.0	45.7	ug/L	0.968	8.60	25	
1,2,4-Trimethylbenzene		50.0	48.6	ug/L	2.54	2.70	25	
1,2-Dibromo-3-Chloropropane		50.0	48.8	ug/L	0.0752	2.50	25	
1,2-Dibromoethane		50.0	51.0	ug/L	0.234	2.10	25	
1,2-Dichlorobenzene		50.0	47.6	ug/L	1.40	4.90	25	
1,2-Dichloroethane		50.0	51.7	ug/L	0.296	3.40	25	
1,3,5-Trimethylbenzene		50.0	50.7	ug/L	2.52	1.40	25	
1,3-Dichlorobenzene		50.0	47.6	ug/L	1.53	4.80	25	
1,3-Dichloropropane		50.0	50.0	ug/L	0.371	0	25	
1,4-Dichlorobenzene		50.0	47.7	ug/L	1.54	4.60	25	
2,2-Dichloropropane		50.0	53.7	ug/L	0.363	7.30	25	
2-Butanone		50.0	50.0	ug/L	0.0827	0.100	25	
2-Chloroethyl Vinyl Ether		50.0	52.8	ug/L	0.135	5.70	30	
2-Chlorotoluene		50.0	49.9	ug/L	2.16	0.200	25	
2-Hexanone		50.0	46.6	ug/L	0.0678	6.80	25	
4-Chlorotoluene		50.0	46.4	ug/L	1.89	7.10	25	
4-Methyl-2-Pentanone		50.0	50.3	ug/L	0.0670	0.500	25	
Acetone		50.0	48.3	ug/L	0.0508	3.50	25	
Benzene		50.0	53.7	ug/L	1.05	7.40	25	
Bromobenzene		50.0	47.7	ug/L	0.783	4.60	25	
Bromochloromethane		50.0	53.1	ug/L	0.171	6.30	25	
Bromodichloromethane		50.0	57.4	ug/L	0.342	14.8	25	
Bromomethane		50.0	63.6	ug/L	0.205	27.2	25	*
Carbon Disulfide		50.0	57.7	ug/L	0.797	15.5	25	
Carbon Tetrachloride		50.0	57.5	ug/L	0.376	15.1	25	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2339429
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L12030257</u>	Run Date: <u>03/07/2012</u>	Sample ID: <u>WG391464-12</u>
Instrument ID: <u>HPMS8</u>	Run Time: <u>13:11</u>	Method: <u>8260B</u>
File ID: <u>8M377379</u>	Analyst: <u>ADC</u>	QC Key: <u>DOD4</u>
ICal Workgroup: <u>WG391464</u>	Cal ID: <u>HPMS8 - 06-MAR-12</u>	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Dibromochloromethane	50.0	50.6	ug/L	0.326	1.10	25	
Chloroethane	50.0	55.4	ug/L	0.215	10.8	25	
cis-1,2-Dichloroethene	50.0	53.7	ug/L	0.272	7.30	25	
cis-1,3-Dichloropropene	50.0	59.0	ug/L	0.435	18.0	25	
Dibromomethane	50.0	52.5	ug/L	0.130	4.90	25	
Dichlorodifluoromethane	50.0	75.7	ug/L	0.419	51.5	25	*
Hexachlorobutadiene	50.0	49.6	ug/L	0.401	0.800	25	
Isopropylbenzene	50.0	43.1	ug/L	1.44	13.8	25	
m-,p-Xylene	100	97.6	ug/L	0.630	2.40	25	
Methylene Chloride	50.0	51.3	ug/L	0.275	2.70	25	
n-Butylbenzene	50.0	48.4	ug/L	2.23	3.10	25	
n-Propylbenzene	50.0	48.8	ug/L	3.26	2.40	25	
Naphthalene	50.0	46.0	ug/L	1.85	8.00	25	
o-Xylene	50.0	49.1	ug/L	0.645	1.80	25	
p-Isopropyltoluene	50.0	46.3	ug/L	2.59	7.40	25	
sec-Butylbenzene	50.0	48.7	ug/L	2.99	2.60	25	
Styrene	50.0	49.6	ug/L	1.10	0.900	25	
tert-Butylbenzene	50.0	51.0	ug/L	0.543	2.00	25	
Tetrachloroethene	50.0	49.3	ug/L	0.292	1.40	25	
trans-1,2-Dichloroethene	50.0	51.8	ug/L	0.347	3.60	25	
trans-1,3-Dichloropropene	50.0	48.7	ug/L	0.378	2.50	25	
Trichloroethene	50.0	54.5	ug/L	0.340	8.90	25	
Trichlorofluoromethane	50.0	50.4	ug/L	0.384	0.800	25	
Vinyl Acetate	50.0	82.2	ug/L	0.286	64.4	40	*

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2339429
Report generated 03/20/2012 11:55



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392258-02
 Instrument ID: HPMS8 Run Time: 10:09 Method: 8260B
 File ID: 8M377592 Analyst: ADC QC Key: DOD4
 Workgroup (AAB#): WG392260 Cal ID: HPMS8 - 06-MAR-12
 Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	45.2	ug/L	0.316	9.65	20	
1,2-Dichloropropane	CCC	50.0	48.0	ug/L	0.248	4.00	20	
Chloroform	CCC	50.0	47.4	ug/L	0.392	5.25	20	
Ethylbenzene	CCC	50.0	49.0	ug/L	0.518	1.98	20	
Toluene	CCC	50.0	48.1	ug/L	1.30	3.82	20	
Vinyl Chloride	CCC	50.0	44.9	ug/L	0.239	10.2	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	49.8	ug/L	0.417	0.364	20	
1,1-Dichloroethane	SPCC	50.0	46.7	ug/L	0.388	6.50	20	
Bromoform	SPCC	50.0	52.4	ug/L	0.197	4.74	20	
Chlorobenzene	SPCC	50.0	48.4	ug/L	0.951	3.15	20	
Chloromethane	SPCC	50.0	43.0	ug/L	0.305	14.1	20	
1,1,1,2-Tetrachloroethane		50.0	54.5	ug/L	0.357	8.99	20	
1,1,1-Trichloroethane		50.0	50.3	ug/L	0.379	0.515	20	
1,1,2-Trichloroethane		50.0	50.6	ug/L	0.221	1.18	20	
1,1-Dichloropropene		50.0	49.4	ug/L	0.333	1.18	20	
1,2,3-Trichlorobenzene		50.0	47.6	ug/L	0.855	4.79	20	
1,2,3-Trichloropropane		50.0	47.1	ug/L	0.140	5.80	20	
1,2,4-Trichlorobenzene		50.0	49.3	ug/L	1.04	1.45	20	
1,2,4-Trimethylbenzene		50.0	49.4	ug/L	2.59	1.14	20	
1,2-Dibromo-3-Chloropropane		50.0	49.5	ug/L	0.0763	1.02	20	
1,2-Dibromoethane		50.0	50.3	ug/L	0.231	0.597	20	
1,2-Dichlorobenzene		50.0	48.9	ug/L	1.44	2.10	20	
1,2-Dichloroethane		50.0	46.1	ug/L	0.264	7.77	20	
1,3,5-Trimethylbenzene		50.0	50.2	ug/L	2.50	0.498	20	
1,3-Dichlorobenzene		50.0	50.0	ug/L	1.61	0.0986	20	
1,3-Dichloropropane		50.0	48.1	ug/L	0.357	3.86	20	
1,4-Dichlorobenzene		50.0	49.1	ug/L	1.59	1.88	20	
2,2-Dichloropropane		50.0	50.7	ug/L	0.344	1.48	20	
2-Butanone		50.0	40.5	ug/L	0.0669	19.0	20	
2-Chloroethyl Vinyl Ether		50.0	47.2	ug/L	0.121	5.53	40	
2-Chlorotoluene		50.0	49.1	ug/L	2.12	1.71	20	
2-Hexanone		50.0	43.0	ug/L	0.0625	14.0	20	
4-Chlorotoluene		50.0	48.8	ug/L	1.99	2.50	20	
4-Methyl-2-Pentanone		50.0	42.8	ug/L	0.0571	14.4	20	
Acetone		50.0	42.2	ug/L	0.0444	15.5	20	
Benzene		50.0	48.4	ug/L	0.949	3.13	20	
Bromobenzene		50.0	49.3	ug/L	0.810	1.33	20	
Bromochloromethane		50.0	48.5	ug/L	0.156	3.06	20	
Bromodichloromethane		50.0	52.8	ug/L	0.314	5.60	20	
Bromomethane		50.0	58.1	ug/L	0.187	16.1	20	
Carbon Disulfide		50.0	53.3	ug/L	0.736	6.59	20	
Carbon Tetrachloride		50.0	55.0	ug/L	0.359	9.92	20	

CCV - Modified 03/05/2008

PDF File ID: 2339430

Report generated 03/20/2012 11:55



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392258-02
 Instrument ID: HPMS8 Run Time: 10:09 Method: 8260B
 File ID: 8M377592 Analyst: ADC QC Key: DOD4
 Workgroup (AAB#): WG392260 Cal ID: HPMS8 - 06-MAR-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Dibromochloromethane	50.0	51.6	ug/L	0.333	3.13	20	
Chloroethane	50.0	45.4	ug/L	0.176	9.18	20	
cis-1,2-Dichloroethene	50.0	48.0	ug/L	0.243	4.08	20	
cis-1,3-Dichloropropene	50.0	50.3	ug/L	0.370	0.552	20	
Dibromomethane	50.0	49.4	ug/L	0.123	1.18	20	
Dichlorodifluoromethane	50.0	45.9	ug/L	0.254	8.19	20	
Hexachlorobutadiene	50.0	49.5	ug/L	0.400	0.959	20	
Isopropylbenzene	50.0	49.0	ug/L	1.64	1.96	20	
m-,p-Xylene	100	97.7	ug/L	0.631	2.32	20	
Methylene Chloride	50.0	46.0	ug/L	0.248	8.03	20	
n-Butylbenzene	50.0	50.5	ug/L	2.33	1.01	20	
n-Propylbenzene	50.0	50.3	ug/L	3.36	0.603	20	
Naphthalene	50.0	46.6	ug/L	1.87	6.84	20	
o-Xylene	50.0	48.8	ug/L	0.640	2.48	20	
p-Isopropyltoluene	50.0	50.4	ug/L	2.81	0.801	20	
sec-Butylbenzene	50.0	50.2	ug/L	3.08	0.392	20	
Styrene	50.0	49.1	ug/L	1.09	1.79	20	
tert-Butylbenzene	50.0	51.6	ug/L	0.549	3.20	20	
Tetrachloroethene	50.0	50.4	ug/L	0.299	0.850	20	
trans-1,2-Dichloroethene	50.0	46.3	ug/L	0.310	7.40	20	
trans-1,3-Dichloropropene	50.0	52.0	ug/L	0.403	3.90	20	
Trichloroethene	50.0	49.2	ug/L	0.307	1.51	20	
Trichlorofluoromethane	50.0	45.2	ug/L	0.345	9.51	20	
Vinyl Acetate	50.0	79.6	ug/L	0.278	59.2	40	*
1,2-Dichloroethene	100	94.3	ug/L	0.277	5.74	40	
Xylenes	150	146	ug/L	0.635	2.37	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

CCV - Modified 03/05/2008

PDF File ID: 2339430

Report generated 03/20/2012 11:55



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392403-02
 Instrument ID: HPMS6 Run Time: 11:14 Method: 8260B
 File ID: 6M106519 Analyst: ADC QC Key: DOD4
 Workgroup (AAB#): WG392404 Cal ID: HPMS6 - 13-FEB-12
 Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	50.6	ug/L	0.530	1.11	20	
1,2-Dichloropropane	CCC	50.0	48.1	ug/L	0.306	3.79	20	
Chloroform	CCC	50.0	49.2	ug/L	0.543	1.54	20	
Ethylbenzene	CCC	50.0	53.5	ug/L	0.567	7.10	20	
Toluene	CCC	50.0	51.6	ug/L	1.61	3.23	20	
Vinyl Chloride	CCC	50.0	53.1	ug/L	0.531	6.24	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.4	ug/L	0.464	3.15	20	
1,1-Dichloroethane	SPCC	50.0	49.0	ug/L	0.605	1.94	20	
Bromoform	SPCC	50.0	49.4	ug/L	0.201	1.25	20	
Chlorobenzene	SPCC	50.0	51.8	ug/L	1.04	3.51	20	
Chloromethane	SPCC	50.0	47.2	ug/L	0.628	5.54	20	
1,1,1,2-Tetrachloroethane		50.0	49.9	ug/L	0.391	0.197	20	
1,1,1-Trichloroethane		50.0	50.7	ug/L	0.468	1.43	20	
1,1,2-Trichloroethane		50.0	51.0	ug/L	0.252	1.98	20	
1,1-Dichloropropene		50.0	50.8	ug/L	0.403	1.52	20	
1,2,3-Trichlorobenzene		50.0	46.7	ug/L	0.625	6.65	20	
1,2,3-Trichloropropane		50.0	51.5	ug/L	0.133	2.96	20	
1,2,4-Trichlorobenzene		50.0	49.5	ug/L	0.791	0.960	20	
1,2,4-Trimethylbenzene		50.0	51.0	ug/L	2.50	1.99	20	
1,2-Dibromo-3-Chloropropane		50.0	41.9	ug/L	0.0637	16.2	20	
1,2-Dibromoethane		50.0	46.7	ug/L	0.246	6.66	20	
1,2-Dichlorobenzene		50.0	50.1	ug/L	1.29	0.108	20	
1,2-Dichloroethane		50.0	48.7	ug/L	0.360	2.55	20	
1,3,5-Trimethylbenzene		50.0	50.4	ug/L	2.37	0.732	20	
1,3-Dichlorobenzene		50.0	51.3	ug/L	1.49	2.56	20	
1,3-Dichloropropane		50.0	49.4	ug/L	0.436	1.21	20	
1,4-Dichlorobenzene		50.0	49.9	ug/L	1.49	0.104	20	
2,2-Dichloropropane		50.0	52.6	ug/L	0.464	5.19	20	
2-Butanone		50.0	46.2	ug/L	0.0637	7.65	20	
2-Chloroethyl Vinyl Ether		50.0	41.8	ug/L	0.118	16.5	40	
2-Chlorotoluene		50.0	48.7	ug/L	2.15	2.68	20	
2-Hexanone		50.0	43.6	ug/L	0.108	12.9	20	
4-Chlorotoluene		50.0	50.0	ug/L	2.15	0.0360	20	
4-Methyl-2-Pentanone		50.0	44.1	ug/L	0.0521	11.9	20	
Acetone		50.0	51.9	ug/L	0.0527	3.82	20	
Benzene		50.0	49.2	ug/L	1.13	1.69	20	
Bromobenzene		50.0	52.1	ug/L	0.813	4.26	20	
Bromochloromethane		50.0	53.6	ug/L	0.176	7.13	20	
Bromodichloromethane		50.0	51.1	ug/L	0.358	2.28	20	
Bromomethane		50.0	44.3	ug/L	0.191	11.3	20	
Carbon Disulfide		50.0	53.8	ug/L	0.965	7.69	20	
Carbon Tetrachloride		50.0	54.1	ug/L	0.434	8.25	20	

CCV - Modified 03/05/2008

PDF File ID: 2339430

Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392403-02
Instrument ID: HPMS6 Run Time: 11:14 Method: 8260B
File ID: 6M106519 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG392404 Cal ID: HPMS6 - 13-FEB-12
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Dibromochloromethane	50.0	57.2	ug/L	0.331	14.5	20	
Chloroethane	50.0	49.1	ug/L	0.245	1.84	20	
cis-1,2-Dichloroethene	50.0	51.8	ug/L	0.321	3.63	20	
cis-1,3-Dichloropropene	50.0	44.8	ug/L	0.392	10.5	20	
Dibromomethane	50.0	45.1	ug/L	0.144	9.88	20	
Dichlorodifluoromethane	50.0	48.9	ug/L	0.318	2.26	20	
Hexachlorobutadiene	50.0	48.2	ug/L	0.308	3.62	20	
Isopropylbenzene	50.0	52.8	ug/L	1.62	5.51	20	
m-,p-Xylene	100	107	ug/L	0.698	7.29	20	
Methylene Chloride	50.0	50.2	ug/L	0.305	0.478	20	
n-Butylbenzene	50.0	43.7	ug/L	2.03	12.6	20	
n-Propylbenzene	50.0	50.6	ug/L	3.52	1.29	20	
Naphthalene	50.0	49.2	ug/L	1.25	1.60	20	
o-Xylene	50.0	52.7	ug/L	0.656	5.32	20	
p-Isopropyltoluene	50.0	51.3	ug/L	2.38	2.58	20	
sec-Butylbenzene	50.0	49.5	ug/L	2.73	0.933	20	
Styrene	50.0	49.4	ug/L	1.11	1.23	20	
tert-Butylbenzene	50.0	49.5	ug/L	0.510	1.07	20	
Tetrachloroethene	50.0	54.6	ug/L	0.441	9.19	20	
trans-1,2-Dichloroethene	50.0	52.1	ug/L	0.312	4.27	20	
trans-1,3-Dichloropropene	50.0	47.9	ug/L	0.488	4.24	20	
Trichloroethene	50.0	53.1	ug/L	0.306	6.21	20	
Trichlorofluoromethane	50.0	51.4	ug/L	0.561	2.90	20	
Vinyl Acetate	50.0	37.2	ug/L	0.316	25.6	40	
1,2-Dichloroethene	100	104	ug/L	0.316	3.95	40	
Xylenes	150	160	ug/L	0.677	6.64	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2339430
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12030257
Instrument ID: HPMS8
Workgroup (AAB#): WG392260

ICAL CCV Number: WG391464-08
CAL ID: HPMS8 - 06-MAR-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG391464-08	NA	NA	292993	512783	567697
Upper Limit	NA	NA	585986	1025566	1135394
Lower Limit	NA	NA	146497	256392	283849
L12030257-01	1.00	01	246147	439408	514963
L12030257-02	1.00	01	241041	417631	470556
L12030257-03	1.00	01	236859	416696	473145
L12030257-04	1.00	01	248611	446041	519325
L12030257-05	1.00	01	247019	441525	513148
L12030257-06	1.00	01	237098	422597	477604
WG392260-01	1.00	01	243933	432106	486635
WG392260-02	1.00	01	242974	445946	525959

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2343170
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12030257
Instrument ID: HPMS6
Workgroup (AAB#): WG392404

ICAL CCV Number: WG389416-08
CAL ID: HPMS6 - 13-FEB-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG389416-08	NA	NA	280639	526379	735566
Upper Limit	NA	NA	561278	1052758	1471132
Lower Limit	NA	NA	140320	263190	367783
<u>L12030257-07</u>	1.00	01	177145	364576	547224
L12030257-08	1.00	01	156329	321004	472734
L12030257-09	1.00	01	155957	315733	472375
L12030257-10	1.00	01	155014	318835	469666
L12030257-11	1.00	01	151357	308652	459336
WG392404-01	1.00	01	176220	354542	529668
WG392404-02	1.00	01	198701	367803	553064

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2343170
Report generated 03/20/2012 11:55



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12030257
Instrument ID: HPMS6
Workgroup (AAB#): WG392404

ICAL CCV Number: WG389416-08
CAL ID: HPMS6 - 13-FEB-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG389416-08	NA	NA	18.61	15.05	10.55
Upper Limit	NA	NA	19.11	15.55	11.05
Lower Limit	NA	NA	18.11	14.55	10.05
L12030257-07	1.00	01	18.65	15.09	10.59
L12030257-08	1.00	01	18.65	15.08	10.59
L12030257-09	1.00	01	18.65	15.08	10.59
L12030257-10	1.00	01	18.65	15.08	10.59
L12030257-11	1.00	01	18.65	15.09	10.59
WG392404-01	1.00	01	18.65	15.08	10.59
WG392404-02	1.00	01	18.65	15.08	10.59

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12030257
Instrument ID: HPMS8
Workgroup (AAB#): WG392260

ICAL CCV Number: WG391464-08
CAL ID: HPMS8-06-MAR-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG391464-08	NA	NA	17.06	14.05	10.19
Upper Limit	NA	NA	17.56	14.55	10.69
Lower Limit	NA	NA	16.56	13.55	9.69
L12030257-01	1.00	01	17.06	14.05	10.19
L12030257-02	1.00	01	17.06	14.05	10.2
L12030257-03	1.00	01	17.06	14.05	10.19
L12030257-04	1.00	01	17.06	14.05	10.2
L12030257-05	1.00	01	17.06	14.05	10.19
L12030257-06	1.00	01	17.06	14.05	10.2
WG392260-01	1.00	01	17.06	14.05	10.2
WG392260-02	1.00	01	17.06	14.05	10.19

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits





Login Number: L12030257
Department: Semivolatiles
Analyst: Cassie A. Augenstein

METHOD

Preparation 3520C

Analysis SW-846 8270C/40 CFR 264 App. IX

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analytes: 2,4-Dinitrophenol, 2-Chloronaphthalene, 4,6-Dinitro-2-Methylphenol, bis(2-Chloroisopropyl)ether, Pentachlorophenol. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: Benzoic Acid. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: RPDs out of range were observed for the following analyte: Benzoic acid. Please see the applicable QC report for a detailed presentation of the failure.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 43459

Approved By: Mike Cochran



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12030257
Instrument Id: HPMS12
Workgroup (AAB#): WG392169

Method: 8270
CAL ID: HPMS12 - 29-FEB-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4	5	6
L12030257-01	1.00	01	69.6	57.6	63.1	59.5	86.7	67.1
L12030257-03	1.00	01	65.9	57.4	60.4	56.8	85.4	63.1
L12030257-04	1.00	01	80.8	61.7	58.9	60.5	82.0	67.7
L12030257-05	1.00	01	77.6	61.3	61.1	59.2	80.3	66.9
L12030257-06	1.00	01	68.7	57.4	61.9	58.5	79.2	64.9
L12030257-07	1.00	01	68.2	60.0	61.5	61.0	83.6	64.4
L12030257-08	1.00	01	70.0	56.6	57.4	54.2	85.0	61.0
L12030257-09	1.00	01	63.4	54.2	58.6	57.5	81.4	63.8
L12030257-10	1.00	01	72.1	56.0	57.2	55.4	86.6	65.4
L12030257-11	1.00	01	70.0	55.7	60.2	57.5	85.1	66.4
WG391879-02	1.00	01	63.7	54.1	59.0	54.1	89.7	62.5
WG391879-03	1.00	01	77.6	63.7	63.0	63.4	85.5	70.5

Surrogates	Surrogate Limits
1 - 2,4,6-Tribromophenol	40 - 125
2 - 2-Fluorobiphenyl	50 - 110
3 - 2-Fluorophenol	20 - 110
4 - Nitrobenzene-d5	40 - 110
5 - p-Terphenyl-d14	50 - 135
6 - Phenol-d5	10 - 115

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2339091
Report generated: 03/16/2012 13:10



METHOD BLANK SUMMARY

Login Number: <u>L12030257</u>	Work Group: <u>WG392169</u>
Blank File ID: <u>12M38927</u>	Blank Sample ID: <u>WG391879-02</u>
Prep Date: <u>03/12/12 08:30</u>	Instrument ID: <u>HPMS12</u>
Analyzed Date: <u>03/15/12 09:38</u>	Method: <u>8270C</u>
Analyst: <u>CAA</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG391879-03	12M38928	03/15/12 10:11	01
40MW7GW030612	L12030257-01	12M38929	03/15/12 10:44	01
40LFMW01GW030612	L12030257-03	12M38930	03/15/12 11:18	01
40LFMW01MSGW030612	L12030257-04	12M38931	03/15/12 11:51	01
40LFMW01MSDGW030612	L12030257-05	12M38932	03/15/12 12:24	01
40DUPGW030612	L12030257-06	12M38933	03/15/12 12:57	01
40FB030612	L12030257-07	12M38934	03/15/12 13:31	01
40EQR030612	L12030257-08	12M38935	03/15/12 14:04	01
40MW5GW030712	L12030257-09	12M38936	03/15/12 14:37	01
40EQR030712	L12030257-10	12M38937	03/15/12 15:10	01
40MW6GW030712	L12030257-11	12M38938	03/15/12 15:44	01

Report Name: BLANK_SUMMARY
PDF File ID: 2339082
Report generated 03/16/2012 13:09



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/12/12 08:30 Sample ID: WG391879-02
 Instrument ID: HPMS12 Run Date: 03/15/12 09:38 Prep Method: 3520C
 File ID: 12M38927 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG392169 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS12 - 29-FEB-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
1,2,4-Trichlorobenzene	2.50	5.00	2.50	1	U
1,2-Dichlorobenzene	2.50	5.00	2.50	1	U
1,3-Dichlorobenzene	2.50	5.00	2.50	1	U
1,4-Dichlorobenzene	2.50	5.00	2.50	1	U
2,4,5-Trichlorophenol	2.50	5.00	2.50	1	U
2,4,6-Trichlorophenol	2.50	5.00	2.50	1	U
2,4-Dichlorophenol	2.50	5.00	2.50	1	U
2,4-Dimethylphenol	2.50	5.00	2.50	1	U
2,4-Dinitrophenol	12.5	25.0	12.5	1	U
2,4-Dinitrotoluene	2.50	5.00	2.50	1	U
2,6-Dinitrotoluene	2.50	5.00	2.50	1	U
2-Chloronaphthalene	2.50	5.00	2.50	1	U
2-Chlorophenol	2.50	5.00	2.50	1	U
2-Methylnaphthalene	2.50	5.00	2.50	1	U
2-Methylphenol	2.50	5.00	2.50	1	U
2-Nitroaniline	12.5	25.0	12.5	1	U
2-Nitrophenol	2.50	5.00	2.50	1	U
3,3'-Dichlorobenzidine	2.50	10.0	2.50	1	U
3-,4-Methylphenol	2.50	5.00	2.50	1	U
3-Nitroaniline	12.5	25.0	12.5	1	U
4,6-Dinitro-2-methylphenol	12.5	25.0	12.5	1	U
4-Bromophenyl-phenylether	2.50	5.00	2.50	1	U
4-Chloro-3-methylphenol	2.50	5.00	2.50	1	U
4-Chloroaniline	2.50	5.00	2.50	1	U
4-Chlorophenyl-phenyl ether	2.50	5.00	2.50	1	U
4-Nitroaniline	12.5	25.0	12.5	1	U
4-Nitrophenol	12.5	25.0	12.5	1	U
Acenaphthene	2.50	5.00	2.50	1	U
Acenaphthylene	2.50	5.00	2.50	1	U
Anthracene	2.50	5.00	2.50	1	U
Benzo(a)anthracene	2.50	5.00	2.50	1	U
Benzo(a)pyrene	2.50	5.00	2.50	1	U
Benzo(b)fluoranthene	2.50	5.00	2.50	1	U
Benzo(g,h,i)Perylene	2.50	5.00	2.50	1	U
Benzo(k)fluoranthene	2.50	5.00	2.50	1	U
Benzoic acid	12.5	25.0	12.5	1	U
Benzyl alcohol	2.50	5.00	2.50	1	U
Bis(2-Chloroethoxy)Methane	2.50	5.00	2.50	1	U
Bis(2-Chloroethyl)ether	2.50	5.00	2.50	1	U
bis(2-Chloroisopropyl)ether	2.50	5.00	2.50	1	U
bis(2-Ethylhexyl)phthalate	3.00	10.0	3.00	1	U
Butylbenzylphthalate	2.50	5.00	2.50	1	U

Report Name: BLANK

PDF ID: 2339083

16-MAR-2012 13:09



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/12/12 08:30 Sample ID: WG391879-02
 Instrument ID: HPMS12 Run Date: 03/15/12 09:38 Prep Method: 3520C
 File ID: 12M38927 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG392169 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS12 - 29-FEB-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Chrysene	2.50	5.00	2.50	1	U
Di-N-Butylphthalate	2.50	5.00	2.50	1	U
Di-n-octylphthalate	2.50	5.00	2.50	1	U
Dibenzo (a, h) Anthracene	2.50	5.00	2.50	1	U
Dibenzofuran	2.50	5.00	2.50	1	U
Diethylphthalate	2.50	5.00	2.50	1	U
Dimethylphthalate	2.50	5.00	2.50	1	U
Fluoranthene	2.50	5.00	2.50	1	U
Fluorene	2.50	5.00	2.50	1	U
Hexachlorobenzene	2.50	5.00	2.50	1	U
Hexachlorobutadiene	2.50	5.00	2.50	1	U
Hexachlorocyclopentadiene	2.50	5.00	2.50	1	U
Hexachloroethane	2.50	5.00	2.50	1	U
Indeno (1, 2, 3-cd) pyrene	2.50	5.00	2.50	1	U
Isophorone	2.50	5.00	2.50	1	U
N-Nitrosodiphenylamine	2.50	5.00	2.50	1	U
N-Nitrosodipropylamine	2.50	5.00	2.50	1	U
Naphthalene	2.50	5.00	2.50	1	U
Nitrobenzene	2.50	5.00	2.50	1	U
Pentachlorophenol	12.5	25.0	12.5	1	U
Phenanthrene	2.50	5.00	2.50	1	U
Phenol	2.50	5.00	2.50	1	U
Pyrene	2.50	5.00	2.50	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,6-Tribromophenol	63.7	40 - 125	PASS
2-Fluorobiphenyl	54.1	50 - 110	PASS
2-Fluorophenol	59.0	20 - 110	PASS
Nitrobenzene-d5	54.1	40 - 110	PASS
p-Terphenyl-d14	89.7	50 - 135	PASS
Phenol-d5	62.5	10 - 115	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2339083

16-MAR-2012 13:09



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG391879-03
Instrument ID: HPMS12 Run Time: 10:11 Prep Method: 3520C
File ID: 12M38928 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG392169 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD50250 Cal ID: HPMS12 - 29-FEB-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
1,2,4-Trichlorobenzene	50.0	30.3	60.6	35 - 105	
1,2-Dichlorobenzene	50.0	30.3	60.5	35 - 100	
1,3-Dichlorobenzene	50.0	27.4	54.9	30 - 100	
1,4-Dichlorobenzene	50.0	28.4	56.9	30 - 100	
2,4,5-Trichlorophenol	50.0	40.8	81.5	50 - 110	
2,4,6-Trichlorophenol	50.0	40.8	81.7	50 - 115	
2,4-Dichlorophenol	50.0	39.3	78.5	50 - 105	
2,4-Dimethylphenol	50.0	38.9	77.7	30 - 110	
2,4-Dinitrophenol	50.0	50.2	100	15 - 140	
2,4-Dinitrotoluene	50.0	44.0	88.0	50 - 120	
2,6-Dinitrotoluene	50.0	41.2	82.5	50 - 115	
2-Chloronaphthalene	50.0	37.2	74.4	50 - 105	
2-Chlorophenol	50.0	35.4	70.8	35 - 105	
2-Methylnaphthalene	50.0	36.2	72.4	45 - 105	
2-Methylphenol	50.0	39.9	79.7	40 - 110	
2-Nitroaniline	50.0	45.8	91.6	50 - 115	
2-Nitrophenol	50.0	39.6	79.3	40 - 115	
3,3'-Dichlorobenzidine	50.0	40.2	80.5	20 - 110	
3-,4-Methylphenol	50.0	40.4	80.7	30 - 110	
3-Nitroaniline	50.0	44.5	89.1	20 - 125	
4,6-Dinitro-2-methylphenol	50.0	49.3	98.6	40 - 130	
4-Bromophenyl-phenylether	50.0	39.4	78.7	50 - 115	
4-Chloro-3-methylphenol	50.0	43.5	87.1	45 - 110	
4-Chloroaniline	50.0	32.8	65.6	15 - 110	
4-Chlorophenyl-phenyl ether	50.0	38.4	76.9	50 - 110	
4-Nitroaniline	50.0	45.4	90.8	35 - 120	
4-Nitrophenol	50.0	48.4	96.8	0 - 125	
Acenaphthene	50.0	41.0	81.9	45 - 110	
Acenaphthylene	50.0	37.1	74.3	50 - 105	
Anthracene	50.0	42.4	84.8	55 - 110	
Benzo(a)anthracene	50.0	48.9	97.8	55 - 110	
Benzo(a)pyrene	50.0	47.3	94.6	55 - 110	
Benzo(b)fluoranthene	50.0	46.1	92.1	45 - 120	
Benzo(g,h,i)Perylene	50.0	47.5	95.0	40 - 125	
Benzo(k)fluoranthene	50.0	50.3	101	45 - 125	
Benzoic acid	50.0	24.5	48.9	0 - 125	
Benzyl alcohol	50.0	39.7	79.5	30 - 110	
Bis(2-Chloroethoxy)Methane	50.0	29.0	58.0	45 - 105	
Bis(2-Chloroethyl)ether	50.0	38.9	77.8	35 - 110	
bis(2-Chloroisopropyl)ether	50.0	47.8	95.6	25 - 130	
bis(2-Ethylhexyl)phthalate	50.0	51.5	103	40 - 125	

LCS - Modified 03/06/2008
PDF File ID: 2339084
Report generated: 03/16/2012 13:09



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG391879-03
Instrument ID: HPMS12 Run Time: 10:11 Prep Method: 3520C
File ID: 12M38928 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG392169 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD50250 Cal ID: HPMS12 - 29-FEB-12

Analytes	Expected	Found	% Rec	LCS Limits			Q
Butylbenzylphthalate	50.0	49.6	99.2	45	-	115	
Chrysene	50.0	50.7	101	55	-	110	
Di-N-Butylphthalate	50.0	44.3	88.6	55	-	115	
Di-n-octylphthalate	50.0	52.6	105	35	-	135	
Dibenzo(a,h)Anthracene	50.0	47.3	94.5	40	-	125	
Dibenzofuran	50.0	40.0	80.0	55	-	105	
Diethylphthalate	50.0	42.9	85.7	40	-	120	
Dimethylphthalate	50.0	39.5	79.0	25	-	125	
Fluoranthene	50.0	45.2	90.4	55	-	115	
Fluorene	50.0	39.9	79.8	50	-	110	
Hexachlorobenzene	50.0	42.1	84.3	50	-	110	
Hexachlorobutadiene	50.0	33.0	65.9	25	-	105	
Hexachlorocyclopentadiene	50.0	22.7	45.5	20	-	143	
Hexachloroethane	50.0	27.5	55.0	30	-	100	
Indeno(1,2,3-cd)pyrene	50.0	47.4	94.7	45	-	125	
Isophorone	50.0	42.0	84.0	50	-	110	
N-Nitrosodiphenylamine	50.0	41.3	82.7	50	-	110	
N-Nitrosodipropylamine	50.0	41.6	83.2	35	-	130	
Naphthalene	50.0	39.4	78.7	40	-	100	
Nitrobenzene	50.0	39.2	78.5	45	-	110	
Pentachlorophenol	50.0	45.9	91.8	40	-	115	
Phenanthrene	50.0	43.7	87.5	50	-	115	
Phenol	50.0	38.8	77.7	0	-	115	
Pyrene	50.0	46.7	93.4	50	-	130	

Surrogates	% Recovery	Surrogate Limits			Qualifier
2,4,6-Tribromophenol	77.6	40	-	125	PASS
2-Fluorobiphenyl	63.7	50	-	110	PASS
2-Fluorophenol	63.0	20	-	110	PASS
Nitrobenzene-d5	63.4	40	-	110	PASS
p-Terphenyl-d14	85.5	50	-	135	PASS
Phenol-d5	70.5	10	-	115	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2339084
Report generated: 03/16/2012 13:09



MS/MSD REPORT

Loginnum: L12030257

Cal ID: HPMS12- 29-FEB-12

Worknum: WG392169

Instrument ID: HPMS12

Contract #:

Prep Method: 3520C

Parent ID: L12030257-03

File ID: 12M38930

Dil: 1

Method: 8270C

Sample ID: L12030257-04 MS

File ID: 12M38931

Dil: 1

Matrix: Water

Sample ID: L12030257-05 MSD

File ID: 12M38932

Dil: 1

Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,2,4-Trichlorobenzene	U	52.1	29.4	56.4	53.2	28.1	52.8	4.53	35 - 105	30	
1,2-Dichlorobenzene	U	52.1	29.0	55.8	53.2	26.4	49.7	9.38	35 - 100	30	
1,3-Dichlorobenzene	U	52.1	26.2	50.2	53.2	23.3	43.8	11.5	30 - 100	30	
1,4-Dichlorobenzene	U	52.1	26.9	51.6	53.2	24.5	46.1	9.10	30 - 100	30	
2,4,5-Trichlorophenol	U	52.1	42.1	80.8	53.2	42.4	79.7	0.698	50 - 110	30	
2,4,6-Trichlorophenol	U	52.1	42.5	81.5	53.2	43.3	81.3	1.84	50 - 115	30	
2,4-Dichlorophenol	U	52.1	41.2	79.1	53.2	41.6	78.2	1.02	50 - 105	30	
2,4-Dimethylphenol	U	52.1	39.4	75.6	53.2	39.9	75	1.37	30 - 110	30	
2,4-Dinitrophenol	U	52.1	50.3	96.5	53.2	51.5	96.9	2.51	15 - 140	30	
2,4-Dinitrotoluene	U	52.1	46.7	89.7	53.2	45.9	86.4	1.68	50 - 120	30	
2,6-Dinitrotoluene	U	52.1	43.2	82.9	53.2	42.7	80.3	1.11	50 - 115	30	
2-Chloronaphthalene	U	52.1	37.1	71.2	53.2	37.7	70.9	1.76	50 - 105	30	
2-Chlorophenol	U	52.1	35.7	68.5	53.2	37.1	69.8	4.04	35 - 105	30	
2-Methylnaphthalene	U	52.1	36.1	69.2	53.2	35.9	67.4	0.587	45 - 105	30	
2-Methylphenol	U	52.1	40.9	78.6	53.2	41.5	78	1.33	40 - 110	30	
2-Nitroaniline	U	52.1	46.0	88.3	53.2	44.2	83.1	3.91	50 - 115	30	
2-Nitrophenol	U	52.1	39.6	76	53.2	41.0	77.1	3.51	40 - 115	30	
3,3'-Dichlorobenzidine	U	52.1	43.0	82.6	53.2	43.0	80.8	0.0090	20 - 110	30	
3-,4-Methylphenol	U	52.1	41.2	79	53.2	41.6	78.2	1.07	30 - 110	30	
3-Nitroaniline	U	52.1	48.2	92.5	53.2	45.8	86.2	5.06	20 - 125	30	
4,6-Dinitro-2-methylphenol	U	52.1	50.8	97.5	53.2	50.5	94.9	0.588	40 - 130	30	
4-Bromophenyl-phenylether	U	52.1	42.2	81	53.2	42.4	79.7	0.476	50 - 115	30	
4-Chloro-3-methylphenol	U	52.1	44.6	85.7	53.2	44.5	83.6	0.364	45 - 110	30	
4-Chloroaniline	U	52.1	33.1	63.5	53.2	32.8	61.6	0.802	15 - 110	30	
4-Chlorophenyl-phenyl ether	U	52.1	39.9	76.7	53.2	40.0	75.3	0.270	50 - 110	30	
4-Nitroaniline	U	52.1	48.0	92.2	53.2	45.2	85	6.03	35 - 120	30	
4-Nitrophenol	U	52.1	48.9	93.9	53.2	47.5	89.4	2.80	0 - 125	30	
Acenaphthene	U	52.1	40.8	78.4	53.2	41.5	78	1.62	45 - 110	30	
Acenaphthylene	U	52.1	37.1	71.3	53.2	37.7	70.8	1.51	50 - 105	30	
Anthracene	U	52.1	44.8	85.9	53.2	44.2	83	1.36	55 - 110	30	
Benzo (a) anthracene	U	52.1	49.5	95	53.2	50.2	94.4	1.53	55 - 110	30	
Benzo (a) pyrene	U	52.1	48.0	92.2	53.2	49.0	92.2	2.16	55 - 110	30	
Benzo (b) fluoranthene	U	52.1	45.4	87.2	53.2	48.3	90.9	6.28	45 - 120	30	
Benzo (g,h,i) Perylene	U	52.1	48.9	93.9	53.2	49.7	93.4	1.55	40 - 125	30	
Benzo (k) fluoranthene	U	52.1	50.6	97.2	53.2	52.5	98.7	3.64	45 - 125	30	
Benzoic acid	U	52.1	0	0	53.2	22.1	41.6	200	0 - 125	30	#
Benzyl alcohol	U	52.1	40.9	78.5	53.2	41.7	78.3	1.86	30 - 110	30	
Bis (2-Chloroethoxy) Methane	U	52.1	29.3	56.2	53.2	29.0	54.4	1.03	45 - 105	30	
Bis (2-Chloroethyl) ether	U	52.1	37.9	72.8	53.2	38.6	72.5	1.71	35 - 110	30	
bis (2-Chloroisopropyl) ether	U	52.1	46.4	89.1	53.2	46.1	86.7	0.586	25 - 130	30	
bis (2-Ethylhexyl) phthalate	U	52.1	52.1	100	53.2	50.7	95.3	2.77	40 - 125	30	

MS MSD - Modified 03/06/2008

PDF File ID: 2339085

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MS/MSD REPORT

Loginnum: L12030257

Cal ID: HPMS12 29-FEB-12

Worknum: WG392169

Instrument ID: HPMS12

Contract #:

Prep Method: 3520C

Parent ID: L12030257-03

File ID: 12M38930

Dil: 1

Method: 8270C

Sample ID: L12030257-04 MS

File ID: 12M38931

Dil: 1

Matrix: Water

Sample ID: L12030257-05 MSD

File ID: 12M38932

Dil: 1

Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Butylbenzylphthalate	U	52.1	48.7	93.5	53.2	49.1	92.4	0.878	45 - 115	30	
Chrysene	U	52.1	51.3	98.5	53.2	51.9	97.5	1.12	55 - 110	30	
Di-N-Butylphthalate	U	52.1	45.5	87.4	53.2	45.3	85.2	0.334	55 - 115	30	
Di-n-octylphthalate	U	52.1	51.9	99.6	53.2	52.0	97.8	0.245	35 - 135	30	
Dibenzo(a,h)Anthracene	U	52.1	49.2	94.5	53.2	49.9	93.8	1.39	40 - 125	30	
Dibenzofuran	U	52.1	40.5	77.7	53.2	40.9	76.9	1.07	55 - 105	30	
Diethylphthalate	U	52.1	44.8	86	53.2	43.7	82.1	2.54	40 - 120	30	
Dimethylphthalate	U	52.1	41.4	79.5	53.2	40.9	77	1.21	25 - 125	30	
Fluoranthene	U	52.1	47.4	90.9	53.2	47.4	89.1	0.0369	55 - 115	30	
Fluorene	U	52.1	41.6	80	53.2	41.2	77.5	1.00	50 - 110	30	
Hexachlorobenzene	U	52.1	45.2	86.9	53.2	44.5	83.6	1.71	50 - 110	30	
Hexachlorobutadiene	U	52.1	31.3	60	53.2	28.4	53.3	9.70	25 - 105	30	
Hexachlorocyclopentadiene	U	52.1	19.9	38.2	53.2	21.1	39.7	5.81	20 - 143	30	
Hexachloroethane	U	52.1	25.2	48.4	53.2	21.1	39.6	17.8	30 - 100	30	
Indeno(1,2,3-cd)pyrene	U	52.1	49.1	94.4	53.2	49.8	93.6	1.30	45 - 125	30	
Isophorone	U	52.1	42.5	81.6	53.2	42.0	79	1.18	50 - 110	30	
N-Nitrosodiphenylamine	U	52.1	41.4	79.5	53.2	42.5	80	2.65	50 - 110	30	
N-Nitrosodipropylamine	U	52.1	42.0	80.7	53.2	41.5	77.9	1.38	35 - 130	30	
Naphthalene	U	52.1	38.8	74.4	53.2	37.9	71.2	2.30	40 - 100	30	
Nitrobenzene	U	52.1	39.1	75	53.2	39.0	73.4	0.0679	45 - 110	30	
Pentachlorophenol	U	52.1	49.2	94.5	53.2	49.0	92.2	0.347	40 - 115	30	
Phenanthrene	U	52.1	46.0	88.2	53.2	45.2	84.9	1.78	50 - 115	30	
Phenol	U	52.1	39.3	75.5	53.2	40.3	75.8	2.48	0 - 115	30	
Pyrene	U	52.1	46.6	89.4	53.2	47.8	89.9	2.56	50 - 130	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2339085

Report generated 03/16/2012 13:09



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12030257 Tune ID: WG390746-01
Instrument: HPMS12 Run Date: 02/29/2012
Analyst: CAA Run Time: 09:49
Workgroup: WG390746 File ID: 12M38702
Cal ID: HPMS12 - 29-FEB-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	44.0	170820	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	44.1	171213	PASS
70.0	69.0	0	2.00	0.800	1369	PASS
127	198	40.0	60.0	49.2	190824	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	387925	PASS
199	198	5.00	9.00	6.68	25905	PASS
275	198	10.0	30.0	23.3	90229	PASS
365	198	1.00	100	2.99	11612	PASS
441	443	0.0100	100	77.3	46960	PASS
442	198	40.0	100	81.7	316906	PASS
443	442	17.0	23.0	19.2	60757	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG390746-02	STD-CCV	01	02/29/2012 10:08	
WG390746-03	STD	01	02/29/2012 10:40	
WG390746-04	STD	01	02/29/2012 11:12	
WG390746-05	STD	01	02/29/2012 11:45	
WG390746-06	STD	01	02/29/2012 12:18	
WG390746-07	STD	01	02/29/2012 12:50	
WG390746-08	STD	01	02/29/2012 13:23	
WG390746-09	STD	01	02/29/2012 13:55	
WG390746-10	SSCV	01	02/29/2012 14:28	
WG390746-11	SSCV	01	02/29/2012 15:01	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2339088
Report generated 03/16/2012 13:10



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12030257 Tune ID: WG392250-01
Instrument: HPMS12 Run Date: 03/15/2012
Analyst: CAA Run Time: 08:46
Workgroup: WG392250 File ID: 12M38925
Cal ID: HPMS12 - 29-FEB-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	35.9	211725	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	38.9	229441	PASS
70.0	69.0	0	2.00	0.644	1477	PASS
127	198	40.0	60.0	45.9	270452	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	589354	PASS
199	198	5.00	9.00	6.80	40072	PASS
275	198	10.0	30.0	25.2	148586	PASS
365	198	1.00	100	3.39	19994	PASS
441	443	0.0100	100	79.3	78349	PASS
442	198	40.0	100	89.5	527552	PASS
443	442	17.0	23.0	18.7	98813	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG392250-02	CCV	01	03/15/2012 09:05	
WG391879-02	BLANK	01	03/15/2012 09:38	
WG391879-03	LCS	01	03/15/2012 10:11	
L12030257-01	40MW7GW030612	01	03/15/2012 10:44	
L12030257-03	40LFMW01GW030612	01	03/15/2012 11:18	
L12030257-04	40LFMW01MSGW030612	01	03/15/2012 11:51	
L12030257-05	40LFMW01MSDGW030612	01	03/15/2012 12:24	
L12030257-06	40DUPGW030612	01	03/15/2012 12:57	
L12030257-07	40FB030612	01	03/15/2012 13:31	
L12030257-08	40EQR030612	01	03/15/2012 14:04	
L12030257-09	40MW5GW030712	01	03/15/2012 14:37	
L12030257-10	40EQR030712	01	03/15/2012 15:10	
L12030257-11	40MW6GW030712	01	03/15/2012 15:44	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2339088
Report generated 03/16/2012 13:10



Login Number: L12030257
Analytical Method: 8270C
ICAL Workgroup: WG390746

Instrument ID: HPMS12
Initial Calibration Date: 29-FEB-12 13:55
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
1,4-Dichlorobenzene	CCC	1.644	2.84		
2,4,6-Trichlorophenol	CCC	0.4342	4.47		
2,4-Dichlorophenol	CCC	0.3219	5.30		
2-Nitrophenol	CCC	0.2052	4.84		
4-Chloro-3-Methylphenol	CCC	0.3646	2.62		
Acenaphthene	CCC	1.304	6.03		
Benzo[a]pyrene	CCC	1.132	2.76		
Di-n-Octyl Phthalate	CCC	1.349	3.91		
Fluoranthene	CCC	1.256	4.34		
Hexachlorobutadiene	CCC	0.2362	3.85		
Pentachlorophenol	CCC	0.1817	8.80		
Phenol	CCC	1.780	2.04		
2,4-Dinitrophenol	SPCC	0.1714	23.9		0.99900
4-Nitrophenol	SPCC	0.3087	3.91		
Hexachlorocyclopentadiene	SPCC	0.3729	7.57		
n-Nitrosodipropylamine	SPCC	1.106	4.27		
1,2,4-Trichlorobenzene		0.4027	4.28		
1,2-Dichlorobenzene		1.570	5.41		
1,3-Dichlorobenzene		1.604	2.94		
2,4,5-Trichlorophenol		0.4688	4.71		
2,4-Dimethylphenol		0.3598	14.3		
2,4-Dinitrotoluene		0.4463	6.62		
2,6-Dinitrotoluene		0.3357	3.52		
2-Chloronaphthalene		1.234	3.94		
2-Chlorophenol		1.394	2.29		
2-Methylnaphthalene		0.7685	5.50		
2-Methylphenol		1.196	4.29		
2-Nitroaniline		0.4041	1.52		
3,3'-Dichlorobenzidine		0.3980	7.70		
3-Nitroaniline		0.2977	14.5		
4,6-Dinitro-2-Methylphenol		0.1160	16.3	0.99200	
4-Bromophenyl Phenyl Ether		0.2457	3.91		
4-Chloroaniline		0.5278	12.6		
4-Chlorophenyl Phenyl Ether		0.7822	5.59		
4-Nitroaniline		0.3485	7.90		
Acenaphthylene		2.022	5.03		
Anthracene		1.201	4.32		
Benzo[a]anthracene		1.161	3.23		
Benzo[b]fluoranthene		1.342	6.89		
Benzo[ghi]perylene		0.9193	3.29		
Benzo[k]fluoranthene		1.122	4.12		
Benzoic Acid		0.3298	11.4		
Benzyl Alcohol		0.9448	2.54		
Butyl Benzyl Phthalate		0.5786	2.75		
Chrysene		1.082	3.47		

INT_CAL - Modified 03/06/2008
PDF File ID: 2339086
Report generated 03/16/2012 13:10



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12030257
Analytical Method: 8270C
ICAL Workgroup: WG390746

Instrument ID: HPMS12
Initial Calibration Date: 29-FEB-12 13:55
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Di-n-Butyl Phthalate		1.317	1.94		
Dibenz [ah] anthracene		0.9902	2.73		
Dibenzofuran		1.752	4.98		
Diethylphthalate		1.490	1.89		
Dimethylphthalate		1.449	2.93		
Fluorene		1.547	7.04		
Hexachlorobenzene		0.2531	3.83		
Hexachloroethane		0.6566	1.75		
Indeno [1,2,3-cd] pyrene		1.164	1.87		
Isophorone		0.7674	2.74		
Naphthalene		1.150	3.57		
Nitrobenzene		0.4377	3.49		
Phenanthrene		1.171	4.27		
Pyrene		1.271	3.50		
bis (2-Chloroethoxy) methane		0.6266	2.04		
bis (2-Chloroethyl) ether		1.110	5.56		
bis (2-Chloroisopropyl) ether		1.400	5.19		
bis (2-Ethylhexyl) phthalate		0.7795	2.80		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
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Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12030257
Analytical Method: 8270C

Instrument ID: HPMS12
Initial Calibration Date: 29-FEB-12 13:55
Column ID: F

Analyte	WG390746-02			WG390746-03			WG390746-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,4-Dichlorobenzene	50.0	520847.000	1.608	3.00	26351.0000	1.699	10.0	76143.0000	1.587
2,4,6-Trichlorophenol	50.0	312766.000	0.4261	3.00	14652.0000	0.4338	10.0	43900.0000	0.4182
2,4-Dichlorophenol	50.0	394829.000	0.3234	3.00	18107.0000	0.3156	10.0	54696.0000	0.3031
2-Nitrophenol	50.0	254277.000	0.2083	3.00	10910.0000	0.1902	10.0	34793.0000	0.1928
4-Chloro-3-Methylphenol	50.0	445356.000	0.3648	3.00	21216.0000	0.3698	10.0	62497.0000	0.3463
Acenaphthene	50.0	926353.000	1.262	3.00	44135.0000	1.307	10.0	127493.000	1.215
Benzo[a]pyrene	50.0	1448697.00	1.113	3.00	70706.0000	1.138	10.0	210134.000	1.096
Di-n-Octyl Phthalate	50.0	1733467.00	1.332	3.00	81647.0000	1.314	10.0	247801.000	1.292
Fluoranthene	50.0	1671399.00	1.222	3.00	80238.0000	1.289	10.0	233542.000	1.187
Hexachlorobutadiene	50.0	275879.000	0.2260	3.00	14613.0000	0.2547	10.0	42579.0000	0.2360
Pentachlorophenol	50.0	256213.000	0.1874	NA	NA	NA	10.0	31578.0000	0.1604
Phenol	50.0	582702.000	1.799	3.00	28726.0000	1.852	10.0	83329.0000	1.737
2,4-Dinitrophenol	50.0	117474.000	0.1601	NA	NA	NA	NA	NA	NA
4-Nitrophenol	50.0	219779.000	0.2994	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50.0	288714.000	0.3934	3.00	10824.0000	0.3205	10.0	37259.0000	0.3550
n-Nitrosodipropylamine	50.0	353694.000	1.092	3.00	17955.0000	1.158	10.0	54185.0000	1.129
1,2,4-Trichlorobenzene	50.0	481938.000	0.3948	3.00	23814.0000	0.4151	10.0	68658.0000	0.3805
1,2-Dichlorobenzene	50.0	498321.000	1.538	3.00	25021.0000	1.613	10.0	70384.0000	1.467
1,3-Dichlorobenzene	50.0	514506.000	1.588	3.00	25682.0000	1.656	10.0	74054.0000	1.543
2,4,5-Trichlorophenol	50.0	335615.000	0.4573	3.00	15352.0000	0.4545	10.0	47265.0000	0.4503
2,4-Dimethylphenol	50.0	420735.000	0.3446	3.00	27815.0000	0.4849	10.0	60194.0000	0.3336
2,4-Dinitrotoluene	50.0	323766.000	0.4411	3.00	14085.0000	0.4170	10.0	43948.0000	0.4187
2,6-Dinitrotoluene	50.0	240084.000	0.3271	3.00	11197.0000	0.3315	10.0	34556.0000	0.3292
2-Chloronaphthalene	50.0	879405.000	1.198	3.00	41853.0000	1.239	10.0	125906.000	1.200
2-Chlorophenol	50.0	447791.000	1.382	3.00	22428.0000	1.446	10.0	64527.0000	1.345
2-Methylnaphthalene	50.0	939156.000	0.7693	3.00	45023.0000	0.7849	10.0	129298.000	0.7165
2-Methylphenol	50.0	390834.000	1.207	3.00	18231.0000	1.175	10.0	54268.0000	1.131
2-Nitroaniline	50.0	289892.000	0.3950	3.00	13672.0000	0.4048	10.0	42141.0000	0.4015
3,3'-Dichlorobenzidine	50.0	534093.000	0.3853	3.00	29160.0000	0.4513	10.0	74666.0000	0.3702
3-Nitroaniline	50.0	224178.000	0.3054	NA	NA	NA	10.0	26949.0000	0.2568
4,6-Dinitro-2-Methylphenol	50.0	155932.000	0.1140	NA	NA	NA	10.0	17675.0000	0.08980
4-Bromophenyl Phenyl Ether	50.0	324234.000	0.2371	3.00	15664.0000	0.2516	10.0	46985.0000	0.2387
4-Chloroaniline	50.0	555072.000	0.4547	3.00	34859.0000	0.6077	10.0	102844.000	0.5699
4-Chlorophenyl Phenyl Ether	50.0	553281.000	0.7538	3.00	26924.0000	0.7972	10.0	77120.0000	0.7347
4-Nitroaniline	50.0	265237.000	0.3614	NA	NA	NA	10.0	32517.0000	0.3098
Acenaphthylene	50.0	1454720.00	1.982	3.00	68416.0000	2.026	10.0	199861.000	1.904
Anthracene	50.0	1645799.00	1.204	3.00	74691.0000	1.200	10.0	222684.000	1.131
Benzo[a]anthracene	50.0	1574386.00	1.136	3.00	77892.0000	1.206	10.0	225474.000	1.118
Benzo[b]fluoranthene	50.0	1676668.00	1.288	3.00	81719.0000	1.315	10.0	251045.000	1.309
Benzo[ghi]perylene	50.0	1202356.00	0.9239	3.00	58583.0000	0.9426	10.0	177360.000	0.9249
Benzo[k]fluoranthene	50.0	1386593.00	1.065	3.00	72905.0000	1.173	10.0	203448.000	1.061
Benzoic Acid	50.0	430532.000	0.3526	NA	NA	NA	NA	NA	NA

INT_CAL - Modified 03/06/2008
PDF File ID: 2339086
Report generated 03/16/2012 13:10



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12030257
Analytical Method:8270C

Instrument ID:HPMS12
Initial Calibration Date:29-FEB-12 13:55
Column ID:F

Analyte	WG390746-02			WG390746-03			WG390746-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	50.0	311282.000	0.9609	3.00	14232.0000	0.9175	10.0	44008.0000	0.9171
Butyl Benzyl Phthalate	50.0	794218.000	0.5730	3.00	37450.0000	0.5796	10.0	112867.000	0.5595
Chrysene	50.0	1468296.00	1.059	3.00	72320.0000	1.119	10.0	208184.000	1.032
Di-n-Butyl Phthalate	50.0	1766005.00	1.292	3.00	83949.0000	1.349	10.0	252489.000	1.283
Dibenz[ah]anthracene	50.0	1301038.00	0.9997	3.00	58712.0000	0.9447	10.0	185212.000	0.9659
Dibenzofuran	50.0	1255739.00	1.711	3.00	59851.0000	1.772	10.0	173779.000	1.656
Diethylphthalate	50.0	1062479.00	1.448	3.00	51913.0000	1.537	10.0	154355.000	1.471
Dimethylphthalate	50.0	1034471.00	1.409	3.00	50526.0000	1.496	10.0	147323.000	1.404
Fluorene	50.0	1138086.00	1.551	3.00	50208.0000	1.487	10.0	149559.000	1.425
Hexachlorobenzene	50.0	327639.000	0.2396	3.00	16375.0000	0.2630	10.0	49074.0000	0.2493
Hexachloroethane	50.0	208740.000	0.6444	3.00	10522.0000	0.6783	10.0	31038.0000	0.6468
Indeno[1,2,3-cd]pyrene	50.0	1519695.00	1.168	3.00	71313.0000	1.147	10.0	219675.000	1.146
Isophorone	50.0	929674.000	0.7615	3.00	46753.0000	0.8150	10.0	136565.000	0.7568
Naphthalene	50.0	1403663.00	1.150	3.00	67804.0000	1.182	10.0	194421.000	1.077
Nitrobenzene	50.0	526365.000	0.4311	3.00	26876.0000	0.4685	10.0	79499.0000	0.4406
Phenanthrene	50.0	1579650.00	1.155	3.00	74790.0000	1.201	10.0	216298.000	1.099
Pyrene	50.0	1737878.00	1.254	3.00	83035.0000	1.285	10.0	242906.000	1.204
bis(2-Chloroethoxy)methane	50.0	764487.000	0.6262	3.00	36900.0000	0.6433	10.0	109686.000	0.6079
bis(2-Chloroethyl)ether	50.0	352012.000	1.087	3.00	19015.0000	1.226	10.0	53797.0000	1.121
bis(2-Chloroisopropyl)ether	50.0	443219.000	1.368	3.00	22935.0000	1.479	10.0	68124.0000	1.420
bis(2-Ethylhexyl)phthalate	50.0	1069368.00	0.7714	3.00	49133.0000	0.7604	10.0	152354.000	0.7553

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Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12030257
Analytical Method: 8270C

Instrument ID: HPMS12
Initial Calibration Date: 29-FEB-12 13:55
Column ID: F

Analyte	WG390746-05			WG390746-06			WG390746-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,4-Dichlorobenzene	15.0	80718.0000	1.625	25.0	181892.000	1.593	80.0	629746.000	1.653
2,4,6-Trichlorophenol	15.0	45482.0000	0.4145	25.0	104826.000	0.4142	80.0	387193.000	0.4473
2,4-Dichlorophenol	15.0	57385.0000	0.3092	25.0	129200.000	0.3022	80.0	490102.000	0.3371
2-Nitrophenol	15.0	37723.0000	0.2032	25.0	86600.0000	0.2025	80.0	310562.000	0.2136
4-Chloro-3-Methylphenol	15.0	66701.0000	0.3594	25.0	153284.000	0.3585	80.0	542162.000	0.3729
Acenaphthene	15.0	135784.000	1.237	25.0	313598.000	1.239	80.0	1171835.00	1.354
Benzo[a]pyrene	15.0	223696.000	1.125	25.0	500002.000	1.093	80.0	1787308.00	1.157
Di-n-Octyl Phthalate	15.0	260589.000	1.310	25.0	603654.000	1.319	80.0	2167519.00	1.403
Fluoranthene	15.0	247881.000	1.224	25.0	569144.000	1.199	80.0	2110708.00	1.289
Hexachlorobutadiene	15.0	44869.0000	0.2417	25.0	97223.0000	0.2274	80.0	336521.000	0.2315
Pentachlorophenol	15.0	33555.0000	0.1656	25.0	81099.0000	0.1709	80.0	310669.000	0.1897
Phenol	15.0	89134.0000	1.794	25.0	199027.000	1.743	80.0	677120.000	1.777
2,4-Dinitrophenol	15.0	12474.0000	0.1137	25.0	36040.0000	0.1424	80.0	157128.000	0.1815
4-Nitrophenol	15.0	32097.0000	0.2925	25.0	82295.0000	0.3252	80.0	275935.000	0.3187
Hexachlorocyclopentadiene	15.0	40563.0000	0.3696	25.0	94905.0000	0.3750	80.0	345352.000	0.3989
n-Nitrosodipropylamine	15.0	57030.0000	1.148	25.0	129875.000	1.138	80.0	421286.000	1.106
1,2,4-Trichlorobenzene	15.0	73024.0000	0.3934	25.0	164488.000	0.3847	80.0	590893.000	0.4065
1,2-Dichlorobenzene	15.0	74688.0000	1.504	25.0	168458.000	1.476	80.0	617414.000	1.621
1,3-Dichlorobenzene	15.0	78324.0000	1.577	25.0	177032.000	1.551	80.0	615977.000	1.617
2,4,5-Trichlorophenol	15.0	50651.0000	0.4616	25.0	113405.000	0.4481	80.0	411469.000	0.4753
2,4-Dimethylphenol	15.0	63746.0000	0.3434	25.0	138519.000	0.3240	80.0	494561.000	0.3402
2,4-Dinitrotoluene	15.0	46696.0000	0.4255	25.0	108645.000	0.4293	80.0	404832.000	0.4676
2,6-Dinitrotoluene	15.0	36597.0000	0.3335	25.0	80885.0000	0.3196	80.0	297474.000	0.3436
2-Chloronaphthalene	15.0	130686.000	1.191	25.0	300322.000	1.187	80.0	1090941.00	1.260
2-Chlorophenol	15.0	69380.0000	1.397	25.0	155260.000	1.360	80.0	532086.000	1.397
2-Methylnaphthalene	15.0	134645.000	0.7254	25.0	308626.000	0.7218	80.0	1159881.00	0.7978
2-Methylphenol	15.0	57084.0000	1.149	25.0	131744.000	1.154	80.0	470717.000	1.236
2-Nitroaniline	15.0	44092.0000	0.4018	25.0	104561.000	0.4131	80.0	356986.000	0.4124
3,3'-Dichlorobenzidine	15.0	77728.0000	0.3728	25.0	174994.000	0.3638	80.0	665151.000	0.4005
3-Nitroaniline	15.0	29031.0000	0.2646	25.0	61331.0000	0.2423	80.0	280865.000	0.3244
4,6-Dinitro-2-Methylphenol	15.0	19935.0000	0.09840	25.0	52410.0000	0.1104	80.0	199921.000	0.1221
4-Bromophenyl Phenyl Ether	15.0	49653.0000	0.2451	25.0	111152.000	0.2342	80.0	399568.000	0.2440
4-Chloroaniline	15.0	109630.000	0.5907	25.0	251525.000	0.5882	80.0	671615.000	0.4620
4-Chlorophenyl Phenyl Ether	15.0	83556.0000	0.7614	25.0	186134.000	0.7354	80.0	687184.000	0.7938
4-Nitroaniline	15.0	35257.0000	0.3213	25.0	83359.0000	0.3294	80.0	326611.000	0.3773
Acenaphthylene	15.0	213595.000	1.947	25.0	485587.000	1.919	80.0	1817532.00	2.100
Anthracene	15.0	235988.000	1.165	25.0	542858.000	1.144	80.0	2024524.00	1.237
Benzo[a]anthracene	15.0	237175.000	1.138	25.0	537084.000	1.117	80.0	1961101.00	1.181
Benzo[b]fluoranthene	15.0	248043.000	1.247	25.0	565203.000	1.235	80.0	2203304.00	1.426
Benzo[ghi]perylene	15.0	189835.000	0.9546	25.0	423683.000	0.9257	80.0	1429410.00	0.9250
Benzo[k]fluoranthene	15.0	234122.000	1.177	25.0	525971.000	1.149	80.0	1733374.00	1.122
Benzoic Acid	15.0	48081.0000	0.2590	25.0	134997.000	0.3157	80.0	501959.000	0.3453

INT_CAL - Modified 03/06/2008
PDF File ID: 2339086
Report generated 03/16/2012 13:10



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12030257
Analytical Method:8270C

Instrument ID:HPMS12
Initial Calibration Date:29-FEB-12 13:55
Column ID:F

Analyte	WG390746-05			WG390746-06			WG390746-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	15.0	46639.0000	0.9388	25.0	105248.000	0.9219	80.0	367042.000	0.9634
Butyl Benzyl Phthalate	15.0	117390.000	0.5630	25.0	272200.000	0.5660	80.0	1000106.00	0.6021
Chrysene	15.0	220340.000	1.057	25.0	502882.000	1.046	80.0	1829304.00	1.101
Di-n-Butyl Phthalate	15.0	266833.000	1.317	25.0	614599.000	1.295	80.0	2195382.00	1.341
Dibenz[ah]anthracene	15.0	196863.000	0.9899	25.0	450103.000	0.9834	80.0	1590482.00	1.029
Dibenzofuran	15.0	184074.000	1.677	25.0	421823.000	1.667	80.0	1561754.00	1.804
Diethylphthalate	15.0	164449.000	1.499	25.0	370897.000	1.466	80.0	1288798.00	1.489
Dimethylphthalate	15.0	157814.000	1.438	25.0	354237.000	1.400	80.0	1264893.00	1.461
Fluorene	15.0	158621.000	1.446	25.0	369456.000	1.460	80.0	1422481.00	1.643
Hexachlorobenzene	15.0	51998.0000	0.2567	25.0	113817.000	0.2398	80.0	414000.000	0.2529
Hexachloroethane	15.0	32640.0000	0.6570	25.0	73673.0000	0.6453	80.0	252762.000	0.6634
Indeno[1,2,3-cd]pyrene	15.0	232114.000	1.167	25.0	530474.000	1.159	80.0	1862508.00	1.205
Isophorone	15.0	143203.000	0.7715	25.0	330623.000	0.7732	80.0	1103990.00	0.7594
Naphthalene	15.0	208785.000	1.125	25.0	476950.000	1.115	80.0	1717303.00	1.181
Nitrobenzene	15.0	82888.0000	0.4466	25.0	188383.000	0.4406	80.0	625702.000	0.4304
Phenanthrene	15.0	231850.000	1.145	25.0	529245.000	1.115	80.0	1963333.00	1.199
Pyrene	15.0	261612.000	1.255	25.0	587937.000	1.222	80.0	2170523.00	1.307
bis(2-Chloroethoxy)methane	15.0	115724.000	0.6235	25.0	261325.000	0.6112	80.0	934133.000	0.6426
bis(2-Chloroethyl)ether	15.0	57447.0000	1.156	25.0	128628.000	1.127	80.0	411546.000	1.080
bis(2-Chloroisopropyl)ether	15.0	74061.0000	1.491	25.0	164124.000	1.438	80.0	534046.000	1.402
bis(2-Ethylhexyl)phthalate	15.0	160918.000	0.7718	25.0	367087.000	0.7632	80.0	1349910.00	0.8127

INT_CAL - Modified 03/06/2008
PDF File ID: 2339086
Report generated 03/16/2012 13:10



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12030257
Analytical Method: 8270C

Instrument ID: HPMS12
Initial Calibration Date: 29-FEB-12 13:55
Column ID: F

Analyte	WG390746-08			WG390746-09		
	CONC	RESP	RF	CONC	RESP	RF
1,4-Dichlorobenzene	100	857619.000	1.690	120	1084485.00	1.694
2,4,6-Trichlorophenol	100	519148.000	0.4534	120	665069.000	0.4657
2,4-Dichlorophenol	100	651430.000	0.3386	120	838659.000	0.3460
2-Nitrophenol	100	411986.000	0.2141	120	526199.000	0.2171
4-Chloro-3-Methylphenol	100	711404.000	0.3697	120	909829.000	0.3753
Acenaphthene	100	1591578.00	1.390	120	2037710.00	1.427
Benzo[a]pyrene	100	2390354.00	1.160	120	2971151.00	1.178
Di-n-Octyl Phthalate	100	2860048.00	1.387	120	3626290.00	1.438
Fluoranthene	100	2822462.00	1.301	120	3587418.00	1.336
Hexachlorobutadiene	100	453826.000	0.2359	120	572361.000	0.2361
Pentachlorophenol	100	425417.000	0.1960	120	542006.000	0.2019
Phenol	100	895199.000	1.764	120	1135360.00	1.774
2,4-Dinitrophenol	100	238668.000	0.2084	120	317599.000	0.2224
4-Nitrophenol	100	355247.000	0.3102	120	437488.000	0.3063
Hexachlorocyclopentadiene	100	414927.000	0.3623	120	583670.000	0.4087
n-Nitrosodipropylamine	100	538205.000	1.061	120	652887.000	1.020
1,2,4-Trichlorobenzene	100	800833.000	0.4162	120	1042869.00	0.4302
1,2-Dichlorobenzene	100	836779.000	1.649	120	1083109.00	1.692
1,3-Dichlorobenzene	100	829458.000	1.635	120	1068682.00	1.669
2,4,5-Trichlorophenol	100	567054.000	0.4952	120	725141.000	0.5077
2,4-Dimethylphenol	100	673856.000	0.3502	120	866024.000	0.3572
2,4-Dinitrotoluene	100	543534.000	0.4747	120	708652.000	0.4962
2,6-Dinitrotoluene	100	394077.000	0.3441	120	509549.000	0.3568
2-Chloronaphthalene	100	1462638.00	1.277	120	1885127.00	1.320
2-Chlorophenol	100	714787.000	1.409	120	906691.000	1.416
2-Methylnaphthalene	100	1558941.00	0.8102	120	1993626.00	0.8224
2-Methylphenol	100	633208.000	1.248	120	812645.000	1.269
2-Nitroaniline	100	457999.000	0.4000	120	576840.000	0.4039
3,3'-Dichlorobenzidine	100	934558.000	0.4190	120	1176112.00	0.4212
3-Nitroaniline	100	388797.000	0.3395	120	501352.000	0.3510
4,6-Dinitro-2-Methylphenol	100	291094.000	0.1341	120	384939.000	0.1434
4-Bromophenyl Phenyl Ether	100	545396.000	0.2513	120	707887.000	0.2636
4-Chloroaniline	100	901686.000	0.4686	120	1165518.00	0.4808
4-Chlorophenyl Phenyl Ether	100	943690.000	0.8241	120	1223903.00	0.8570
4-Nitroaniline	100	422758.000	0.3692	120	530439.000	0.3714
Acenaphthylene	100	2427179.00	2.120	120	3113432.00	2.180
Anthracene	100	2706818.00	1.247	120	3433141.00	1.279
Benzo[a]anthracene	100	2648440.00	1.188	120	3358598.00	1.203
Benzo[b]fluoranthene	100	2989923.00	1.450	120	3703281.00	1.469
Benzo[ghi]perylene	100	1862978.00	0.9037	120	2153834.00	0.8541
Benzo[k]fluoranthene	100	2348409.00	1.139	120	2737190.00	1.086
Benzoic Acid	100	667260.000	0.3468	120	870617.000	0.3591

INT_CAL - Modified 03/06/2008
PDF File ID: 2339086
Report generated 03/16/2012 13:10



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12030257
Analytical Method:8270C

Instrument ID:HPMS12
Initial Calibration Date:29-FEB-12 13:55
Column ID:F

Analyte	WG390746-08			WG390746-09		
	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	100	487592.000	0.9610	120	625960.000	0.9778
Butyl Benzyl Phthalate	100	1316228.00	0.5902	120	1663324.00	0.5957
Chrysene	100	2470205.00	1.108	120	3159616.00	1.132
Di-n-Butyl Phthalate	100	2865366.00	1.320	120	3606872.00	1.343
Dibenz[ah]anthracene	100	2098678.00	1.018	120	2498001.00	0.9906
Dibenzofuran	100	2098771.00	1.833	120	2702772.00	1.893
Diethylphthalate	100	1724914.00	1.506	120	2149856.00	1.505
Dimethylphthalate	100	1689418.00	1.475	120	2152375.00	1.507
Fluorene	100	1908121.00	1.666	120	2426321.00	1.699
Hexachlorobenzene	100	558972.000	0.2576	120	712882.000	0.2655
Hexachloroethane	100	332615.000	0.6555	120	424069.000	0.6624
Indeno[1,2,3-cd]pyrene	100	2432540.00	1.180	120	2869587.00	1.138
Isophorone	100	1441074.00	0.7490	120	1824312.00	0.7525
Naphthalene	100	2278135.00	1.184	120	2882525.00	1.189
Nitrobenzene	100	811598.000	0.4218	120	1023640.00	0.4223
Phenanthrene	100	2629855.00	1.212	120	3331273.00	1.241
Pyrene	100	2916605.00	1.308	120	3717275.00	1.331
bis(2-Chloroethoxy)methane	100	1209621.00	0.6287	120	1525821.00	0.6294
bis(2-Chloroethyl)ether	100	529500.000	1.044	120	666100.000	1.041
bis(2-Chloroisopropyl)ether	100	663530.000	1.308	120	828681.000	1.295
bis(2-Ethylhexyl)phthalate	100	1782144.00	0.7991	120	2240227.00	0.8023

INT_CAL - Modified 03/06/2008
PDF File ID: 2339086
Report generated 03/16/2012 13:10



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12030257	Run Date: 02/29/2012	Sample ID: WG390746-10
Instrument ID: HPMS12	Run Time: 14:28	Method: 8270C
File ID: 12M38711	Analyst: CAA	QC Key: DOD4
ICal Workgroup: WG390746	Cal ID: HPMS12 - 29-FEB-12	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,4-Dichlorobenzene	CCC	50000	51700	ug/L	1.70	3.50	20	
2,4,6-Trichlorophenol	CCC	50000	52800	ug/L	0.459	5.60	20	
2,4-Dichlorophenol	CCC	50000	53100	ug/L	0.342	6.20	20	
2-Nitrophenol	CCC	50000	54100	ug/L	0.222	8.30	20	
4-Chloro-3-Methylphenol	CCC	50000	53400	ug/L	0.389	6.70	20	
Acenaphthene	CCC	50000	52800	ug/L	1.38	5.50	20	
Benzo[a]pyrene	CCC	50000	52800	ug/L	1.19	5.50	20	
Di-n-Octyl Phthalate	CCC	50000	54500	ug/L	1.47	8.90	20	
Fluoranthene	CCC	50000	53000	ug/L	1.33	6.10	20	
Hexachlorobutadiene	CCC	50000	55100	ug/L	0.260	10.2	20	
n-Nitrosodiphenylamine	CCC	50000	54100	ug/L	0.731	8.10	20	
Pentachlorophenol	CCC	50000	61300	ug/L	0.223	22.5	20	*
Phenol	CCC	50000	52000	ug/L	1.85	4.00	20	
2,4-Dinitrophenol	SPCC	50000	71000	ug/L	0.253	42.0	20	*
4-Nitrophenol	SPCC	50000	53800	ug/L	0.332	7.70	20	
Hexachlorocyclopentadiene	SPCC	50000	43600	ug/L	0.325	12.8	20	
n-Nitrosodipropylamine	SPCC	50000	54200	ug/L	1.20	8.30	20	
1,2,4-Trichlorobenzene		50000	50100	ug/L	0.404	0.200	20	
1,2-Dichlorobenzene		50000	52000	ug/L	1.63	4.10	20	
1,3-Dichlorobenzene		50000	51700	ug/L	1.66	3.50	20	
2,4,5-Trichlorophenol		50000	52700	ug/L	0.494	5.30	20	
2,4-Dimethylphenol		50000	50900	ug/L	0.366	1.80	20	
2,4-Dinitrotoluene		50000	53200	ug/L	0.475	6.40	20	
2,6-Dinitrotoluene		50000	54000	ug/L	0.362	7.90	20	
2-Chloronaphthalene		50000	61700	ug/L	1.52	23.3	20	*
2-Chlorophenol		50000	53000	ug/L	1.48	6.10	20	
2-Methylnaphthalene		50000	52600	ug/L	0.809	5.20	20	
2-Methylphenol		50000	52600	ug/L	1.26	5.20	20	
2-Nitroaniline		50000	55500	ug/L	0.449	11.0	20	
3,3'-Dichlorobenzidine		50000	47900	ug/L	0.382	4.10	20	
3-,4-Methylphenol		50000	51700	ug/L	1.56	3.40	20	
3-Nitroaniline		50000	54200	ug/L	0.323	8.40	20	
4,6-Dinitro-2-Methylphenol		50000	60200	ug/L	0.155	20.4	20	*
4-Bromophenyl Phenyl Ether		50000	51600	ug/L	0.254	3.20	20	
4-Chloroaniline		50000	44000	ug/L	0.465	11.9	20	
4-Chlorophenyl Phenyl Ether		50000	50400	ug/L	0.788	0.700	20	
4-Nitroaniline		50000	55400	ug/L	0.386	10.9	20	
Acenaphthylene		50000	53800	ug/L	2.18	7.60	20	
Anthracene		50000	55100	ug/L	1.32	10.1	20	
Benzo[a]anthracene		50000	51900	ug/L	1.20	3.80	20	
Benzo[b]fluoranthene		50000	52400	ug/L	1.41	4.80	20	
Benzo[ghi]perylene		50000	53400	ug/L	0.982	6.80	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2339087
Report generated 03/16/2012 13:09



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L12030257</u>	Run Date: <u>02/29/2012</u>	Sample ID: <u>WG390746-10</u>
Instrument ID: <u>HPMS12</u>	Run Time: <u>14:28</u>	Method: <u>8270C</u>
File ID: <u>12M38711</u>	Analyst: <u>CAA</u>	QC Key: <u>DOD4</u>
ICal Workgroup: <u>WG390746</u>	Cal ID: <u>HPMS12 - 29-FEB-12</u>	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Benzo[k]fluoranthene	50000	53200	ug/L	1.19	6.40	20	
Benzoic Acid	50000	46500	ug/L	0.306	7.10	20	
Benzyl Alcohol	50000	56800	ug/L	1.07	13.6	20	
bis(2-Chloroethoxy)methane	50000	55100	ug/L	0.690	10.2	20	
bis(2-Chloroethyl)ether	50000	52600	ug/L	1.17	5.30	20	
bis(2-Chloroisopropyl)ether	50000	61400	ug/L	1.72	22.8	20	*
bis(2-Ethylhexyl)phthalate	50000	52800	ug/L	0.823	5.60	20	
Butyl Benzyl Phthalate	50000	54900	ug/L	0.635	9.80	20	
Chrysene	50000	53700	ug/L	1.16	7.50	20	
Di-n-Butyl Phthalate	50000	52800	ug/L	1.39	5.60	20	
Dibenz[ah]anthracene	50000	53200	ug/L	1.05	6.40	20	
Dibenzofuran	50000	54000	ug/L	1.89	7.90	20	
Diethylphthalate	50000	52000	ug/L	1.55	3.90	20	
Dimethylphthalate	50000	52300	ug/L	1.52	4.60	20	
Fluorene	50000	53400	ug/L	1.65	6.90	20	
Hexachlorobenzene	50000	51200	ug/L	0.259	2.40	20	
Hexachloroethane	50000	51700	ug/L	0.679	3.40	20	
Indeno[1,2,3-cd]pyrene	50000	53100	ug/L	1.24	6.20	20	
Isophorone	50000	51900	ug/L	0.797	3.90	20	
Naphthalene	50000	53400	ug/L	1.23	6.90	20	
Nitrobenzene	50000	53500	ug/L	0.469	7.00	20	
Phenanthrene	50000	53800	ug/L	1.26	7.60	20	
Pyrene	50000	52500	ug/L	1.33	5.00	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2339087
Report generated 03/16/2012 13:09



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392250-02
Instrument ID: HPMS12 Run Time: 09:05 Method: 8270C
File ID: 12M38926 Analyst: CAA QC Key: DOD4
Workgroup (AAB#): WG392169 Cal ID: HPMS12 - 29-FEB-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,4-Dichlorobenzene	CCC	50000	54500	ug/L	1.79	8.94	20	
2,4,6-Trichlorophenol	CCC	50000	52400	ug/L	0.455	4.77	20	
2,4-Dichlorophenol	CCC	50000	54800	ug/L	0.353	9.54	20	
2-Nitrophenol	CCC	50000	53700	ug/L	0.220	7.39	20	
4-Chloro-3-Methylphenol	CCC	50000	54400	ug/L	0.397	8.78	20	
Acenaphthene	CCC	50000	54500	ug/L	1.42	9.07	20	
Benzo[a]pyrene	CCC	50000	53900	ug/L	1.22	7.72	20	
Di-n-Octyl Phthalate	CCC	50000	55200	ug/L	1.49	10.4	20	
Fluoranthene	CCC	50000	51200	ug/L	1.29	2.48	20	
Hexachlorobutadiene	CCC	50000	52600	ug/L	0.248	5.11	20	
n-Nitrosodiphenylamine	CCC	50000	52300	ug/L	0.707	4.50	20	
Pentachlorophenol	CCC	50000	46200	ug/L	0.168	7.56	20	
Phenol	CCC	50000	56100	ug/L	2.00	12.2	20	
2,4-Dinitrophenol	SPCC	50000	53300	ug/L	0.172	6.52	20	
4-Nitrophenol	SPCC	50000	56800	ug/L	0.351	13.5	20	
Hexachlorocyclopentadiene	SPCC	50000	52900	ug/L	0.394	5.71	20	
n-Nitrosodipropylamine	SPCC	50000	56700	ug/L	1.25	13.4	20	
1,2,4-Trichlorobenzene		50000	52700	ug/L	0.425	5.43	20	
1,2-Dichlorobenzene		50000	56000	ug/L	1.76	12.1	20	
1,3-Dichlorobenzene		50000	54600	ug/L	1.75	9.18	20	
2,4,5-Trichlorophenol		50000	53000	ug/L	0.497	5.98	20	
2,4-Dimethylphenol		50000	50700	ug/L	0.365	1.48	20	
2,4-Dinitrotoluene		50000	53500	ug/L	0.478	7.04	20	
2,6-Dinitrotoluene		50000	52600	ug/L	0.353	5.21	20	
2-Chloronaphthalene		50000	53000	ug/L	1.31	6.04	20	
2-Chlorophenol		50000	53800	ug/L	1.50	7.66	20	
2-Methylnaphthalene		50000	54400	ug/L	0.837	8.88	20	
2-Methylphenol		50000	57100	ug/L	1.37	14.3	20	
2-Nitroaniline		50000	56700	ug/L	0.458	13.4	20	
3,3'-Dichlorobenzidine		50000	49400	ug/L	0.393	1.19	20	
3-,4-Methylphenol		50000	55000	ug/L	1.66	9.95	20	
3-Nitroaniline		50000	55700	ug/L	0.332	11.5	20	
4,6-Dinitro-2-Methylphenol		50000	47600	ug/L	0.119	4.85	20	
4-Bromophenyl Phenyl Ether		50000	50700	ug/L	0.249	1.30	20	
4-Chloroaniline		50000	46300	ug/L	0.488	7.49	20	
4-Chlorophenyl Phenyl Ether		50000	52300	ug/L	0.818	4.60	20	
4-Nitroaniline		50000	56300	ug/L	0.392	12.5	20	
Acenaphthylene		50000	53900	ug/L	2.18	7.77	20	
Anthracene		50000	52500	ug/L	1.26	4.91	20	
Benzo[a]anthracene		50000	51900	ug/L	1.20	3.78	20	
Benzo[b]fluoranthene		50000	54000	ug/L	1.45	8.06	20	
Benzo[ghi]perylene		50000	51900	ug/L	0.955	3.90	20	

CCV - Modified 03/05/2008

PDF File ID: 2339089

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392250-02
Instrument ID: HPMS12 Run Time: 09:05 Method: 8270C
File ID: 12M38926 Analyst: CAA QC Key: DOD4
Workgroup (AAB#): WG392169 Cal ID: HPMS12 - 29-FEB-12
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Benzo[k]fluoranthene	50000	52000	ug/L	1.17	4.02	20	
Benzoic Acid	50000	17300	ug/L	0.114	65.5	20	*
Benzyl Alcohol	50000	55300	ug/L	1.05	10.6	20	
bis(2-Chloroethoxy)methane	50000	54300	ug/L	0.680	8.57	20	
bis(2-Chloroethyl) ether	50000	55600	ug/L	1.23	11.1	20	
bis(2-Chloroisopropyl) ether	50000	57400	ug/L	1.61	14.7	20	
bis(2-Ethylhexyl) phthalate	50000	53200	ug/L	0.829	6.32	20	
Butyl Benzyl Phthalate	50000	52800	ug/L	0.611	5.64	20	
Chrysene	50000	52700	ug/L	1.14	5.31	20	
Di-n-Butyl Phthalate	50000	51400	ug/L	1.35	2.74	20	
Dibenz[ah]anthracene	50000	52600	ug/L	1.04	5.22	20	
Dibenzofuran	50000	53300	ug/L	1.87	6.55	20	
Diethylphthalate	50000	52700	ug/L	1.57	5.37	20	
Dimethylphthalate	50000	52400	ug/L	1.52	4.74	20	
Fluorene	50000	55100	ug/L	1.71	10.2	20	
Hexachlorobenzene	50000	48900	ug/L	0.247	2.25	20	
Hexachloroethane	50000	54000	ug/L	0.710	8.05	20	
Indeno[1,2,3-cd]pyrene	50000	52900	ug/L	1.23	5.78	20	
Isophorone	50000	54800	ug/L	0.842	9.69	20	
Naphthalene	50000	54200	ug/L	1.25	8.36	20	
Nitrobenzene	50000	55600	ug/L	0.487	11.3	20	
Phenanthrene	50000	52100	ug/L	1.22	4.15	20	
Pyrene	50000	51800	ug/L	1.32	3.51	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2339089
Report generated 03/16/2012 13:10



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12030257
Instrument ID: HPMS12
Workgroup (AAB#): WG392169

ICAL CCV Number: WG390746-02
CAL ID: HPMS12 - 29-FEB-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5	IS-6
WG390746-02	NA	NA	259155	587182	1108946	976694	1041164	1093911
Upper Limit	NA	NA	518310	1174364	2217892	1953388	2082328	2187822
Lower Limit	NA	NA	129578	293591	554473	488347	520582	546956
L12030257-01	1.00	01	217318	482083	886326	816126	792123	894291
L12030257-03	1.00	01	231648	523851	992095	882388	899410	992991
L12030257-04	1.00	01	221796	512106	993272	852662	900652	968012
L12030257-05	1.00	01	247785	575961	1107070	960731	997517	1096367
L12030257-06	1.00	01	227577	505215	946022	861712	847316	943617
L12030257-07	1.00	01	215946	476983	881691	809912	790910	893133
L12030257-08	1.00	01	241987	539450	1041338	913317	942111	1032143
L12030257-09	1.00	01	195202	441618	813320	752963	733226	825401
L12030257-10	1.00	01	222914	499497	943150	840755	856041	944490
L12030257-11	1.00	01	217775	487785	911818	823517	829403	918539
WG391879-02	1.00	01	225730	514286	948735	863101	862175	961444
WG391879-03	1.00	01	213845	486044	901021	818324	823062	910265

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Acenaphthene-d10
IS-3 - Chrysene-d12
IS-4 - Naphthalene-D8
IS-5 - Perylene-d12
IS-6 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2339090
Report generated 03/16/2012 13:10



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12030257
Instrument ID: HPMS12
Workgroup (AAB#): WG392169

ICAL CCV Number: WG390746-02
CAL ID: HPMS12 - 29-FEB-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5	IS-6
WG390746-02	NA	NA	7.84	10.96	16.31	9.14	19.19	12.59
Upper Limit	NA	NA	8.34	11.46	16.81	9.64	19.69	13.09
Lower Limit	NA	NA	7.34	10.46	15.81	8.64	18.69	12.09
L12030257-01	1.00	01	7.77	10.879	16.184	9.068	18.972	12.487
L12030257-03	1.00	01	7.769	10.879	16.184	9.068	18.972	12.487
L12030257-04	1.00	01	7.769	10.884	16.189	9.068	18.972	12.492
L12030257-05	1.00	01	7.77	10.884	16.189	9.068	18.972	12.492
L12030257-06	1.00	01	7.769	10.879	16.183	9.068	18.972	12.487
L12030257-07	1.00	01	7.769	10.879	16.183	9.068	18.972	12.487
L12030257-08	1.00	01	7.77	10.879	16.184	9.062	18.972	12.487
L12030257-09	1.00	01	7.769	10.879	16.178	9.062	18.967	12.487
L12030257-10	1.00	01	7.77	10.879	16.184	9.068	18.972	12.487
L12030257-11	1.00	01	7.769	10.879	16.183	9.068	18.972	12.487
WG391879-02	1.00	01	7.769	10.879	16.183	9.068	18.972	12.487
WG391879-03	1.00	01	7.775	10.884	16.189	9.068	18.972	12.492

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Acenaphthene-d10
IS-3 - Chrysene-d12
IS-4 - Naphthalene-D8
IS-5 - Perylene-d12
IS-6 - Phenanthrene-d10

Underline = Response outside limits





Login Number: L12030257
Department: Semivolatiles
Analyst: Cassie A. Augenstein

METHOD

Preparation 3510C

Analysis SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 43391

Approved By: Mike Cochran



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12030257
Instrument Id: HPMS7
Workgroup (AAB#): WG391960

Method: 8270L
CAL ID: HPMS7 - 13-MAR-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3
L12030257-01	1.00	01	59.5	67.6	75.8
L12030257-03	1.00	01	67.5	72.0	89.3
L12030257-04	1.00	01	62.1	70.2	87.5
L12030257-05	1.00	01	55.4	57.9	78.5
L12030257-06	1.00	01	57.6	71.4	90.9
L12030257-07	1.00	01	63.1	74.2	84.5
L12030257-08	1.00	01	59.0	67.2	77.8
L12030257-09	1.00	01	65.7	74.7	89.4
L12030257-10	1.00	01	61.4	67.4	80.5
L12030257-11	1.00	01	61.6	69.9	86.5
WG391882-02	1.00	01	53.9	59.6	75.4
WG391882-03	1.00	01	62.1	58.5	83.5

Surrogates	Surrogate Limits		
1 - 2-Fluorobiphenyl	50	-	110
2 - Nitrobenzene-d5	35	-	114
3 - p-Terphenyl-d14	33	-	141

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2337044
Report generated: 03/14/2012 14:02



METHOD BLANK SUMMARY

Login Number: L12030257
 Blank File ID: 7M54455
 Prep Date: 03/12/12 10:45
 Analyzed Date: 03/13/12 11:18
 Analyst: CAA

Work Group: WG391960
 Blank Sample ID: WG391882-02
 Instrument ID: HPMS7
 Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG391882-03	7M54456	03/13/12 11:45	01
40MW7GW030612	L12030257-01	7M54458	03/13/12 12:37	01
40LFMW01GW030612	L12030257-03	7M54459	03/13/12 13:03	01
40LFMW01MSGW030612	L12030257-04	7M54460	03/13/12 13:30	01
40LFMW01MSDGW030612	L12030257-05	7M54461	03/13/12 13:56	01
40DUPGW030612	L12030257-06	7M54462	03/13/12 14:23	01
40FB030612	L12030257-07	7M54463	03/13/12 14:50	01
40EQR030612	L12030257-08	7M54464	03/13/12 15:16	01
40MW5GW030712	L12030257-09	7M54465	03/13/12 15:42	01
40EQR030712	L12030257-10	7M54466	03/13/12 16:09	01
40MW6GW030712	L12030257-11	7M54467	03/13/12 16:35	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2337033
 Report generated 03/14/2012 14:01



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/12/12 10:45 Sample ID: WG391882-02
 Instrument ID: HPMS7 Run Date: 03/13/12 11:18 Prep Method: 3510C
 File ID: 7M54455 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG391960 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS7 - 13-MAR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Naphthalene	0.0250	0.0500	0.0250	1	U
Acenaphthylene	0.0250	0.0500	0.0250	1	U
Acenaphthene	0.0250	0.0500	0.0250	1	U
Fluorene	0.0250	0.0500	0.0250	1	U
Phenanthrene	0.0250	0.0500	0.0250	1	U
Anthracene	0.0250	0.0500	0.0250	1	U
Fluoranthene	0.0250	0.0500	0.0250	1	U
Pyrene	0.0250	0.0500	0.0250	1	U
Benzo (a) anthracene	0.0250	0.0500	0.0250	1	U
Chrysene	0.0250	0.0500	0.0250	1	U
Benzo (b) fluoranthene	0.0250	0.0500	0.0250	1	U
Benzo (k) fluoranthene	0.0250	0.0500	0.0250	1	U
Benzo (a) pyrene	0.0250	0.0500	0.0250	1	U
Indeno (1,2,3-cd) pyrene	0.0250	0.0500	0.0250	1	U
Dibenzo (a,h) anthracene	0.0250	0.0500	0.0250	1	U
Benzo (g,h,i) perylene	0.0250	0.0500	0.0250	1	U
1-Methylnaphthalene	0.0250	0.0500	0.0250	1	U
2-Methylnaphthalene	0.0250	0.0500	0.0250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	59.6	35 - 114	PASS
2-Fluorobiphenyl	53.9	50 - 110	PASS
p-Terphenyl-d14	75.4	33 - 141	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2337034

14-MAR-2012 14:01



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391882-03
Instrument ID: HPMS7 Run Time: 11:45 Prep Method: 3510C
File ID: 7M54456 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG391960 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD50386 Cal ID: HPMS7 - 13-MAR-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Naphthalene	1.00	0.535	53.5	40 - 100	
Acenaphthylene	1.00	0.621	62.1	50 - 105	
Acenaphthene	1.00	0.606	60.6	45 - 110	
Fluorene	1.00	0.645	64.5	50 - 110	
Phenanthrene	1.00	0.729	72.9	50 - 115	
Anthracene	1.00	0.713	71.3	55 - 110	
Fluoranthene	1.00	0.860	86.0	55 - 115	
Pyrene	1.00	0.801	80.1	50 - 130	
Benzo (a) anthracene	1.00	0.711	71.1	55 - 110	
Chrysene	1.00	0.725	72.5	55 - 110	
Benzo (b) fluoranthene	1.00	0.737	73.7	45 - 120	
Benzo (k) fluoranthene	1.00	0.658	65.8	45 - 125	
Benzo (a) pyrene	1.00	0.754	75.4	55 - 110	
Indeno (1,2,3-cd) pyrene	1.00	0.753	75.3	45 - 125	
Dibenzo (a,h) anthracene	1.00	0.745	74.5	40 - 125	
Benzo (g,h,i) perylene	1.00	0.780	78.0	40 - 125	
1-Methylnaphthalene	1.00	0.510	51.0	31 - 111	
2-Methylnaphthalene	1.00	0.551	55.1	45 - 105	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	58.5	35 - 114	PASS
2-Fluorobiphenyl	62.1	50 - 110	PASS
p-Terphenyl-d14	83.5	33 - 141	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2337035
Report generated: 03/14/2012 14:01



MS/MSD REPORT

Loginnum: <u>L12030257</u>	Cal ID: <u>HPMS7- 13-MAR-12</u>	Worknum: <u>WG391960</u>
Instrument ID: <u>HPMS7</u>	Contract #: _____	Prep Method: <u>3510C</u>
Parent ID: <u>L12030257-03</u>	File ID: <u>7M54459</u>	Dil: <u>1</u>
Sample ID: <u>L12030257-04 MS</u>	File ID: <u>7M54460</u>	Dil: <u>1</u>
Sample ID: <u>L12030257-05 MSD</u>	File ID: <u>7M54461</u>	Dil: <u>1</u>
		Method: <u>8270C</u>
		Matrix: <u>Water</u>
		Units: <u>ug/L</u>

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Naphthalene	U	1.00	0.640	64	1.03	0.565	54.8	12.4	40 - 100	30	
Acenaphthylene	U	1.00	0.706	70.6	1.03	0.585	56.8	18.7	50 - 105	30	
Acenaphthene	U	1.00	0.674	67.4	1.03	0.594	57.6	12.7	45 - 110	30	
Fluorene	U	1.00	0.692	69.2	1.03	0.611	59.3	12.4	50 - 110	30	
Phenanthrene	U	1.00	0.782	78.2	1.03	0.714	69.2	9.11	50 - 115	30	
Anthracene	U	1.00	0.760	76	1.03	0.683	66.3	10.7	55 - 110	30	
Fluoranthene	U	1.00	0.698	69.8	1.03	0.667	64.7	4.55	55 - 115	30	
Pyrene	U	1.00	0.859	85.9	1.03	0.798	77.4	7.45	50 - 130	30	
Benzo(a)anthracene	U	1.00	0.737	73.7	1.03	0.695	67.4	5.90	55 - 110	30	
Chrysene	U	1.00	0.735	73.5	1.03	0.704	68.3	4.24	55 - 110	30	
Benzo(b)fluoranthene	U	1.00	0.720	72	1.03	0.692	67.1	3.96	45 - 120	30	
Benzo(k)fluoranthene	U	1.00	0.625	62.5	1.03	0.671	65.1	7.08	45 - 125	30	
Benzo(a)pyrene	U	1.00	0.753	75.3	1.03	0.738	71.6	2.00	55 - 110	30	
Indeno(1,2,3-cd)pyrene	U	1.00	0.704	70.4	1.03	0.740	71.8	5.07	45 - 125	30	
Dibenzo(a,h)anthracene	U	1.00	0.706	70.6	1.03	0.755	73.3	6.72	40 - 125	30	
Benzo(g,h,i)perylene	U	1.00	0.723	72.3	1.03	0.739	71.7	2.26	40 - 125	30	
1-Methylnaphthalene	U	1.00	0.603	60.3	1.03	0.542	52.6	10.6	31 - 111	30	
2-Methylnaphthalene	U	1.00	0.687	68.7	1.03	0.607	58.8	12.4	45 - 105	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008
 PDF File ID: 2337036
 Report generated 03/14/2012 14:01



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12030257 Tune ID: WG391135-01
Instrument: HPMS7 Run Date: 03/13/2012
Analyst: CAA Run Time: 07:31
Workgroup: WG391135 File ID: 7M54446
Cal ID: HPMS7-13-MAR-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	40.9	269626	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	42.9	282972	PASS
70.0	69.0	0	2.00	0.211	597	PASS
127	198	40.0	60.0	53.8	354212	PASS
197	198	0	1.00	0.345	2273	PASS
198	198	100	100	100	658880	PASS
199	198	5.00	9.00	7.31	48176	PASS
275	198	10.0	30.0	26.0	171605	PASS
365	198	1.00	100	2.52	16591	PASS
441	443	0.0100	100	73.7	90146	PASS
442	198	40.0	100	93.6	616981	PASS
443	442	17.0	23.0	19.8	122240	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG391135-02	STD-CCV	01	03/13/2012 07:48	
WG391135-03	STD	01	03/13/2012 08:14	
WG391135-04	STD	01	03/13/2012 08:40	
WG391135-05	STD	01	03/13/2012 09:06	
WG391135-06	STD	01	03/13/2012 09:32	
WG391135-07	STD	01	03/13/2012 09:59	
WG391135-08	STD	01	03/13/2012 10:25	
WG391135-09	SSCV	01	03/13/2012 10:51	
WG391882-02	BLANK	01	03/13/2012 11:18	
WG391882-03	LCS	01	03/13/2012 11:45	
L12030257-01	40MW7GW030612	01	03/13/2012 12:37	
L12030257-03	40LFMW01GW030612	01	03/13/2012 13:03	
L12030257-04	40LFMW01MSGW030612	01	03/13/2012 13:30	
L12030257-05	40LFMW01MSDGW030612	01	03/13/2012 13:56	
L12030257-06	40DUPGW030612	01	03/13/2012 14:23	
L12030257-07	40FB030612	01	03/13/2012 14:50	
L12030257-08	40EQR030612	01	03/13/2012 15:16	
L12030257-09	40MW5GW030712	01	03/13/2012 15:42	
L12030257-10	40EQR030712	01	03/13/2012 16:09	
L12030257-11	40MW6GW030712	01	03/13/2012 16:35	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2337041
Report generated 03/14/2012 14:02



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12030257
Analytical Method: 8270C
ICAL Workgroup: WG391135

Instrument ID: HPMS7
Initial Calibration Date: 13-MAR-12 10:25
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Acenaphthene	CCC	1.248	7.82		
Benzo[a]pyrene	CCC	1.247	9.23		
Fluoranthene	CCC	1.385	13.3		
1-Methylnaphthalene		0.7895	10.8		
2-Methylnaphthalene		0.7348	7.71		
Acenaphthylene		1.875	7.25		
Anthracene		1.204	9.59		
Benzo[a]anthracene		1.173	6.61		
Benzo[b]fluoranthene		1.213	8.62		
Benzo[ghi]perylene		1.152	9.27		
Benzo[k]fluoranthene		1.530	14.4		
Chrysene		1.302	13.9		
Dibenz[ah]anthracene		1.132	7.96		
Fluorene		1.329	5.46		
Indeno[1,2,3-cd]pyrene		1.343	8.89		
Naphthalene		1.189	9.91		
Phenanthrene		1.139	7.55		
Pyrene		1.496	12.7		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
PDF File ID: 2337037
Report generated 03/14/2012 14:01



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12030257
Analytical Method:8270C

Instrument ID:HPMS7
Initial Calibration Date:13-MAR-12 10:25
Column ID:F

Analyte	WG391135-02			WG391135-03			WG391135-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	1.00	100560.000	1.272	10.0	969903.000	1.098	5.00	432269.000	1.174
Benzo[a]pyrene	1.00	151904.000	1.289	10.0	1561963.00	1.111	5.00	751128.000	1.187
Fluoranthene	1.00	167296.000	1.326	10.0	1633141.00	1.132	5.00	797654.000	1.397
1-Methylnaphthalene	1.00	98645.0000	0.8470	10.0	893221.000	0.6722	5.00	432640.000	0.7289
2-Methylnaphthalene	1.00	94394.0000	0.8105	10.0	897104.000	0.6752	5.00	428613.000	0.7221
Acenaphthylene	1.00	154223.000	1.951	10.0	1456961.00	1.649	5.00	669929.000	1.819
Anthracene	1.00	157542.000	1.249	10.0	1528127.00	1.060	5.00	667439.000	1.169
Benzo[a]anthracene	1.00	151889.000	1.198	10.0	1504953.00	1.065	5.00	724308.000	1.151
Benzo[b]fluoranthene	1.00	152593.000	1.294	10.0	1586002.00	1.129	5.00	728471.000	1.151
Benzo[ghi]perylene	1.00	134280.000	1.139	10.0	1408416.00	1.002	5.00	748076.000	1.182
Benzo[k]fluoranthene	1.00	172714.000	1.465	NA	NA	NA	5.00	810339.000	1.281
Chrysene	1.00	159207.000	1.256	10.0	1493259.00	1.056	5.00	733241.000	1.166
Dibenz[ah]anthracene	1.00	131345.000	1.114	10.0	1382342.00	0.9836	5.00	737282.000	1.165
Fluorene	1.00	108106.000	1.367	10.0	1097842.00	1.243	5.00	476873.000	1.295
Indeno[1,2,3-cd]pyrene	1.00	155526.000	1.319	10.0	1607947.00	1.144	5.00	860668.000	1.360
Naphthalene	1.00	138765.000	1.192	10.0	1363100.00	1.026	5.00	666335.000	1.123
Phenanthrene	1.00	146134.000	1.159	10.0	1463764.00	1.015	5.00	636650.000	1.115
Pyrene	1.00	182576.000	1.440	10.0	1761299.00	1.246	5.00	875223.000	1.391

INT_CAL - Modified 03/06/2008
PDF File ID: 2337037
Report generated 03/14/2012 14:01



Login Number: L12030257
Analytical Method: 8270C

Instrument ID: HPMS7
Initial Calibration Date: 13-MAR-12 10:25
Column ID: F

Analyte	WG391135-05			WG391135-06			WG391135-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	2.50	262574.000	1.223	0.500	56631.0000	1.320	0.100	11238.0000	1.399
Benzo[a]pyrene	2.50	399501.000	1.235	0.500	73050.0000	1.290	0.100	18931.0000	1.462
Fluoranthene	2.50	415195.000	1.319	0.500	90610.0000	1.402	0.100	20597.0000	1.746
1-Methylnaphthalene	2.50	230973.000	0.7730	0.500	55006.0000	0.8177	0.100	13293.0000	0.9323
2-Methylnaphthalene	2.50	218765.000	0.7321	0.500	49821.0000	0.7406	0.100	11428.0000	0.8015
Acenaphthylene	2.50	399727.000	1.862	0.500	83143.0000	1.937	0.100	16744.0000	2.084
Anthracene	2.50	383213.000	1.217	0.500	77721.0000	1.202	0.100	16758.0000	1.420
Benzo[a]anthracene	2.50	370796.000	1.186	0.500	77610.0000	1.161	0.100	17073.0000	1.318
Benzo[b]fluoranthene	2.50	399867.000	1.236	0.500	78267.0000	1.382	0.100	15869.0000	1.226
Benzo[ghi]perylene	2.50	385706.000	1.192	0.500	66758.0000	1.178	0.100	17168.0000	1.326
Benzo[k]fluoranthene	2.50	424882.000	1.313	0.500	98635.0000	1.741	0.100	23547.0000	1.818
Chrysene	2.50	385973.000	1.234	0.500	91243.0000	1.365	0.100	20739.0000	1.601
Dibenz[ah]anthracene	2.50	379584.000	1.173	0.500	65041.0000	1.148	0.100	16472.0000	1.272
Fluorene	2.50	282249.000	1.315	0.500	58209.0000	1.356	0.100	11720.0000	1.459
Indeno[1,2,3-cd]pyrene	2.50	448872.000	1.387	0.500	77412.0000	1.367	0.100	19955.0000	1.541
Naphthalene	2.50	342744.000	1.147	0.500	81105.0000	1.206	0.100	20115.0000	1.411
Phenanthrene	2.50	356167.000	1.131	0.500	74594.0000	1.154	0.100	15350.0000	1.301
Pyrene	2.50	452991.000	1.448	0.500	99650.0000	1.491	0.100	23907.0000	1.846

INT_CAL - Modified 03/06/2008
PDF File ID: 2337037
Report generated 03/14/2012 14:01



Login Number: L12030257
Analytical Method: 8270C

Instrument ID: HPMS7
Initial Calibration Date: 13-MAR-12 10:25
Column ID: F

Analyte	WG391135-08		
	CONC	RESP	RF
Acenaphthene	0.0500	5298.00000	1.252
Benzo[a]pyrene	0.0500	8095.00000	1.159
Fluoranthene	0.0500	9712.00000	1.372
1-Methylnaphthalene	0.0500	5146.00000	0.7552
2-Methylnaphthalene	0.0500	4510.00000	0.6618
Acenaphthylene	0.0500	7700.00000	1.819
Anthracene	0.0500	7859.00000	1.110
Benzo[a]anthracene	0.0500	7936.00000	1.131
Benzo[b]fluoranthene	0.0500	7509.00000	1.075
Benzo[ghi]perylene	0.0500	7270.00000	1.041
Benzo[k]fluoranthene	0.0500	10922.0000	1.564
Chrysene	0.0500	10078.0000	1.437
Dibenz[ah]anthracene	0.0500	7477.00000	1.071
Fluorene	0.0500	5369.00000	1.268
Indeno[1,2,3-cd]pyrene	0.0500	8970.00000	1.284
Naphthalene	0.0500	8319.00000	1.221
Phenanthrene	0.0500	7793.00000	1.101
Pyrene	0.0500	11313.0000	1.613

INT_CAL - Modified 03/06/2008
PDF File ID: 2337037
Report generated 03/14/2012 14:01



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391135-09
Instrument ID: HPMS7 Run Time: 10:51 Method: 8270C
File ID: 7M54454 Analyst: CAA QC Key: DOD4
ICal Workgroup: WG391135 Cal ID: HPMS7 - 13-MAR-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Acenaphthene	CCC	1000	975	ug/L	1.22	2.50	30	
Fluoranthene	CCC	1000	962	ug/L	1.33	3.80	30	
Benzo[a]pyrene	CCC	1000	971	ug/L	1.21	2.90	30	
Naphthalene		1000	943	ug/L	1.12	5.70	30	
Acenaphthylene		1000	981	ug/L	1.84	1.90	30	
Fluorene		1000	979	ug/L	1.30	2.20	30	
Phenanthrene		1000	944	ug/L	1.08	5.60	30	
Anthracene		1000	999	ug/L	1.20	0.100	30	
Pyrene		1000	973	ug/L	1.46	2.80	30	
Benzo[a]anthracene		1000	934	ug/L	1.10	6.60	30	
Chrysene		1000	944	ug/L	1.23	5.70	30	
Benzo[b]fluoranthene		1000	983	ug/L	1.19	1.70	30	
Benzo[k]fluoranthene		1000	892	ug/L	1.37	10.8	30	
Indeno[1,2,3-cd]pyrene		1000	1010	ug/L	1.36	1.20	30	
Dibenz[ah]anthracene		1000	996	ug/L	1.13	0.400	30	
Benzo[ghi]perylene		1000	979	ug/L	1.13	2.10	30	
1-Methylnaphthalene		1000	908	ug/L	0.716	9.30	30	
2-Methylnaphthalene		1000	982	ug/L	0.722	1.80	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2337040
Report generated 03/14/2012 14:02



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12030257
Instrument ID: HPMS7
Workgroup (AAB#): WG391960

ICAL CCV Number: WG391135-02
CAL ID: HPMS7 - 13-MAR-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG391135-02	NA	NA	79060	126761	116459	117891	126131
Upper Limit	NA	NA	158120	253522	232918	235782	252262
Lower Limit	NA	NA	39530	63381	58230	58946	63066
<u>L12030257-01</u>	1.00	01	111120	163145	179937	148736	165885
L12030257-03	1.00	01	106437	155682	176450	162533	166039
L12030257-04	1.00	01	118756	166082	191775	180073	186993
L12030257-05	1.00	01	109374	155101	183358	161500	172896
L12030257-06	1.00	01	123049	169152	188080	171893	176955
L12030257-07	1.00	01	114025	164011	176992	164495	172076
L12030257-08	1.00	01	118253	177352	191089	175975	183173
L12030257-09	1.00	01	119030	168930	189750	176323	182441
L12030257-10	1.00	01	114978	167560	186664	168241	177646
L12030257-11	1.00	01	127088	188656	202273	189370	197974
WG391882-02	1.00	01	92833	160989	169289	162677	158454
WG391882-03	1.00	01	96497	170155	184591	148383	150678

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12030257
Instrument ID: HPMS7
Workgroup (AAB#): WG391960

ICAL CCV Number: WG391135-02
CAL ID: HPMS7 - 13-MAR-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG391135-02	NA	NA	7.85	13.05	5.69	15.02	9.7
Upper Limit	NA	NA	8.35	13.55	6.19	15.52	10.2
Lower Limit	NA	NA	7.35	12.55	5.19	14.52	9.2
<u>L12030257-01</u>	1.00	01	7.86	13.05	5.69	15.03	9.71
L12030257-03	1.00	01	7.86	13.05	5.69	15.02	9.7
L12030257-04	1.00	01	7.85	13.05	5.69	15.02	9.7
L12030257-05	1.00	01	7.86	13.05	5.69	15.02	9.7
L12030257-06	1.00	01	7.86	13.06	5.69	15.03	9.7
L12030257-07	1.00	01	7.86	13.05	5.69	15.03	9.7
L12030257-08	1.00	01	7.86	13.05	5.69	15.03	9.7
L12030257-09	1.00	01	7.86	13.05	5.69	15.03	9.7
L12030257-10	1.00	01	7.86	13.05	5.69	15.03	9.7
L12030257-11	1.00	01	7.86	13.05	5.69	15.03	9.71
WG391882-02	1.00	01	7.86	13.05	5.69	15.02	9.7
WG391882-03	1.00	01	7.86	13.05	5.69	15.03	9.7

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits





Login Number: L12030257
Department: General Chromatography
Analyst: John W. Richards Jr.

METHOD

Analysis SW-846 6850

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Perchlorate recoveries out of range were observed due to a high concentration of perchlorate in the parent sample. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration

is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 43522

Approved By: Mike Cochran



METHOD BLANK SUMMARY

Login Number: <u>L12030257</u>	Work Group: <u>WG392280</u>
Blank File ID: <u>1LM.LM15534</u>	Blank Sample ID: <u>WG392280-02</u>
Prep Date: <u>03/15/12 12:26</u>	Instrument ID: <u>LCMS1</u>
Analyzed Date: <u>03/15/12 13:22</u>	Method: <u>6850</u>
Analyst: <u>JWR</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG392280-07	1LM.LM15532	03/15/12 12:45	01
MCT	WG392280-01	1LM.LM15533	03/15/12 13:03	01
LCS	WG392280-03	1LM.LM15535	03/15/12 13:41	01
40MW7GW030612	L12030257-01	1LM.LM15536	03/15/12 14:00	01
40LFMW01GW030612	L12030257-03	1LM.LM15537	03/15/12 14:19	01
40LFMW01MSGW030612	L12030257-04	1LM.LM15538	03/15/12 14:38	01
40LFMW01MSDGW030612	L12030257-05	1LM.LM15539	03/15/12 14:57	01
40DUPGW030612	L12030257-06	1LM.LM15540	03/15/12 15:16	01
40FB030612	L12030257-07	1LM.LM15541	03/15/12 15:35	01
40EQR030612	L12030257-08	1LM.LM15542	03/15/12 15:54	01
QCMRL	WG392280-08	1LM.LM15544	03/15/12 16:32	01
40MW5GW030712	L12030257-09	1LM.LM15546	03/15/12 17:10	01
40EQR030712	L12030257-10	1LM.LM15547	03/15/12 17:29	01
40MW6GW030712	L12030257-11	1LM.LM15548	03/15/12 17:47	01
QCMRL	WG392280-09	1LM.LM15557	03/15/12 20:38	01
QCMRL	WG392280-10	1LM.LM15560	03/16/12 12:06	01
QCMRL	WG392280-11	1LM.LM15567	03/16/12 14:18	01

Report Name: BLANK_SUMMARY
PDF File ID: 2341050
Report generated 03/19/2012 10:39



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/15/12 12:26 Sample ID: WG392280-02
Instrument ID: LCMS1 Run Date: 03/15/12 13:22 Prep Method: 6850
File ID: 1LM.LM15534 Analyst: JWR Method: 6850
Workgroup (AAB#): WG392280 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-24-JAN-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Perchlorate	0.100	0.200	0.100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2341051

19-MAR-2012 10:39



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392280-03
Instrument ID: LCMS1 Run Time: 13:41 Prep Method: 6850
File ID: 1LM.LM15535 Analyst: JWR Method: 6850
Workgroup (AAB#): WG392280 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD50043 Cal ID: LCMS1-24-JAN-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	0.200	0.202	101	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2341052
Report generated: 03/19/2012 10:39



MS/MSD REPORT

Loginnum: L12030257 Cal ID: LCMS1- 24-JAN-12 Worknum: WG392280
Instrument ID: LCMS1 Contract #: _____ Prep Method: 6850
Parent ID: L12030257-03 File ID: ILM.LM15537 Dil: 1 Method: 6850
Sample ID: L12030257-04 MS File ID: ILM.LM15538 Dil: 1 Matrix: Water
Sample ID: L12030257-05 MSD File ID: ILM.LM15539 Dil: 1 Units: ug/L

Analyte	Parent	MS	MS	MS	MSD	MSD	MSD	%RPD	%Rec Limits	RPD Limit	Q
		Spiked	Found	%Rec	Spiked	Found	%Rec				
Perchlorate	8.88	0.200	8.87	-5	0.200	8.75	-65	1.36	80 - 120	15	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
PDF File ID: 2341053
Report generated 03/19/2012 10:39



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12030257 Instrument ID: LCMS1
Analytical Method: 6850 Initial Calibration Date: 24-JAN-12 17:25
ICAL Workgroup: WG387799 Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		1.150	3.17	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2341467
Report generated 03/19/2012 10:39



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12030257
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 24-JAN-12 17:25
Column ID: F

Analyte	WG387799-02			WG387799-03			WG387799-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	9330.00000	1.250	0.200	17600.0000	1.160	0.500	44900.0000	1.172

INT_CAL - Modified 03/06/2008
PDF File ID: 2341467
Report generated 03/19/2012 10:39



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12030257
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 24-JAN-12 17:25
Column ID: F

Analyte	WG387799-05			WG387799-06			WG387799-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	85400.0000	1.117	2.00	174000.000	1.127	5.00	434000.000	1.109

INT_CAL - Modified 03/06/2008
PDF File ID: 2341467
Report generated 03/19/2012 10:39



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12030257
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 24-JAN-12 17:25
Column ID: F

Analyte	WG387799-08		
	CONC	RESP	RF
Perchlorate	10.0	855000.000	1.115

INT_CAL - Modified 03/06/2008
PDF File ID: 2341467
Report generated 03/19/2012 10:39



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12030257 Run Date: 01/24/2012 Sample ID: WG387799-09
Instrument ID: LCMS1 Run Time: 17:44 Method: 6850
File ID: 1LM.LM15204 Analyst: JWR QC Key: DOD4
ICal Workgroup: WG387799 Cal ID: LCMS1 - 24-JAN-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	0.968	ug/L	1.09	3.20	15	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2341468
Report generated 03/19/2012 10:39



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392282-01
Instrument ID: LCMS1 Run Time: 12:07 Method: 6850
File ID: 1LM.LM15530 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG392280 Cal ID: LCMS1 - 24-JAN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2341056
Report generated 03/19/2012 10:39



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392282-04
Instrument ID: LCMS1 Run Time: 16:51 Method: 6850
File ID: 1LM.LM15545 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG392280 Cal ID: LCMS1 - 24-JAN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2341056
Report generated 03/19/2012 10:39



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392282-06
Instrument ID: LCMS1 Run Time: 20:57 Method: 6850
File ID: 1LM.LM15558 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG392280 Cal ID: LCMS1 - 24-JAN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2341056
Report generated 03/19/2012 10:39



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392282-02
Instrument ID: LCMS1 Run Time: 12:26 Method: 6850
File ID: 1LM.LM15531 Analyst: JWR QC Key: DOD4
Workgroup (AAB#): WG392280 Cal ID: LCMS1 - 24-JAN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	1.06	ug/L	1.20	6.00	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2341055
Report generated 03/19/2012 10:39



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392282-03
Instrument ID: LCMS1 Run Time: 16:13 Method: 6850
File ID: 1LM.LM15543 Analyst: JWR QC Key: DOD4
Workgroup (AAB#): WG392280 Cal ID: LCMS1 - 24-JAN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	1.02	ug/L	1.15	2.00	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2341055
Report generated 03/19/2012 10:39



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392282-05
Instrument ID: LCMS1 Run Time: 20:19 Method: 6850
File ID: 1LM.LM15556 Analyst: JWR QC Key: DOD4
Workgroup (AAB#): WG392280 Cal ID: LCMS1 - 24-JAN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.980	ug/L	1.10	2.00	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2341055
Report generated 03/19/2012 10:39



QCMRL SAMPLE

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392280-07
Instrument ID: LCMS1 Run Time: 12:45 Prep Method: 6850
File ID: 1LM.LM15532 Analyst: JWR Method: 6850
Workgroup (AAB#): WG392280 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-24-JAN-12

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.207	104	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 2341054
Report generated 03/16/2012 20:34



QCMRL SAMPLE

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392280-08
Instrument ID: LCMS1 Run Time: 16:32 Prep Method: 6850
File ID: 1LM.LM15544 Analyst: JWR Method: 6850
Workgroup (AAB#): WG392280 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-24-JAN-12

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.198	99.0	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 2341054
Report generated 03/16/2012 20:34



QCMRL SAMPLE

Login Number: L12030257 Run Date: 03/15/2012 Sample ID: WG392280-09
Instrument ID: LCMS1 Run Time: 20:38 Prep Method: 6850
File ID: 1LM.LM15557 Analyst: JWR Method: 6850
Workgroup (AAB#): WG392280 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-24-JAN-12

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.192	96.0	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 2341054
Report generated 03/16/2012 20:34



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number: L12030257
Instrument ID: LCMS1
Workgroup (AAB#): WG392280

ICAL CCV Number: WG387799-05
CAL ID: LCMS1-24-JAN-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG387799	NA	NA	383000
Upper Limit	NA	NA	574500
Lower Limit	NA	NA	191500
L12030257-01	1.00	01	347000
L12030257-03	1.00	01	317000
L12030257-04	1.00	01	315000
L12030257-05	1.00	01	313000
L12030257-06	1.00	01	310000
L12030257-07	1.00	01	356000
L12030257-08	1.00	01	370000
L12030257-09	1.00	01	329000
L12030257-10	1.00	01	372000
L12030257-11	1.00	01	323000
WG392280-02	1.00	01	367000
WG392280-03	1.00	01	369000

IS-1 - 018LP

Underline = Response outside limits



Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 14:00

Samplenum: L12030257-01
File ID: 1LM.LM15536
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	324000	108000	3.00	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 14:19

Samplenum: L12030257-03
File ID: 1LM.LM15537
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	626000	209000	3.00	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 14:38

Samplenum: L12030257-04
File ID: 1LM.LM15538
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	623000	206000	3.02	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 14:57

Samplenum: L12030257-05
File ID: 1LM.LM15539
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	610000	208000	2.93	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 15:16

Samplenum: L12030257-06
File ID: 1LM.LM15540
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	616000	205000	3.00	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 15:35

Samplenum: L12030257-07
File ID: 1LM.LM15541
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	182	0.000	2.3	3.8	*

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 15:54

Samplenum: L12030257-08
File ID: 1LM.LM15542
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 17:10

Samplenum: L12030257-09
File ID: 1LM.LM15546
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	68900	23500	2.93	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 17:29

Samplenum: L12030257-10
File ID: 1LM.LM15547
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	5120	2050	2.50	2.3	3.8	

Login #:	L12030257	Prep Method:	6850	Samplenum:	L12030257-11
Instrument:	LCMS1	Prep Date:	03/15/2012 12:26	File ID:	1LM.LM15548
Analyst:	JWR	Anal Method:	6850	Matrix:	Water
Worknum:	WG392280	Analysis Date:	03/15/2012 17:47	Units:	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	38700	13800	2.80	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 01/24/2012 15:32

Samplenum: WG387799-02
File ID: 1LM.LM15197
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	9330	3010	3.10	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 01/24/2012 15:51

Samplenum: WG387799-03
File ID: 1LM.LM15198
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	17600	6330	2.78	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 01/24/2012 16:10

Samplenum: WG387799-04
File ID: 1LM.LM15199
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	44900	16100	2.79	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 01/24/2012 16:29

Samplenum: WG387799-05
File ID: 1LM.LM15200
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	85400	29500	2.89	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 01/24/2012 16:47

Samplenum: WG387799-06
File ID: 1LM.LM15201
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	174000	60300	2.89	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 01/24/2012 17:06

Samplenum: WG387799-07
File ID: 1LM.LM15202
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	434000	149000	2.91	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 01/24/2012 17:25

Samplenum: WG387799-08
File ID: 1LM.LM15203
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	855000	293000	2.92	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 01/24/2012 17:44

Samplenum: WG387799-09
File ID: 1LM.LM15204
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	86000	30300	2.84	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 13:03

Samplenum: WG392280-01
File ID: 1LM.LM15533
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	18000	5850	3.08	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 13:22

Samplenum: WG392280-02
File ID: 1LM.LM15534
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	229	0.000	0.000	2.3	3.8	*

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 13:41

Samplenum: WG392280-03
File ID: 1LM.LM15535
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	17600	6060	2.90	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 12:45

Samplenum: WG392280-07
File ID: 1LM.LM15532
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	18000	5650	3.19	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 16:32

Samplenum: WG392280-08
File ID: 1LM.LM15544
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	17800	5980	2.98	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: 6850
Prep Date: 03/15/2012 12:26
Anal Method: 6850
Analysis Date: 03/15/2012 20:38

Samplenum: WG392280-09
File ID: 1LM.LM15557
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	15800	5830	2.71	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 03/15/2012 12:07

Samplenum: WG392282-01
File ID: 1LM.LM15530
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 03/15/2012 12:26

Samplenum: WG392282-02
File ID: 1LM.LM15531
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	86400	29000	2.98	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 03/15/2012 16:13

Samplenum: WG392282-03
File ID: 1LM.LM15543
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	86800	29200	2.97	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 03/15/2012 16:51

Samplenum: WG392282-04
File ID: 1LM.LM15545
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 03/15/2012 20:19

Samplenum: WG392282-05
File ID: 1LM.LM15556
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	76500	27100	2.82	2.3	3.8	

Login #: L12030257
Instrument: LCMS1
Analyst: JWR
Worknum: WG392280

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 03/15/2012 20:57

Samplenum: WG392282-06
File ID: 1LM.LM15558
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*



Login Number: L12030257
Department: General Chromatography
Analyst: Eric Lawson

METHOD

Analysis SW-846 8081A

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 20%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor

will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 43471

Approved By: Mike Cochran



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12030257
Instrument Id: HP15
Workgroup (AAB#): WG391881

Method: 8081
CAL ID: HP15 - 01-MAR-12
Matrix: Water

Sample Number	Dilution	Tag	1	2
L12030257-01	1.00	01	78.4	65.1
L12030257-03	1.00	01	76.4	100
L12030257-03	1.00	CF01	71.0	87.2
L12030257-04	1.00	01	73.6	79.8
L12030257-05	1.00	01	66.7	106
L12030257-06	1.00	01	78.1	97.4
L12030257-07	1.00	01	66.9	78.6
L12030257-08	1.00	01	73.0	79.5
L12030257-09	1.00	01	71.6	97.5
L12030257-10	1.00	01	64.9	84.4
L12030257-11	1.00	01	67.2	95.2
WG391881-02	1.00	01	67.2	79.5
WG391881-02	1.00	CF01	62.1	70.7
WG391881-03	1.00	01	56.5	84.5
WG391881-03	1.00	CF01	52.1	74.2
WG391881-04	1.00	02	56.7	65.2

Surrogates	Surrogate Limits
1 - 2,4,5,6-Tetrachloro-m-xylene	25 - 140
2 - Decachlorobiphenyl	30 - 135

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2337658
Report generated: 03/16/2012 13:58



METHOD BLANK SUMMARY

Login Number: <u>L12030257</u>	Work Group: <u>WG391981</u>
Blank File ID: <u>15G30853.F</u>	Blank Sample ID: <u>WG391881-02</u>
Prep Date: <u>03/12/12 08:31</u>	Instrument ID: <u>HP15</u>
Analyzed Date: <u>03/13/12 17:06</u>	Method: <u>8081A</u>
Analyst: <u>ECL</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG391881-03	15G30854.F	03/13/12 17:34	CF01
LCS	WG391881-03	15G30854.R	03/13/12 18:02	01
LCS_TOX	WG391881-04	15G30855.R	03/13/12 18:31	02
40LFMW01GW030612	L12030257-03	15G30857.F	03/13/12 18:59	CF01
40MW7GW030612	L12030257-01	15G30856.R	03/13/12 18:59	01
40LFMW01GW030612	L12030257-03	15G30857.R	03/13/12 19:27	01
40LFMW01MSGW030612	L12030257-04	15G30858.R	03/13/12 19:56	01
40LFMW01MSDGW030612	L12030257-05	15G30859.R	03/13/12 20:24	01
40DUPGW030612	L12030257-06	15G30860.R	03/13/12 20:53	01
40FB030612	L12030257-07	15G30861.R	03/13/12 21:21	01
40EQR030612	L12030257-08	15G30862.R	03/13/12 21:49	01
40MW5GW030712	L12030257-09	15G30865.R	03/13/12 23:15	01
40EQR030712	L12030257-10	15G30866.R	03/13/12 23:43	01
40MW6GW030712	L12030257-11	15G30867.R	03/14/12 00:11	01

Report Name: BLANK_SUMMARY
PDF File ID: 2337650
Report generated 03/16/2012 13:57



METHOD BLANK SUMMARY

Login Number: <u>L12030257</u>	Work Group: <u>WG391981</u>
Blank File ID: <u>15G30853.R</u>	Blank Sample ID: <u>WG391881-02</u>
Prep Date: <u>03/12/12 08:31</u>	Instrument ID: <u>HP15</u>
Analyzed Date: <u>03/13/12 17:34</u>	Method: <u>8081A</u>
Analyst: <u>ECL</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG391881-03	15G30854.F	03/13/12 17:34	CF01
LCS	WG391881-03	15G30854.R	03/13/12 18:02	01
LCS_TOX	WG391881-04	15G30855.R	03/13/12 18:31	02
40LFMW01GW030612	L12030257-03	15G30857.F	03/13/12 18:59	CF01
40MW7GW030612	L12030257-01	15G30856.R	03/13/12 18:59	01
40LFMW01GW030612	L12030257-03	15G30857.R	03/13/12 19:27	01
40LFMW01MSGW030612	L12030257-04	15G30858.R	03/13/12 19:56	01
40LFMW01MSDGW030612	L12030257-05	15G30859.R	03/13/12 20:24	01
40DUPGW030612	L12030257-06	15G30860.R	03/13/12 20:53	01
40FB030612	L12030257-07	15G30861.R	03/13/12 21:21	01
40EQR030612	L12030257-08	15G30862.R	03/13/12 21:49	01
40MW5GW030712	L12030257-09	15G30865.R	03/13/12 23:15	01
40EQR030712	L12030257-10	15G30866.R	03/13/12 23:43	01
40MW6GW030712	L12030257-11	15G30867.R	03/14/12 00:11	01

Report Name: BLANK_SUMMARY
PDF File ID: 2337650
Report generated 03/16/2012 13:57



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/12/12 08:31 Sample ID: WG391881-02
 Instrument ID: HP15 Run Date: 03/13/12 17:06 Prep Method: 3510C
 File ID: 15G30853.F Analyst: ECL Method: 8081A
 Workgroup (AAB#): WG391981 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HP15 - 01-MAR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
4,4'-DDD	0.0100	0.0500	0.0100	1	U
4,4'-DDE	0.0100	0.0500	0.0100	1	U
4,4'-DDT	0.0100	0.0500	0.0100	1	U
Aldrin	0.0100	0.0500	0.0100	1	U
alpha Chlordane	0.0100	0.0500	0.0100	1	U
alpha-BHC	0.0100	0.0500	0.0100	1	U
beta-BHC	0.0100	0.0500	0.0100	1	U
delta-BHC	0.0100	0.0500	0.0100	1	U
Dieldrin	0.0100	0.0500	0.0100	1	U
Endosulfan I	0.0100	0.0500	0.0100	1	U
Endosulfan II	0.0100	0.0500	0.0100	1	U
Endosulfan sulfate	0.0100	0.0500	0.0100	1	U
Endrin	0.0100	0.0500	0.0100	1	U
Endrin aldehyde	0.0100	0.0500	0.0100	1	U
Endrin ketone	0.0100	0.0500	0.0100	1	U
gamma Chlordane	0.0100	0.0500	0.0100	1	U
gamma-BHC (Lindane)	0.0100	0.0500	0.0100	1	U
Heptachlor	0.0100	0.0500	0.0100	1	U
Heptachlor epoxide	0.0100	0.0500	0.0100	1	U
Methoxychlor	0.0100	0.0500	0.0100	1	U
Toxaphene	0.300	1.00	0.300	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	62.1	25 - 140	PASS
Decachlorobiphenyl	70.7	30 - 135	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2337651

16-MAR-2012 13:57



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/12/12 08:31 Sample ID: WG391881-02
 Instrument ID: HP15 Run Date: 03/13/12 17:34 Prep Method: 3510C
 File ID: 15G30853.R Analyst: ECL Method: 8081A
 Workgroup (AAB#): WG391981 Matrix: Water Units: ug/L
 Contract #: Cal ID: HP15 - 01-MAR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
4,4'-DDD	0.0100	0.0500	0.0100	1	U
4,4'-DDE	0.0100	0.0500	0.0100	1	U
4,4'-DDT	0.0100	0.0500	0.0100	1	U
Aldrin	0.0100	0.0500	0.0100	1	U
alpha Chlordane	0.0100	0.0500	0.0100	1	U
alpha-BHC	0.0100	0.0500	0.0100	1	U
beta-BHC	0.0100	0.0500	0.0100	1	U
delta-BHC	0.0100	0.0500	0.0100	1	U
Dieldrin	0.0100	0.0500	0.0100	1	U
Endosulfan I	0.0100	0.0500	0.0100	1	U
Endosulfan II	0.0100	0.0500	0.0100	1	U
Endosulfan sulfate	0.0100	0.0500	0.0100	1	U
Endrin	0.0100	0.0500	0.0100	1	U
Endrin aldehyde	0.0100	0.0500	0.0100	1	U
Endrin ketone	0.0100	0.0500	0.0100	1	U
gamma Chlordane	0.0100	0.0500	0.0100	1	U
gamma-BHC (Lindane)	0.0100	0.0500	0.0100	1	U
Heptachlor	0.0100	0.0500	0.0100	1	U
Heptachlor epoxide	0.0100	0.0500	0.0100	1	U
Methoxychlor	0.0100	0.0500	0.0100	1	U
Toxaphene	0.300	1.00	0.300	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	67.2	25 - 140	PASS
Decachlorobiphenyl	79.5	30 - 135	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2337651

16-MAR-2012 13:57



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391881-03
Instrument ID: HP15 Run Time: 17:34 Prep Method: 3510C
File ID: 15G30854.F Analyst: ECL Method: 8081A
Workgroup (AAB#): WG391981 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD47832 Cal ID: HP15 - 01-MAR-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
4,4'-DDD	0.500	0.474	94.8	25 - 150	
4,4'-DDE	0.500	0.436	87.2	35 - 140	
4,4'-DDT	0.500	0.455	91.1	45 - 140	
Aldrin	0.500	0.345	69.1	25 - 140	
alpha Chlordane	0.500	0.422	84.4	65 - 125	
alpha-BHC	0.500	0.333	66.7	60 - 130	
beta-BHC	0.500	0.396	79.2	65 - 125	
delta-BHC	0.500	0.439	87.7	45 - 135	
Dieldrin	0.500	0.461	92.2	60 - 130	
Endosulfan I	0.500	0.332	66.4	50 - 110	
Endosulfan II	0.500	0.353	70.6	30 - 130	
Endosulfan sulfate	0.500	0.407	81.5	55 - 135	
Endrin	0.500	0.413	82.6	55 - 135	
Endrin aldehyde	0.500	0.367	73.4	55 - 135	
Endrin ketone	0.500	0.443	88.7	75 - 125	
gamma Chlordane	0.500	0.418	83.7	60 - 125	
gamma-BHC (Lindane)	0.500	0.345	69.0	25 - 135	
Heptachlor	0.500	0.364	72.7	40 - 130	
Heptachlor epoxide	0.500	0.405	81.1	60 - 130	
Methoxychlor	0.500	0.438	87.5	55 - 150	

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	52.1	25 - 140	PASS
Decachlorobiphenyl	74.2	30 - 135	PASS

* EXCEEDS %REC LIMIT

Radford Army Ammunition Plant: Data Validation for Lab Report L12030257 D-145

LCS - Modified 03/06/2008
PDF File ID: 2337652
Report generated: 03/16/2012 13:57



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391881-03
Instrument ID: HP15 Run Time: 18:02 Prep Method: 3510C
File ID: 15G30854.R Analyst: ECL Method: 8081A
Workgroup (AAB#): WG391981 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD47832 Cal ID: HP15 - 01-MAR-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
4,4'-DDD	0.500	0.513	103	25 - 150	
4,4'-DDE	0.500	0.495	99.1	35 - 140	
4,4'-DDT	0.500	0.527	105	45 - 140	
Aldrin	0.500	0.390	77.9	25 - 140	
alpha Chlordane	0.500	0.463	92.6	65 - 125	
alpha-BHC	0.500	0.366	73.3	60 - 130	
beta-BHC	0.500	0.433	86.6	65 - 125	
delta-BHC	0.500	0.477	95.5	45 - 135	
Dieldrin	0.500	0.480	96.0	60 - 130	
Endosulfan I	0.500	0.364	72.7	50 - 110	
Endosulfan II	0.500	0.394	78.9	30 - 130	
Endosulfan sulfate	0.500	0.384	76.8	55 - 135	
Endrin	0.500	0.452	90.5	55 - 135	
Endrin aldehyde	0.500	0.392	78.4	55 - 135	
Endrin ketone	0.500	0.453	90.6	75 - 125	
gamma Chlordane	0.500	0.462	92.4	60 - 125	
gamma-BHC (Lindane)	0.500	0.396	79.2	25 - 135	
Heptachlor	0.500	0.398	79.6	40 - 130	
Heptachlor epoxide	0.500	0.449	89.9	60 - 130	
Methoxychlor	0.500	0.501	100	55 - 150	

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	56.5	25 - 140	PASS
Decachlorobiphenyl	84.5	30 - 135	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2337652
Report generated: 03/16/2012 13:57



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391881-04
Instrument ID: HP15 Run Time: 18:31 Prep Method: 3510C
File ID: 15G30855.R Analyst: ECL Method: 8081A
Workgroup (AAB#): WG391981 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD47832 Cal ID: HP15 - 01-MAR-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Toxaphene	2.00	2.06	103	41 - 126	

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	56.7	25 - 140	PASS
Decachlorobiphenyl	65.2	30 - 135	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2337652
Report generated: 03/16/2012 13:57



MS/MSD REPORT

Loginnum: L12030257Cal ID: HP15- 01-MAR-12Worknum: WG391981Instrument ID: HP15

Contract #: _____

Prep Method: 3510CParent ID: L12030257-03File ID: 15G30857.RDil: 1Method: 8081ASample ID: L12030257-04 MSFile ID: 15G30858.RDil: 1Matrix: WaterSample ID: L12030257-05 MSDFile ID: 15G30859.RDil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
4,4'-DDD	0.0253	0.510	0.516	96.1	0.521	0.546	99.9	5.60	25 - 150	30	
4,4'-DDE	U	0.510	0.503	98.7	0.521	0.537	103	6.38	35 - 140	30	
4,4'-DDT	U	0.510	0.529	104	0.521	0.568	109	7.16	45 - 140	30	
Aldrin	U	0.510	0.455	89.2	0.521	0.454	87.2	0.229	25 - 140	30	
alpha Chlordane	U	0.510	0.478	93.7	0.521	0.501	96.1	4.59	65 - 125	30	
alpha-BHC	U	0.510	0.458	89.7	0.521	0.439	84.3	4.19	60 - 130	30	
beta-BHC	U	0.510	0.449	88	0.521	0.462	88.7	2.81	65 - 125	30	
delta-BHC	U	0.510	0.413	81	0.521	0.430	82.6	4.09	45 - 135	30	
Dieldrin	U	0.510	0.489	95.9	0.521	0.509	97.7	3.94	60 - 130	30	
Endosulfan I	U	0.510	0.382	74.9	0.521	0.393	75.5	2.81	50 - 110	30	
Endosulfan II	U	0.510	0.398	77.9	0.521	0.424	81.4	6.40	30 - 130	30	
Endosulfan sulfate	U	0.510	0.397	77.8	0.521	0.427	82.1	7.34	55 - 135	30	
Endrin	U	0.510	0.461	90.3	0.521	0.479	91.9	3.84	55 - 135	30	
Endrin aldehyde	U	0.510	0.413	80.9	0.521	0.436	83.8	5.56	55 - 135	30	
Endrin ketone	U	0.510	0.466	91.4	0.521	0.503	96.6	7.61	75 - 125	30	
gamma Chlordane	U	0.510	0.483	94.6	0.521	0.499	95.8	3.26	60 - 125	30	
gamma-BHC (Lindane)	U	0.510	0.459	90	0.521	0.446	85.6	2.90	25 - 135	30	
Heptachlor	U	0.510	0.467	91.6	0.521	0.458	88	1.99	40 - 130	30	
Heptachlor epoxide	U	0.510	0.466	91.3	0.521	0.481	92.4	3.24	60 - 130	30	
Methoxychlor	U	0.510	0.565	111	0.521	0.633	121	11.3	55 - 150	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2337653

Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12030257
Analytical Method: 8081A
ICAL Workgroup: WG390885

Instrument ID: HP15
Initial Calibration Date: 29-FEB-12 20:42
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Toxaphene-1		1785000	3.87		
Toxaphene-2		2690000	4.22		
Toxaphene-3		4372000	3.17		
Toxaphene-4		3123000	2.26		
Toxaphene-5		1893000	2.67		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12030257 Instrument ID: HP15
Analytical Method: 8081A Initial Calibration Date: 29-FEB-12 20:42
ICAL Workgroup: WG390885 Column ID: R

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Toxaphene-1		1020000	9.11		
Toxaphene-2		3010000	3.51		
Toxaphene-3		2291000	2.68		
Toxaphene-4		813400	2.13		
Toxaphene-5		770200	6.34		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12030257
Analytical Method: 8081A
ICAL Workgroup: WG390888

Instrument ID: HP15
Initial Calibration Date: 01-MAR-12 00:01
Column ID: F

Analyte	AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
4,4'-DDD	170400000	5.28		
4,4'-DDE	220900000	6.83		
4,4'-DDT	178800000	10.4		
Aldrin	256200000	10.5		
Dieldrin	197500000	8.90		
Endosulfan I	207600000	13.0		
Endosulfan II	189200000	11.8		
Endosulfan Sulfate	145700000	8.62		
Endrin	197800000	8.80		
Endrin Aldehyde	138500000	12.3		
Endrin Ketone	159600000	7.05		
Heptachlor	245600000	11.6		
Heptachlor Epoxide	230100000	14.8		
Methoxychlor	80440000	12.0		
alpha-BHC	326600000	2.09		
alpha-Chlordane	224300000	8.50		
beta-BHC	132500000	9.15		
delta-BHC	295700000	1.82		
gamma-BHC	310800000	8.59		
gamma-Chlordane	241800000	7.25		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12030257
Analytical Method: 8081A
ICAL Workgroup: WG390888

Instrument ID: HP15
Initial Calibration Date: 01-MAR-12 00:01
Column ID: R

Analyte	AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
4,4'-DDD	78090000	4.27		
4,4'-DDE	93610000	3.65		
4,4'-DDT	75880000	2.29		
Aldrin	103300000	6.56		
Dieldrin	96830000	6.64		
Endosulfan I	91370000	11.5		
Endosulfan II	84280000	10.4		
Endosulfan Sulfate	74620000	11.9		
Endrin	87150000	8.30		
Endrin Aldehyde	66560000	13.0		
Endrin Ketone	80120000	8.82		
Heptachlor	108400000	10.0		
Heptachlor Epoxide	96560000	11.5		
Methoxychlor	37520000	13.4		
alpha-BHC	132700000	3.21		
alpha-Chlordane	100800000	7.30		
beta-BHC	56700000	8.13		
delta-BHC	124300000	2.34		
gamma-BHC	124400000	3.23		
gamma-Chlordane	102700000	4.90		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12030257
Analytical Method:8081A

Instrument ID:HP15
Initial Calibration Date:29-FEB-12 20:42
Column ID:F

Analyte	WG390885-01			WG390885-02			WG390885-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Toxaphene-1	2000	3364500050	1682000	1000	1758645700	1759000	500	923066546	1846000
Toxaphene-2	2000	5053321900	2527000	1000	2715313740	2715000	500	1399735100	2799000
Toxaphene-3	2000	8414166870	4207000	1000	4299675600	4300000	500	2254003980	4508000
Toxaphene-4	2000	6046220200	3023000	1000	3110424920	3110000	500	1606373020	3213000
Toxaphene-5	2000	3780232050	1890000	1000	1935738410	1936000	500	976269563	1953000

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12030257
Analytical Method: 8081A

Instrument ID: HP15
Initial Calibration Date: 29-FEB-12 20:42
Column ID: F

Analyte	WG390885-04			WG390885-05		
	CONC	RESP	RF	CONC	RESP	RF
Toxaphene-1	200	357453440	1787000	100	184928677	1849000
Toxaphene-2	200	525378325	2627000	100	278118533	2781000
Toxaphene-3	200	864389336	4322000	100	452496465	4525000
Toxaphene-4	200	621450657	3107000	100	316245532	3162000
Toxaphene-5	200	369375641	1847000	100	184082808	1841000

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12030257
Analytical Method: 8081A

Instrument ID: HP15
Initial Calibration Date: 29-FEB-12 20:42
Column ID: R

Analyte	WG390885-01			WG390885-02			WG390885-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Toxaphene-1	2000	1823676010	911800	1000	947860755	947900	500	521716228	1043000
Toxaphene-2	2000	5740713600	2870000	1000	2965917620	2966000	500	1573800050	3148000
Toxaphene-3	2000	4432288230	2216000	1000	2273651840	2274000	500	1189163850	2378000
Toxaphene-4	2000	1586019060	793000	1000	802191405	802200	500	416874798	833700
Toxaphene-5	2000	1652458870	826200	1000	801800425	801800	500	391808502	783600

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12030257
Analytical Method: 8081A

Instrument ID: HP15
Initial Calibration Date: 29-FEB-12 20:42
Column ID: R

Analyte	WG390885-04			WG390885-05		
	CONC	RESP	RF	CONC	RESP	RF
Toxaphene-1	200	209828384	1049000	100	114741840	1147000
Toxaphene-2	200	598499898	2992000	100	307278406	3073000
Toxaphene-3	200	453078636	2265000	100	232143346	2321000
Toxaphene-4	200	161909244	809500	100	82851010.0	828500
Toxaphene-5	200	145494782	727500	100	71195718.0	712000

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12030257
Analytical Method:8081A

Instrument ID:HP15
Initial Calibration Date:01-MAR-12 00:01
Column ID:F

Analyte	WG390888-01			WG390888-02			WG390888-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
4,4'-DDD	200	31253003900	1563000000	100	16269812800	1627000000	20.0	3435592810	1718000000
4,4'-DDE	200	39469051400	1973000000	100	20924916800	2092000000	20.0	4438409310	2219000000
4,4'-DDT	200	31333926600	1567000000	100	16358585200	1636000000	20.0	3441898980	1721000000
Aldrin	200	42981429100	2149000000	100	23237484500	2324000000	20.0	5150811750	2575000000
Dieldrin	200	32546155500	1627000000	100	19897241900	1990000000	20.0	4161777320	2081000000
Endosulfan I	200	33829428600	1691000000	100	18349845800	1835000000	20.0	4136121300	2068000000
Endosulfan II	200	31755451700	1588000000	100	16745971400	1675000000	20.0	3720091960	1860000000
Endosulfan Sulfate	200	26220748600	1311000000	100	13428700000	1343000000	20.0	2832462230	1416000000
Endrin	200	34210384000	1711000000	100	18231205000	1823000000	20.0	3994983270	1997000000
Endrin Aldehyde	200	22966906500	1148000000	100	12247276700	1225000000	20.0	2732365300	1366000000
Endrin Ketone	200	29101345600	1455000000	100	14877391600	1488000000	20.0	3134692960	1567000000
Heptachlor	200	40818711600	2041000000	100	22104278300	2210000000	20.0	4911012520	2456000000
Heptachlor Epoxide	200	37126641200	1856000000	100	20010358000	2001000000	20.0	4559545500	2280000000
Methoxychlor	200	13772894800	6886000000	100	7075484320	7075000000	20.0	1557937580	7790000000
alpha-BHC	200	64264206200	3213000000	100	32597019600	3260000000	20.0	6584542370	3292000000
alpha-Chlordane	200	39057090300	1953000000	100	21384268800	2138000000	20.0	4468742400	2234000000
beta-BHC	200	23745198200	1187000000	100	11931151700	1193000000	20.0	2569937990	1285000000
delta-BHC	200	57824395200	2891000000	100	29457386500	2946000000	20.0	5927126260	2964000000
gamma-BHC	200	56742084600	2837000000	100	28879981300	2888000000	20.0	6010800660	3005000000
gamma-Chlordane	200	44038217900	2202000000	100	22677071000	2268000000	20.0	4748150050	2374000000

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12030257
Analytical Method:8081A

Instrument ID:HP15
Initial Calibration Date:01-MAR-12 00:01
Column ID:F

Analyte	WG390888-04			WG390888-05			WG390888-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
4,4'-DDD	10.0	1792763240	179300000	4.00	703136549	175800000	1.00	176441512	176400000
4,4'-DDE	10.0	2327321460	232700000	4.00	905885226	226500000	1.00	237523397	237500000
4,4'-DDT	10.0	1871646780	187200000	4.00	741525904	185400000	1.00	208005079	208000000
Aldrin	10.0	2807530400	280800000	4.00	1107014660	276800000	1.00	274876160	274900000
Dieldrin	10.0	2000226950	200000000	4.00	838862435	209700000	1.00	205640532	205600000
Endosulfan I	10.0	2212512570	221300000	4.00	893058566	223300000	1.00	241615611	241600000
Endosulfan II	10.0	2038145120	203800000	4.00	823278307	205800000	1.00	213319269	213300000
Endosulfan Sulfate	10.0	1507012200	150700000	4.00	607835918	152000000	1.00	164810283	164800000
Endrin	10.0	2110278970	211000000	4.00	834152938	208500000	1.00	214068076	214100000
Endrin Aldehyde	10.0	1501256550	150100000	4.00	596337197	149100000	1.00	158015823	158000000
Endrin Ketone	10.0	1657196650	165700000	4.00	663729934	165900000	1.00	174778684	174800000
Heptachlor	10.0	2600246820	260000000	4.00	1042959670	260700000	1.00	281910353	281900000
Heptachlor Epoxide	10.0	2411797650	241200000	4.00	979952100	245000000	1.00	280843814	280800000
Methoxychlor	10.0	842186783	84220000	4.00	349151513	87290000	1.00	93597642.0	93600000
alpha-BHC	10.0	3389049690	338900000	4.00	1295401190	323900000	1.00	320392097	320400000
alpha-Chlordane	10.0	2281007260	228100000	4.00	932053150	233000000	1.00	252126511	252100000
beta-BHC	10.0	1406190020	140600000	4.00	560057499	140000000	1.00	147735922	147700000
delta-BHC	10.0	3054808250	305500000	4.00	1174958200	293700000	1.00	294690028	294700000
gamma-BHC	10.0	3201220920	320100000	4.00	1257195170	314300000	1.00	357046238	357000000
gamma-Chlordane	10.0	2493076990	249300000	4.00	994467446	248600000	1.00	268657608	268700000

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12030257
Analytical Method:8081A

Instrument ID:HP15
Initial Calibration Date:01-MAR-12 00:01
Column ID:R

Analyte	WG390888-01			WG390888-02			WG390888-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
4,4'-DDD	200	14578556200	72890000	100	7575049720	75750000	20.0	1600588790	80030000
4,4'-DDE	200	17763543100	88820000	100	9206005360	92060000	20.0	1902561860	95130000
4,4'-DDT	200	14633309600	73170000	100	7520993340	75210000	20.0	1539650640	76980000
Aldrin	200	18489307000	92450000	100	9836893970	98370000	20.0	2115026410	105800000
Dieldrin	200	17388165700	86940000	100	9161205850	91610000	20.0	1970543610	98530000
Endosulfan I	200	15325774900	76630000	100	8149399650	81490000	20.0	1822152370	91110000
Endosulfan II	200	14486486000	72430000	100	7632765460	76330000	20.0	1693989470	84700000
Endosulfan Sulfate	200	12763031100	63820000	100	6658309200	66580000	20.0	1470901730	73550000
Endrin	200	15379755300	76900000	100	8114174660	81140000	20.0	1757925840	87900000
Endrin Aldehyde	200	10955529800	54780000	100	5762969620	57630000	20.0	1329347860	66470000
Endrin Ketone	200	14128541200	70640000	100	7365612940	73660000	20.0	1607243160	80360000
Heptachlor	200	18516942400	92580000	100	9852774930	98530000	20.0	2193419880	109700000
Heptachlor Epoxide	200	16231583300	81160000	100	8733691290	87340000	20.0	1956730150	97840000
Methoxychlor	200	6330524330	31650000	100	3308178010	33080000	20.0	734364432	36720000
alpha-BHC	200	26744383200	133700000	100	13517897700	135200000	20.0	2722426020	136100000
alpha-Chlordane	200	18381047300	91910000	100	9457538450	94580000	20.0	1983490380	99170000
beta-BHC	200	10307893800	51540000	100	5216842320	52170000	20.0	1106620870	55330000
delta-BHC	200	24871823200	124400000	100	12590297900	125900000	20.0	2546710030	127300000
gamma-BHC	200	24160002600	120800000	100	12252813700	122500000	20.0	2503041980	125200000
gamma-Chlordane	200	19214539400	96070000	100	9837928180	98380000	20.0	2046293040	102300000

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12030257
Analytical Method:8081A

Instrument ID:HP15
Initial Calibration Date:01-MAR-12 00:01
Column ID:R

Analyte	WG390888-04			WG390888-05			WG390888-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
4,4'-DDD	10.0	810353331	81040000	4.00	310058522	77510000	1.00	81303795.0	81300000
4,4'-DDE	10.0	989256024	98930000	4.00	369254901	92310000	1.00	94427924.0	94430000
4,4'-DDT	10.0	771665624	77170000	4.00	299821580	74960000	1.00	77781773.0	77780000
Aldrin	10.0	1053323450	105300000	4.00	426315537	106600000	1.00	111485131	111500000
Dieldrin	10.0	996720436	99670000	4.00	397739139	99430000	1.00	104814742	104800000
Endosulfan I	10.0	980595217	98060000	4.00	386399202	96600000	1.00	104343332	104300000
Endosulfan II	10.0	865785672	86580000	4.00	355644190	88910000	1.00	96724651.0	96720000
Endosulfan Sulfate	10.0	762374623	76240000	4.00	316143456	79040000	1.00	88492710.0	88490000
Endrin	10.0	904013497	90400000	4.00	356783020	89200000	1.00	97391176.0	97390000
Endrin Aldehyde	10.0	740459678	74050000	4.00	284514771	71130000	1.00	75335705.0	75340000
Endrin Ketone	10.0	823988178	82400000	4.00	333849005	83460000	1.00	90211344.0	90210000
Heptachlor	10.0	1130021300	113000000	4.00	459174105	114800000	1.00	121866880	121900000
Heptachlor Epoxide	10.0	970225060	97020000	4.00	415911687	104000000	1.00	112026983	112000000
Methoxychlor	10.0	378104591	37810000	4.00	161339524	40330000	1.00	45505722.0	45510000
alpha-BHC	10.0	1360282590	136000000	4.00	517568772	129400000	1.00	125648574	125600000
alpha-Chlordane	10.0	1027222920	102700000	4.00	415648198	103900000	1.00	112504217	112500000
beta-BHC	10.0	578673811	57870000	4.00	239102864	59780000	1.00	63517973.0	63520000
delta-BHC	10.0	1266500380	126700000	4.00	487778461	121900000	1.00	119874939	119900000
gamma-BHC	10.0	1321179790	132100000	4.00	490492968	122600000	1.00	123338252	123300000
gamma-Chlordane	10.0	1040122090	104000000	4.00	419518773	104900000	1.00	110281797	110300000

INT_CAL - Modified 03/06/2008
PDF File ID: 2337655
Report generated 03/16/2012 13:57



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12030257 Run Date: 02/29/2012 Sample ID: WG390885-06
Instrument ID: HP15 Run Time: 20:42 Method: 8081A
File ID: 15G30513.F Analyst: ECL QC Key: DOD4
ICal Workgroup: WG390885 Cal ID: HP15 - 29-FEB-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Toxaphene		500	438	ug/L	2480000	12.4	20	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2337656
Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12030257 Run Date: 02/29/2012 Sample ID: WG390885-06
Instrument ID: HP15 Run Time: 21:11 Method: 8081A
File ID: 15G30513.R Analyst: ECL QC Key: DOD4
ICal Workgroup: WG390885 Cal ID: HP15 - 29-FEB-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Toxaphene		500	531	ug/L	1610000	6.30	20	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2337656
Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12030257	Run Date: 03/01/2012	Sample ID: WG390888-07
Instrument ID: HP15	Run Time: 00:01	Method: 8081A
File ID: 15G30520.F	Analyst: ECL	QC Key: DOD4
ICal Workgroup: WG390888	Cal ID: HP15 - 01-MAR-12	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
4,4'-DDD	20.0	19.1	ug/L	163000000	4.40	20	
4,4'-DDE	20.0	19.3	ug/L	213000000	3.60	20	
4,4'-DDT	20.0	18.6	ug/L	166000000	6.90	20	
Aldrin	20.0	19.5	ug/L	249000000	2.70	20	
alpha-Chlordane	20.0	19.0	ug/L	213000000	4.90	20	
alpha-BHC	20.0	19.3	ug/L	316000000	3.30	20	
beta-BHC	20.0	18.7	ug/L	124000000	6.70	20	
delta-BHC	20.0	19.1	ug/L	282000000	4.50	20	
Dieldrin	20.0	18.5	ug/L	183000000	7.30	20	
Endosulfan I	20.0	19.2	ug/L	199000000	4.00	20	
Endosulfan II	20.0	18.7	ug/L	177000000	6.60	20	
Endosulfan Sulfate	20.0	18.4	ug/L	134000000	8.10	20	
Endrin	20.0	17.7	ug/L	175000000	11.5	20	
Endrin Aldehyde	20.0	19.3	ug/L	134000000	3.50	20	
Endrin Ketone	20.0	20.6	ug/L	165000000	3.20	20	
gamma-Chlordane	20.0	18.9	ug/L	228000000	5.70	20	
gamma-BHC	20.0	18.8	ug/L	292000000	6.00	20	
Heptachlor	20.0	19.4	ug/L	238000000	3.00	20	
Heptachlor Epoxide	20.0	18.9	ug/L	217000000	5.60	20	
Methoxychlor	20.0	18.6	ug/L	74900000	6.90	20	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2337656
Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12030257	Run Date: 03/01/2012	Sample ID: WG390888-07
Instrument ID: HP15	Run Time: 00:29	Method: 8081A
File ID: 15G30520.R	Analyst: ECL	QC Key: DOD4
ICal Workgroup: WG390888	Cal ID: HP15 - 01-MAR-12	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
4,4'-DDD	20.0	19.3	ug/L	75400000	3.50	20	
4,4'-DDE	20.0	19.3	ug/L	90200000	3.60	20	
4,4'-DDT	20.0	19.2	ug/L	73000000	3.90	20	
Aldrin	20.0	19.4	ug/L	100000000	3.20	20	
alpha-Chlordane	20.0	18.7	ug/L	94400000	6.40	20	
alpha-BHC	20.0	19.4	ug/L	129000000	3.00	20	
beta-BHC	20.0	18.4	ug/L	52100000	8.10	20	
delta-BHC	20.0	19.4	ug/L	120000000	3.10	20	
Dieldrin	20.0	18.8	ug/L	91300000	5.80	20	
Endosulfan I	20.0	19.0	ug/L	86800000	5.00	20	
Endosulfan II	20.0	18.8	ug/L	79400000	5.80	20	
Endosulfan Sulfate	20.0	18.5	ug/L	68900000	7.60	20	
Endrin	20.0	17.4	ug/L	75800000	13.0	20	
Endrin Aldehyde	20.0	19.3	ug/L	64200000	3.60	20	
Endrin Ketone	20.0	20.8	ug/L	83100000	3.80	20	
gamma-Chlordane	20.0	18.9	ug/L	97000000	5.50	20	
gamma-BHC	20.0	19.0	ug/L	118000000	4.80	20	
Heptachlor	20.0	19.4	ug/L	105000000	3.10	20	
Heptachlor Epoxide	20.0	19.2	ug/L	92700000	4.00	20	
Methoxychlor	20.0	18.4	ug/L	34600000	7.80	20	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2337656
Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391984-03
Instrument ID: HP15 Run Time: 16:09 Method: 8081A
File ID: 15G30851.F Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG391981 Cal ID: HP15 - 01-MAR-12
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	10.0	9.85	ug/L	168000000	1.54	20	
4,4'-DDE	10.0	9.55	ug/L	211000000	4.51	20	
4,4'-DDT	10.0	8.78	ug/L	157000000	12.2	20	
Aldrin	10.0	9.83	ug/L	252000000	1.74	20	
alpha-Chlordane	10.0	9.65	ug/L	216000000	3.53	20	
alpha-BHC	10.0	9.88	ug/L	323000000	1.19	20	
beta-BHC	10.0	9.72	ug/L	129000000	2.82	20	
delta-BHC	10.0	9.87	ug/L	292000000	1.31	20	
Dieldrin	10.0	10.3	ug/L	203000000	2.77	20	
Endosulfan I	10.0	9.72	ug/L	202000000	2.80	20	
Endosulfan II	10.0	9.34	ug/L	177000000	6.63	20	
Endosulfan Sulfate	10.0	9.64	ug/L	141000000	3.59	20	
Endrin	10.0	9.70	ug/L	192000000	2.95	20	
Endrin Aldehyde	10.0	9.37	ug/L	130000000	6.31	20	
Endrin Ketone	10.0	9.83	ug/L	157000000	1.73	20	
gamma-Chlordane	10.0	9.40	ug/L	227000000	5.99	20	
gamma-BHC	10.0	9.47	ug/L	294000000	5.31	20	
Heptachlor	10.0	10.5	ug/L	258000000	4.91	20	
Heptachlor Epoxide	10.0	9.76	ug/L	225000000	2.42	20	
Methoxychlor	10.0	9.62	ug/L	77400000	3.77	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2337657
Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391984-03
Instrument ID: HP15 Run Time: 16:37 Method: 8081A
File ID: 15G30851.R Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG391981 Cal ID: HP15 - 01-MAR-12
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	10.0	10.8	ug/L	84000000	7.54	20	
4,4'-DDE	10.0	10.5	ug/L	98700000	5.40	20	
4,4'-DDT	10.0	10.0	ug/L	75900000	0.0640	20	
Aldrin	10.0	10.8	ug/L	112000000	8.34	20	
alpha-Chlordane	10.0	10.4	ug/L	105000000	4.23	20	
alpha-BHC	10.0	10.8	ug/L	144000000	8.30	20	
beta-BHC	10.0	10.8	ug/L	61000000	7.51	20	
delta-BHC	10.0	10.7	ug/L	134000000	7.42	20	
Dieldrin	10.0	10.6	ug/L	102000000	5.63	20	
Endosulfan I	10.0	10.7	ug/L	98000000	7.22	20	
Endosulfan II	10.0	10.7	ug/L	90100000	6.90	20	
Endosulfan Sulfate	10.0	10.5	ug/L	78000000	4.55	20	
Endrin	10.0	10.6	ug/L	92100000	5.70	20	
Endrin Aldehyde	10.0	10.2	ug/L	68200000	2.47	20	
Endrin Ketone	10.0	10.5	ug/L	84000000	4.88	20	
gamma-Chlordane	10.0	10.5	ug/L	108000000	5.00	20	
gamma-BHC	10.0	10.5	ug/L	131000000	5.44	20	
Heptachlor	10.0	11.0	ug/L	119000000	10.0	20	
Heptachlor Epoxide	10.0	10.9	ug/L	105000000	9.11	20	
Methoxychlor	10.0	10.2	ug/L	38300000	2.13	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2337657
Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391985-02
Instrument ID: HP15 Run Time: 16:37 Method: 8081A
File ID: 15G30852.F Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG391981 Cal ID: HP15 - 29-FEB-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		200	179	ug/L	2490000	10.5	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2337657
Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391985-02
Instrument ID: HP15 Run Time: 17:06 Method: 8081A
File ID: 15G30852.R Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG391981 Cal ID: HP15 - 29-FEB-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		200	190	ug/L	1520000	4.97	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2337657
Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391984-04
 Instrument ID: HP15 Run Time: 21:49 Method: 8081A
 File ID: 15G30863.F Analyst: ECL QC Key: DOD4
 Workgroup (AAB#): WG391981 Cal ID: HP15 - 01-MAR-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	20.0	19.0	ug/L	162000000	5.04	20	
4,4'-DDE	20.0	18.4	ug/L	204000000	7.79	20	
4,4'-DDT	20.0	17.4	ug/L	156000000	12.9	20	
Aldrin	20.0	18.6	ug/L	238000000	6.99	20	
alpha-Chlordane	20.0	17.7	ug/L	199000000	11.3	20	
alpha-BHC	20.0	19.0	ug/L	310000000	5.07	20	
beta-BHC	20.0	18.2	ug/L	120000000	9.21	20	
delta-BHC	20.0	19.0	ug/L	281000000	5.10	20	
Dieldrin	20.0	17.7	ug/L	175000000	11.6	20	
Endosulfan I	20.0	18.3	ug/L	190000000	8.32	20	
Endosulfan II	20.0	18.1	ug/L	171000000	9.53	20	
Endosulfan Sulfate	20.0	18.0	ug/L	131000000	9.84	20	
Endrin	20.0	18.3	ug/L	181000000	8.46	20	
Endrin Aldehyde	20.0	17.3	ug/L	120000000	13.3	20	
Endrin Ketone	20.0	18.6	ug/L	149000000	6.92	20	
gamma-Chlordane	20.0	18.0	ug/L	218000000	10.0	20	
gamma-BHC	20.0	18.3	ug/L	284000000	8.56	20	
Heptachlor	20.0	19.1	ug/L	235000000	4.41	20	
Heptachlor Epoxide	20.0	18.4	ug/L	212000000	7.80	20	
Methoxychlor	20.0	17.7	ug/L	71000000	11.7	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2337657
 Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391984-04
Instrument ID: HP15 Run Time: 22:18 Method: 8081A
File ID: 15G30863.R Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG391981 Cal ID: HP15 - 01-MAR-12
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	20.0	20.3	ug/L	79300000	1.53	20	
4,4'-DDE	20.0	20.2	ug/L	94500000	0.947	20	
4,4'-DDT	20.0	19.1	ug/L	72300000	4.70	20	
Aldrin	20.0	19.8	ug/L	102000000	1.16	20	
alpha-Chlordane	20.0	19.3	ug/L	97400000	3.41	20	
alpha-BHC	20.0	20.1	ug/L	133000000	0.511	20	
beta-BHC	20.0	19.0	ug/L	53900000	4.99	20	
delta-BHC	20.0	19.9	ug/L	124000000	0.497	20	
Dieldrin	20.0	19.7	ug/L	95300000	1.60	20	
Endosulfan I	20.0	19.8	ug/L	90300000	1.18	20	
Endosulfan II	20.0	19.6	ug/L	82700000	1.85	20	
Endosulfan Sulfate	20.0	19.2	ug/L	71800000	3.77	20	
Endrin	20.0	18.5	ug/L	80700000	7.37	20	
Endrin Aldehyde	20.0	18.8	ug/L	62600000	6.03	20	
Endrin Ketone	20.0	20.0	ug/L	80200000	0.0910	20	
gamma-Chlordane	20.0	19.5	ug/L	99800000	2.74	20	
gamma-BHC	20.0	19.8	ug/L	123000000	1.14	20	
Heptachlor	20.0	19.7	ug/L	107000000	1.29	20	
Heptachlor Epoxide	20.0	19.8	ug/L	95600000	1.04	20	
Methoxychlor	20.0	17.9	ug/L	33500000	10.6	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2337657
Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391985-03
Instrument ID: HP15 Run Time: 22:18 Method: 8081A
File ID: 15G30864.F Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG391981 Cal ID: HP15 - 29-FEB-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		500	476	ug/L	2640000	4.81	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2337657
Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391985-03
Instrument ID: HP15 Run Time: 22:46 Method: 8081A
File ID: 15G30864.R Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG391981 Cal ID: HP15 - 29-FEB-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		500	486	ug/L	1550000	2.79	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2337657
Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG391984-06
 Instrument ID: HP15 Run Time: 03:58 Method: 8081A
 File ID: 15G30875.R Analyst: ECL QC Key: DOD4
 Workgroup (AAB#): WG391981 Cal ID: HP15 - 01-MAR-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	10.0	10.7	ug/L	83400000	6.77	20	
4,4'-DDE	10.0	10.4	ug/L	97700000	4.34	20	
4,4'-DDT	10.0	9.77	ug/L	74200000	2.27	20	
Aldrin	10.0	10.6	ug/L	109000000	5.52	20	
alpha-Chlordane	10.0	10.3	ug/L	104000000	2.76	20	
alpha-BHC	10.0	10.4	ug/L	138000000	4.15	20	
beta-BHC	10.0	10.3	ug/L	58500000	3.23	20	
delta-BHC	10.0	10.4	ug/L	129000000	4.01	20	
Dieldrin	10.0	10.4	ug/L	101000000	3.97	20	
Endosulfan I	10.0	10.6	ug/L	96700000	5.79	20	
Endosulfan II	10.0	10.6	ug/L	89200000	5.80	20	
Endosulfan Sulfate	10.0	10.4	ug/L	77300000	3.66	20	
Endrin	10.0	10.2	ug/L	88500000	1.54	20	
Endrin Aldehyde	10.0	10.6	ug/L	70600000	6.02	20	
Endrin Ketone	10.0	10.6	ug/L	84900000	5.91	20	
gamma-Chlordane	10.0	10.4	ug/L	106000000	3.69	20	
gamma-BHC	10.0	10.3	ug/L	128000000	2.74	20	
Heptachlor	10.0	10.6	ug/L	115000000	6.04	20	
Heptachlor Epoxide	10.0	10.7	ug/L	103000000	6.88	20	
Methoxychlor	10.0	9.97	ug/L	37400000	0.345	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2337657
 Report generated 03/16/2012 13:58



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG391985-04
Instrument ID: HP15 Run Time: 04:26 Method: 8081A
File ID: 15G30876.R Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG391981 Cal ID: HP15 - 29-FEB-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		200	192	ug/L	1530000	3.92	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2337657
Report generated 03/16/2012 13:58



ENDRIN/4,4'-DDT BREAKDOWN (BRKDWN)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391984-01
Instrument ID: HP15 Run Time: 09:58 Method: 8081
File ID: 15G30838.F Analyst: ECL Column ID: FRONT

DDT BREAKDOWN	
Analyte	Response
4,4'-DDD	212245586
4,4'-DDE	287949345
4,4'-DDT	7822965113
DDT % BREAKDOWN: 6.01	

ENDRIN BREAKDOWN	
Analyte	Response
ENDRIN	8921033113
ENDRIN ALDEHYDE	0
ENDRIN KETONE	302993248
ENDRIN % BREAKDOWN: 3.28	

* Exceeds 15% Criteria

Report Name: BRKDWN
PDF File ID: 2337654
Report generated 03/16/2012 13:57



ENDRIN/4,4'-DDT BREAKDOWN (BRKDWN)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391984-01
Instrument ID: HP15 Run Time: 10:27 Method: 8081
File ID: 15G30838.R Analyst: ECL Column ID: REAR

DDT BREAKDOWN	
Analyte	Response
4,4'-DDD	113473384
4,4'-DDE	138880156
4,4'-DDT	3815216076
DDT % BREAKDOWN: 6.20	

ENDRIN BREAKDOWN	
Analyte	Response
ENDRIN	4007625523
ENDRIN ALDEHYDE	123962961
ENDRIN KETONE	241507634
ENDRIN % BREAKDOWN: 8.36	

* Exceeds 15% Criteria

Report Name: BRKDWN
PDF File ID: 2337654
Report generated 03/16/2012 13:57



ENDRIN/4,4'-DDT BREAKDOWN (BRKDWN)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG391984-05
Instrument ID: HP15 Run Time: 03:01 Method: 8081
File ID: 15G30874.F Analyst: ECL Column ID: FRONT

DDT BREAKDOWN	
Analyte	Response
4,4'-DDD	174809474
4,4'-DDE	328614125
4,4'-DDT	7650059947
DDT % BREAKDOWN: 6.17	

ENDRIN BREAKDOWN	
Analyte	Response
ENDRIN	8819169267
ENDRIN ALDEHYDE	0
ENDRIN KETONE	195739081
ENDRIN % BREAKDOWN: 2.17	

* Exceeds 15% Criteria

Report Name: BRKDWN
PDF File ID: 2337654
Report generated 03/16/2012 13:57



ENDRIN/4,4'-DDT BREAKDOWN (BRKDWN)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG391984-05
Instrument ID: HP15 Run Time: 03:30 Method: 8081
File ID: 15G30874.R Analyst: ECL Column ID: REAR

DDT BREAKDOWN	
Analyte	Response
4,4'-DDD	122255656
4,4'-DDE	132436498
4,4'-DDT	3392695044
DDT % BREAKDOWN: 6.98	

ENDRIN BREAKDOWN	
Analyte	Response
ENDRIN	3865907111
ENDRIN ALDEHYDE	71989336
ENDRIN KETONE	188219915
ENDRIN % BREAKDOWN: 6.31	

* Exceeds 15% Criteria

Report Name: BRKDWN
PDF File ID: 2337654
Report generated 03/16/2012 13:57





Login Number: L12030257
Department: Metals
Analyst: Kim Rhodes

METHOD

Preparation: SW-846 3005

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG391918 - All acceptance criteria were met.

Matrix Spikes: WG391918 - Sample 03 was chosen by the client for MS/MSD analysis. Samples 04(MS) and 05(MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 43330

Approved By: Sheri Pfalzgraf

A handwritten signature in black ink, appearing to read "Sheri L. Pfalzgraf".

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG391889
Analyst: ERP
Spike Analyst: ERP
Method: 3005A
Run Date: 03/12/2012 08:58
Hotblock Start Temp: 95.1 @ 08:15
Hotblock End Temp: 95 @ 12:15

SOP: ME401 Revision 14
Spike Solution: STD50255
Spike Witness: ERP
HNO3 Lot #: COA15720
Digestion Tubes Lot #: COA15940
HCL Lot #: COA15847
ICP;WG390452 Filter Lot COA15973

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG391889-02	BLANK	1	50 mL	50 mL		
2	WG391889-03	LCS	1	50 mL	50 mL	5 mL	
3	L12030257-01	SAMP	1	50 mL	50 mL		03/19/12
4	WG391889-01	REF	1	50 mL	50 mL		
5	L12030257-03	RS01	1	50 mL	50 mL		03/19/12
6	WG391889-04	MS	1	50 mL	50 mL	5 mL	
7	L12030257-04	MS01	1	50 mL	50 mL	5 mL	03/19/12
8	WG391889-05	MSD	1	50 mL	50 mL	5 mL	
9	L12030257-05	SD01	1	50 mL	50 mL	5 mL	03/19/12
10	L12030257-06	SAMP	1	50 mL	50 mL		03/19/12
11	L12030257-07	SAMP	1	50 mL	50 mL		03/19/12
12	L12030257-08	SAMP	1	50 mL	50 mL		03/19/12
13	L12030257-09	SAMP	1	50 mL	50 mL		03/19/12
14	L12030257-10	SAMP	1	50 mL	50 mL		03/19/12
15	L12030257-11	SAMP	1	50 mL	50 mL		03/19/12
16	L12030289-01	SAMP	1	50 mL	50 mL		03/20/12
17	L12030289-02	SAMP	1	50 mL	50 mL		03/20/12
18	L12030289-03	SAMP	1	50 mL	50 mL		03/20/12
19	L12030289-04	SAMP	1	50 mL	50 mL		03/20/12
20	L12030289-05	SAMP	1	50 mL	50 mL		03/20/12
21	L12030329-01	SAMP	1	50 mL	50 mL		03/20/12

Analyst: Eun Potten

Reviewer: Vicki Callum



METHOD BLANK SUMMARY

Login Number: <u>L12030257</u>	Work Group: <u>WG391918</u>
Blank File ID: <u>T2.031212.143409</u>	Blank Sample ID: <u>WG391889-02</u>
Prep Date: <u>03/12/12 08:58</u>	Instrument ID: <u>ICP-THERMO2</u>
Analyzed Date: <u>03/12/12 14:34</u>	Method: <u>6010B</u>
Analyst: <u>KHR</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG391889-03	T2.031212.143737	03/12/12 14:37	01
40MW7GW030612	L12030257-01	T2.031212.144053	03/12/12 14:40	01
40LFMW01GW030612	L12030257-03	T2.031212.144417	03/12/12 14:44	01
40LFMW01MSGW030612	L12030257-04	T2.031212.144745	03/12/12 14:47	01
40LFMW01MSDGW030612	L12030257-05	T2.031212.145057	03/12/12 14:50	01
40DUPGW030612	L12030257-06	T2.031212.145408	03/12/12 14:54	01
40FB030612	L12030257-07	T2.031212.145729	03/12/12 14:57	01
40EQR030612	L12030257-08	T2.031212.151747	03/12/12 15:17	01
40MW5GW030712	L12030257-09	T2.031212.152113	03/12/12 15:21	01
40EQR030712	L12030257-10	T2.031212.152434	03/12/12 15:24	01
40MW6GW030712	L12030257-11	T2.031212.152803	03/12/12 15:28	01

Report Name: BLANK_SUMMARY
PDF File ID: 2335286
Report generated 03/13/2012 10:26



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/12/12 08:58 Sample ID: WG391889-02
Instrument ID: ICP-THERMO2 Run Date: 03/12/12 14:34 Prep Method: 3005A
File ID: T2.031212.143409 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG391918 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-TH-12-MAR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Beryllium, Total	0.00100	0.00200	0.00100	1	U
Calcium, Total	0.100	0.200	0.100	1	U
Iron, Total	0.0500	0.100	0.0500	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Potassium, Total	0.500	1.00	0.500	1	U
Sodium, Total	0.250	0.500	0.250	1	U
Vanadium, Total	0.00500	0.0100	0.00500	1	U
Zinc, Total	0.0100	0.0200	0.0100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2335287

18-MAY-2012 18:29



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391889-03
Instrument ID: ICP-THERMO2 Run Time: 14:37 Prep Method: 3005A
File ID: T2.031212.143737 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG391918 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD50255 Cal ID: ICP-TH - 12-MAR-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Aluminum, Total	5.00	4.92	98.5	80 - 120	
Beryllium, Total	0.0250	0.0253	101	80 - 120	
Calcium, Total	5.00	4.85	97.0	80 - 120	
Iron, Total	2.00	1.96	98.2	80 - 120	
Magnesium, Total	5.00	5.17	103	80 - 120	
Potassium, Total	25.0	24.6	98.4	80 - 120	
Sodium, Total	25.0	25.4	101	80 - 120	
Vanadium, Total	0.500	0.508	102	80 - 120	
Zinc, Total	0.500	0.520	104	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2335288
Report generated: 05/18/2012 18:29



MS/MSD REPORT

Loginnum: <u>L12030257</u>	Cal ID: <u>ICP-THERMO2- 12-MAR-12</u>	Worknum: <u>WG391918</u>
Instrument ID: <u>ICP-THERMO2</u>	Contract #: _____	Prep Method: <u>3005A</u>
Parent ID: <u>L12030257-03</u>	File ID: <u>T2.031212.144417</u> Dil: <u>1</u>	Method: <u>6010B</u>
Sample ID: <u>L12030257-04 MS</u>	File ID: <u>T2.031212.144745</u> Dil: <u>1</u>	Matrix: <u>Water</u>
Sample ID: <u>L12030257-05 MSD</u>	File ID: <u>T2.031212.145057</u> Dil: <u>1</u>	Units: <u>mg/L</u>

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Total	0.123	5.00	5.12	99.9	5.00	5.03	98.1	1.78	80 - 120	20	
Beryllium, Total	U	0.0250	0.0254	102	0.0250	0.0253	101	0.394	80 - 120	20	
Calcium, Total	71.4	5.00	76.5	103	5.00	76.0	92.3	0.708	80 - 120	20	
Iron, Total	0.0930	2.00	2.05	98	2.00	2.04	97.3	0.655	80 - 120	20	
Magnesium, Total	28.1	5.00	32.9	95.7	5.00	32.8	95.5	0.0244	80 - 120	20	
Potassium, Total	0.885	25.0	25.8	99.6	25.0	25.6	99	0.572	80 - 120	20	
Sodium, Total	7.69	25.0	33.8	104	25.0	33.6	104	0.556	80 - 120	20	
Vanadium, Total	U	0.500	0.502	100	0.500	0.501	100	0.209	80 - 120	20	
Zinc, Total	U	0.500	0.512	102	0.500	0.508	102	0.830	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
 PDF File ID: 2335289
 Report generated 05/18/2012 18:29



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12030257 Worknum: WG391918
Instrument: ICP-THERMO2 Method: 6010B
Serial Dil: WG391918-02 File ID: T2.031212.150413 Dil: 5 Units: mg/L
Sample: L12030257-07 File ID: T2.031212.145729 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Aluminum	ND	U	ND	U		
Beryllium	ND	U	ND	U		
Calcium	ND	U	ND	U		
Iron	ND	U	ND	U		
Magnesium	ND	U	ND	U		
Potassium	ND	U	ND	U		
Sodium	ND	U	ND	U		
Vanadium	ND	U	ND	U		
Zinc	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 50 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2335283

05/18/2012 18:29



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12030257

Worknum: WG391918

Instrument ID: ICP-THERMO2

Method: 6010B

Post Spike ID: WG391918-01

File ID: T2.031212.150056

Dil: 1

Units: mg/L

Sample ID: L12030257-07

File ID: T2.031212.145729

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
ALUMINUM	4.89		0	U	5	97.9	75 - 125	
BERYLLIUM	0.0248		0	U	.025	99.4	75 - 125	
CALCIUM	4.84		0	U	5	96.8	75 - 125	
IRON	1.96		0	U	2	98.2	75 - 125	
MAGNESIUM	5.14		0	U	5	102.8	75 - 125	
POTASSIUM	24.5		0	U	25	98.2	75 - 125	
SODIUM	25.5		0	U	25	101.9	75 - 125	
VANADIUM	0.497		0	U	.5	99.4	75 - 125	
ZINC	0.516		0	U	.5	103.3	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2335284
Report generated: 05/18/2012 18:29



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12030257</u>	Workgroup (AAB#):	<u>WG391918</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>ICP-THERMO2</u>
ICAL Worknum:	<u>WG391977</u>	Initial Calibration Date:	<u>12-MAR-2012 09:19</u>

	WG391977-01		WG391977-02		WG391977-03		WG391977-04		WG391977-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ALUMINUM	0	0.000750	.1	0.00185	.2	0.00296	10	0.104	20	0.207	.999975	
BERYLLIUM	0	-0.00360	.0005	0.00146	.001	0.00658	.05	0.502	.1	0.979	.999915	
CALCIUM	0	-0.00290	.1	-0.000200	.2	0.00334	10	0.286	20	0.578	.999971	
IRON	0	0.000350	.04	0.00176	.08	0.00325	4	0.130	8	0.261	.999944	
MAGNESIUM	0	-0.0000600	.1	0.000960	.2	0.00183	10	0.0890	20	0.178	.999954	
POTASSIUM	0	0.00169	.5	0.0101	1	0.0189	50	0.836	100	1.69	.999989	
SODIUM	0	0.00600	.5	0.0364	1	0.0621	50	2.91	100	5.82	.999992	
VANADIUM	0	-0.00107	.01	0.0105	.02	0.0229	1	1.17	2	2.29	.999914	
ZINC	0	0.0000100	.01	0.00611	.02	0.0121	1	0.577	2	1.15	.999979	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2335292
Report generated: 18-MAY-2012 18:29



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391977-07
Instrument ID: ICP-THERMO2 Run Time: 09:26 Method: 6010B
File ID: T2.031212.092617 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG391918 Cal ID: ICP-THERM - 12-MAR-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BERYLLIUM	.001	.002	.001	U
CALCIUM	.1	.2	.1	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
POTASSIUM	.5	1	.5	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2335294
Report generated 05/18/2012 18:29



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391977-13
Instrument ID: ICP-THERMO2 Run Time: 09:51 Method: 6010B
File ID: T2.031212.095139 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG391918 Cal ID: ICP-TH - 12-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2335297
Report generated 05/18/2012 18:29



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391977-27
Instrument ID: ICP-THERMO2 Run Time: 14:20 Method: 6010B
File ID: T2.031212.142013 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG391918 Cal ID: ICP-TH - 12-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2335297
Report generated 05/18/2012 18:29



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391977-29
Instrument ID: ICP-THERMO2 Run Time: 15:10 Method: 6010B
File ID: T2.031212.151057 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG391918 Cal ID: ICP-TH - 12-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2335297
Report generated 05/18/2012 18:29



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391977-06
Instrument ID: ICP-THERMO2 Run Time: 09:23 Method: 6010B
File ID: T2.031212.092307 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG391918 Cal ID: ICP-TH - 12-MAR-12
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	10.1	101	90 - 110	
Beryllium	.05	0.0486	97.1	90 - 110	
Calcium	10	9.99	99.9	90 - 110	
Iron	4	4.03	101	90 - 110	
Magnesium	10	10.1	101	90 - 110	
Potassium	50	49.3	98.7	90 - 110	
Sodium	50	49.3	98.5	90 - 110	
Vanadium	1	0.993	99.3	90 - 110	
Zinc	1	1.02	102	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2335293
Report generated 05/18/2012 18:29



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391977-12
Instrument ID: ICP-THERMO2 Run Time: 09:48 Method: 6010B
File ID: T2.031212.094829 Analyst: KHR QC Key: DOD4
Workgroup (AAB#): WG391918 Cal ID: ICP-TH - 12-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.1	mg/L	101	90 - 110		
Beryllium		0.0500	0.0502	mg/L	100	90 - 110		
Calcium		10.0	10.0	mg/L	100	90 - 110		
Iron		4.00	4.01	mg/L	100	90 - 110		
Magnesium		10.0	10.0	mg/L	100	90 - 110		
Potassium		50.0	50.0	mg/L	100	90 - 110		
Sodium		50.0	50.4	mg/L	101	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.01	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2335296
Report generated 05/18/2012 18:29



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391977-26
Instrument ID: ICP-THERMO2 Run Time: 14:17 Method: 6010B
File ID: T2.031212.141705 Analyst: KHR QC Key: DOD4
Workgroup (AAB#): WG391918 Cal ID: ICP-TH - 12-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.90	mg/L	99.0	90 - 110		
Beryllium		0.0500	0.0508	mg/L	102	90 - 110		
Calcium		10.0	9.90	mg/L	99.0	90 - 110		
Iron		4.00	4.01	mg/L	100	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	50.0	mg/L	99.9	90 - 110		
Sodium		50.0	50.6	mg/L	101	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.02	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2335296
Report generated 05/18/2012 18:29



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391977-28
Instrument ID: ICP-THERMO2 Run Time: 15:07 Method: 6010B
File ID: T2.031212.150746 Analyst: KHR QC Key: DOD4
Workgroup (AAB#): WG391918 Cal ID: ICP-TH - 12-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.94	mg/L	99.4	90 - 110		
Beryllium		0.0500	0.0501	mg/L	100	90 - 110		
Calcium		10.0	9.90	mg/L	99.0	90 - 110		
Iron		4.00	4.06	mg/L	102	90 - 110		
Magnesium		10.0	10.5	mg/L	105	90 - 110		
Potassium		50.0	50.5	mg/L	101	90 - 110		
Sodium		50.0	51.3	mg/L	103	90 - 110		
Vanadium		1.00	1.00	mg/L	100	90 - 110		
Zinc		1.00	1.02	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2335296
Report generated 05/18/2012 18:29



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12030257
Instrument ID: ICP-THERMO2
Sol. A : WG391977-10
Sol. AB : WG391977-11

File ID: T2.031212.094155
File ID: T2.031212.094511

Workgroup (AAB#): WG391918
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	255	102	250	254	102	
Beryllium	NS	-0.0000100	NS	0.250	0.252	101	
Calcium	250	251	100	250	251	100	
Iron	100	97.9	97.9	100	98.6	98.6	
Magnesium	250	250	100	250	253	101	
Potassium	NS	-0.0219	NS	5.00	5.01	100	
Sodium	NS	-0.0172	NS	5.00	5.12	102	
Vanadium	NS	-0.000970	NS	0.250	0.247	98.8	
Zinc	NS	0.00158	NS	0.500	0.490	98.0	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2335295
Report generated 05/18/2012 18:29



LRC SAMPLE

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391977
Instrument ID: ICP-THERMO2 Run Time: 09:19 Prep Method: 3005A
Analyst: KHR Method: 6010B
Workgroup (AAB#): WG391918 Matrix: Water Units: mg/L
Cal ID: 12-MAR-12 - 12-MAR-2012 09:19

Analytes	Expected	Found	% Rec	Limits	Q
Calcium, Total	1000	928	92.8	90 - 110	
Magnesium, Total	1000	1080	108	90 - 110	

KEMRON FORMS - Modified 08/28/2006
Version 1.5 PDF File ID: 2337378
Report generated 03/14/2012 13:12

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12030257
Instrument ID: ICP-THERMO2

Date: 12/30/2011
Method: 6010B

Analyte	Wave Length	AL	AS	B	BA	BE
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0.0000210	0	0	0	0
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.00	0	0	0	0	0
BORON	249.70	0	0	0	0	0
CADMIUM	228.80	0	0.00190	0	-0.000140	0
CALCIUM	422.70	0	0	0	0	0
CHROMIUM	267.70	0	-0.000660	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0	0	0	0
IRON	261.20	0	0	0	0	0
LEAD	220.30	0.000248	0	0	0	0
LITHIUM	670.80	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	-0.000750	0	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.00	-0.0000300	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.00	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.80	0	0	0	0	0
THALLIUM	190.80	-0.0000120	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.30	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	0
ZINC	206.20	0.00000100	0	0	0	0
ZIRCONIUM	339.20	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2335291
Report generated: 03/13/2012 10:26



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12030257
Instrument ID: ICP-THERMO2

Date: 12/30/2011
Method: 6010B

Analyte	Wave Length	CA	CO	CR	CU	FE
ALUMINUM	308.20	0	-0.000820	0	0	0
ANTIMONY	206.80	0	0	0.00950	0	0.0000560
ARSENIC	189.00	0	0	-0.000200	0	-0.0000120
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.00	0	0	0	0	0
BORON	249.70	0	0.00343	0	0	-0.000619
CADMIUM	228.80	0	-0.00200	0	0	0.00000400
CALCIUM	422.70	0	0	0	0	0
CHROMIUM	267.70	0	-0.000160	0	0	0.0000530
COBALT	228.60	0	0	0.000108	0	0
COPPER	224.70	0	0.0000770	0	0	0.000223
IRON	261.20	-0.000120	0	-0.0000460	-0.0000290	0
LEAD	220.30	0	-0.0000930	-0.000172	0.000809	0
LITHIUM	670.80	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	-0.0000920	0	0
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0.000100	0	0	0.0000320
PHOSPHORUS	214.90	0	0	0	0.00200	0.00120
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.00	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.00	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.80	0.0000970	0	0	0	0
THALLIUM	190.80	0	0.00397	0.000276	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.30	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	-0.00000200
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.20	0	0	0	0	-0.0000300

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2335291
Report generated: 03/13/2012 10:26



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12030257
Instrument ID: ICP-THERMO2

Date: 12/30/2011
Method: 6010B

Analyte	Wave Length	LI	MG	MN	MO	NA
ALUMINUM	308.20	0	0	0	0.0153	0
ANTIMONY	206.80	0	0	0	0.000670	0
ARSENIC	189.00	0	0	0	0.00109	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.00	0	0	0	0	0
BORON	249.70	0	0	0	-0.00169	0
CADMIUM	228.80	0	0	0	0.0000220	0
CALCIUM	422.70	0	0	0	0	0
CHROMIUM	267.70	0	0	0.000160	0	0
COBALT	228.60	0	0	0	-0.000983	0
COPPER	224.70	0	0	0	0.00274	0
IRON	261.20	0	0	0	0	0
LEAD	220.30	0	0	0	-0.00183	0
LITHIUM	670.80	0	0	0	0	0
MAGNESIUM	279.10	0	0	-0.00190	-0.0110	0
MANGANESE	257.60	0	0.00000900	0	-0.0000720	0
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0	0	0.00800	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.00	0	0	0	0.000156	0
SILICON	212.40	0	0	0	0.0187	0
SILVER	328.00	0	0	0	-0.0000440	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.80	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.30	0	0	0	-0.000153	0
VANADIUM	292.40	0	0	0	-0.00778	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.20	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2335291
Report generated: 03/13/2012 10:26



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12030257
Instrument ID: ICP-THERMO2

Date: 12/30/2011
Method: 6010B

Analyte	Wave Length	NI	SB	SN	SR	TI
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0	-0.00840	0	-0.000990
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.00	0	0	0	0	-0.00160
BORON	249.70	0	0	0	0	0
CADMIUM	228.80	-0.000128	0	0	0	0
CALCIUM	422.70	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0.0000550
COBALT	228.60	0.000175	0	0	0	0.000950
COPPER	224.70	-0.0120	0	0	0	0.000269
IRON	261.20	0	0	0	0	0
LEAD	220.30	0.000110	0	0	0	0
LITHIUM	670.80	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	-0.00290
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.00	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.00	0	0	0	0	-0.00620
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.80	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	-0.00170
TIN	189.90	0	0	0	0	-0.00220
TITANIUM	337.30	0	-0.00180	0	0	0
VANADIUM	292.40	0	0	0	0	0.000824
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.20	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2335291
Report generated: 03/13/2012 10:26



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12030257
Instrument ID: ICP-THERMO2

Date: 12/30/2011
Method: 6010B

Analyte	Wave Length	v	ZN	ZR
ALUMINUM	308.20	0.00300	0	0
ANTIMONY	206.80	-0.00438	0	0
ARSENIC	189.00	0.000107	0	0
BARIUM	455.40	0	0	0
BERYLLIUM	313.00	0.000170	0	0
BORON	249.70	0	0	0
CADMIUM	228.80	0.0000820	0	0
CALCIUM	422.70	0	0	0
CHROMIUM	267.70	-0.00180	-0.000740	
COBALT	228.60	0.0000200	0	0
COPPER	224.70	0	0	
IRON	261.20	0	0	0
LEAD	220.30	-0.000126	0	0
LITHIUM	670.80	0	0	0
MAGNESIUM	279.10	0	0	0
MANGANESE	257.60	-0.00120	0	0
MOLYBDENUM	202.03	-0.000110	0	0
NICKEL	231.60	0	0	0
PHOSPHORUS	214.90	-0.00500	0	0.00200
POTASSIUM	766.40	0	0	0
SELENIUM	196.00	0	0	0
SILICON	212.40	0	0	0
SILVER	328.00	-0.00617	0	0
SODIUM	589.50	0	0	0
STRONTIUM	407.80	0	0	0
THALLIUM	190.80	-0.0282	0	0
TIN	189.90	0	0	0
TITANIUM	337.30	-0.000250	0	0
VANADIUM	292.40	0	0	
ZINC	206.20	0	0	0
ZIRCONIUM	339.20	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2335291
Report generated: 03/13/2012 10:26



Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12030257
Instrument ID: ICP-THERMO2

Date: 12/29/2011
Method: 6010B

Analyte	Integration Time (Sec.)	Concentration (mg/L)
Aluminum	10.00	810.0
Antimony	10.00	90.0
Arsenic	10.00	90.0
Barium	10.00	81.0
Beryllium	15.00	4.5
Boron	10.00	81.0
Cadmium	10.00	16.2
Calcium	10.00	900.0
Chromium	10.00	45.0
Cobalt	10.00	9.0
Copper	10.00	180.0
Iron	5.00	900.0
Lead	10.00	180.0
Lithium	10.00	90.0
Magnesium	15.00	900.0
Manganese	15.00	180.0
Molybdenum	10.00	9.0
Nickel	10.00	90.0
Phosphorus	10.00	900.0
Potassium	10.00	315.0
Selenium	10.00	90.0
Silicon	10.00	90.0
Silver	5.00	9.0
Sodium	10.00	315.0
Strontium	10.00	4.5
Thallium	10.00	9.0
Tin	10.00	90.0
Titanium	15.00	90.0
Vanadium	10.00	90.0
Zinc	10.00	45.0
Zirconium	10.00	45.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 2335290
Report generated: 03/13/2012 10:26





Login Number: L12030257
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: WG391928 - Due to continuing calibration verification failure for bismuth, the internal standard associated with lead and thallium on 12-Mar-2012 at 19:01, client sample 11 was reanalyzed on a later calibration which was compliant for lead and thallium. Due to continuing calibration verification failure for chromium on 12-MAR-2012 at 17:16, all batch QA/QC and client sample 11 were reanalyzed on later calibrations which were compliant for chromium.

Continuing Calibration Blank: WG391928 - The continuing calibration blank analyzed on 12-Mar-2012 at 14:00 yielded a noncompliant result for thallium. The continuing calibration blank was reanalyzed at 16:15 prior to sample analysis and was compliant for all analytes of concern. The continuing calibration blank analyzed on 16-Mar-2012 at 10:20 yielded a noncompliant result for thallium. The continuing calibration blank was reanalyzed at 15:00 prior to sample analysis and was compliant for all analytes of concern.

Low Level Check: WG391928 - The low level initial calibration verification analyzed on 16-MAR-2012 at 09:49 yielded a noncompliant result for thallium. The low level calibration check was reanalyzed at 15:45 prior to sample analysis and was compliant for thallium.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG391810 - All acceptance criteria were met.

WG391928 - All acceptance criteria were met.

Matrix Spikes: WG391810 - Sample 03 was chosen by the client for MS/MSD analysis. Samples 04(MS) and 05(MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 43309

Approved By: Maren Beery

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG391913
Analyst: VC
Spike Analyst: VC
Run Date: 03/12/2012 12:58
Method: 3015
Balance: BAL016
Instrument: MW-2

SOP: ME407 Revision 12
Spike Solution: STD49281
Spike Witness: ERP
HNO3 Lot #: COA15720
Digestion Tubes Lot #: COA15940
MS WG# 390441 Lot #: COA15974

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG391913-03	BLANK	1	40 mL	100 mL	206.941 g	206.927 g		
2	WG391913-04	LCS	1	40 mL	100 mL	209.045 g	209.038 g	.25 mL	
3	L12030257-11	SAMP	1	40 mL	100 mL	207.484 g	207.473 g		03/19/12
4	L12030289-01	SAMP	1	40 mL	100 mL	206.308 g	206.298 g		03/20/12
5	L12030289-02	SAMP	1	40 mL	100 mL	208.622 g	208.619 g		03/20/12
6	L12030289-03	SAMP	1	40 mL	100 mL	208.346 g	208.341 g		03/20/12
7	L12030289-04	SAMP	1	40 mL	100 mL	210.138 g	210.134 g		03/20/12
8	L12030289-05	SAMP	1	40 mL	100 mL	208.284 g	208.285 g		03/20/12
9	L12030344-01	SAMP	1	40 mL	100 mL	207.696 g	207.69 g		03/20/12
10	WG391913-01	REF	2	40 mL	100 mL	210.971 g	210.962 g		
11	L12030349-01	SAMP	2	40 mL	100 mL	210.971 g	210.962 g		03/14/12
12	L12030349-02	SAMP	2	40 mL	100 mL	209.264 g	209.255 g		03/14/12
13	WG391913-02	REF	2	40 mL	100 mL	208.523 g	208.509 g		
14	L12030350-01	SAMP	2	40 mL	100 mL	208.523 g	208.509 g		03/14/12
15	L12030350-02	SAMP	2	40 mL	100 mL	209.039 g	209.018 g		03/14/12
16	L12030350-03	SAMP	2	40 mL	100 mL	209.469 g	209.456 g		03/14/12
17	L12030350-04	SAMP	2	40 mL	100 mL	208.971 g	208.963 g		03/14/12
18	WG391913-05	MS	1	40 mL	100 mL	209.544 g	209.535 g	.25 mL	
19	WG391913-06	MSD	1	40 mL	100 mL	209.185 g	209.189 g	.25 mL	
20	WG391913-07	DUP	1	40 mL	100 mL	209.875 g	209.878 g		

L12030344-01 filtered digestate

Analyst: _____

Reviewer: _____

MW_DIG - Modified 09/30/2009
PDF ID: 2334546
Report generated: 03/12/2012 13:46



Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup:WG391772
Analyst:VC
Spike Analyst:VC
Run Date:03/09/2012 06:57
Method:3015
Balance:BAL016
Instrument:MW-2

SOP:ME407 Revision 12
Spike Solution:STD49281
Spike Witness:REK
HNO3 Lot #:COA15720
Digestion Tubes Lot #:COA15940
MS WG# 390441 Lot #:COA15974

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG391772-02	BLANK	1	40 mL	100 mL	205.453 g	205.448 g		
2	WG391774-01	FBLK	18	40 mL	100 mL	207.137 g	207.106 g		
3	WG391772-03	LCS	1	40 mL	100 mL	208.712 g	208.607 g	.25 mL	
4	L12030239-02	SAMP	18	40 mL	100 mL	207.164 g	207.147 g		03/13/12
5	L12030240-02	SAMP	18	40 mL	100 mL	209.577 g	209.559 g		03/13/12
6	L12030244-02	SAMP	1	40 mL	100 mL	207.391 g	207.348 g		03/19/12
7	L12030244-03	SAMP	1	40 mL	100 mL	208.955 g	208.945 g		03/19/12
8	L12030244-04	SAMP	1	40 mL	100 mL	208.901 g	208.891 g		03/19/12
9	L12030244-06	SAMP	1	40 mL	100 mL	206.298 g	206.288 g		03/19/12
10	L12030244-07	SAMP	1	40 mL	100 mL	205.726 g	205.72 g		03/19/12
11	L12030250-01	SAMP	1	40 mL	100 mL	208.94 g	208.938 g		03/19/12
12	L12030250-02	SAMP	1	40 mL	100 mL	206.37 g	206.353 g		03/19/12
13	L12030250-03	SAMP	1	40 mL	100 mL	206.432 g	206.43 g		03/19/12
14	L12030250-04	SAMP	1	40 mL	100 mL	206.675 g	206.663 g		03/19/12
15	L12030250-05	SAMP	1	40 mL	100 mL	207.72 g	207.705 g		03/19/12
16	L12030257-01	SAMP	1	40 mL	100 mL	205.908 g	205.898 g		03/19/12
17	WG391772-01	REF	1	40 mL	100 mL	206.214 g	206.206 g		
18	L12030257-03	RS01	1	40 mL	100 mL	206.214 g	206.206 g		03/19/12
19	WG391772-04	MS	1	40 mL	100 mL	206.982 g	206.971 g	.25 mL	
20	L12030257-04	MS01	1	40 mL	100 mL	206.982 g	206.971 g	.25 mL	03/19/12
21	WG391772-05	MSD	1	40 mL	100 mL	208.746 g	208.734 g	.25 mL	
22	L12030257-05	SD01	1	40 mL	100 mL	208.746 g	208.734 g	.25 mL	03/19/12
23	L12030257-06	SAMP	1	40 mL	100 mL	205.561 g	205.545 g		03/19/12
24	L12030257-07	SAMP	1	40 mL	100 mL	206.134 g	206.119 g		03/19/12
25	L12030257-08	SAMP	1	40 mL	100 mL	208.134 g	208.126 g		03/19/12
26	L12030257-09	SAMP	1	40 mL	100 mL	206.249 g	206.238 g		03/19/12
27	L12030257-10	SAMP	1	40 mL	100 mL	207.515 g	207.507 g		03/19/12

L12030250-03	digestate filtered
L12030257-03	digestate filtered
WG391772-01	digestate filtered

Analyst:

Vicki Collins

Reviewer:

REK

MW_DIG - Modified 09/30/2009
PDF ID: 2332912
Report generated: 03/09/2012 10:15



METHOD BLANK SUMMARY

Login Number: <u>L12030257</u>	Work Group: <u>WG391810</u>
Blank File ID: <u>EL.030912.111028</u>	Blank Sample ID: <u>WG391772-02</u>
Prep Date: <u>03/09/12 06:57</u>	Instrument ID: <u>ELAN-ICP</u>
Analyzed Date: <u>03/09/12 11:10</u>	Method: <u>6020</u>
Analyst: <u>JYH</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG391772-03	EL.030912.112400	03/09/12 11:24	01
40LFMW01GW030612	L12030257-03	EL.030912.113046	03/09/12 11:30	01
40LFMW01MSGW030612	L12030257-04	EL.030912.113733	03/09/12 11:37	01
40LFMW01MSDGW030612	L12030257-05	EL.030912.114420	03/09/12 11:44	01
40MW7GW030612	L12030257-01	EL.030912.153855	03/09/12 15:38	01
40DUPGW030612	L12030257-06	EL.030912.154543	03/09/12 15:45	01
40FB030612	L12030257-07	EL.030912.155303	03/09/12 15:53	01
40EQR030612	L12030257-08	EL.030912.155950	03/09/12 15:59	01
40MW5GW030712	L12030257-09	EL.030912.160635	03/09/12 16:06	01
40EQR030712	L12030257-10	EL.030912.161321	03/09/12 16:13	01

Report Name: BLANK_SUMMARY
PDF File ID: 2334066
Report generated 05/17/2012 13:52



METHOD BLANK SUMMARY

Login Number: L12030257
Blank File ID: EL.031212.162236
Prep Date: 03/12/12 12:58
Analyzed Date: 03/12/12 16:22
Analyst: JYH

Work Group: WG391928
Blank Sample ID: WG391913-03
Instrument ID: ELAN-ICP
Method: 6020

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG391913-04	EL.031212.162922	03/12/12 16:29	01
DUP	WG391913-07	EL.031212.173853	03/12/12 17:38	DL01
40MW6GW030712	L12030257-11	EL.031212.182111	03/12/12 18:21	01
LCS	WG391913-04	EL.031312.113205	03/13/12 11:32	02
40MW6GW030712	L12030257-11	EL.031612.155337	03/16/12 15:53	02

Report Name: BLANK_SUMMARY
PDF File ID: 2334066
Report generated 05/17/2012 13:52



METHOD BLANK SUMMARY

Login Number: L12030257
Blank File ID: EL.031312.112518
Prep Date: 03/12/12 12:58
Analyzed Date: 03/13/12 11:25
Analyst: JYH

Work Group: WG391928
Blank Sample ID: WG391913-03
Instrument ID: ELAN-ICP
Method: 6020

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG391913-04	EL.031212.162922	03/12/12 16:29	01
DUP	WG391913-07	EL.031212.173853	03/12/12 17:38	DL01
40MW6GW030712	L12030257-11	EL.031212.182111	03/12/12 18:21	01
LCS	WG391913-04	EL.031312.113205	03/13/12 11:32	02
40MW6GW030712	L12030257-11	EL.031612.155337	03/16/12 15:53	02

Report Name: BLANK_SUMMARY
PDF File ID: 2334066
Report generated 05/17/2012 13:52



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/09/12 06:57 Sample ID: WG391772-02
 Instrument ID: ELAN-ICP Run Date: 03/09/12 11:10 Prep Method: 3015
 File ID: EL.030912.111028 Analyst: JYH Method: 6020
 Workgroup (AAB#): WG391810 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: ELAN-I - 09-MAR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Antimony, Total	0.000500	0.00100	0.000500	1	U
Arsenic, Total	0.000500	0.00100	0.000500	1	U
Barium, Total	0.00150	0.00300	0.00150	1	U
Cadmium, Total	0.000300	0.000600	0.000300	1	U
Chromium, Total	0.00100	0.00200	0.00100	1	U
Cobalt, Total	0.000500	0.00100	0.000500	1	U
Copper, Total	0.00100	0.00200	0.00100	1	U
Lead, Total	0.000500	0.00100	0.000500	1	U
Manganese, Total	0.00100	0.00200	0.00100	1	U
Nickel, Total	0.00200	0.00400	0.00200	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Silver, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit
 LOQ Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2334067

18-MAY-2012 19:18



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/12/12 12:58 Sample ID: WG391913-03
 Instrument ID: ELAN-ICP Run Date: 03/12/12 16:22 Prep Method: 3015
 File ID: EL.031212.162236 Analyst: JYH Method: 6020
 Workgroup (AAB#): WG391928 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: ELAN-I - 12-MAR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Antimony, Total	0.000500	0.00100	0.000500	1	U
Arsenic, Total	0.000500	0.00100	0.000500	1	U
Barium, Total	0.00150	0.00300	0.00150	1	U
Cadmium, Total	0.000300	0.000600	0.000300	1	U
Cobalt, Total	0.000500	0.00100	0.000500	1	U
Copper, Total	0.00100	0.00200	0.00100	1	U
Lead, Total	0.000500	0.00100	0.000500	1	U
Manganese, Total	0.00100	0.00200	0.00100	1	U
Nickel, Total	0.00200	0.00400	0.00200	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Silver, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2334067

18-MAY-2012 19:18



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/12/12 12:58 Sample ID: WG391913-03
Instrument ID: ELAN-ICP Run Date: 03/13/12 11:25 Prep Method: 3015
File ID: EL.031312.112518 Analyst: JYH Method: 6020
Workgroup (AAB#): WG391928 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: ELAN-I - 13-MAR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Chromium, Total	0.00100	0.00200	0.00100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2334067

18-MAY-2012 19:18



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/09/2012 Sample ID: WG391772-03
Instrument ID: ELAN-ICP Run Time: 11:24 Prep Method: 3015
File ID: EL.030912.112400 Analyst: JYH Method: 6020
Workgroup (AAB#): WG391810 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD49281 Cal ID: ELAN-I - 09-MAR-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Antimony, Total	0.0625	0.0565	90.4	80 - 120	
Arsenic, Total	0.0625	0.0570	91.3	80 - 120	
Barium, Total	0.0625	0.0593	94.9	80 - 120	
Cadmium, Total	0.0625	0.0588	94.1	80 - 120	
Chromium, Total	0.0625	0.0588	94.1	80 - 120	
Cobalt, Total	0.0625	0.0625	100	80 - 120	
Copper, Total	0.0625	0.0614	98.2	80 - 120	
Lead, Total	0.0625	0.0591	94.6	80 - 120	
Manganese, Total	0.0625	0.0609	97.4	80 - 120	
Nickel, Total	0.0625	0.0634	101	80 - 120	
Selenium, Total	0.0625	0.0580	92.8	80 - 120	
Silver, Total	0.0625	0.0567	90.7	80 - 120	
Thallium, Total	0.0625	0.0573	91.6	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2334069
Report generated: 05/18/2012 19:18



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391913-04
Instrument ID: ELAN-ICP Run Time: 16:29 Prep Method: 3015
File ID: EL.031212.162922 Analyst: JYH Method: 6020
Workgroup (AAB#): WG391928 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD49281 Cal ID: ELAN-I - 12-MAR-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Antimony, Total	0.0625	0.0620	99.3	80 - 120	
Arsenic, Total	0.0625	0.0622	99.5	80 - 120	
Barium, Total	0.0625	0.0649	104	80 - 120	
Cadmium, Total	0.0625	0.0618	98.8	80 - 120	
Cobalt, Total	0.0625	0.0619	99.1	80 - 120	
Copper, Total	0.0625	0.0640	102	80 - 120	
Lead, Total	0.0625	0.0637	102	80 - 120	
Manganese, Total	0.0625	0.0616	98.6	80 - 120	
Nickel, Total	0.0625	0.0634	101	80 - 120	
Selenium, Total	0.0625	0.0632	101	80 - 120	
Silver, Total	0.0625	0.0607	97.1	80 - 120	
Thallium, Total	0.0625	0.0628	100	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2334069
Report generated: 05/18/2012 19:18



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG391913-04
Instrument ID: ELAN-ICP Run Time: 11:32 Prep Method: 3015
File ID: EL.031312.113205 Analyst: JYH Method: 6020
Workgroup (AAB#): WG391928 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD49281 Cal ID: ELAN-I - 13-MAR-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chromium, Total	0.0625	0.0629	101	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2334069
Report generated: 05/18/2012 19:18



MS/MSD REPORT

Loginnum: L12030257Cal ID: ELAN-ICP- 09-MAR-12Worknum: WG391810Instrument ID: ELAN-ICP

Contract #:

Prep Method: 3015Parent ID: L12030257-03File ID: EL.030912.113046Dil: 1Method: 6020Sample ID: L12030257-04 MSFile ID: EL.030912.113733Dil: 1Matrix: WaterSample ID: L12030257-05 MSDFile ID: EL.030912.114420Dil: 1Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Total	U	0.0625	0.0640	102	0.0625	0.0691	110	7.61	80 - 120	20	
Arsenic, Total	U	0.0625	0.0647	103	0.0625	0.0680	109	5.07	80 - 120	20	
Barium, Total	0.0941	0.0625	0.166	116	0.0625	0.166	116	0.0553	80 - 120	20	
Cadmium, Total	U	0.0625	0.0658	105	0.0625	0.0677	108	2.92	80 - 120	20	
Chromium, Total	0.00374	0.0625	0.0735	112	0.0625	0.0721	109	1.96	80 - 120	20	
Cobalt, Total	U	0.0625	0.0705	113	0.0625	0.0679	109	3.79	80 - 120	20	
Copper, Total	U	0.0625	0.0664	106	0.0625	0.0674	108	1.43	80 - 120	20	
Lead, Total	U	0.0625	0.0674	108	0.0625	0.0681	109	0.981	80 - 120	20	
Manganese, Total	0.00152	0.0625	0.0704	110	0.0625	0.0710	111	0.821	80 - 120	20	
Nickel, Total	0.00322	0.0625	0.0724	111	0.0625	0.0711	109	1.76	80 - 120	20	
Selenium, Total	U	0.0625	0.0643	103	0.0625	0.0665	106	3.31	80 - 120	20	
Silver, Total	U	0.0625	0.0639	102	0.0625	0.0673	108	5.19	80 - 120	20	
Thallium, Total	U	0.0625	0.0642	103	0.0625	0.0661	106	2.90	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2334105

Report generated 05/18/2012 19:18



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12030257 Worknum: WG391928
Instrument: ELAN-ICP Method: 6020
Serial Dil: WG391928-02 File ID: EL.031212.171007 Dil: 25 Units: ug/L
Sample: L12030349-02 File ID: EL.031212.165631 Dil: 5

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	ND	U	ND	U		
Barium	106	X	93.4	X	12.10	
Cadmium	ND	U	ND	U		
Chromium	16.2	X	ND	U		
Cobalt	ND	U	ND	U		
Copper	ND	U	ND	U		
Lead	ND	U	ND	U		
Manganese	274		255		7.06	
Nickel	7.84	F	ND	U		
Selenium	ND	U	ND	U		
Silver	ND	U	ND	U		
Thallium	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2334063

05/18/2012 19:55



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12030257 Worknum: WG391810
Instrument: ELAN-ICP Method: 6020
Serial Dil: WG391810-02 File ID: EL.030912.121131 Dil: 5 Units: ug/L
Sample: L12030240-02 File ID: EL.030912.115755 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	1.99	X	2.36	X	18.80	
Barium	11.2	X	11.3	X	0.80	
Cadmium	ND	U	ND	U		
Chromium	1.62	X	3.03	F	87.40	
Cobalt	ND	U	ND	U		
Copper	18.4	X	19.4	X	5.73	
Lead	ND	U	ND	U		
Manganese	ND	U	ND	U		
Nickel	4.12	X	5.26	F	27.50	
Selenium	1.12	X	2.10	X	86.90	
Silver	ND	U	ND	U		
Thallium	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2334063

05/18/2012 19:55



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12030257 Worknum: WG391928
Instrument: ELAN-ICP Method: 6020
Serial Dil: WG391928-02 File ID: EL.031312.121250 Dil: 25 Units: ug/L
Sample: L12030349-02 File ID: EL.031312.115914 Dil: 5

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	ND	U	ND	U		
Barium	99.9	X	102	X	1.75	
Cadmium	ND	U	ND	U		
Chromium	17.7	X	16.3	F	7.88	
Cobalt	ND	U	ND	U		
Copper	ND	U	ND	U		
Lead	ND	U	ND	U		
Manganese	294		295		0.47	
Nickel	7.91	F	ND	U		
Selenium	1.35	F	8.23	F	509.00	
Silver	ND	U	ND	U		
Thallium	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2334063

05/18/2012 19:55



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12030257
Instrument ID: ELAN-ICP
Post Spike ID: WG391810-01
Sample ID: L12030240-02

Worknum: WG391810
Method: 6020
File ID: EL.030912.120443 Dil: 1 Units: ug/L
File ID: EL.030912.115755 Dil: 1 Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
ANTIMONY	52.0		0	U	50	103.9	75 - 125	
ARSENIC	51.2		1.99		50	98.4	75 - 125	
BARIUM	63.1		11.2		50	103.8	75 - 125	
CADMIUM	52.1		0	U	50	104.2	75 - 125	
CHROMIUM	52.2		1.62		50	101.1	75 - 125	
COBALT	51.5		0	U	50	102.9	75 - 125	
COPPER	65.2		18.4		50	93.6	75 - 125	
LEAD	52.6		0	U	50	105.1	75 - 125	
MANGANESE	51.9		0	U	50	103.8	75 - 125	
NICKEL	53.8		4.12		50	99.4	75 - 125	
SELENIUM	49.7		1.12		50	97.2	75 - 125	
SILVER	46.9		0	U	50	93.9	75 - 125	
THALLIUM	52.4		0	U	50	104.7	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2334064
Report generated: 05/18/2012 19:54



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12030257
Instrument ID: ELAN-ICP
Post Spike ID: WG391928-01
Sample ID: L12030349-02

Worknum: WG391928
Method: 6020
Units: ug/L
Matrix: Water

File ID: EL.031212.170319 Dil: 5
File ID: EL.031212.165631 Dil: 5

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
ANTIMONY	49.5		0	U	50	99.1	75 - 125	
ARSENIC	49.7		0	U	50	99.4	75 - 125	
BARIUM	72.4		21.3		50	102.4	75 - 125	
CADMIUM	49.3		0	U	50	98.7	75 - 125	
CHROMIUM	49.4		3.24		50	92.2	75 - 125	
COBALT	49.4		0	U	50	98.8	75 - 125	
COPPER	50.9		0	U	50	101.8	75 - 125	
LEAD	50.5		0	U	50	101.0	75 - 125	
MANGANESE	105		54.9		50	100.8	75 - 125	
NICKEL	50.1		1.57	F	50	97.0	75 - 125	
SELENIUM	50.1		0	U	50	100.2	75 - 125	
SILVER	47.5		0	U	50	95.1	75 - 125	
THALLIUM	49.6		0	U	50	99.3	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2334064
Report generated: 05/18/2012 19:54



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12030257
Instrument ID: ELAN-ICP
Post Spike ID: WG391928-01
Sample ID: L12030349-02

Worknum: WG391928
Method: 6020
Units: ug/L
Matrix: Water

File ID: EL.031312.120602 Dil: 5
File ID: EL.031312.115914 Dil: 5

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
ANTIMONY	48.5		0	U	50	97.1	75 - 125	
ARSENIC	48.5		0	U	50	97.1	75 - 125	
BARIUM	70.8		20.0		50	101.7	75 - 125	
CADMIUM	46.5		0	U	50	93.1	75 - 125	
CHROMIUM	52.8		3.54		50	98.4	75 - 125	
COBALT	48.3		0	U	50	96.7	75 - 125	
COPPER	49.6		0	U	50	99.1	75 - 125	
LEAD	50.9		0	U	50	101.9	75 - 125	
MANGANESE	108		58.8		50	98.4	75 - 125	
NICKEL	50.2		1.58	F	50	97.2	75 - 125	
SELENIUM	48.0		0.270	F	50	95.4	75 - 125	
SILVER	45.2		0	U	50	90.4	75 - 125	
THALLIUM	49.9		0	U	50	99.8	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2334064
Report generated: 05/18/2012 19:54



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12030257</u>	Workgroup (AAB#):	<u>WG391810</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ELAN-ICP</u>
ICAL Worknum:	<u>WG391888</u>	Initial Calibration Date:	<u>09-MAR-2012 09:46</u>

	WG391888-01		WG391888-02		WG391888-03		WG391888-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	23.2	.4	1770	50	210000	100	423000	.999833	
ARSENIC	0	-72.5	.4	328	50	55700	100	114000	.99997	
BARIUM	0	18.7	.4	709	50	82000	100	166000	.999958	
CADMIUM	0	-0.853	.4	459	50	58800	100	113000	.999987	
CHROMIUM	0	8530	.4	11400	50	392000	100	780000	1	
COBALT	0	115	.4	3830	50	432000	100	830000	.999733	
COPPER	0	78.7	.4	790	50	85500	100	165000	.999809	
LEAD	0	908	.4	9570	50	1020000	100	2030000	.999811	
MANGANESE	0	377	.4	5320	50	567000	100	1130000	.999993	
NICKEL	0	56.7	.4	839	50	90400	100	172000	.999643	
SELENIUM	0	11.3	.4	38.9	50	4120	100	8780	.99956	
SILVER	0	70.7	.4	2160	50	259000	100	498000	.999983	
THALLIUM	0	26.0	.4	2580	50	310000	100	619000	.999759	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2334074
Report generated: 18-MAY-2012 19:11



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12030257</u>	Workgroup (AAB#):	<u>WG391928</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ELAN-ICP</u>
ICAL Worknum:	<u>WG391970</u>	Initial Calibration Date:	<u>12-MAR-2012 12:50</u>

	WG391970-01		WG391970-02		WG391970-03		WG391970-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	46.3	.4	1470	50	178000	100	354000	.999837	
ARSENIC	0	-70.9	.4	256	50	44700	100	89300	.999989	
BARIUM	0	18.0	.4	554	50	64700	100	129000	1	
CADMIUM	0	-4.13	.4	430	50	53000	100	97600	.999778	
CHROMIUM	0	6640	.4	9510	50	319000	100	632000	.99998	
COBALT	0	147	.4	3540	50	369000	100	754000	.999856	
COPPER	0	64.7	.4	683	50	75200	100	142000	.999747	
LEAD	0	796	.4	7760	50	833000	100	1730000	.999934	
MANGANESE	0	287	.4	4300	50	456000	100	945000	.999725	
NICKEL	0	61.7	.4	709	50	79200	100	155000	.999987	
SELENIUM	0	11.3	.4	29.6	50	3460	100	6750	.999979	
SILVER	0	54.3	.4	1840	50	217000	100	416000	1	
THALLIUM	0	33.3	.4	2180	50	254000	100	519000	.999996	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2334074
Report generated: 18-MAY-2012 19:11



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12030257</u>	Workgroup (AAB#):	<u>WG391928</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ELAN-ICP</u>
ICAL Worknum:	<u>WG392082</u>	Initial Calibration Date:	<u>13-MAR-2012 10:17</u>

	WG392082-01		WG392082-02		WG392082-03		WG392082-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	13.8	.4	1510	50	181000	100	371000	.999469	
ARSENIC	0	-92.4	.4	233	50	43000	100	85500	.999992	
BARIUM	0	22.0	.4	601	50	66100	100	140000	.999997	
CADMIUM	0	5.87	.4	439	50	50500	100	100000	.999903	
CHROMIUM	0	6540	.4	9010	50	317000	100	641000	.999944	
COBALT	0	130	.4	3390	50	395000	100	769000	.999901	
COPPER	0	72.3	.4	693	50	73000	100	143000	.999947	
LEAD	0	781	.4	7900	50	838000	100	1720000	.999989	
MANGANESE	0	258	.4	4100	50	470000	100	979000	.999787	
NICKEL	0	87.3	.4	754	50	79900	100	157000	.999967	
SELENIUM	0	0.223	.4	23.9	50	3380	100	6700	.999988	
SILVER	0	49.0	.4	1800	50	210000	100	430000	.999565	
THALLIUM	0	32.7	.4	2110	50	254000	100	521000	.999981	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2334074
Report generated: 18-MAY-2012 19:11



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12030257</u>	Workgroup (AAB#):	<u>WG391928</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ELAN-ICP</u>
ICAL Worknum:	<u>WG392430</u>	Initial Calibration Date:	<u>16-MAR-2012 09:26</u>

	WG392430-01		WG392430-02		WG392430-03		WG392430-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	11.2	.4	1660	50	203000	100	406000	.999806	
ARSENIC	0	-136	.4	355	50	57000	100	112000	.999772	
BARIUM	0	17.7	.4	626	50	70200	100	132000	.999993	
CADMIUM	0	5.98	.4	506	50	61500	100	122000	.999872	
CHROMIUM	0	7240	.4	10600	50	366000	100	708000	.999828	
COBALT	0	145	.4	3780	50	436000	100	835000	.999966	
COPPER	0	128	.4	847	50	81900	100	160000	.999824	
LEAD	0	1000	.4	11100	50	1190000	100	2260000	.999885	
MANGANESE	0	338	.4	4930	50	543000	100	1040000	.999977	
NICKEL	0	52.0	.4	836	50	89600	100	169000	.999999	
SELENIUM	0	9.66	.4	51.3	50	4840	100	9220	.999998	
SILVER	0	53.7	.4	2280	50	263000	100	504000	.999999	
THALLIUM	0	22.3	.4	2990	50	345000	100	650000	.999915	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2334074
Report generated: 18-MAY-2012 19:11



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12030257 Run Date: 03/09/2012 Sample ID: WG391888-06
Instrument ID: ELAN-ICP Run Time: 10:01 Method: 6020
File ID: EL.030912.100147 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391810 Cal ID: ELAN-ICP - 09-MAR-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2334076
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-06
Instrument ID: ELAN-ICP Run Time: 13:05 Method: 6020
File ID: EL.031212.130555 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-ICP - 12-MAR-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2334076
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG392082-06
Instrument ID: ELAN-ICP Run Time: 10:32 Method: 6020
File ID: EL.031312.103245 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-ICP - 13-MAR-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2334076
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392430-06
Instrument ID: ELAN-ICP Run Time: 09:42 Method: 6020
File ID: EL.031612.094211 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-ICP - 16-MAR-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

Non-bracketing

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2334076
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/09/2012 Sample ID: WG391888-13
Instrument ID: ELAN-ICP Run Time: 11:02 Method: 6020
File ID: EL.030912.110253 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391810 Cal ID: ELAN-I - 09-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2334079
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/09/2012 Sample ID: WG391888-15
Instrument ID: ELAN-ICP Run Time: 12:25 Method: 6020
File ID: EL.030912.122557 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391810 Cal ID: ELAN-I - 09-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2334079
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
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Login Number: L12030257 Run Date: 03/09/2012 Sample ID: WG391888-21
Instrument ID: ELAN-ICP Run Time: 15:31 Method: 6020
File ID: EL.030912.153118 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391810 Cal ID: ELAN-I - 09-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L12030257 Run Date: 03/09/2012 Sample ID: WG391888-23
Instrument ID: ELAN-ICP Run Time: 16:27 Method: 6020
File ID: EL.030912.162745 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391810 Cal ID: ELAN-I - 09-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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PDF File ID: 2334079
Report generated 05/18/2012 19:11



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Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-13
Instrument ID: ELAN-ICP Run Time: 14:00 Method: 6020
File ID: EL.031212.140020 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 12-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0720	F

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Report generated 05/18/2012 19:11



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Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-17
Instrument ID: ELAN-ICP Run Time: 16:15 Method: 6020
File ID: EL.031212.161500 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 12-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-19
Instrument ID: ELAN-ICP Run Time: 17:24 Method: 6020
File ID: EL.031212.172432 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 12-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-21
Instrument ID: ELAN-ICP Run Time: 18:13 Method: 6020
File ID: EL.031212.181335 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 12-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-23
Instrument ID: ELAN-ICP Run Time: 19:09 Method: 6020
File ID: EL.031212.190933 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 12-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG392082-12
Instrument ID: ELAN-ICP Run Time: 11:18 Method: 6020
File ID: EL.031312.111832 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 13-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG392082-14
Instrument ID: ELAN-ICP Run Time: 12:27 Method: 6020
File ID: EL.031312.122715 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 13-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Report generated 05/18/2012 19:11



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Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392430-11
Instrument ID: ELAN-ICP Run Time: 10:20 Method: 6020
File ID: EL.031612.102023 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 16-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0739	F

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392430-20
Instrument ID: ELAN-ICP Run Time: 15:00 Method: 6020
File ID: EL.031612.150015 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 16-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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PDF File ID: 2334079
Report generated 05/18/2012 19:11



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CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392430-25
Instrument ID: ELAN-ICP Run Time: 15:38 Method: 6020
File ID: EL.031612.153821 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 16-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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PDF File ID: 2334079
Report generated 05/18/2012 19:11



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CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392430-28
Instrument ID: ELAN-ICP Run Time: 16:08 Method: 6020
File ID: EL.031612.160851 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 16-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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PDF File ID: 2334079
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: <u>L12030257</u>	Run Date: <u>03/09/2012</u>	Sample ID: <u>WG391888-05</u>
Instrument ID: <u>ELAN-ICP</u>	Run Time: <u>09:54</u>	Method: <u>6020</u>
File ID: <u>EL.030912.095411</u>	Analyst: <u>JYH</u>	Units: <u>ug/L</u>
Workgroup (AAB#): <u>WG391810</u>	Cal ID: <u>ELAN-I - 09-MAR-12</u>	
QC Key: <u>DOD4</u>		

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	49.9	99.8	90 - 110	
Arsenic	50	49.0	98.1	90 - 110	
Barium	50	48.8	97.6	90 - 110	
Cadmium	50	48.3	96.7	90 - 110	
Chromium	50	49.7	99.4	90 - 110	
Cobalt	50	50.6	101	90 - 110	
Copper	50	48.5	96.9	90 - 110	
Lead	50	47.7	95.4	90 - 110	
Manganese	50	48.8	97.7	90 - 110	
Nickel	50	49.5	99.0	90 - 110	
Selenium	50	49.6	99.3	90 - 110	
Silver	50	50.0	99.9	90 - 110	
Thallium	50	47.2	94.5	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2334075
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: <u>L12030257</u>	Run Date: <u>03/13/2012</u>	Sample ID: <u>WG392082-05</u>
Instrument ID: <u>ELAN-ICP</u>	Run Time: <u>10:25</u>	Method: <u>6020</u>
File ID: <u>EL.031312.102509</u>	Analyst: <u>JYH</u>	Units: <u>ug/L</u>
Workgroup (AAB#): <u>WG391928</u>	Cal ID: <u>ELAN-I - 13-MAR-12</u>	
QC Key: <u>DOD4</u>		

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	50.4	101	90 - 110	
Arsenic	50	51.4	103	90 - 110	
Barium	50	50.9	102	90 - 110	
Cadmium	50	46.1	92.1	90 - 110	
Chromium	50	51.0	102	90 - 110	
Cobalt	50	50.0	100	90 - 110	
Copper	50	51.4	103	90 - 110	
Lead	50	50.5	101	90 - 110	
Manganese	50	49.7	99.5	90 - 110	
Nickel	50	51.1	102	90 - 110	
Selenium	50	50.2	100	90 - 110	
Silver	50	48.2	96.5	90 - 110	
Thallium	50	48.7	97.4	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
 PDF File ID: 2334075
 Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: <u>L12030257</u>	Run Date: <u>03/16/2012</u>	Sample ID: <u>WG392430-05</u>
Instrument ID: <u>ELAN-ICP</u>	Run Time: <u>09:34</u>	Method: <u>6020</u>
File ID: <u>EL.031612.093435</u>	Analyst: <u>JYH</u>	Units: <u>ug/L</u>
Workgroup (AAB#): <u>WG391928</u>	Cal ID: <u>ELAN-I - 16-MAR-12</u>	
QC Key: <u>DOD4</u>		

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	49.1	98.2	90 - 110	
Arsenic	50	48.6	97.2	90 - 110	
Barium	50	50.2	100	90 - 110	
Cadmium	50	48.4	96.8	90 - 110	
Chromium	50	49.3	98.6	90 - 110	
Cobalt	50	48.5	97.0	90 - 110	
Copper	50	50.0	100	90 - 110	
Lead	50	49.6	99.3	90 - 110	
Manganese	50	49.6	99.3	90 - 110	
Nickel	50	51.2	102	90 - 110	
Selenium	50	50.1	100	90 - 110	
Silver	50	50.3	101	90 - 110	
Thallium	50	52.0	104	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
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Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: <u>L12030257</u>	Run Date: <u>03/12/2012</u>	Sample ID: <u>WG391970-05</u>
Instrument ID: <u>ELAN-ICP</u>	Run Time: <u>12:58</u>	Method: <u>6020</u>
File ID: <u>EL.031212.125819</u>	Analyst: <u>JYH</u>	Units: <u>ug/L</u>
Workgroup (AAB#): <u>WG391928</u>	Cal ID: <u>ELAN-I - 12-MAR-12</u>	
QC Key: <u>DOD4</u>		

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	51.5	103	90 - 110	
Arsenic	50	50.3	101	90 - 110	
Barium	50	48.8	97.6	90 - 110	
Cadmium	50	47.4	94.9	90 - 110	
Chromium	50	49.4	98.8	90 - 110	
Cobalt	50	50.9	102	90 - 110	
Copper	50	49.2	98.5	90 - 110	
Lead	50	50.0	100	90 - 110	
Manganese	50	49.6	99.3	90 - 110	
Nickel	50	51.3	103	90 - 110	
Selenium	50	47.7	95.4	90 - 110	
Silver	50	49.9	99.7	90 - 110	
Thallium	50	50.8	102	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2334075
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/09/2012 Sample ID: WG391888-11
Instrument ID: ELAN-ICP Run Time: 10:45 Method: 6020
File ID: EL.030912.104550 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391810 Cal ID: ELAN-I - 09-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	51.0	ug/L	102	90 - 110		
Arsenic		50.0	49.1	ug/L	98.2	90 - 110		
Barium		50.0	50.5	ug/L	101	90 - 110		
Cadmium		50.0	48.4	ug/L	96.9	90 - 110		
Chromium		50.0	49.3	ug/L	98.5	90 - 110		
Cobalt		50.0	50.1	ug/L	100	90 - 110		
Copper		50.0	49.7	ug/L	99.4	90 - 110		
Lead		50.0	50.4	ug/L	101	90 - 110		
Manganese		50.0	51.2	ug/L	102	90 - 110		
Nickel		50.0	50.0	ug/L	100	90 - 110		
Selenium		50.0	49.5	ug/L	98.9	90 - 110		
Silver		50.0	48.9	ug/L	97.8	90 - 110		
Thallium		50.0	50.3	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/09/2012 Sample ID: WG391888-14
Instrument ID: ELAN-ICP Run Time: 12:18 Method: 6020
File ID: EL.030912.121820 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391810 Cal ID: ELAN-I - 09-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.7	ug/L	101	90 - 110		
Arsenic		50.0	48.5	ug/L	97.1	90 - 110		
Barium		50.0	49.2	ug/L	98.4	90 - 110		
Cadmium		50.0	50.5	ug/L	101	90 - 110		
Chromium		50.0	53.5	ug/L	107	90 - 110		
Cobalt		50.0	52.0	ug/L	104	90 - 110		
Copper		50.0	50.3	ug/L	101	90 - 110		
Lead		50.0	50.1	ug/L	100	90 - 110		
Manganese		50.0	53.4	ug/L	107	90 - 110		
Nickel		50.0	52.7	ug/L	105	90 - 110		
Selenium		50.0	50.7	ug/L	101	90 - 110		
Silver		50.0	50.9	ug/L	102	90 - 110		
Thallium		50.0	49.4	ug/L	98.9	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/09/2012 Sample ID: WG391888-20
Instrument ID: ELAN-ICP Run Time: 15:23 Method: 6020
File ID: EL.030912.152342 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391810 Cal ID: ELAN-I - 09-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	47.0	ug/L	94.0	90 - 110		
Arsenic		50.0	48.3	ug/L	96.5	90 - 110		
Barium		50.0	50.4	ug/L	101	90 - 110		
Cadmium		50.0	50.1	ug/L	100	90 - 110		
Chromium		50.0	52.8	ug/L	106	90 - 110		
Cobalt		50.0	52.6	ug/L	105	90 - 110		
Copper		50.0	50.2	ug/L	100	90 - 110		
Lead		50.0	53.1	ug/L	106	90 - 110		
Manganese		50.0	53.0	ug/L	106	90 - 110		
Nickel		50.0	52.1	ug/L	104	90 - 110		
Selenium		50.0	53.6	ug/L	107	90 - 110		
Silver		50.0	49.2	ug/L	98.4	90 - 110		
Thallium		50.0	51.3	ug/L	103	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/09/2012 Sample ID: WG391888-22
Instrument ID: ELAN-ICP Run Time: 16:20 Method: 6020
File ID: EL.030912.162008 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391810 Cal ID: ELAN-I - 09-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	48.1	ug/L	96.2	90 - 110		
Arsenic		50.0	48.2	ug/L	96.4	90 - 110		
Barium		50.0	50.1	ug/L	100	90 - 110		
Cadmium		50.0	49.3	ug/L	98.6	90 - 110		
Chromium		50.0	51.7	ug/L	103	90 - 110		
Cobalt		50.0	50.5	ug/L	101	90 - 110		
Copper		50.0	49.3	ug/L	98.5	90 - 110		
Lead		50.0	50.2	ug/L	100	90 - 110		
Manganese		50.0	51.2	ug/L	102	90 - 110		
Nickel		50.0	50.0	ug/L	100	90 - 110		
Selenium		50.0	50.8	ug/L	102	90 - 110		
Silver		50.0	49.6	ug/L	99.2	90 - 110		
Thallium		50.0	50.5	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-11
Instrument ID: ELAN-ICP Run Time: 13:45 Method: 6020
File ID: EL.031212.134509 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 12-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	51.0	ug/L	102	90 - 110		
Arsenic		50.0	49.4	ug/L	98.9	90 - 110		
Barium		50.0	52.1	ug/L	104	90 - 110		
Cadmium		50.0	47.9	ug/L	95.9	90 - 110		
Chromium		50.0	48.0	ug/L	96.0	90 - 110		
Cobalt		50.0	49.8	ug/L	99.6	90 - 110		
Copper		50.0	48.6	ug/L	97.2	90 - 110		
Lead		50.0	50.4	ug/L	101	90 - 110		
Manganese		50.0	49.4	ug/L	98.8	90 - 110		
Nickel		50.0	48.4	ug/L	96.8	90 - 110		
Selenium		50.0	49.1	ug/L	98.3	90 - 110		
Silver		50.0	50.0	ug/L	100	90 - 110		
Thallium		50.0	50.9	ug/L	102	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-16
Instrument ID: ELAN-ICP Run Time: 16:07 Method: 6020
File ID: EL.031212.160723 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 12-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	48.2	ug/L	96.3	90 - 110		
Arsenic		50.0	47.6	ug/L	95.3	90 - 110		
Barium		50.0	51.9	ug/L	104	90 - 110		
Cadmium		50.0	48.9	ug/L	97.8	90 - 110		
Chromium		50.0	46.2	ug/L	92.4	90 - 110		
Cobalt		50.0	47.1	ug/L	94.1	90 - 110		
Copper		50.0	49.8	ug/L	99.6	90 - 110		
Lead		50.0	49.7	ug/L	99.4	90 - 110		
Manganese		50.0	46.6	ug/L	93.2	90 - 110		
Nickel		50.0	47.4	ug/L	94.8	90 - 110		
Selenium		50.0	48.9	ug/L	97.7	90 - 110		
Silver		50.0	50.0	ug/L	99.9	90 - 110		
Thallium		50.0	49.0	ug/L	98.0	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-18
Instrument ID: ELAN-ICP Run Time: 17:16 Method: 6020
File ID: EL.031212.171655 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 12-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	48.7	ug/L	97.5	90 - 110		
Arsenic		50.0	46.9	ug/L	93.9	90 - 110		
Barium		50.0	51.7	ug/L	103	90 - 110		
Cadmium		50.0	49.9	ug/L	99.8	90 - 110		
Chromium		50.0	43.8	ug/L	87.5	90 - 110		*
Cobalt		50.0	46.9	ug/L	93.7	90 - 110		
Copper		50.0	47.7	ug/L	95.4	90 - 110		
Lead		50.0	50.1	ug/L	100	90 - 110		
Manganese		50.0	46.1	ug/L	92.3	90 - 110		
Nickel		50.0	46.3	ug/L	92.7	90 - 110		
Selenium		50.0	47.1	ug/L	94.1	90 - 110		
Silver		50.0	50.4	ug/L	101	90 - 110		
Thallium		50.0	49.5	ug/L	99.0	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-20
Instrument ID: ELAN-ICP Run Time: 18:05 Method: 6020
File ID: EL.031212.180558 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 12-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.5	ug/L	101	90 - 110		
Arsenic		50.0	48.0	ug/L	95.9	90 - 110		
Barium		50.0	51.3	ug/L	103	90 - 110		
Cadmium		50.0	50.0	ug/L	100	90 - 110		
Chromium		50.0	44.5	ug/L	89.0	90 - 110		*
Cobalt		50.0	47.8	ug/L	95.7	90 - 110		
Copper		50.0	49.7	ug/L	99.3	90 - 110		
Lead		50.0	49.3	ug/L	98.5	90 - 110		
Manganese		50.0	45.4	ug/L	90.8	90 - 110		
Nickel		50.0	48.4	ug/L	96.9	90 - 110		
Selenium		50.0	47.2	ug/L	94.4	90 - 110		
Silver		50.0	50.8	ug/L	102	90 - 110		
Thallium		50.0	48.8	ug/L	97.6	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-22
Instrument ID: ELAN-ICP Run Time: 19:01 Method: 6020
File ID: EL.031212.190156 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 12-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	51.6	ug/L	103	90 - 110		
Arsenic		50.0	48.5	ug/L	97.0	90 - 110		
Barium		50.0	50.6	ug/L	101	90 - 110		
Cadmium		50.0	48.4	ug/L	96.9	90 - 110		
Chromium		50.0	46.7	ug/L	93.5	90 - 110		
Cobalt		50.0	48.0	ug/L	95.9	90 - 110		
Copper		50.0	49.1	ug/L	98.2	90 - 110		
Lead		50.0	50.7	ug/L	101	90 - 110		
Manganese		50.0	48.5	ug/L	97.0	90 - 110		
Nickel		50.0	47.1	ug/L	94.2	90 - 110		
Selenium		50.0	49.3	ug/L	98.6	90 - 110		
Silver		50.0	51.8	ug/L	104	90 - 110		
Thallium		50.0	50.8	ug/L	102	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG392082-10
Instrument ID: ELAN-ICP Run Time: 11:03 Method: 6020
File ID: EL.031312.110320 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 13-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	48.9	ug/L	97.7	90 - 110		
Arsenic		50.0	48.8	ug/L	97.6	90 - 110		
Barium		50.0	51.1	ug/L	102	90 - 110		
Cadmium		50.0	52.6	ug/L	105	90 - 110		
Chromium		50.0	49.6	ug/L	99.3	90 - 110		
Cobalt		50.0	48.4	ug/L	96.8	90 - 110		
Copper		50.0	49.4	ug/L	98.9	90 - 110		
Lead		50.0	50.9	ug/L	102	90 - 110		
Manganese		50.0	48.5	ug/L	96.9	90 - 110		
Nickel		50.0	49.5	ug/L	99.0	90 - 110		
Selenium		50.0	48.5	ug/L	97.0	90 - 110		
Silver		50.0	48.9	ug/L	97.8	90 - 110		
Thallium		50.0	50.5	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/13/2012 Sample ID: WG392082-13
Instrument ID: ELAN-ICP Run Time: 12:19 Method: 6020
File ID: EL.031312.121938 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 13-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.2	ug/L	98.4	90 - 110		
Arsenic		50.0	51.7	ug/L	103	90 - 110		
Barium		50.0	51.9	ug/L	104	90 - 110		
Cadmium		50.0	48.4	ug/L	96.9	90 - 110		
Chromium		50.0	52.0	ug/L	104	90 - 110		
Cobalt		50.0	51.7	ug/L	103	90 - 110		
Copper		50.0	53.4	ug/L	107	90 - 110		
Lead		50.0	53.0	ug/L	106	90 - 110		
Manganese		50.0	51.0	ug/L	102	90 - 110		
Nickel		50.0	52.9	ug/L	106	90 - 110		
Selenium		50.0	53.5	ug/L	107	90 - 110		
Silver		50.0	49.6	ug/L	99.1	90 - 110		
Thallium		50.0	50.6	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392430-10
Instrument ID: ELAN-ICP Run Time: 10:12 Method: 6020
File ID: EL.031612.101246 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 16-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.7	ug/L	99.4	90 - 110		
Arsenic		50.0	48.8	ug/L	97.5	90 - 110		
Barium		50.0	50.0	ug/L	99.9	90 - 110		
Cadmium		50.0	47.8	ug/L	95.6	90 - 110		
Chromium		50.0	48.2	ug/L	96.4	90 - 110		
Cobalt		50.0	49.2	ug/L	98.5	90 - 110		
Copper		50.0	49.1	ug/L	98.3	90 - 110		
Lead		50.0	49.7	ug/L	99.3	90 - 110		
Manganese		50.0	47.6	ug/L	95.3	90 - 110		
Nickel		50.0	50.6	ug/L	101	90 - 110		
Selenium		50.0	48.2	ug/L	96.5	90 - 110		
Silver		50.0	49.8	ug/L	99.5	90 - 110		
Thallium		50.0	50.9	ug/L	102	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392430-19
Instrument ID: ELAN-ICP Run Time: 14:52 Method: 6020
File ID: EL.031612.145238 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 16-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.4	ug/L	98.8	90 - 110		
Arsenic		50.0	47.0	ug/L	94.1	90 - 110		
Barium		50.0	48.6	ug/L	97.2	90 - 110		
Cadmium		50.0	51.1	ug/L	102	90 - 110		
Chromium		50.0	46.9	ug/L	93.7	90 - 110		
Cobalt		50.0	49.1	ug/L	98.1	90 - 110		
Copper		50.0	50.7	ug/L	101	90 - 110		
Lead		50.0	50.2	ug/L	100	90 - 110		
Manganese		50.0	49.7	ug/L	99.5	90 - 110		
Nickel		50.0	50.2	ug/L	100	90 - 110		
Selenium		50.0	47.9	ug/L	95.8	90 - 110		
Silver		50.0	50.8	ug/L	102	90 - 110		
Thallium		50.0	50.4	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392430-23
Instrument ID: ELAN-ICP Run Time: 15:23 Method: 6020
File ID: EL.031612.152309 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 16-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	48.9	ug/L	97.8	90 - 110		
Arsenic		50.0	47.4	ug/L	94.7	90 - 110		
Barium		50.0	48.8	ug/L	97.5	90 - 110		
Cadmium		50.0	49.6	ug/L	99.2	90 - 110		
Chromium		50.0	48.1	ug/L	96.1	90 - 110		
Cobalt		50.0	48.4	ug/L	96.8	90 - 110		
Copper		50.0	50.1	ug/L	100	90 - 110		
Lead		50.0	50.4	ug/L	101	90 - 110		
Manganese		50.0	48.5	ug/L	97.1	90 - 110		
Nickel		50.0	49.8	ug/L	99.5	90 - 110		
Selenium		50.0	47.8	ug/L	95.5	90 - 110		
Silver		50.0	52.5	ug/L	105	90 - 110		
Thallium		50.0	51.1	ug/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392430-27
Instrument ID: ELAN-ICP Run Time: 16:01 Method: 6020
File ID: EL.031612.160114 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 16-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.5	ug/L	99.1	90 - 110		
Arsenic		50.0	48.0	ug/L	96.0	90 - 110		
Barium		50.0	47.9	ug/L	95.8	90 - 110		
Cadmium		50.0	49.5	ug/L	99.1	90 - 110		
Chromium		50.0	49.6	ug/L	99.1	90 - 110		
Cobalt		50.0	47.8	ug/L	95.6	90 - 110		
Copper		50.0	50.5	ug/L	101	90 - 110		
Lead		50.0	52.3	ug/L	105	90 - 110		
Manganese		50.0	48.4	ug/L	96.9	90 - 110		
Nickel		50.0	50.2	ug/L	100	90 - 110		
Selenium		50.0	47.1	ug/L	94.3	90 - 110		
Silver		50.0	51.3	ug/L	103	90 - 110		
Thallium		50.0	53.6	ug/L	107	90 - 110		

* Exceeds LIMITS Criteria

TI not reported from this run.

CCV - Modified 03/05/2008
PDF File ID: 2334078
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L12030257 Run Date: 03/09/2012 Sample ID: WG391888-08
Instrument ID: ELAN-ICP Run Time: 10:20 Method: 6020
File ID: EL.030912.102055 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391810 Cal ID: ELAN-I - 09-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Cadmium		0.200	0.216	ug/L	108	80 - 120		
Thallium		0.0800	0.0853	ug/L	107	80 - 120		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 2334106
Report generated 05/18/2012 19:44



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L12030257 Run Date: 03/12/2012 Sample ID: WG391970-07
Instrument ID: ELAN-ICP Run Time: 13:13 Method: 6020
File ID: EL.031212.131333 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 12-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Cadmium		0.200	0.164	ug/L	82.0	80 - 120		
Thallium		0.0800	0.0666	ug/L	83.3	80 - 120		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
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Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392430-07
Instrument ID: ELAN-ICP Run Time: 09:49 Method: 6020
File ID: EL.031612.094949 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 16-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Thallium		0.0800	0.0599	ug/L	74.9	80 - 120		*

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 2334106
Report generated 05/18/2012 19:44



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L12030257 Run Date: 03/16/2012 Sample ID: WG392430-26
Instrument ID: ELAN-ICP Run Time: 15:45 Method: 6020
File ID: EL.031612.154559 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG391928 Cal ID: ELAN-I - 16-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Thallium		0.0800	0.0910	ug/L	114	80 - 120		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 2334106
Report generated 05/18/2012 19:44



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12030257
Instrument ID: ELAN-ICP
Sol. A : WG391888-09
Sol. AB : WG391888-10

File ID: EL.030912.102834
File ID: EL.030912.103759

Workgroup (AAB#): WG391810
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0445	NS	100	112	112	
Arsenic	NS	-0.00100	NS	100	103	103	
Barium	NS	0.0270	NS	100	109	109	
Cadmium	NS	0.126	NS	100	112	112	
Chromium	NS	0.166	NS	100	103	103	
Cobalt	NS	0.0109	NS	100	104	104	
Copper	NS	0.277	NS	100	103	103	
Lead	NS	0.0144	NS	100	114	114	
Manganese	NS	0.0601	NS	100	106	106	
Nickel	NS	0.540	NS	100	102	102	
Selenium	NS	0.0153	NS	100	105	105	
Silver	NS	0.0111	NS	100	108	108	
Thallium	NS	0.0127	NS	100	109	109	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2334077
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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12030257
Instrument ID: ELAN-ICP
Sol. A : WG391970-08
Sol. AB : WG391970-10

File ID: EL.031212.132112
File ID: EL.031212.133730

Workgroup (AAB#): WG391928
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0407	NS	100	115	115	
Arsenic	NS	0.0471	NS	100	107	107	
Barium	NS	0.0412	NS	100	117	117	
Cadmium	NS	0.0754	NS	100	108	108	
Chromium	NS	0.129	NS	100	99.4	99.4	
Cobalt	NS	-0.0327	NS	100	99.9	99.9	
Copper	NS	0.190	NS	100	99.2	99.2	
Lead	NS	0.0101	NS	100	114	114	
Manganese	NS	0.0587	NS	100	99.3	99.3	
Nickel	NS	0.450	NS	100	97.7	97.7	
Selenium	NS	0.101	NS	100	105	105	
Silver	NS	-0.0107	NS	100	115	115	
Thallium	NS	-0.00790	NS	100	108	108	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2334077
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12030257
Instrument ID: ELAN-ICP
Sol. A: WG392082-08
Sol. AB: WG392082-09

File ID: EL.031312.104802
File ID: EL.031312.105541

Workgroup (AAB#): WG391928
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0474	NS	100	104	104	
Arsenic	NS	0.0169	NS	100	104	104	
Barium	NS	0.0151	NS	100	108	108	
Cadmium	NS	0.0584	NS	100	106	106	
Chromium	NS	0.162	NS	100	102	102	
Cobalt	NS	-0.00410	NS	100	101	101	
Copper	NS	0.152	NS	100	101	101	
Lead	NS	-0.00440	NS	100	109	109	
Manganese	NS	0.115	NS	100	105	105	
Nickel	NS	0.438	NS	100	102	102	
Selenium	NS	0.0899	NS	100	105	105	
Silver	NS	-0.0151	NS	100	104	104	
Thallium	NS	0.00260	NS	100	100	100	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

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PDF File ID: 2334077
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12030257
Instrument ID: ELAN-ICP
Sol. A: WG392430-08
Sol. AB: WG392430-09

File ID: EL.031612.095729
File ID: EL.031612.100508

Workgroup (AAB#): WG391928
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0451	NS	100	103	103	
Arsenic	NS	-0.0513	NS	100	101	101	
Barium	NS	0.0443	NS	100	98.3	98.3	
Cadmium	NS	0.0623	NS	100	100	100	
Chromium	NS	0.0912	NS	100	102	102	
Cobalt	NS	-0.00150	NS	100	98.7	98.7	
Copper	NS	0.181	NS	100	98.1	98.1	
Lead	NS	-0.000300	NS	100	107	107	
Manganese	NS	0.101	NS	100	99.0	99.0	
Nickel	NS	0.494	NS	100	98.7	98.7	
Selenium	NS	-0.190	NS	100	97.4	97.4	
Silver	NS	-0.0192	NS	100	104	104	
Thallium	NS	-0.0179	NS	100	104	104	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

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PDF File ID: 2334077
Report generated 05/18/2012 19:11



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12030257
Instrument ID: ELAN-ICP
Sol. A: WG392430-21
Sol. AB: WG392430-22

File ID: EL.031612.150751
File ID: EL.031612.151531

Workgroup (AAB#): WG391928
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0558	NS	100	112	112	
Arsenic	NS	-0.0779	NS	100	99.5	99.5	
Barium	NS	0.0419	NS	100	101	101	
Cadmium	NS	0.0640	NS	100	103	103	
Chromium	NS	0.102	NS	100	101	101	
Cobalt	NS	-0.00340	NS	100	100	100	
Copper	NS	0.190	NS	100	98.8	98.8	
Lead	NS	-0.00130	NS	100	110	110	
Manganese	NS	0.0945	NS	100	102	102	
Nickel	NS	0.525	NS	100	100	100	
Selenium	NS	-0.305	NS	100	95.9	95.9	
Silver	NS	-0.0203	NS	100	111	111	
Thallium	NS	-0.0130	NS	100	105	105	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2334077
Report generated 05/18/2012 19:11



INTERNAL STANDARD REPORT

Login: L12030257 Analytical Method: 6020
 Analytical Workgroup: WG391810 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 09-MAR-2012 09:23

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L12030257-01	SAMP	09-MAR-2012 15:38	108.095	105.469	109.392	110.799
L12030257-03	SAMP	09-MAR-2012 11:30	87.039	86.962	86.512	91.457
L12030257-04	SAMP	09-MAR-2012 11:37	91.033	88.721	92.053	90.752
L12030257-05	SAMP	09-MAR-2012 11:44	91.62	88.565	87.029	91.266
L12030257-06	SAMP	09-MAR-2012 15:45	108.937	104.265	106.491	108.854
L12030257-07	SAMP	09-MAR-2012 15:53	106.036	96.406	104.343	106.034
L12030257-08	SAMP	09-MAR-2012 15:59	100.044	91.506	95.947	103.06
L12030257-09	SAMP	09-MAR-2012 16:06	105.188	97.228	102.009	106.359
L12030257-10	SAMP	09-MAR-2012 16:13	108.533	97.159	103.63	108.203
WG391772-02	BLANK	09-MAR-2012 11:10	93.946	89.932	93.552	95.446
WG391772-03	LCS	09-MAR-2012 11:24	94.415	91.246	94.779	91.223
WG391810-01	PSPK	09-MAR-2012 12:04	81.292	80.004	81.042	83.451
WG391810-02	SERIAL	09-MAR-2012 12:11	91.555	82.381	90.687	92.53
WG391888-05	ICV	09-MAR-2012 09:54	99.163	93.956	94.021	97.057
WG391888-06	ICB	09-MAR-2012 10:01	98.744	96.126	95.863	98.407
WG391888-08	LLICV	09-MAR-2012 10:20	96.507	93.708	95.597	97.193
WG391888-09	ICS	09-MAR-2012 10:28	93.937	94.082	93.788	91.781
WG391888-10	ICS	09-MAR-2012 10:37	90.972	95.479	90.329	87.339
WG391888-11	CCV	09-MAR-2012 10:45	91.283	90.724	91.168	89.678
WG391888-13	CCB	09-MAR-2012 11:02	94.228	90.679	89.839	93.026
WG391888-14	CCV	09-MAR-2012 12:18	96.687	84.218	89.483	98.332
WG391888-15	CCB	09-MAR-2012 12:25	102.611	92.995	94.246	102.28
WG391888-20	CCV	09-MAR-2012 15:23	105.614	101.749	106.456	111.202
WG391888-21	CCB	09-MAR-2012 15:31	107.71	101.827	104.654	108.016
WG391888-22	CCV	09-MAR-2012 16:20	104.393	92.285	97.207	103.477
WG391888-23	CCB	09-MAR-2012 16:27	105.16	96.106	101.034	108.006
WG391888-30	LLCCV	09-MAR-2012 20:30	102.124	101.211	103.365	105.626

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

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INTERNAL STANDARD REPORT

Login: L12030257 Analytical Method: 6020
Analytical Workgroup: WG391810 Matrix: 18
Instrument: ELAN-ICP Analyst: JYH
ICAL Date: 09-MAR-2012 09:23

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L12030240-02	SAMP	09-MAR-2012 11:57	86.004	83.855	84.953	86.207

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
PDF File ID: 2334071
Report generated: 05/18/2012 19:44



INTERNAL STANDARD REPORT

Login: L12030257 Analytical Method: 6020
 Analytical Workgroup: WG391928 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 12-MAR-2012 12:27

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L12030257-11	SAMP	12-MAR-2012 18:21	80.214	89.591	91.567	84.833
WG391913-03	BLANK	12-MAR-2012 16:22	98	111.456	110.734	103.319
WG391913-04	LCS	12-MAR-2012 16:29	100.554	107.758	109.049	104.91
WG391928-01	PSPK	12-MAR-2012 17:03	95.377	98.803	102.782	94.746
WG391928-02	SERIAL	12-MAR-2012 17:10	93.227	98.445	102.327	94.954
WG391970-05	ICV	12-MAR-2012 12:58	101.793	98.749	102.299	105.84
WG391970-06	ICB	12-MAR-2012 13:05	101.619	95.03	102.826	105.13
WG391970-07	LLICV	12-MAR-2012 13:13	100.236	96.788	99.551	102.795
WG391970-08	ICS	12-MAR-2012 13:21	102.058	109.168	109.078	108.707
WG391970-10	ICS	12-MAR-2012 13:37	96.813	109.663	102.978	98.62
WG391970-11	CCV	12-MAR-2012 13:45	98.054	99.985	103.674	103.853
WG391970-13	CCB	12-MAR-2012 14:00	95.072	100.693	102.243	98.689
WG391970-16	CCV	12-MAR-2012 16:07	97.64	105.597	108.777	99.197
WG391970-17	CCB	12-MAR-2012 16:15	102.322	107.866	111.128	105.33
WG391970-18	CCV	12-MAR-2012 17:16	94.895	106.968	106.157	96.966
WG391970-19	CCB	12-MAR-2012 17:24	95.3	102.235	102.51	100.038
WG391970-20	CCV	12-MAR-2012 18:05	85.099	89.754	89.329	84.566
WG391970-21	CCB	12-MAR-2012 18:13	87.797	93.484	96.299	91.417
WG391970-22	CCV	12-MAR-2012 19:01	<u>79.301</u>	86.498	86.285	84.232
WG391970-23	CCB	12-MAR-2012 19:09	85.398	89.57	92.87	88.21
WG391970-24	ICS	12-MAR-2012 19:23	88.839	99.276	97.219	92.367
WG391970-25	ICS	12-MAR-2012 19:31	82.592	87.858	90.64	82.85
WG391970-26	CCV	12-MAR-2012 19:39	86.601	94.15	95.49	88.649
WG391970-27	CCB	12-MAR-2012 19:46	80.26	83.941	86.405	80.666
WG391970-28	LLCCV	12-MAR-2012 19:54	84.423	89.522	90.952	81.919

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2334071
 Report generated: 05/18/2012 19:44



INTERNAL STANDARD REPORT

Login: L12030257 Analytical Method: 6020
 Analytical Workgroup: WG391928 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 13-MAR-2012 09:54

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
WG391913-03	BLANK	13-MAR-2012 11:25	100.077	94.388	96.015	97.533
WG391913-04	LCS	13-MAR-2012 11:32	101.407	95.993	97.925	97.191
WG391928-01	PSPK	13-MAR-2012 12:06	94.682	93.832	91.523	93.979
WG391928-02	SERIAL	13-MAR-2012 12:12	92.942	87.157	87.922	89.003
WG392082-05	ICV	13-MAR-2012 10:25	103.073	96.416	97.545	98.901
WG392082-06	ICB	13-MAR-2012 10:32	101.8	97.636	96.954	100.442
WG392082-07	LLICV	13-MAR-2012 10:40	102.318	92.578	100.288	101.03
WG392082-08	ICS	13-MAR-2012 10:48	98.717	98.782	94.477	96.708
WG392082-09	ICS	13-MAR-2012 10:55	98.356	93.314	93.153	92.707
WG392082-10	CCV	13-MAR-2012 11:03	97.78	91.989	92.417	94.734
WG392082-12	CCB	13-MAR-2012 11:18	98.252	94.328	95.629	97.442
WG392082-13	CCV	13-MAR-2012 12:19	88.659	82.46	87.097	88.781
WG392082-14	CCB	13-MAR-2012 12:27	94.274	92.368	93.243	97.438

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2334071
 Report generated: 05/18/2012 19:44



INTERNAL STANDARD REPORT

Login: L12030257 Analytical Method: 6020
 Analytical Workgroup: WG391928 Matrix: 1
 Instrument: ELAN-ICP Analyst: JYH
 ICAL Date: 16-MAR-2012 09:03

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L12030257-11	SAMP	16-MAR-2012 15:53	98.225	96.397	85.392	98.882
WG392430-05	ICV	16-MAR-2012 09:34	96.045	98.82	97.458	98.454
WG392430-06	ICB	16-MAR-2012 09:42	91.431	89.354	89.801	90.832
WG392430-07	LLICV	16-MAR-2012 09:49	90.313	96.002	90.858	96.512
WG392430-08	ICS	16-MAR-2012 09:57	87.848	88.488	84.609	90.227
WG392430-09	ICS	16-MAR-2012 10:05	87.435	91.203	82.742	90.167
WG392430-10	CCV	16-MAR-2012 10:12	92.418	93.982	91.874	93.843
WG392430-11	CCB	16-MAR-2012 10:20	89.124	88.272	86.911	92.314
WG392430-18	LLCCV	16-MAR-2012 13:34	91.108	89.271	81.598	89.17
WG392430-19	CCV	16-MAR-2012 14:52	93.101	91.149	83.752	91.129
WG392430-20	CCB	16-MAR-2012 15:00	90.594	86.655	81.024	90.17
WG392430-21	ICS	16-MAR-2012 15:07	91.177	89.088	79.376	90.48
WG392430-22	ICS	16-MAR-2012 15:15	88.004	85.066	69.46	85.567
WG392430-23	CCV	16-MAR-2012 15:23	90.843	88.134	<u>79.345</u>	87.068
WG392430-25	CCB	16-MAR-2012 15:38	95.957	94.411	84.067	94.945
WG392430-26	LLCCV	16-MAR-2012 15:45	99.729	94.001	83.779	96.187
WG392430-27	CCV	16-MAR-2012 16:01	95.888	94.692	85.298	94.05
WG392430-28	CCB	16-MAR-2012 16:08	96.33	90.714	81.695	94.256
WG392430-29	LLCCV	16-MAR-2012 16:16	94.49	89.473	83.632	93.25
WG392430-34	CCV	16-MAR-2012 20:04	82.475	<u>79.914</u>	<u>75.165</u>	81.031
WG392430-35	CCB	16-MAR-2012 20:12	88.607	83.804	<u>79.362</u>	85.694
WG392430-36	ICS	16-MAR-2012 20:43	107.348	107.338	88.307	105.999
WG392430-37	ICS	16-MAR-2012 20:50	109.128	111.534	87.55	105.488
WG392430-38	CCV	16-MAR-2012 20:58	108.778	109.241	95.209	106.558
WG392430-39	CCB	16-MAR-2012 21:05	105.898	103.618	90.929	104.575
WG392430-40	LLCCV	16-MAR-2012 21:13	103.221	98.428	91.456	102.34

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2334071
 Report generated: 05/18/2012 19:44



INTERNAL STANDARD REPORT

Login: L12030257 Analytical Method: 6020
Analytical Workgroup: WG391928 Matrix: 2
Instrument: ELAN-ICP Analyst: JYH
ICAL Date: 12-MAR-2012 12:27

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L12030349-02	SAMP	12-MAR-2012 16:56	92.769	99.361	103.276	95.683

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
PDF File ID: 2334071
Report generated: 05/18/2012 19:44



INTERNAL STANDARD REPORT

Login: L12030257 Analytical Method: 6020
Analytical Workgroup: WG391928 Matrix: 2
Instrument: ELAN-ICP Analyst: JYH
ICAL Date: 13-MAR-2012 09:54

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L12030349-02	SAMP	13-MAR-2012 11:59	92.864	88.585	90.451	89.674

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
PDF File ID: 2334071
Report generated: 05/18/2012 19:44



Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12030257

Date: 03/16/2012

Instrument ID: ELAN-ICP

Method: 6020

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Uranium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 2334070
Report generated: 05/17/2012 13:52





Login Number: L12030257
Department: Metals - AA
Analyst: Pierce Morris

METHOD

Preparation: SW-846 7470

Analysis: SW-846 7470

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG392134 - All acceptance criteria were met.

Matrix Spikes: WG392134 - Sample 03 was chosen by the client for MS/MSD analysis. Samples 04(MS) and 05(MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 43417

Approved By: Sheri Pfalzgraf

A handwritten signature in black ink, appearing to read "Sheri L. Pfalzgraf".

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG392029
Analyst: BRG
Spike Analyst: BRG
Method: 7470A
Run Date: 03/13/2012 14:14
Hotblock Start Temp: 92.7 @ 11:30
Hotblock End Temp: 94.3 @ 13:30

SOP: ME405 Revision 10
Spike Solution: STD50552
Spike Witness: ERP
HNO3 Lot #: COA15720
Digestion Tubes Lot #: COA15940
Mercury Water ICV Lot #: STD50554
KMnO4 1:1 Lot #: RGT17047
H2SO4 Lot #: COA15776
K2S2O8 1:1 Lot #: RGT16987

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG392029-04	BLANK	1	40 mL	40 mL		
2	WG391969-01	FBLK1	17	4 mL	40 mL		
3	WG391969-02	FBLK2	17	4 mL	40 mL		
4	WG392029-05	LCS	1	40 mL	40 mL	4 mL	
5	L12030257-01	SAMP	1	40 mL	40 mL		03/19/12
6	WG392029-01	REF	1	40 mL	40 mL		
7	L12030257-03	RS01	1	40 mL	40 mL		03/19/12
8	WG392029-06	MS	1	36 mL	40 mL	4 mL	
9	L12030257-04	MS01	1	36 mL	40 mL	4 mL	03/19/12
10	WG392029-07	MSD	1	36 mL	40 mL	4 mL	
11	L12030257-05	SD01	1	36 mL	40 mL	4 mL	03/19/12
12	L12030257-06	SAMP	1	40 mL	40 mL		03/19/12
13	L12030257-07	SAMP	1	40 mL	40 mL		03/19/12
14	L12030257-08	SAMP	1	40 mL	40 mL		03/19/12
15	L12030257-09	SAMP	1	40 mL	40 mL		03/19/12
16	L12030257-10	SAMP	1	40 mL	40 mL		03/19/12
17	L12030257-11	SAMP	1	40 mL	40 mL		03/19/12
18	L12030307-01	SAMP	17	4 mL	40 mL		03/14/12
19	WG392029-02	REF	17	4 mL	40 mL		
20	L12030308-01	SAMP	17	4 mL	40 mL		03/14/12
21	WG392029-03	REF	2	40 mL	40 mL		
22	L12030311-01	SAMP	2	40 mL	40 mL		03/15/12
23	L12030312-01	SAMP	17	4 mL	40 mL		03/15/12
24	L12030331-01	SAMP	17	4 mL	40 mL		03/23/12
25	L12030344-01	SAMP	1	40 mL	40 mL		03/23/12
26	WG392029-08	MS	1	4 mL	40 mL	4 mL	
27	WG392029-09	DUP	1	40 mL	40 mL		
28	WG392029-10	MS	1	36 mL	40 mL	4 mL	

Analyst: Brenda Gregory

Reviewer: Brenda Gregory

HB_DIG - Modified 09/30/2009
PDF ID: 2335847
Report generated: 03/13/2012 14:17



METHOD BLANK SUMMARY

Login Number: <u>L12030257</u>	Work Group: <u>WG392134</u>
Blank File ID: <u>HY.031412.084733</u>	Blank Sample ID: <u>WG392029-04</u>
Prep Date: <u>03/13/12 14:14</u>	Instrument ID: <u>HYDRA</u>
Analyzed Date: <u>03/14/12 08:47</u>	Method: <u>7470A</u>
Analyst: <u>PDM</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG392029-05	HY.031412.084915	03/14/12 08:49	01
40MW7GW030612	L12030257-01	HY.031412.085433	03/14/12 08:54	01
40LFMW01GW030612	L12030257-03	HY.031412.085810	03/14/12 08:58	01
40LFMW01MSGW030612	L12030257-04	HY.031412.085954	03/14/12 08:59	01
40LFMW01MSDGW030612	L12030257-05	HY.031412.090137	03/14/12 09:01	01
40DUPGW030612	L12030257-06	HY.031412.090321	03/14/12 09:03	01
40FB030612	L12030257-07	HY.031412.090850	03/14/12 09:08	01
40EQR030612	L12030257-08	HY.031412.091033	03/14/12 09:10	01
40MW5GW030712	L12030257-09	HY.031412.091225	03/14/12 09:12	01
40EQR030712	L12030257-10	HY.031412.091412	03/14/12 09:14	01
40MW6GW030712	L12030257-11	HY.031412.091644	03/14/12 09:16	01
DUP	WG392029-09	HY.031412.120438	03/14/12 12:04	01

Report Name: BLANK_SUMMARY
PDF File ID: 2338612
Report generated 03/15/2012 14:15



METHOD BLANK REPORT

Login Number: L12030257 Prep Date: 03/13/12 14:14 Sample ID: WG392029-04
Instrument ID: HYDRA Run Date: 03/14/12 08:47 Prep Method: 7470A
File ID: HY.031412.084733 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG392134 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA - 14-MAR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2338613

15-MAR-2012 14:15



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG392029-05
Instrument ID: HYDRA Run Time: 08:49 Prep Method: 7470A
File ID: HY.031412.084915 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG392134 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD50552 Cal ID: HYDRA - 14-MAR-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00382	95.5	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2338614
Report generated: 03/15/2012 14:15



MS/MSD REPORT

Loginnum: L12030257 Cal ID: HYDRA- 14-MAR-12 Worknum: WG392134
Instrument ID: HYDRA Contract #: _____ Prep Method: 7470A
Parent ID: L12030257-03 File ID: HY.031412.085810 Dil: 1 Method: 7470A
Sample ID: L12030257-04 MS File ID: HY.031412.085954 Dil: 1 Matrix: Water
Sample ID: L12030257-05 MSD File ID: HY.031412.090137 Dil: 1 Units: mg/L

Analyte	Parent	MS	MS	MS	MSD	MSD	MSD	%RPD	%Rec Limits	RPD Limit	Q
		Spiked	Found	%Rec	Spiked	Found	%Rec				
Mercury	U	0.00444	0.00437	98.2	0.00444	0.00434	97.7	0.510	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
PDF File ID: 2338615
Report generated 03/15/2012 14:15



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12030257

Worknum: WG392134

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG392134-01

File ID: HY.031412.085616

Dil: 1

Units: ug/L

Sample ID: L12030257-01

File ID: HY.031412.085433

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
MERCURY	1.01		0	U	1	101.0	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2338610
Report generated: 03/15/2012 14:15



Login Number: L12030257
Analytical Method: 7470A
ICAL Worknum: WG392204

Workgroup (AAB#): WG392134
Instrument ID: HYDRA
Initial Calibration Date: 03/14/2012 08:36

Analyte	WG392204-01		WG392204-02		WG392204-03		WG392204-04		WG392204-05		WG392204-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	139	0.200	957	1.00	3916	2.00	7349	5.00	18767	10.0	37883

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2338616
Report generated 03/15/2012 14:15



Login Number: L12030257
Analytical Method: 7470A
ICAL Worknum: WG392204

Workgroup (AAB#): WG392134
Instrument ID: HYDRA
Initial Calibration Date: 03/14/2012 08:36

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; $R < 0.995$

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2338616
Report generated 03/15/2012 14:15



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG392204-08
Instrument ID: HYDRA Run Time: 08:41 Method: 7470A
File ID: HY.031412.084146 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG392134 Cal ID: HYDRA - 14-MAR-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2338618
Report generated 03/15/2012 14:15



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG392204-10
Instrument ID: HYDRA Run Time: 08:45 Method: 7470A
File ID: HY.031412.084550 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG392134 Cal ID: HYDRA - 14-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2338620
Report generated 03/15/2012 14:15



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG392204-12
Instrument ID: HYDRA Run Time: 09:06 Method: 7470A
File ID: HY.031412.090646 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG392134 Cal ID: HYDRA - 14-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2338620
Report generated 03/15/2012 14:15



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG392204-14
Instrument ID: HYDRA Run Time: 09:29 Method: 7470A
File ID: HY.031412.092918 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG392134 Cal ID: HYDRA - 14-MAR-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2338620
Report generated 03/15/2012 14:15



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG392204-07
Instrument ID: HYDRA Run Time: 08:40 Method: 7470A
File ID: HY.031412.084000 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG392134 Cal ID: HYDRA - 14-MAR-12
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.04	102	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2338617
Report generated 03/15/2012 14:15



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG392204-09
Instrument ID: HYDRA Run Time: 08:43 Method: 7470A
File ID: HY.031412.084337 Analyst: PDM QC Key: DOD4
Workgroup (AAB#): WG392134 Cal ID: HYDRA - 14-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00206	mg/L	103	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2338619
Report generated 03/15/2012 14:15



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG392204-11
Instrument ID: HYDRA Run Time: 09:05 Method: 7470A
File ID: HY.031412.090504 Analyst: PDM QC Key: DOD4
Workgroup (AAB#): WG392134 Cal ID: HYDRA - 14-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00192	mg/L	96.0	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2338619
Report generated 03/15/2012 14:15



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12030257 Run Date: 03/14/2012 Sample ID: WG392204-13
Instrument ID: HYDRA Run Time: 09:27 Method: 7470A
File ID: HY.031412.092736 Analyst: PDM QC Key: DOD4
Workgroup (AAB#): WG392134 Cal ID: HYDRA - 14-MAR-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00208	mg/L	104	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2338619
Report generated 03/15/2012 14:15



VOC Calibration Verification for SDG L12030257

Calibration: WG389416 HPMS6 2/13/12

Average RF

Int. Std. = 25

33

59

84

Surr

Conc.	Internal Area #1	Internal Area #2	Internal Area #3	Chloroform		Toluene		Bromobenzene		4-BFB	
				Area	RRF	Area	RRF	Area	RRF	Area	RRF
0.3	824637	567701	265392	5489	0.555			2704	0.849		
0.4	729144	524062	257949	6479	0.555	11840	1.412	2972	0.720		
1	716710	502534	256346	14358	0.501	27962	1.391	6096	0.595		
2	707738	504569	253551	30104	0.532	61830	1.532	15665	0.772		
5	718458	511923	260186	76728	0.534	153648	1.501	38937	0.748	24054	0.924
20	720889	518531	268463	326092	0.585	667869	1.610	172807	0.805	101122	0.942
50	735566	526379	280639	839727	0.571	1747061	1.660	464880	0.828	257575	0.918
100	743316	540718	288192	1685049	0.567	3587129	1.659	953334	0.827	522948	0.907
200	758522	550456	285264	3564995	0.587	7531761	1.710	1994954	0.874	1067754	0.936
300	773999	547193	269354								
Multiplier				1		1		1		1	
AveRF				0.552		1.55918		0.7798		0.92541	
RSD				4.701		7.64291		10.9041		1.48802	

WG392404

CCV

ICV 2/13/2012	Chloroform	Chlorobenzene	Bromobenzene	CCV
Int. Std. Response	743014	540626	286964	
Analyte Response	822692	1156212	482013	
Analyte Concentration	50	50	50	
Int. Std. Concentration	25	25	25	
CCRF	0.554	1.069	0.840	
Ave RF	0.552	1.0692	0.7798	
Calc'd Concentration	50.2	53.1	53.9	
CCV %D	0.313	6.20	7.70	

Chloroform	Ethylbenzene	1,4-DCB
597692	412922	223290
649576	468487	666082
50	50	50
25	25	25
0.543	0.567	1.492
0.552	0.52968	1.49307
49.2	53.5	49.9
-1.54	7.10	-0.104

12/1/2011	MB	LCS	Dilution/DF	-07	-08	-09	-10	-11
Final Volume (mL)	5	5	5	5	5	5	5	5
Sample Aliquot (mL)	5	5	5	5	5	5	5	5
Internal STD Response	529668	553064	553064	364576	156329	472375	469666	308652
Surr Response	146148	139163	139163	482981	134588	132328	120179	408216
Surrogate #	1	2	3	4	5	6	7	8
Calibration R.F.	0.307	0.30138	1.37375	0.92541	0.307	0.30138	1.37375	1.37375
Surr spike Conc. (ug/L)	25	25	25	25	25	25	25	25
Surr spike Conc. (ug/L)	25	25	25	25	25	25	25	25
Surr Conc. (ug/L)	22.5	20.9	24.1	23.3	22.8	21.2	24.1	24.1
Surr %REC	90	83	96	93	91	85	96	96
TC								
TCE								
Internal STD Response	553064	547224	547224	321004	472375	469666	459336	459336
TC Response	129486	129486	129486	10479	17831	1626	2806	2806
Calibration R.F.	0.2876	0.051	1.55918	0.051	0.552	0.051	0.552	0.552
TC Conc. (ug/L)	20.352	1.770	0.523	1.697	0.277	0.277	0.277	0.277
Amount Spiked	20	20	20	20	20	20	20	20
%R	101.76							
RPD								

Regression Calculator for a Linear RF Curve - Conc. Ratio On X-Axis HPMS 6 WG389416 2-Hexanone

	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10
Counts Analyte	7803	46550	136077	279273	572174	828518	0	0	0	0
Counts IS	511923	518531	526379	540718	550456	547193	1	1	1	1
Conc Analyte	5.0	20.0	50.0	100.0	200.0	300.0	0	0	0	0
Conc IS	25.0	25.0	25.0	25.0	25.0	25.0	1	1	1	1
RF	0.07621	0.11222	0.12926	0.12912	0.12993	0.12618				
x-axis	0.200	0.800	2.000	4.000	8.000	12.000	0.000	0.000	0.000	0.000
y-axis	0.01524	0.08977	0.25852	0.51649	1.03945	1.51412	0.00000	0.00000	0.00000	0.00000

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

Lab used weighted curve; see WLR spreadsheet for ICAL calcs.

Offset b	Slope m1	r ²
-1.0231E-02	1.2944E-01	0.99951

Lab reported -1.02E-02 1.29E-01 1.000

WG392404	ICV	2/13	CCV
Counts Analyte	137246	88919	
Counts IS	540626	412922	
Conc IS	25	25	
Amount On Col (ug/L)	51.0074	43.5669	
True value	50	50	
%R	102.01	87.13	
%D	2.01	-12.87	

WG392404	LCS
Counts Analyte	29350.0
Counts IS	367803
Conc IS	25
Amount On Col (ug/L)	17.3882
Dilution factor	1
Sample Aliquot (mL)	5
Final Volume (mL)	5
Final Conc (ug/L)	17.4
Amount Spiked	20
%Rec	86.9
RPD	

$$C_x = C_{IS} \left[\frac{(A_x)}{(A_{IS})(ml)} - \frac{b}{ml} \right]$$

Regression Calculator for a Quadratic RF Curve - Conc. Ratio on X-Axis HPMS 6 WG389416 Styrene

	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10	ICAL11	ICAL12
Counts Analyte	5843	15170	35160	93879	438806	1209727	2518268	5361208	0	0	0	0
Counts IS	524062	502534	504569	511923	518531	526379	540718	550456	1	1	1	1
Conc Analyte	0.4	1.0	2.0	5.0	20.0	50.0	100.0	200.0	0	0	0	0
Conc IS	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	1	1	1	1
x-axis	0.016	0.040	0.080	0.200	0.800	2.000	4.000	8.000	0.000	0.000	0.000	0.000
x-axis^2	0.0003	0.0016	0.0064	0.0400	0.6400	4.0000	16.0000	64.0000	0.0000	0.0000	0.0000	0.0000
y-axis	0.0111	0.0302	0.0697	0.1834	0.8462	2.2982	4.6573	9.7396	0.0000	0.0000	0.0000	0.0000
RF	0.6968	0.7547	0.8710	0.9169	1.0578	1.1491	1.164	1.217				

Perform Regression

Perform Regression
(Forced Zero)

Lab used weighted curve;
Unable to reproduce
coefficients.

Coefficients			
b	m1	m2	r ²
-2.4600E-02	1.1236E+00	1.2111E-02	0.9997
Lab reported	-1.10E-02	1.10E+00	1.10E-02

Lab reported

	ICV	CCV
Counts Analyte	1235703	915015
Counts IS	540626	412922
Conc IS	25	25
Amount On Col	50.312	48.824
True Value	50	50
%R	100.62	97.65
%D	0.62	-2.35

WG392404		LCS
Counts Analyte	310838.0	
Counts IS	367803	
Conc IS	25	
Amount On Col (ug/L)	19.192	
Dilution factor	1	
Sample Aliquot (mL)	5	
Final Volume (mL)	5	
Final Conc (ug/L)	19.2	
Amount Spiked	20	
%Rec	96.0	
RPD		

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

$$C_x = \frac{-m1 \pm \sqrt{m1^2 - 4 \times m2 \times \left(b - \frac{(A_x)}{(A_{IS})}\right)}}{2 \times m2} \times C_{IS}$$

VOC Calibration Verification for SDG L12030257

Calibration: WG391464 HPMS8 3/6/12

Average RF

Int. Std. = 25

33

Surr

76

91

Conc.	Internal Area #1	Internal Area #2	Internal Area #3	Area	Chloroform	Toluene-d8	Isopropylbenzene	sec-Butylbenzene
0.3	639693	542873	300792	3446	0.449			
0.4	622969	537113	299470	4134	0.415			
1	596380	513303	291412	9666	0.405			
2	590564	512214	292849	20632	0.437			
5	596361	510983	293217	48075	0.403	62626	1.226	14382
20	581727	509469	288179	192319	0.413	253396	1.243	72208
50	567697	512783	292993	461535	0.406	624428	1.218	205210
100	573613	516752	292322	899468	0.392	1155477	1.118	416652
200	600189	520411	286316	1933451	0.403	2305421	1.108	755108
300	569344	520921	291013					
Multiplier				1	0.5		1	1
AveRF				0.414	1.1825		0.1667	3.06903
RSD				4.357	5.447		18.748	5.4974

WG392260

ICV 3/6/2012	Acetone	m,p-Xylene	Bromobenzene
Int. Std. Response	601632	563541	319852
Analyte Response	61087	1420515	500628
Analyte Concentration	50	100	50
Int. Std. Concentration	25	25	25
CCRF	0.051	0.630	0.783
Ave RF	0.053	0.6454	0.8206
Calc'd Concentration	47.9	97.6	47.7
CCV %D	-4.212	-2.36	-4.63

Chloroform	PCE	1,4-DCB
527949	453123	251532
413867	271117	798874
50	50	50
25	25	25
0.392	0.299	1.588
0.414	0.2966	1.6185
47.3	50.4	49.1
-5.32	0.865	-1.88

12/1/2011	MB	LCS	-01	-02	-03	-04 MS	-05 MSD	-06
Dilution/DF	1	1	1	1	1	1	1	1
Final Volume (mL)	5	5	5	5	5	5	5	5
Sample Aliquot (mL)	5	5	5	5	5	5	5	5
Internal STD Response	486635	525959	439408	241041	473145	519325	441525	237098
Surr Response	123262	102171	546850	209733	120144	105534	550193	205273
Surrogate #	1	2	3	4	1	2	3	4
Calibration R.F.	0.237	0.2248	1.1825	0.8641	0.237	0.2248	1.1825	0.8641
Surr spike Conc. (ug/L)	25	25	25	25	25	25	25	25
Surr spike Conc. (ug/L)	25	25	25	25	25	25	25	25
Surr Conc. (ug/L)	26.7	21.6	26.3	25.2	26.8	22.6	26.3	25.0
Surr %REC	107	86	105	101	107	90	105	100
TC	1,1-DCE	Chloroform	TC	TC	TC	Toluene	Toluene	TC
Internal STD Response	525959	514963			446041	441525		
TC Response	131016	16560			482403	470151		
Calibration R.F.	0.350	0.414			1.3552	1.3552		
TC Conc. (ug/L)		17.79	1.94		19.951	19.643		
Amount Spiked		20			20	20		
%R		88.96			99.76	98.22		
RPD					1.55			

Regression Calculator for a Linear RF Curve - Conc. Ratio On X-Axis WG391464 HPMS8 3/6/12 Bromoform

	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10
Counts Analyte	2505	5888	14382	72208	205210	416652	755108	0	0	0
Counts IS	513303	512214	510983	509469	512783	516752	520411	1	1	1
Conc Analyte	1	2	5	20	50	100	200	0	0	0
Conc IS	25	25	25	25	25	25	25	1	1	1
RF	0.12200	0.14369	0.14073	0.17716	0.20009	0.20157	0.18137	0.000	0.000	0.000
x-axis	0.040	0.080	0.200	0.800	2.000	4.000	8.000	0.000	0.000	0.000
y-axis	0.00488	0.01150	0.02815	0.14173	0.40019	0.80629	1.45098	0.00000	0.00000	0.00000

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

Lab used weighted curve; see WLR spreadsheet for ICAL calcs.

Offset b	Slope m1	r ²
-3.6223E-03	1.8975E-01	0.99662

Lab reported -3.62E-03 1.90E-01 0.997

$$C_x = C_{IS} \left[\frac{(A_x)}{(A_{IS})} \left(\frac{ml}{ml} \right) - \frac{b}{ml} \right]$$

WG392260	ICV	3/12	CCV
Counts Analyte	205883	178477	
Counts IS	563541	453123	
Conc IS	25	25	
Amount On Col (ug/L)	48.61	52.37	
True value	50	50	
%R	97.22	104.74	
%D	-2.78	4.74	

WG392260	LCS	-04 MS	-05 MSD
Counts Analyte	62221.0	63093.0	63176.0
Counts IS	445946	446041	441525
Conc IS	25	25	25
Amount On Col (ug/L)	18.8601	19.1138	19.3291
Dilution factor	1	1	1
Sample Aliquot (mL)	5	5	5
Final Volume (mL)	5	5	5
Final Conc (ug/L)	18.86	19.11	19.33
Amount Spiked	20	20	20
%Rec	94.30	95.57	96.65
RPD			1.12

Regression Calculator for a Quadratic RF Curve - Conc. Ratio on X-Axis WG391464 HPMS8 3/6/12 Methylene chloride

	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10	ICAL11	ICAL12
Counts Analyte	4869	9926	16591	33960	127988	310727	585123	1159063	0	0	0	0
Counts IS	622969	596380	590564	596361	581727	567697	573613	600189	1	1	1	1
Conc Analyte	0.4	1.0	2.0	5.0	20.0	50.0	100.0	200.0	0	0	0	0
Conc IS	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	1	1	1	1
x-axis	0.016	0.040	0.080	0.200	0.800	2.000	4.000	8.000	0.000	0.000	0.000	0.000
x-axis^2	0.0003	0.0016	0.0064	0.0400	0.6400	4.0000	16.0000	64.0000	0.0000	0.0000	0.0000	0.0000
y-axis	0.0078	0.0166	0.0281	0.0569	0.2200	0.5473	1.0201	1.9312	0.0000	0.0000	0.0000	0.0000
RF	0.4885	0.4161	0.3512	0.2847	0.2750	0.2737	0.255	0.241				

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

Lab used weighted curve; Unable to reproduce coefficients.	Coefficients			r ²
	b	m1	m2	
Lab reported	5.8542E-03	2.7159E-01	-3.8907E-03	0.99991
	4.22E-03	2.75E-01	-4.33E-03	1.000

$$C_x = \frac{-m1 \pm \sqrt{m1^2 - 4 \times m2 \times \left(b - \frac{(A_x)}{(A_{IS})}\right)}}{2 \times m2} \times C_{IS}$$

WG392260	ICV	3/12	CCV
Counts Analyte	331186	261445	
Counts IS	601632	527949	
Conc IS	25	25	
Amount On Col	51.319	45.966	
True Value	50	50	
%R	102.64	91.93	
%D	2.64	-8.07	

WG392260	LCS	-04 MS	-05 MSD
Counts Analyte	103153.0	108190.0	107879.0
Counts IS	525959	519325	513148
Conc IS	25	25	25
Amount On Col (ug/L)	17.642	18.777	18.954
Dilution factor	1	1	1
Sample Aliquot (mL)	5	5	5
Final Volume (mL)	5	5	5
Final Conc (ug/L)	17.6	18.8	19.0
Amount Spiked	20	20	20
%Rec	88.2	93.9	94.8
RPD			0.94

SVOC Calibration Verification L12030257

Calibration: WG390746 HPMS12 2/29/2012

Average RF

Int. Std. = 40

13

43

71

Conc.	Internal Area #1	Internal Area #2	Internal Area #3	Phenol		Naphthalene		Acenaphthene	
				Area	RRF	Area	RRF	Area	RRF
3	206816	764859	450328	28726	1.852	67804	1.182	44135	1.307
10	191949	721794	419847	83329	1.736	194421	1.077	127493	1.215
15	132472	494955	292626	89134	1.794	208785	1.125	135784	1.237
25	182656	684149	404942	199027	1.743	476950	1.115	313598	1.239
50	259155	976694	587182	582702	1.799	1403663	1.150	926353	1.262
80	190491	726882	432847	677120	1.777	1717303	1.181	1171835	1.354
100	202954	769646	458048	895199	1.764	2278135	1.184	1591578	1.390
120	213393	808068	476057	1135360	1.774	2882525	1.189	2037710	1.427
AveRF				1.780		1.150		1.304	
RSD				2.04		3.56		6.03	

104

127

137

Conc.	Internal Area #4	Internal Area #5	Internal Area #6	Anthracene		Chrysene		Benzo(g,h,i)perylene	
				Area	RRF	Area	RRF	Area	RRF
3	830013	861514	828690	74691	1.200	72320	1.119	58583	0.943
10	787272	806868	767017	222684	1.131	208184	1.032	177360	0.925
15	540185	555984	530312	235988	1.165	220340	1.057	189835	0.955
25	759340	769528	732299	542858	1.144	502882	1.046	423683	0.926
50	1093911	1108946	1041164	1645799	1.204	1468296	1.059	1202356	0.924
80	818658	830496	772637	2024524	1.236	1829304	1.101	1429410	0.925
100	868009	892099	824591	2706818	1.247	2470205	1.108	1862978	0.904
120	895002	930743	840563	3433141	1.279	3159616	1.132	2153834	0.854
AveRF				1.201		1.082		0.9193	
RSD				4.32		3.47		3.29	

Surrogates

Conc.	Internal Area #1	Internal Area #1	Internal Area #2	2-Fluorophenol		Phenol-d5		Nitrobenzene-d5	
				Area	RRF	Area	RRF	Area	RRF
3	206816	206816	764859	22330	1.440	28221	1.819	30892	0.539
10	191949	191949	721794	66337	1.382	82457	1.718	90067	0.499
15	132472	132472	494955	69945	1.408	87962	1.771	96448	0.520
25	182656	182656	684149	157173	1.377	199151	1.744	216172	0.506
50	259155	259155	976694	454262	1.402	568800	1.756	610314	0.500
80	190491	190491	726882	526651	1.382	673060	1.767	730981	0.503
100	202954	202954	769646	708533	1.396	891588	1.757	946057	0.492
120	213393	213393	808068	894025	1.397	1141492	1.783	1181957	0.488
AveRF				1.398		1.764		0.506	
RSD				1.43		1.67		3.24	

Surrogates

Conc.	Internal Area #3	Internal Area #4	Internal Area #5	2-Fluorobiphenyl		2,4,6-Tribromophenol		p-Terphenyl-d14	
				Area	RRF	Area	RRF	Area	RRF
3	450328	830013	861514	58088	1.845	7805	0.125	63358	0.981
10	419847	787272	806868	168315	1.604	24009	0.122	185771	0.921
15	292626	540185	555984	181160	1.651	25137	0.124	199419	0.956
25	404942	759340	769528	412574	1.630	56997	0.120	448433	0.932
50	587182	1093911	1108946	1227804	1.673	172092	0.126	1339161	0.966
80	432847	818658	830496	1505855	1.739	211420	0.129	1659688	0.999
100	458048	868009	892099	2046757	1.787	297173	0.137	2264469	1.015
120	476057	895002	930743	2603374	1.823	376561	0.140	2900398	1.039
AveRF				1.719		0.128		0.976	
RSD				5.37		5.58		4.14	

Regression Calculator for a Linear RF Curve - Conc. Ratio On X-Axis WG390746 HPMS12 2/29/2012 4,6-Dinitro-2-methylphenol

88	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10
Counts Analyte	17675	19935	52410	155932	199921	291094	384939	0	0	0
Counts IS	787272	540185	759340	1093911	818658	868009	895002	1	1	1
Conc Analyte	10	15	25	50	80	100	120	0	0	0
Conc IS	40	40	40	40	40	40	40	1	1	1
RF	0.0980	0.09841	0.11043	0.11404	0.12210	0.13414	0.14337			
x-axis	0.250	0.375	0.625	1.250	2.000	2.500	3.000	0.000	0.000	0.000
y-axis	0.02245	0.03690	0.06902	0.14255	0.24421	0.33536	0.43010	0.00000	0.00000	0.00000

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

Offset b	Slope m1	r ²
-2.3398E-02	1.4444E-01	0.99188

Lab reported 3/15
-2.34E-02 1.44E-01 r² 0.996 0.992

$$C_x = C_{IS} \left[\frac{(A_x)}{(A_{IS})(ml)} - \frac{b}{ml} \right]$$

	ICV	3/15 CCV
Counts Analyte	148540	144476
Counts IS	765764	973586
Conc IS	40	40
Amount On Col	60.1991	47.5761
True value	50	50
%R	120.40	95.15
%D	20.40	-4.85

	LCS	-04 MS	-05 MSD
Counts Analyte	140773.0	147709.0	162168
Counts IS	910265	968012	1096367
Conc IS	40	40	40
Amount On Col (ug/L)	49.3083	48.7377	47.4427
Dilution factor	1	1	1
Sample Aliquot (mL)	1000	960	940
Final Volume (mL)	1	1	1
Final Conc (ug/L)	49.31	50.77	50.47
Amount Spiked	50.0	52.1	53.2
%Rec	98.62	97.44	94.87
RPD			0.59

Regression Calculator for a Quadratic RF Curve - Conc. Ratio on X-Axis WG390746 HPMS12 2/29/2012 2,4-Dinitrophenol

70	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10	ICAL11	ICAL12
Counts Analyte	12474	36040	117474	157128	238668	317599	0	0	0	0	0	0
Counts IS	292626	404942	587182	432847	458048	476057	1	1	1	1	1	1
Conc Analyte	15	25	50	80	100	120	0	0	0	0	0	0
Conc IS	40	40	40	40	40	40	1	1	1	1	1	1
x-axis	0.375	0.625	1.250	2.000	2.500	3.000	0.000	0.000	0.000	0.000	0.000	0.000
x-axis^2	0.1406	0.3906	1.5625	4.0000	6.2500	9.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
y-axis	0.0426	0.0890	0.2001	0.3630	0.5211	0.6671	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
RF	0.1137	0.1424	0.1601	0.1815	0.2084	0.2224						

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

Coefficients				r ²
b	m1	m2		
-1.2523E-03	1.1358E-01	3.6688E-02	0.9997	

Lab reported -1.25E-03 1.14E-01 3.67E-02 0.999

	ICV	3/15
Counts Analyte	130720	CCV
Counts IS	413585	108803
Conc IS	40	506029
Amount On Col	71.022	53.259
True Value	50	
%R	142.04	106.52
%D	42.04	6.52

	LCS	-04 MS	-05 MSD
Counts Analyte	96876.0	96834.0	109481
Counts IS	486044	512106	575961
Conc IS	40	40	40
Amount On Col (ug/L)	50.248	48.242	48.439
Dilution factor	1	1	1
Sample Aliquot (mL)	1000	960	940
Final Volume (mL)	1	1	1
Final Conc (ug/L)	50.25	50.25	51.53
Amount Spiked	50.0	52.1	53.2
%Rec	100.50	96.45	96.86
RPD			-2.09

$$C_x = \frac{-m1 \pm \sqrt{m1^2 - 4 \times m2 \times \left(b - \frac{(A_x)}{(A_{IS})}\right)}}{2 \times m2} \times C_{IS}$$

CCV Verification Worksheet AVG RF HPMS12 L12030257

$$CCRF = \frac{(Analyte Response)(IS Conc.)}{(IS Response)(Analyte Conc.)}$$

SVOC ICV # WG390746-10 02/29/2012

Int. Std. = 40

	Phenol	Naphthalene	Acenaphthene	Anthracene	Chrysene	Benzo(g,h,i)
Int. Std. Response	188008	708336	413585	765764	788996	740090
Analyte Response	435150	1088519	711150	1265777	1146488	908022
Analyte Concentration	50	50	50	50	50	50
Int. Std. Concentration	40	40	40	40	40	40
CCRF	1.8516	1.2294	1.3756	1.3224	1.1625	0.9815
Ave RF	1.780	1.150	1.304	1.201	1.082	0.9193
CCV %D	4.02	6.90	5.49	10.11	7.44	6.77

SVOC CCV # WG392250-02 03/15/2012

	Benzyl alcohol	Isophorone	2,4,6-TCP	Hexachlorobenzene	Benzo(a)anthracene	Benzo(a)pyrene
Int. Std. Response	221356	852974	506029	973586	981629	877300
Analyte Response	289220	897462	287702	301050	1477877	1337613
Analyte Concentration	50	50	50	50	50	50
Int. Std. Concentration	40	40	40	40	40	40
CCRF	1.0453	0.8417	0.4548	0.2474	1.2044	1.2198
Ave RF	0.9448	0.7674	0.4342	0.2531	1.161	1.132
CCV %D	10.63	9.69	4.75	-2.26	3.74	7.75

WG392169	MB	LCS	-01	-03	-04 MS	-05 MSD
Dilution/DF	1	1	1	1	1	1
Final Volume (mL)	1	1	1	1	1	1
Sample Aliquot (mL)	1000	1000	920	930	960	940
Internal STD Response	225730	213845	816126	523851	968012	1107070
Surr Response	465491	664906	306820	639740	247615	1085118
Surrogate #	1	2	3	4	5	6
Calibration R.F.	1.39805	1.76446	0.50560	1.71899	0.12797	0.97622
Surr spike Conc. (ug/L)	100	100	50	50	100	50
Surr spike Conc. (ug/L)	100.0	100.0	54.3	53.8	104.2	53.2
Surr Conc. ug/L	59.0	70.5	32.3	30.6	83.3	42.7
Surr %REC	59	70	59	57	80	80
	TC	Phenol	TC	TC	Chrysene	Chrysene
Internal STD Response		213845			993272	1107070
TC Response		369551			1322415	1459417
Calibration R.F.		1.780			1.082	1.082
TC Conc. (ug/L)		38.8			51.3	51.8
Amount Spiked		50			58	54
%R		77.67			88.24	96.37
RPD					1.12	

WG392169	-06	-07	-08	-09	-10	-11
Dilution/DF	1	1	1	1	1	1
Final Volume (mL)	1	1	1	1	1	1
Sample Aliquot (mL)	950	930	910	980	930	940
Internal STD Response	227577	215946	913317	441618	944490	911818
Surr Response	492191	613655	312757	509423	215607	946816
Surrogate #	1	2	3	4	5	6
Calibration R.F.	1.39805	1.76446	0.50560	1.71899	0.12797	0.97622
Surr spike Conc. (ug/L)	100	100	50	50	100	50
Surr spike Conc. (ug/L)	105.3	107.5	54.9	51.0	107.5	53.2
Surr Conc. ug/L	65.1	69.3	29.8	27.4	76.7	45.3
Surr %REC	62	64	54	54	71	85
	TC	TC	TC	TC	TC	TC
Internal STD Response						
TC Response						
Calibration R.F.						
TC Conc. (ug/L)						

PAH Calibration Verification L12030257

Calibration: WG391135 HPMS7 3/13/2012

Average RF Int. Std. = 1 3 9 13

				Naphthalene		Acenaphthene		Anthracene	
Conc.	Internal Area #1	Internal Area #2	Internal Area #3	Area	RRF	Area	RRF	Area	RRF
0.05	136288	84660	141616	8319	1.221	5298	1.252	7859	1.110
0.1	142578	80332	117982	20115	1.411	11238	1.399	16758	1.420
0.5	134537	85830	129272	81105	1.206	56631	1.320	77721	1.202
1	116459	79060	126131	138765	1.192	100560	1.272	157542	1.249
2.5	119522	85877	125927	342744	1.147	262574	1.223	383213	1.217
5	118710	73647	114207	666335	1.123	432269	1.174	667439	1.169
10	132874	88347	144236	1363100	1.026	969903	1.098	1528127	1.059
AveRF				1.189		1.248		1.204	
RSD				9.91		7.82		9.59	

				Chrysene		Benzo(b)fluoranthene	
Conc.	Internal Area #4	Internal Area #5		Area	RRF	Area	RRF
0.05	140298	139690		10078	1.437	7509	1.075
0.1	1129502	129495		20739	0.184	15869	1.225
0.5	133709	113303		91243	1.365	78267	1.382
1	126761	117891		159207	1.256	152593	1.294
2.5	125100	129432		385973	1.234	399867	1.236
5	125824	126537		733241	1.166	728471	1.151
10	141358	140545		1493259	1.056	1586002	1.128
AveRF				1.100		1.213	
RSD				38.44		8.62	

Surrogates				Nitrobenzene-d5		2-Fluorobiphenyl		p-Terpheny-d14	
Conc.	Internal Area #1	Internal Area #2	Internal Area #4	Area	RRF	Area	RRF	Area	RRF
0.05	136288	84660	140298	1829	0.268	5954	1.407		
0.1	142578	80332	1129502	4099	0.287	14935	1.859		
0.5	134537	85830	133709	18798	0.279	64567	1.505	62534	0.935
1	116459	79060	126761	29118	0.250	120046	1.518	117005	0.923
2.5	119522	85877	125100	102640	0.344	277944	1.295	285888	0.914
5	118710	73647	125824	194091	0.327	534406	1.451	561076	0.892
10	132874	88347	141358	438952	0.330	1156955	1.310	1151285	0.814
AveRF				0.298		1.478		0.896	
RSD				11.93		12.82		5.38	

Regression Calculator for a Quadratic RF Curve - Conc. Ratio on X-Axis WG391135 HPMS7 3/13/2012 p-Terphenyl-d14

70	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10	ICAL11	ICAL12
Counts Analyte	6377	13776	62534	117005	285888	561076	1151285	0	0	0	0	0
Counts IS	140298	129502	133709	126761	125100	125824	141358	1	1	1	1	1
Conc Analyte	0.05	0.1	0.5	1	2.5	5	10	0	0	0	0	0
Conc IS	1	1	1	1	1	1	1	1	1	1	1	1
x-axis	0.050	0.100	0.500	1.000	2.500	5.000	10.000	0.000	0.000	0.000	0.000	0.000
x-axis^2	0.0025	0.0100	0.2500	1.0000	6.2500	25.0000	100.0000	0.0000	0.0000	0.0000	0.0000	0.0000
y-axis	0.0455	0.1064	0.4677	0.9230	2.2853	4.4592	8.1445	0.0000	0.0000	0.0000	0.0000	0.0000
RF	0.9091	1.0638	0.9354	0.9230	0.9141	0.8918	0.814					

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

Coefficients		
b	m1	m2
-7.5974E-03	9.6240E-01	-1.4680E-02

Lab reported

$$C_x = \frac{-m1 \pm \sqrt{m1^2 - 4 \times m2 \times \left(b - \frac{(A_x)}{(A_{IS})}\right)}}{2 \times m2} \times C_{IS}$$

ICV	
Counts Analyte	
Counts IS	1
Conc IS	
Amount On Col	3
True Value	
%R	
%D	

ICV does not contain surrogates; no CCV; samples analyzed after ICAL.

	MB	LCS	-01	-03	-04 MS	-05 MSD	-06	-07	-08	-09	-10	-11
Counts Analyte	279520	327246	285108	320214	334828	280666	354452	319492	318095	348032	310973	376081
Counts IS	160989	170155	163145	155682	166082	155101	169152	164011	177352	168930	167560	188656
Conc IS	1	1	1	1	1	1	1	1	1	1	1	1
Amount On Col (ug/L)	1.865	2.072	1.878	2.220	2.175	1.946	2.263	2.099	1.928	2.224	1.997	2.150
Dilution factor	1	1	1	1	1	1	1	1	1	1	1	1
Sample Aliquot (mL)	1000	1000	930	930	1000	970	960	940	9220	980	920	930
Final Volume (mL)	1	1	1	1	1	1	1	1	1	1	1	1
Final Conc (ug/L)	1.87	2.07	2.02	2.39	2.17	2.01	2.36	2.23	0.21	2.27	2.17	2.31
Amount Spiked	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
%Rec	74.6	82.9	75.1	88.8	87.0	77.8	90.5	84.0	77.1	89.0	79.9	86.0
RPD												

CCV Verification Worksheet AVG RF HPMS7 L12030257

$$CCRF = \frac{(AnalyteResponse)(ISConc.)}{(ISResponse)(AnalyteConc.)}$$

PAH ICV # WG391135-09 03/13/2012

Int. Std. =

1

	2-Methylnaphthalene	Fluorene	Phenanthrene	Pyrene	Benzo(a)pyrene
Int. Std. Response	167447	87221	129908	132692	149996
Analyte Response	120820	113432	139702	193109	181635
Analyte Concentration	1	1	1	1	1
Int. Std. Concentration	1	1	1	1	1
CCRF	0.7215	1.3005	1.0754	1.4553	1.2109
Ave RF	0.7348	1.3290	1.1390	1.4960	1.2470
CCV %D	-1.80	-2.14	-5.58	-2.72	-2.89

WG391960	MB	LCS	-01	-03	-04 MS	-05 MSD
Dilution/DF	1	1	1	1	1	1
Final Volume (mL)	1	1	1	1	1	1
Sample Aliquot (mL)	1000	1000	930	930	1000	970
Internal STD Response	169289	96497	163145	176450	118756	155101
Surr Response	75204	221331	285108	94704	272449	280666
Surrogate #	1	2	3	1	2	3
Calibration R.F.	0.29803	1.47773	0.89576	0.29803	1.47773	0.89576
Surr spike Conc. (ug/L)	2.5	2.5	2.5	2.5	2.5	2.5
Surr spike Conc. (ug/L)	2.5	2.5	2.7	2.7	2.5	2.6
Surr Conc. ug/L	1.5	1.6	2.1	1.9	1.6	2.1
Surr %REC	59.6	62.1	78.0	72.0	62.1	80.8
	TC	Acenaphthene	TC	TC	Pyrene	Pyrene
Internal STD Response		96497			166082	155101
TC Response		72986			213536	179550
Calibration R.F.		1.248			1.496	1.496
TC Conc. (ug/L)		0.606			0.859	0.798
Amount Spiked		1.00			1.00	1.03
%R		60.6			85.9	77.5
RPD	p-Terphenyl (surr #3) results off; see quadratic spreadsheet.				7.45	

WG391960	-06	-07	-08	-09	-10	-11
Dilution/DF	1	1	1	1	1	1
Final Volume (mL)	1	1	1	1	1	1
Sample Aliquot (mL)	960	940	920	980	920	930
Internal STD Response	188080	114025	177352	189750	114978	188656
Surr Response	100103	266016	318095	105646	260799	376081
Surrogate #	1	2	3	1	2	3
Calibration R.F.	0.29803	1.47773	0.89576	0.29803	1.47773	0.89576
Surr spike Conc. (ug/L)	2.5	2.5	2.5	2.5	2.5	2.5
Surr spike Conc. (ug/L)	2.6	2.7	2.7	2.6	2.7	2.7
Surr Conc. ug/L	1.9	1.7	2.2	1.9	1.7	2.4
Surr %REC	71.4	63.1	80.1	74.7	61.4	89.0
	TC	TC	TC	TC	TC	TC
Internal STD Response						
TC Response						
Calibration R.F.						
TC Conc. (ug/L)						

Regression Calculator for a Linear RF Curve - Conc. Ratio On X-Axis WG387799 Perchlorate for SDG L12030257

01/24/2012	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10
Counts Analyte (³⁵ Cl)	9330	17600	44900	85400	174000	434000	855000	0	0	0
Counts IS	373000	379000	383000	382000	387000	391000	384000	1	1	1
Conc Analyte	0.10	0.20	0.50	1.00	2.00	5.00	10.00	0	0	0
Conc IS	5.00	5.00	5.00	5.00	5.00	5.00	5.00	1	1	1
RF	1.251	1.161	1.172	1.118	1.124	1.110	1.113			
x-axis	0.020	0.040	0.100	0.200	0.400	1.000	2.000	0.000	0.000	0.000
y-axis	0.02501	0.04644	0.11723	0.22356	0.44961	1.10997	2.22656	0.00000	0.00000	0.00000

Perform Regression

Perform Regression
(Forced Zero)

Calcs slightly off due to rounding.

Offset b	Slope m1	r ²
3.0203E-03	1.1110E+00	0.99999
2.81E-03	1.11E+00	1.00000

Lab reported

$$C_x = C_{IS} \left[\frac{(A_x)}{(A_{IS})(ml)} - \frac{b}{ml} \right]$$

LOD= 0.100
LOQ= 0.200

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

WG392282	SSV	CCB1	CCV1	QCMRL 1	CCV2	QCMRL 2	CCB2	CCV3	QCMRL 3	CCB3				
Counts Analyte (³⁵ Cl)	86000	0	86400	18000	86800	17800	0	76500	15800	0				
Counts IS	394000	370000	361000	368000	377000	379000	384000	346000	347000	346000				
Conc IS	5	5	5	5	5	5	5	5	5	5				
Amount On Col (ug/L)	0.9688	0	1.0636	0.2065	1.0226	0.1978	0	0.9815	0.1913	0				
True value	1.0	1.0	1.0	0.2	1.0	0.2	0.2	1.0	0.2	0.2				
%R	96.88	<LOD	106.36	103.27	102.26	98.89	<LOD	98.15	95.67	<LOD				
%D	-3.12		6.36	3.27	2.26	-1.11		-1.85	-4.33					
Perchlorate Conf (³⁷ Cl)	30300	0	29000	5650	29200	5980	0	27100	5830	0				
Ion Ratio	2.84	0.00	2.98	3.19	2.97	2.98	0.00	2.82	2.71	0.00				
WG392280	MB	LCS	-01	-03	-04	MS	-05	MSD	-06	-07	-08	-09	-10	-11
Counts Analyte (³⁵ Cl)	229	17600	324000	626000	623000	610000	610000	616000	0	0	68900	5120	38700	
Counts IS	367000	369000	347000	317000	315000	313000	310000	310000	356000	370000	329000	372000	323000	
Conc IS	5	5	5	5	5	5	5	5	5	5	5	5	5	
Amount On Col (ug/L)	-0.0108	0.2011	4.1887	8.8740	8.8875	8.7575	8.9295	0	0	0	0.9289	0.0484	0.5256	
Dilution factor	1	1	1	1	1	1	1	1	1	1	1	1	1	
Sample Aliquot (mL)	1	1	1	1	1	1	1	1	1	1	1	1	1	
Final Volume (mL)	1	1	1	1	1	1	1	1	1	1	1	1	1	
Final Conc (ug/L)	-0.01	0.20	4.19	8.87	8.89	8.76	8.93	0.00	0.00	0.929	0.0484	0.5256		
Amount Spiked	0.2	0.2	0.2	0.2	0.2	0.2	0.2							
%Rec	<LOD	100.53			6.78	-58.24		<LOD	<LOD	<LOD	<LOD			
RPD					-0.46									
Perchlorate Conf (³⁷ Cl)	0	6060	108000	209000	206000	208000	205000	182	0	23500	2050	13800		
Ion Ratio	0.00	2.90	3.00	3.00	3.02	2.93	3.00	0.00	0.00	2.93	2.50	2.80		
ICAL														
Perchlorate Conf (³⁷ Cl)	3010	6330	16100	29500	60300	149000	293000							
Ion Ratio	3.10	2.78	2.79	2.89	2.89	2.91	2.92							

PESTICIDE CALCULATIONS FOR SDG L12030257

Calibration: HP15 WG390888 03/01/2012

Average CF		Col F		Col F		Col F		Col R		Col R		Col R	
		4,4'-DDD		TCMX		DCB		g-Chlordane		TCMX		DCB	
Conc.		Area	CF	Area	CF	Area	CF	Area	CF	Area	CF	Area	CF
1		176400000	176400000	240000000	240000000	137200000	137200000	110300000	110300000	99410322	99410322	76212481	76212481
4		703100000	175775000	935800000	233950000	484900000	121225000	419500000	104875000	377100000	94275000	263900000	65975000
10		1792800000	179280000	2307800000	230780000	1152900000	115290000	1040100000	104010000	922100000	92210000	616100000	61610000
20		3435600000	171780000	4359400000	217970000	2115500000	105775000	2046300000	102315000	1791100000	89555000	1144900000	57245000
100		16269800000	162698000	20577600000	205776000	9945100000	99451000	9837900000	98379000	8401900000	84019000	5141800000	51418000
200		31253000000	156265000	40102400000	200512000	19793200000	98966000	19214500000	96072500	16350800000	81754000	10208700000	51043500
Multiplier		1.00		1.00		1.00		1.00		1.00		1.00	
Ave RF		170366333		221498000		112984500		102658583		90203887		60583997	
RSD		5.28		7.23		13.08		4.91		7.28		15.84	

Linear regression used.

Col F ICV 03/01/2012			
	4,4'-DDD	TCMX	DCB
Analyte Response	3258700000	4219500000	2502600000
Analyte Concentration	20	20	20
CCRF	162935000	210975000	125130000
Conc. (ug/L)	19.124	19.050	22.150
Ave RF	170400000	221498000	112984500
CCV %D	-4.38	-4.75	10.75

Col F 3/13/12 CCV 16:09			
	4,4'-DDD	TCMX	DCB
Analyte Response	1677500000	2198300000	1151600000
Analyte Concentration	10	10	10
CCRF	167750000	219830000	115160000
Conc. (ug/L)	9.844	9.925	10.193
Ave RF	170400000	221498000	112984500
CCV %D	-1.56	-0.75	1.93

Col F 3/13/12 CCV 21:49			
	4,4'-DDD	TCMX	DCB
Analyte Response	3235700000	4074900000	2006500000
Analyte Concentration	20	20	20
CCRF	161785000	203745000	100325000
Conc. (ug/L)	18.989	18.397	17.759
Ave RF	170400000	221498000	112984500
CCV %D	-5.06	-8.01	-11.20

Col R ICV 03/01/2012			
	alpha-BHC	TCMX	DCB
Analyte Response	2573900000	1712400000	1096400000
Analyte Concentration	20	20	20
CCRF	128695000	85620000	54820000
Conc. (ug/L)	19.396	18.984	18.097
Ave RF	132700000	90203887	60583997
CCV %D	-3.02	-5.08	-9.51

Col R 3/13/12 CCV 16:37			
	4,4'-DDD	TCMX	DCB
Analyte Response	839800000	986300000	634300000
Analyte Concentration	10	10	10
CCRF	839800000	986300000	634300000
Conc. (ug/L)	10.754	10.934	10.470
Ave RF	780900000	90203887	60583997
CCV %D	7.54	9.34	4.70

Col R 3/13/12 CCV 22:18			
	Dieldrin	TCMX	DCB
Analyte Response	1905700000	1759300000	1135800000
Analyte Concentration	20	20	20
CCRF	95285000	87965000	5679000
Conc. (ug/L)	19.681	19.504	1.875
Ave RF	968300000	90203887	60583997
CCV %D	-1.60	-2.48	-90.63

Col R 3/14/12 CCV 03:58			
	Heptachlor	TCMX	DCB
Analyte Response	1149500000	947700000	633600000
Analyte Concentration	10	10	10
CCRF	114950000	94770000	63360000
Conc. (ug/L)	10.604	10.506	10.458
Ave RF	108400000	90203887	60583997
CCV %D	6.04	5.06	4.58

Col R												
WG391981 Dilution/DF												
Final Volume (mL)												
Sample Aliquot (mL)												
	MB	LCS	-01	-03	-04 MS	-05 MSD	-06	-07	-08	-09	-10	-11
1	1	1	1	1	1	1	1	1	1	1	1	1
10	10	10	10	10	10	10	10	10	10	10	10	10
1000	1000	1000	960	920	980	960	100	940	920	970	950	960
Surrogate	DCB	TCMX	TCMX	TCMX	TCMX	TCMX	TCMX	TCMX	TCMX	TCMX	TCMX	TCMX
Surr Response	884800000	1018600000	1413200000	1377300000	1327600000	1203300000	1409400000	1206800000	1316300000	1290800000	1171000000	1212200000
Calibration RF	60583997	90203887	90203887	90203887	90203887	90203887	90203887	90203887	90203887	90203887	90203887	90203887
Surr spike Conc. (ug/L)	20	20	20	20	20	20	20	20	20	20	20	20
Surr spike Conc. (ug/L)	0.200	0.200	0.208	0.217	0.204	0.208	2.000	0.213	0.217	0.206	0.211	0.208
Surr Conc. (ug/L)	0.146	0.113	0.163	0.166	0.150	0.139	1.562	0.142	0.159	0.148	0.137	0.140
Surr %REC	73.0	56.5	78.3	76.3	73.6	66.7	78.1	66.9	73.0	71.5	64.9	67.2
TC Response	TC	4,4'-DDT	TC	4,4'-DDD	Endrin	Endrin	TC	TC	TC	TC	TC	TC
Calibration RF	3999100000		182200000	3936100000	4006300000							
TC Conc. (ug/L)	75880000		78090000	87150000	87150000							
Final Conc (ug/L)	52.703		2.333	45.165	45.970							
Amount Spiked	50.00		0.46	0.46	0.48							
%R	105.41			90.37	91.91							
RPD				3.83								

Col F												
WG391981 Dilution/DF												
Final Volume (mL)												
Sample Aliquot (mL)												
	MB	LCS	-01	-03	-04 MS	-05 MSD	-06	-07	-08	-09	-10	-11
1	1	1	1	1	1	1	1	1	1	1	1	1
10	10	10	10	10	10	10	10	10	10	10	10	10
1000	1000	1000	960	920	980	960	100	940	920	970	950	960
Surrogate	TCMX	DCB	TCMX	DCB	TCMX	DCB	TCMX	DCB	TCMX	DCB	TCMX	DCB
Surr Response	2751500000	1676200000	3220000000	1969900000	3033600000	2063900000	3247800000	1620300000	3014100000	1903900000	2711400000	1857200000
Calibration RF	221498000	112984500	221498000	112984500	221498000	112984500	221498000	112984500	221498000	112984500	221498000	112984500
Surr spike Conc. (ug/L)	20	20	20	20	20	20	20	20	20	20	20	20
Surr spike Conc. (ug/L)	0.200	0.200	0.208	0.217	0.204	0.208	2.000	0.213	0.217	0.206	0.211	0.208
Surr Conc. (ug/L)	0.124	0.148	0.151	0.190	0.140	0.190	1.466	0.153	0.148	0.174	0.129	0.171
Surr %REC	62.1	74.2	72.7	87.2	68.5	91.3	73.3	71.7	68.0	84.3	61.2	82.2
TC Response	TC	4,4'-DDT	TC	4,4'-DDD	Endrin	Endrin	TC	TC	TC	TC	TC	TC
Calibration RF	8143400000		352900000	8458700000	8733200000							
TC Conc. (ug/L)	178800000		170400000	197800000	197800000							
Final Conc (ug/L)	45.545		2.071	42.764	44.152							
Amount Spiked	50.00		0.0225	0.44	0.46							
%R	91.09			0.51	0.52							
Dual Column RPD	14.57			11.91	5.46	4.04						

Regression Calculator for a Linear CF Curve - Conc. On Y-Axis with C1 = Inverted Slope HP15 WG390888 03/01/2012 DCB Rear Column

	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10
Response Analyte	76212481.0	2639000000	616100000	1144900000	5141800000	0	0	0	0	0
Conc Analyte	1.0	4	10	20	100	0.00	0.00	0.0	0.0	0.0
CF	76212481	65975000	61610000	57245000	51418000					
x-axis	76212481	263900000	616100000	1144900000	5141800000	0	0	0	0	0
y-axis	1	4	10	20	100	0	0	0	0	0

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Response and Concentration if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

Slope ⁻¹	
C0	C1
-1.5278E+00	5.0778E+07
1.9694E-08	
r ²	
0.99962	

$$C_x = \frac{A_x}{C1} + C0$$

WG391981	ICV	CCV 16:37	CCV 22:18	CCV 03:58
Response	884800000	634300000	1135800000	633600000
Amount On Col	15.8971	10.9639	20.8402	10.9501
True value	20	10	20	10
%R	79.49	109.64	104.20	109.50
%D	-20.51	9.64	4.20	9.50

WG391981	MB	LCS	-01	-03	-04 MS	-05 MSD	-06	-07	-08	-09	-10	-11
Response	884800000	936200000	738900000	1093800000	888600000	1150100000	1066700000	876000000	885000000	1067600000	934500000	1044200000
Amount On Col	15.897	16.909	13.024	20.013	15.972	21.122	19.479	15.724	15.901	19.497	16.876	19.036
Dilution factor	1	1	1	1	1	1	1	1	1	1	1	1
Final Volume (mL)	10	10	10	10	10	10	10	10	10	10	10	10
Sample Aliquot (mL)	1000	1000	960	920	980	960	100	940	920	970	950	960
Final Conc (ug/L)	0.159	0.169	0.136	0.218	0.163	0.220	1.948	0.167	0.173	0.201	0.178	0.198
Amount Spiked	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
%Rec	79.49	84.55	65.12	100.07	79.86	105.61	97.40	78.62	79.51	97.49	84.38	95.18
RPD												

Pesticide Retention Time Windows HP15 WG390888 03/01/2012

Rear Column								Lab RT Windows			M2 RT Windows		
	ICAL 1	ICAL 2	ICAL 3	ICAL 4	ICAL 5	ICAL 6	Average	RT Window	Lower	Upper	RT Window	Lower	Upper
alpha-BHC	10.43	10.43	10.43	10.43	10.43	10.43	10.43	0	10.40	10.46	0.05	10.38	10.48
gamma-BHC	11.16	11.16	11.16	11.16	11.16	11.16	11.16	0.017	11.14	11.18	0.05	11.11	11.21
beta-BHC	11.35	11.35	11.35	11.35	11.35	11.35	11.35	0.017	11.33	11.37	0.05	11.30	11.40
delta-BHC	11.91	11.91	11.91	11.91	11.91	11.91	11.91	0	11.88	11.94	0.05	11.86	11.96
Heptachlor	12.02	12.03	12.03	12.03	12.03	12.03	12.03	0	12.00	12.06	0.05	11.98	12.08
Aldrin	12.63	12.63	12.63	12.63	12.63	12.63	12.63	0.017	12.61	12.65	0.05	12.58	12.68
Heptachlor epoxide	13.68	13.68	13.68	13.69	13.69	13.69	13.69	0	13.66	13.72	0.07	13.62	13.76
gamma-Chlordane	14.02	14.03	14.02	14.03	14.03	14.03	14.03	0	14.00	14.06	0.07	13.96	14.10
alpha-Chlrodane	14.28	14.28	14.28	14.29	14.28	14.28	14.28	0	14.25	14.31	0.07	14.21	14.35
Endosulfan I	14.37	14.37	14.37	14.38	14.38	14.38	14.38	0.017	14.36	14.39	0.07	14.31	14.45
4,4'-DDE	14.6	14.6	14.6	14.6	14.6	14.6	14.60	0	14.57	14.63	0.07	14.53	14.67
Dieldrin	14.85	14.85	14.85	14.86	14.85	14.86	14.85	0.017	14.84	14.87	0.07	14.78	14.92
Endrin	15.37	15.38	15.38	15.38	15.38	15.38	15.38	0	15.35	15.41	0.07	15.31	15.45
4,4'-DDD	15.59	15.59	15.59	15.59	15.59	15.59	15.59	0	15.56	15.62	0.07	15.52	15.66
Endosulfan II	15.74	15.74	15.74	15.74	15.74	15.74	15.74	0	15.71	15.77	0.07	15.67	15.81
4,4'-DDT	16.1	16.11	16.1	16.11	16.11	16.11	16.11	0	16.08	16.14	0.07	16.04	16.18
Endrin Aldehyde	16.28	16.28	16.28	16.28	16.28	16.28	16.28	0	16.25	16.31	0.07	16.21	16.35
Endosulfan Sulfate	16.69	16.69	16.69	16.69	16.69	16.69	16.69	0	16.66	16.72	0.07	16.62	16.76
Methoxychlor	17.09	17.09	17.09	17.09	17.09	17.09	17.09	0	17.06	17.12	0.07	17.02	17.16
Endrin Ketone	17.4	17.4	17.4	17.4	17.4	17.4	17.40	0.017	17.38	17.42	0.07	17.33	17.47
TCMX	9.07	9.07	9.07	9.07	9.07	9.07	9.07	0.017	9.05	9.09	0.05	9.02	9.12
DCB	18.83	18.83	18.83	18.84	18.84	18.84	18.84	0	18.81	18.87	0.1	18.74	18.94

Rear Column								Lab RT Windows			M2 RT Windows		
	ICAL 1	ICAL 2	ICAL 3	ICAL 4	ICAL 5	ICAL 6	Average	RT Window	Lower	Upper	RT Window	Lower	Upper
Tox 1	14.82	14.82	14.82	14.82	14.82	14.82	14.82		14.79	14.85	0.07	14.75	14.89
Tox 2	15.88	15.88	15.88	15.88	15.88	15.88	15.88		15.85	15.91	0.07	15.81	15.95
Tox 3	17.02	17.02	17.02	17.02	17.02	17.02	17.02		16.99	17.05	0.07	16.95	17.09
Tox 4	17.53	17.54	17.53	17.53	17.53	17.53	17.53		17.50	17.56	0.07	17.46	17.60
Tox 5	17.76	17.76	17.76	17.76	17.76	17.76	17.76		17.73	17.79	0.07	17.69	17.83

CALCULATION WORKSHEET FOR 6010 METALS WATER RESULTS FOR SDG L12030257

Water Sample Calculations:

	MDL (mg/L)	CRQL (mg/L)		MB		LCS		-01		-03		-04 MS		-05 MSD	
WG391918	Final Volume (ml) Sample Aliquot (ml)			50		50		50		50		50		50	
				mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
				ug/L DF	1	ug/L DF	1	ug/L DF	1	ug/L DF	1	ug/L DF	1	ug/L DF	1
Al	0.05	0.10		-0.00323	U	4.9231	4.92	0.34363	0.344	0.12277	0.123	5.1201	5.120	5.0298	5.030
As	0.01	0.01		0.00013	U	0.2032	0.20	-0.00025	U	-0.00011	U	0.2055	0.206	0.20232	0.202
Ba	0.01	0.01		0.00012	U	0.49322	0.49	0.14033	0.140	0.09375	0.0938	0.58718	0.587	0.58289	0.583
Be	0.01	0.01		0.00001	U	0.02529	0.03	0.00002	U	0.00011	U	0.02544	0.0254	0.02534	0.0253
Cd	0.01	0.01		0.00004	U	0.02522	0.03	0.00062	U	0.00047	U	0.02594	0.0259	0.02566	0.0257
Cd	0.10	0.20		-0.00206	U	4.8494	4.85	80.6	80.600	71.351	71.351	76.505	76.505	75.965	75.965
Cr	0.01	0.02		-0.00014	U	0.25219	0.25	0.00814	U	0.00069	U	0.24579	0.246	0.24459	0.245
Co	0.01	0.02		0.00013	U	0.1034	0.10	0.00034	U	0.00006	U	0.10235	0.102	0.140094	0.140
Cu	0.01	0.02		-0.00031	U	0.25955	0.26	0.00143	U	0.00054	U	0.25817	0.258	0.25455	0.255
Fe	0.05	0.10		-0.00469	U	1.9641	1.96	0.26349	0.263	0.09303	0.0930	2.0532	2.053	2.0398	2.040
Pb	0.00	0.01		0.00007	U	0.25471	0.25	-0.00017	U	-0.00044	U	0.25278	0.253	0.24835	0.248
Mg	0.25	0.50		0.00974	U	5.1701	5.17	36.073	36.073	28.069	28.069	32.852	32.852	32.844	32.844
Mn	0.01	0.01		0.00001	U	0.49917	0.50	0.00982	0.00982	0.0006	U	0.258	0.258	0.25876	0.259
Ni	0.02	0.04		-0.00038	U	0.25439	0.25	0.0011	U	-0.00092	U	0.2501	0.250	0.24698	0.247
K	0.50	1.00		-0.08811	U	24.612	24.61	1.7224	1.722	0.88498	0.885	25.773	25.773	25.626	25.626
Ag	0.01	0.01		-0.00027	U	0.20138	0.20	-0.00009	U	-0.00025	U	0.19621	0.196	0.19484	0.195
Na	0.25	0.50		-0.15282	U	25.369	25.37	8.5441	8.544	7.6872	7.687	33.756	33.756	33.569	33.569
V	0.01	0.01		0.00011	U	0.50811	0.51	0.00124	U	0.00053	U	0.50181	0.502	0.50076	0.501
Zn	0.01	0.02		0.00172	U	0.52041	0.52	0.00426	U	0.00288	U	0.51175	0.512	0.50752	0.508

	MDL (mg/L)	CRQL (mg/L)		-06		-07		-08		-09		-10		-11	
WG391918	Final Volume (ml) Sample Aliquot (ml)			50		50		50		50		50		50	
				mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
				ug/L DF	1	ug/L DF	1	ug/L DF	1	ug/L DF	1	ug/L DF	1	ug/L DF	1
Al	0.05	0.10		0.11219	0.112	0.00003	U	0.0037	U	0.22138	0.221	-0.00763	U	0.21025	0.210
As	0.01	0.01		-0.00114	U	0.0005	U	0.00101	U	0.00004	U	0.00032	U	0.00046	U
Ba	0.01	0.01		0.09445	0.0945	0.00027	U	0.00004	U	0.0575	0.0575	0.00011	U	0.0492	0.0492
Be	0.01	0.01		0.00012	U	0.00003	U	0.00005	U	0.00004	U	0.00002	U	0.00007	U
Cd	0.01	0.01		0.00042	U	-0.00007	U	0.00001	U	0.00059	U	-0.00001	U	0.00061	U
Ca	0.10	0.20		71.276	71.276	0.02064	U	0.06221	U	93.449	93.449	0.04285	U	98.407	98.407
Cr	0.01	0.02		0.00049	U	0.00001	U	0.00013	U	0.00059	U	0.00005	U	0.00053	U
Co	0.01	0.02		0.00021	U	0.00009	U	0.00005	U	0.00016	U	0.00008	U	0.00021	U
Cu	0.01	0.02		0.00102	U	0.00021	U	-0.00024	U	-0.00007	U	-0.00007	U	0.00089	U
Fe	0.05	0.10		0.08753	0.0875	-0.00204	U	-0.00585	U	0.15586	0.156	-0.00446	U	0.15465	0.155
Pb	0.00	0.01		-0.00016	U	-0.00042	U	-0.00177	U	-0.00068	U	-0.00147	U	0.00095	U
Mg	0.25	0.50		27.792	27.792	0.01159	U	0.01073	U	33.529	33.529	0.01487	U	36.105	36.105
Mn	0.01	0.01		0.00066	U	-0.00005	U	-0.00016	U	0.00029	U	-0.00054	U	0.00053	U
Ni	0.02	0.04		-0.00037	U	-0.00067	U	-0.00036	U	-0.00032	U	-0.00063	U	0.00028	U
K	0.50	1.00		0.94251	0.943	-0.02512	U	-0.01969	U	1.1585	1.159	-0.0619	U	1.0202	1.020
Ag	0.01	0.01		-0.00039	U	0.0004	U	-0.00017	U	-0.00017	U	-0.00054	U	-0.00036	U
Na	0.25	0.50		7.8634	7.863	-0.06808	U	-0.08515	U	4.7861	4.786	-0.16034	U	4.4005	4.401
V	0.01	0.01		0.00051	U	0.00047	U	0.00024	U	0.0007	U	0.00016	U	0.00069	U
Zn	0.01	0.02		0.00283	U	0.00255	U	0.0024	U	0.00286	U	0.00218	U	0.00323	U

CALCULATION WORKSHEET FOR METALS RESULTS FOR SDG L12030257

6010 Water:

				9:48	14:17	15:07	15:48
03/12/12	ICV	ICSA	ICSAB	CCV	CCV	CCV	CCV
Analyte	Ba	Al	Ca	Fe	Pb	Na	V
True Conc	1.0	250.0	250.0	4.0	0.5	50.0	1.0
Reported Conc	1.0	255	251	4.0	0.5	51.3	1.0
%D	0.69	2.05	0.58	0.18	1.31	2.57	1.06
%R	100.7	102.1	100.6	100.2	101.3	102.6	101.1

03/12/12	CRI								
Analyte	Al	As	Ba	Be	Cd	Ca	Cr	Co	Cu
True Conc									
Reported Conc									
%D									
%R									

03/12/12	CRI								
Analyte	Fe	Pb	Mg	Mn	Ni	K	Ag	Na	V
True Conc									
Reported Conc									
%D									
%R									

CALCULATION WORKSHEET FOR 6020 METALS WATER RESULTS FOR SDG L12030257

Water Sample Calculations:

	MDL (mg/L)	CRQL (mg/L)		MB		LCS		-01		-03		-04 MS		-05 MSD	
WG391810	Final Volume (ml) Sample Aliquot (ml)			100		100		100		100		100		100	
				40		40		40		40		40		40	
	ug/L	mg/L	1	ug/L	DF	mg/L	1	ug/L	DF	mg/L	1	ug/L	DF	mg/L	1
	DF														
Sb	0.00050	0.0010	0.0027	U	22.6003	0.0565	0.0338	U	0.102	U	25.5989	0.0640	27.6241	0.0691	
As	0.00050	0.0010	-0.0164	U	22.8137	0.0570	0.0613	U	0.0678	U	25.8649	0.0647	27.2098	0.0680	
Ba	0.00150	0.0030	-0.004	U	23.7356	0.0593	58.0379	0.1451	37.6343	0.0941	66.5977	0.1665	66.5609	0.1664	
Cd	0.00030	0.0006	0.0191	U	23.5216	0.0588	0.0258	U	0.0229	U	26.3036	0.0658	27.0822	0.0677	
Cr (52)	0.00100	0.0020	0.0552	U	23.5307	0.0588	3.6613	0.0092	1.4975	0.0037	29.3938	0.0735	28.8242	0.0721	
Co	0.00050	0.0010	-0.0113	U	25.0084	0.0625	0.1181	U	0.0645	U	28.2168	0.0705	27.1676	0.0679	
Cu	0.00100	0.0020	0.0058	U	24.5413	0.0614	0.5762	0.0014	0.3567	U	26.5759	0.0664	26.9587	0.0674	
Pb (208)	0.00050	0.0010	-0.0027	U	23.6526	0.0591	0.1292	U	0.0493	U	26.9697	0.0674	27.2357	0.0681	
Mn	0.00100	0.0020	-0.0012	U	24.341	0.0609	4.3254	0.0108	0.6088	0.0015	28.1777	0.0704	28.41	0.0710	
Ni	0.00020	0.0040	0.0241	U	25.3505	0.0634	2.2169	0.0055	1.2894	0.0032	28.9419	0.0724	28.4369	0.0711	
Se (82)	0.00050	0.0010	-0.0812	U	23.1886	0.0580	0.1717	U	0.1777	U	25.7311	0.0643	26.5976	0.0665	
Ag	0.00050	0.0010	0.0017	U	22.6632	0.0567	0.0258	U	0.0068	U	25.5651	0.0639	26.9285	0.0673	
Tl (203)	0.00010	0.0002	0.0277	U	22.9038	0.0573	0.0162	U	0.0315	U	25.6989	0.0642	26.4545	0.0661	

	MDL (mg/L)	CRQL (mg/L)		-06		-07		-08		-09		-10	
WG391810	Final Volume (ml) Sample Aliquot (ml)			100	40	100	40	100	40	100	40	100	40
				ug/L	mg/L	ug/L	mg/L	ug/L	mg/L	ug/L	mg/L	ug/L	mg/L
				DF	1	DF	1	DF	1	DF	1	DF	1
Sb	0.00050	0.0010	0.0099	U	0.005	U	0.0048	U	0.007	U	0.0011	U	1
As	0.00050	0.0010	0.0367	U	-0.0045	U	0.0104	U	0.1003	U	0.0035	U	
Ba	0.00150	0.0030	37.8881	0.0947	0.0631	U	0.1051	U	22.8726	0.0572	0.0283	U	
Cd	0.00030	0.0006	0.0248	U	0.0246	U	0.0204	U	0.0211	U	0.0186	U	
Cr (52)	0.00100	0.0020	1.3119	0.0033	0.4365	0.0011	0.4271	0.0011	1.9326	0.0048	0.47	0.0012	
Co	0.00050	0.0010	0.058	U	-0.0157	U	-0.0132	U	0.0791	U	-0.0149	U	
Cu	0.00100	0.0020	0.3289	U	0.1484	U	0.1042	U	0.3102	U	0.0876	U	
Pb (208)	0.00050	0.0010	0.0347	U	0.0029	U	-0.0013	U	0.0481	U	-0.0031	U	
Mn	0.00100	0.0020	0.5015	0.0013	0.0549	U	0.1029	U	0.443	0.0011	0.0499	U	
Ni	0.00020	0.0040	1.6827	0.0042	0.049	U	0.0523	U	1.8786	0.0047	0.0524	U	
Se (82)	0.00050	0.0010	0.1645	U	-0.0082	U	-0.0371	U	0.3098	0.0008	0.0492	U	
Ag	0.00050	0.0010	0.0134	U	0.0113	U	0.0161	U	0.0052	U	0.0047	U	
Tl (203)	0.00010	0.0002	0.0104	U	0.0074	U	0.0075	U	0.0101	U	0.0064	U	

	MDL (mg/L)	CRQL (mg/L)		MB		MB RE		LCS RE		LCS		-11		-11 RE			
WG391928	Final Volume (ml) Sample Aliquot (ml)			100		100		100		100		100		100			
				40		40		40		40		40		40			
				ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF
				DF	1	DF	1	DF	1	DF	1	DF	1	DF	1	DF	1
Sb	0.00050	0.0010		-0.0002	U		24.813	0.0620			0.012	U					
As	0.00050	0.0010		0.0038	U		24.8819	0.0622			-0.0068	U					
Ba	0.00150	0.0030		-0.004	U		25.9429	0.0649			21.5133	0.0538					
Cd	0.00030	0.0006		-0.0181	U		24.7052	0.0618			-0.0134	U					
Cr (52)	0.00100	0.0020				0.0445	U			25.1485	0.0629			0.5828	0.0015		
Co	0.00050	0.0010		-0.0517	U		24.7694	0.0619				0.0179	U				
Cu	0.00100	0.0020		-0.0045	U		25.6007	0.0640			0.4564	0.0011					
Pb (208)	0.00050	0.0010		-0.0112	U		25.4781	0.0637					0.0777	U			
Mn	0.00100	0.0020		-0.0187	U		24.6386	0.0616				0.4353	0.0011				
Ni	0.00020	0.0040		0.191	0.0005		25.3535	0.0634				1.1681	0.0029				
Se (82)	0.00050	0.0010		-0.036	U		25.2757	0.0632				0.1687	U				
Ag	0.00050	0.0010		-0.0209	U		24.2681	0.0607				-0.0207	U				
Tl (203)	0.00010	0.0002		-0.0165	U		25.1057	0.0628				0.0028	U				

CALCULATION WORKSHEET FOR METALS RESULTS FOR SDG L12030257

6020 Water:

WG391810				10:45	12:18	15:23	16:20
03/09/12	ICV	ICSA	ICSAB	CCV	CCV	CCV	CCV
Analyte	Sb		Se	TI	Sb	Se	TI
True Conc	50.0		100.0	50.0	50.0	50.0	50.0
Reported Conc	49.9		105	50.3	50.7	53.6	50.5
%D	-0.24		4.75	0.64	1.45	7.04	1.07
%R	99.8		104.9	100.6	101.5	107.3	101.1

03/09/12	CRI 10:20			CRI 20:30		
Analyte	Sb	Se	TI	Sb	Se	TI
True Conc	0.400	0.400	0.080	0.400	0.400	0.080
Reported Conc	0.397	0.426	0.085	0.402	0.356	0.092
%D	-0.75	6.18	6.41	0.60	-11.64	14.39
%R	99.25	106.38	106.63	100.60	89.00	115.50

WG391928				13:45	16:07	17:16	18:05	19:01		
03/12/12	ICV	ICSA	ICSAB	CCV	CCV	CCV	CCV	CCV	ICSA	ICSAB
Analyte	Se		TI	Sb	Se	TI	Sb	Se		Se
True Conc	50.0		100.0	50.0	50.0	50.0	50.0	50.0		100.0
Reported Conc	47.7		108	51.0	48.9	49.5	50.5	49.3		101
%D	-4.70		8.08	1.94	-2.30	-0.98	0.94	-1.43		0.94
%R	95.4		108.4	102.0	97.7	99.0	100.9	98.6		100.9

03/12/12	CRI (13:13)			CRI (19:54)		
Analyte	Sb	Se	TI	Sb	Se	TI
True Conc	0.400	0.400	0.080	0.400	0.400	0.080
Reported Conc	0.402	0.368	0.067	0.3996	0.510	0.109
%D	0.45	-8.47	-18.28	-0.10	24.21	30.60
%R	100.45	91.88	83.25	99.90	127.55	136.13

TI not reported from this run.

WG391928				11:03	12:19
03/13/12	ICV	ICSA	ICSAB	CCV	CCV
Analyte	Cr		Cr	Cr	Cr
True Conc	50.0		100.0	50.0	50.0
Reported Conc	51.0		102	49.6	52.0
%D	1.92		1.88	-0.74	3.93
%R	101.9		101.9	99.3	104.0

03/13/12	CRI (10:40)	
Analyte	Cr	TI
True Conc		0.080
Reported Conc	0.778	0.071
%D		-12.34
%R		88.38

WG391928				10:12	14:52	15:23	16:01			
03/16/12	ICV	ICSA	ICSAB	CCV	CCV	ICSA	ICSAB	CCV	CCV	ICSAB
Analyte	Cr		Pb	TI	Cr	Pb	TI	Cr	Pb	Cr
True Conc	50.0		100.0	50.0	50.0		100.0	50.0	50.0	100.0
Reported Conc	49.3		107	50.9	46.9		105	48.1	52.3	106
%D	-1.45		7.08	1.85	-6.47		5.34	-3.94	4.41	5.57
%R	98.6		107.3	101.9	93.7		105.5	96.1	104.5	105.7

03/16/12	CRI (09:49)			CRI (15:45)			CRI (16:16)		
Analyte	CR	Pb	TI	Cr	Pb	TI	Cr	Pb	TI
True Conc			0.080			0.080			0.080
Reported Conc	0.621	0.191	0.060	0.630	0.179	0.091	0.728	0.192	0.081
%D			-28.73			12.87			0.62
%R			74.88			113.75			100.63

CALCULATION WORKSHEET FOR METALS RESULTS FOR SDG L12030257

6010 Water:

WG391918	LCS	-04 MS	-05 MSD
Analyte	Al	Mg	Mg
True Conc	5.000	5.000	5.000
Reported Conc	4.923	32.852	32.844
Sample Conc		28.069	28.069
%R	98.46	95.66	95.50
RPD		0.02	

Analyte	MDL	-07 PS	-07	Spike Added	%R
Al	0.05	4.8946	0.00003	5.000	97.9
As	0.01	0.2028	0.0005	0.200	101.4
Ba	0.01	0.4922	0.00027	0.500	98.4
Be	0.01	0.0248	0.00003	0.0	99.4
Cd	0.01	0.0250	-0.00007	0.025	99.8
Ca	0.10	4.8388	0.02064	5.000	96.8
Cr	0.01	0.2473	0.00001	0.250	98.9
Co	0.01	0.1030	0.00009	0.100	103.0
Cu	0.01	0.2575	0.00021	0.250	103.0
Fe	0.05	1.9648	-0.00204	2.000	98.2
Pb	0.00	0.2537	-0.00042	0.250	101.5
Mg	0.25	5.1401	0.01159	5.000	102.8
Mn	0.01	0.2569	-0.00005	0.250	102.7
Ni	0.02	0.2537	-0.00067	0.250	101.5
K	0.50	24.5380	-0.02512	25.000	98.2
Ag	0.01	0.1968	0.0004	0.200	98.4
Na	0.25	25.4650	-0.06808	25.000	101.9
V	0.01	0.4971	0.00047	0.500	99.4
Zn	0.01	0.5162	0.00255	0.500	103.2

6020 Water:

WG391810 3/9/12	LCS	-04 MS	-05 MSD
Analyte	Sb	Se	Se
True Conc	0.0625	0.0625	0.0625
Reported Conc	0.0565	0.0643	0.0665
Sample Conc		0.0000	0.0000
%R	90.40	102.88	106.40
RPD		3.36	

Analyte	MDL	PS	Parent	Spike Added	%R
Sb	0.20	51.9571	0.1677	50.000	103.9
Se	0.20	49.7257	1.1249	50.000	97.2
Tl	0.04	52.3544	0.0266	50.000	104.7

WG391928 3/12/12	LCS	MS	MSD
Analyte	Tl	Sb	Sb
True Conc	0.0625	0.0625	0.0625
Reported Conc	0.0628	0.0629	0.0734
Sample Conc		0.0000	0.0000
%R	100.48	100.64	117.44
RPD		15.41	

Analyte	MDL	PS	Parent	Spike Added	%R
Sb	0.20	49.5445	0.0095	50.000	99.1
Se	0.20	50.1180	0.0793	50.000	100.2
Tl	0.04	49.6387	0.0008	50.000	99.3

WG391928 3/12/12	Parent	Dup
Analyte	Tl	Tl
Sample Conc	0.0016	0.0011
RPD	37.04	

<RL

WG391928 3/13/12	LCS
Analyte	Cr
True Conc	0.0625
Reported Conc	0.0629
%R	100.64

SERIAL DILUTION ANALYSIS for SDG L12030257

6010 Water:

Analyte	-07 ug/L	Serial Dilution 5x		IDL mg/L	50 * IDL mg/L	> 50*IDL?	RPD Limit	%D	>Limit?
	ug/L	ug/L	ug/L	mg/L	mg/L				
Al	0.00003	0.00339	0.01695	0.05	2.500		10		
As	0.0005	0.00021	0.00105	0.01	0.250		10		
Ba	0.00027	0.00034	0.0017	0.01	0.250		10		
Be	0.00003	0.00002	0.0001	0.01	0.250		10		
Cd	-0.00007	-0.00001	-0.00005	0.01	0.250		10		
Ca	0.02064	-0.00876	-0.0438	0.10	5.000		10		
Cr	0.00001	0.00001	0.00005	0.01	0.500		10		
Co	0.00009	0.00004	0.0002	0.01	0.500		10		
Cu	0.00021	0.00036	0.0018	0.01	0.500		10		
Fe	-0.00204	-0.00378	-0.0189	0.05	2.500		10		
Pb	-0.00042	-0.00105	-0.00525	0.00	0.125		10		
Mg	0.01159	-0.00136	-0.0068	0.25	12.500		10		
Mn	-0.00005	-0.00046	-0.0023	0.01	0.250		10		
Ni	-0.00067	-0.0008	-0.004	0.02	1.000		10		
K	-0.02512	-0.03399	-0.16995	0.50	25.000		10		
Ag	0.0004	-0.00017	-0.00085	0.01	0.250		10		
Na	-0.06808	-0.12	-0.6	0.25	12.500		10		
V	0.00047	0.00013	0.00065	0.01	0.250		10		
Zn	0.00255	0.00157	0.00785	0.01	0.500		10		

6020 Water:

Analyte 3/9/12	Parent ug/L	Serial Dilution 5x		IDL ug/L	50 * IDL ug/L	> 50*IDL?	RPD Limit	%D	>Limit?
	ug/L	ug/L	ug/L	ug/L	ug/L				
Sb	0.1677	0.0948	0.474	0.50000	25.00		10		
As	1.9875	0.4721	2.3605	0.50000	25.00		10		
Ba	11.2247	2.263	11.315	1.50000	75.00		10		
Cd	0.0184	0.0252	0.126	0.30000	15.00		10		
Cr	1.6169	0.6059	3.0295	1.00000	50.00		10		
Co	0.1544	0.0376	0.188	0.50000	25.00		10		
Cu	18.3669	3.884	19.42	1.00000	50.00		10		
Pb	0.0083	0.01	0.05	0.50000	25.00		10		
Mn	0.0847	0.0132	0.066	1.00000	50.00		10		
Ni	4.1225	1.0511	5.2555	2.00000	100.00		10		
Se (82)	1.1249	0.4206	2.103	0.50000	25.00		10		
Ag	0.0021	0.011	0.055	0.50000	25.00		10		
TI (203)	0.0266	0.028	0.14	0.10000	5.00		10		

Analyte 3/12/12	Parent ug/L	Serial Dilution 5x		IDL ug/L	50 * IDL ug/L	> 50*IDL?	RPD Limit	%D	>Limit?
	ug/L	ug/L	ug/L	ug/L	ug/L				
Sb	0.0095	0.0074	0.037	0.50000	25.00		10		
As	0.0715	0.0084	0.042	0.50000	25.00		10		
Ba	21.2541	3.7349	18.6745	1.50000	75.00		10		
Cd	-0.0113	-0.0023	-0.0115	0.30000	15.00		10		
Cr	3.2430	0.3299	1.6495	1.00000	50.00		10		
Co	-0.0052	-0.0369	-0.1845	0.50000	25.00		10		
Cu	0.1955	0.0533	0.2665	1.00000	50.00		10		
Pb	-0.0018	0.0023	0.0115	0.50000	25.00		10		
Mn	54.8910	10.2027	51.0135	1.00000	50.00	Y	10	7	
Ni	1.5684	0.2909	1.4545	2.00000	100.00		10		
Se (82)	0.0793	0.0018	0.009	0.50000	25.00		10		
Ag	-0.0209	-0.0081	-0.0405	0.50000	25.00		10		
TI (203)	0.0008	0.0021	0.0105	0.10000	5.00		10		

Analyte 3/13/12	Parent ug/L	Serial Dilution 5x		IDL ug/L	50 * IDL ug/L	> 50*IDL?	RPD Limit	%D	>Limit?
	ug/L	ug/L	ug/L	ug/L	ug/L				
Sb	0.0062	0.0847	0.4235	0.50000	25.00		10		
As	0.1134	0.0802	0.401	0.50000	25.00		10		
Ba	19.9778	4.0654	20.327	1.50000	75.00		10		
Cd	-0.0426	-0.038	-0.19	0.30000	15.00		10		
Cr	3.5379	0.6518	3.259	1.00000	50.00		10		
Co	0.0247	-0.0044	-0.022	0.50000	25.00		10		
Cu	0.1977	0.0272	0.136	1.00000	50.00		10		
Pb	-0.0086	-0.0081	-0.0405	0.50000	25.00		10		
Mn	58.8036	11.8156	59.078	1.00000	50.00	Y	10	0	
Ni	1.5810	0.3163	1.5815	2.00000	100.00		10		
Se (82)	0.2704	0.3291	1.6455	0.50000	25.00		10		
Ag	-0.0213	-0.0125	-0.0625	0.50000	25.00		10		
TI (203)	0.0157	0.0141	0.0705	0.10000	5.00		10		

Regression Calculator for a Linear Fitted Curve - Conc. On X-Axis Mercury for SDG L12030257

WG3922204

Response Analyte

Conc Analyte

CF

x-axis (x²)

y-axis (x*y)

ICAL1

ICAL2

ICAL3

ICAL4

ICAL5

ICAL6

ICAL7

ICAL8

ICAL9

ICAL10

139

957

3916

7349

18767

37883

0

0

0

0

0.00

0.20

1.00

2.00

5.00

10.00

0.00

0.0

0.0

0.0

1.3900E+32

4785

3916

3675

3753

3788

0

0

0

0

0

0

1

4

25

100

0

0

0

0

0

191

3916

14698

93835

378830

0

0

0

0

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Response and Concentration if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

C0

C1

r²

-1.9790E+02

3.7885E+03

0.99999

MDL =

0.000100

RL =

0.000200

WG392134

Response

Amount On Col

True Value

%R

ICV

CCV

CCV

CCV

2.04

2.06

1.92

2.08

2

2

2

2

102.0

103.0

96.0

104.0

ICAL1

ICAL2

ICAL3

ICAL4

ICAL5

ICAL6

139

957

3916

7349

18767

37883

0.089

0.305

1.086

1.992

5.006

10.052

0.00

0.20

1.00

2.00

5.00

10.00

<MDL

152.4

108.6

99.6

100.1

100.5

Insufficient data to recalculate results from raw data. Results from raw data entered for final calcs.

WG392134

Response

Amount On Col (ug/L)

Dilution factor

Final Volume (mL)

Sample Aliquot (mL)

Final Conc (mg/L)

Amount Spiked

%Rec

RPD

MB

LCS

-01

-01 PS

-03

-04 MS

-05 MSD

-06

-07

-08

-0.07

3.82

0.03

1.01

0.02

3.93

3.91

-0.09

0.02

0.02

1

1

1

1

1

1

1

1

1

1

40

40

40

40

40

40

40

40

40

40

40

40

40

40

40

40

40

40

40

40

-0.000073

0.003820

0.000027

0.001010

0.000021

0.003930

0.003910

-0.000089

0.000019

0.000017

<MDL

0.004

<MDL

0.001

<MDL

0.004

0.004

<MDL

<MDL

<MDL

95.50

0.004

98.25

97.75

97.75

97.75

97.75

<MDL

<MDL

<MDL

0.51

0.51

0.51

0.51

0.51

0.51

0.51

0.51

0.51

0.51

WG392134

Response

Amount On Col (ug/L)

Dilution factor

Final Volume (mL)

Sample Aliquot (mL)

Final Conc (mg/L)

Amount Spiked

%Rec

RPD

-09

-10

-11

0.02

0.00

-0.07

1

1

1

40

40

40

40

40

40

0.000020

-0.000004

-0.000068

<MDL

<MDL

<MDL

<MDL

<MDL

<MDL

Radford Army Ammunition Plant: Data Validation for Lab Report L12030257 D-322

Kemron–Radford Army Ammunition Plant Data Validation Summary Worksheet

SDG#: L12030257	Laboratory: Microbac	Validator: Jeanne Peterson	Validation Start Date: 04/05/2012
Site: Radford	AR/COC#: 3655		Validation Level: ☐ III ☒ IV
Matrix: Water	# of Samples: 9	Tracking docs present: See sample receipt and log-in documentation	
COCs present: yes	COCs signed: yes	COCs dated: yes	Sample Container Integrity: OK

Analyses:

☒ VOCs
 ☒ SVOCs
 ☒ PAHs
 ☐ GRO
 ☐ DRO
 ☒ Pests
 ☐ PCBs
 ☒ Metals
 ☐ Gen Chem

☒ Other: CLO4

Requested Analyses Not Reported		
Client Sample ID	Lab Sample ID	Analysis
None		

Hold Time/Preservation Outliers					
Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date
None					

Analysis ☒ >2X HT Analysis ☐ <2X HT Analysis ☐ ≥2X HT
Comments: Sampled 3/6, 3/7

Kemron-Radford Army Ammunition Plant Organic Worksheet (GCMS)

SDG: L12030257	Method: 8260	Matrix: Water	Level III Lab Sample IDs: NA
Batch #s: WG392404 ² , WG392260 ³			Level IV Lab Sample IDs: L12030257-01 thru -11

Tuning: ☒ Pass ☐ Fail TICs Required? ☐ Yes ☒ No

(EPA Region III Limits¹)

Analyte (outliers)	Calibration			Method Blank	5X (10X) Method Blank	LCS %R	MS %R (-04)	MSD %R (-05)	MS/D RPD	TB (-02)	FB (-07)	EQR (-08)	EQR (-10)
	RF ≥0.05	RSD/r ≤30% ≥0.995	ICV %D ±25%	CCV %D ±25%									
WG392404													
Acetone	0.047 ⁴	✓	✓	✓	✓	✓	NA	NA	NA	✓	✓	NA	✓
4-Methyl-2-pentanone	0.046 ⁵	✓	✓	✓	✓	✓	NA	NA	NA	✓	✓	NA	✓
Dichlorodifluoromethane	✓	✓	44.6	✓	✓	✓	NA	NA	NA	✓	✓	NA	✓
Vinyl acetate	✓	✓	✓	-25.6	✓	✓	NA	NA	NA	✓	✓	NA	✓
WG392260													
Acetone	0.046 ^{4,6}	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA
Bromomethane	✓	✓	27.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA
Dichlorodifluoromethane	✓	✓	51.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA
Vinyl acetate	✓	✓	64.4	59.2	✓	195	210	211	✓	✓	✓	✓	NA
2-Chloroethyl vinyl ether	✓	✓	✓	✓	✓	✓	0	0	✓	✓	✓	✓	NA
Chloroform	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0.257	NA
Methylene chloride	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0.294	NA
Toluene	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0.523	NA

(Limits¹: 1,2-DCA-d4 76-114%) Surrogate Recovery Outliers (BFB 86-115% Tol-d8 88-110%)

Sample ID	1,2-DCA-d4	DBFM	BFB	Tol-d8	Sample ID	1,2-DCA-d4	DBFM	BFB	Tol-d8
None									

IS Outliers (-50% to +100% of CCV)

Sample ID	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
None										

Comments: HTs OK. ²Samples -01 thru -03, -04 MS, -05 MSD, -06; ³Samples -07 thru -11 Sample and FD all NDs.

⁴Higher standard RRFs <0.05; qualify R. ⁵Lowest standard only <0.05; qualify UJ. ⁶CCV RRF <0.05; qualify R.

-11 chloroform 47 ion 0% due to low level; accepted.

¹Derived laboratory limits used for compounds not listed.

Revised 12/2010

Kemron-Radford Army Ammunition Plant Organic Worksheet (GCMS)

SDG: L12030257	Method: 8270C SIM	Matrix: Water	Level III Lab Sample IDs: NA
Batch #s: WG391960			Level IV Lab Sample IDs: L12030257-01, -03 thru -11

[illegible]

(Limits: NB-d5 35-114%) **Surrogate Recovery Outliers** (2-Flbiph 43-116% p-Terph-d14 33-141%)

[illegible]

IS Outliers (-50% to +100%)

[illegible]

Comments: HTs OK.

Sample and FD all NDs.

Derived laboratory limits used for compounds not listed.

Revised 12/2010

Kemron-Radford Army Ammunition Plant Organic Worksheet (GC)

SDG: L12030257	Method: 8081A	Matrix: Water	Lab Sample IDs: L12030257-01, -03 thru -11
Batch #s: WG391981			

[illegible]

Comments: HTs OK.
No resolution check; however, CCV c-gram used to check resolution.
RTs OK.

	Dual Column—Revised 09/2011
¹ Derived laboratory limits used for compounds not listed.	
² See QAPP for more details	

Kemron–Radford Army Ammunition Plant Inorganic Metals Worksheet

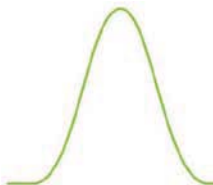
SDG: L12030257	Matrix: Water	Level III Lab Sample IDs: NA			
Method/Batch #s: 6010/WG391918; 6020/WG391810 & WG391928; 7470A/WG392134		Level IV Lab Sample IDs: L12030257-01, -03 thru -11			
ICPMS Mass Cal: ☒ Pass ☐ Fail ☐ NA		ICPMS Resolution: ☒ Pass ☐ Fail ☐ NA		ICPMS %RSD: ☒ Pass ☐ Fail ☐ NA	

Analyte (outliers)	Calibration						ICP CRDL ±10%	Method Blank (<i><MDL</i>)	5X MB	ICS A <i><IDL</i>	ICS AB ±20%	LCS %R (80-120%)	MS %R (75-125%)	MSD %R (75-125%)	MS/D RPD (≤20%)	Serial Dil. %D (±10%)	PS (75- 125%)	DUP RPD (≤20%)
	r ≥0.995	ICV ±10% ¹	CCV ±10% ¹	ICB ug/L	CCB (<i><IDL</i>)	5X CB												
WG391810																		
Se (end)	✓	✓	✓	✓	✓	NA	89	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	NA
Tl (end)	✓	✓	✓	✓	✓	NA	116	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	NA
Cd	✓	✓	✓	✓	✓	NA	✓		NA	.0003	✓	✓	✓	✓	✓	✓	✓	NA
Ni	✓	✓	✓	✓	✓	NA	✓		NA	.0014	✓	✓	✓	✓	✓	✓	✓	✓
WG391928																		
Se (end)	✓	✓	✓	✓	✓	NA	128	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	NA
Tl (beg)	✓	✓	✓	✓	✓	NA	114	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	NA
Ni	✓	✓	✓	✓	✓	NA	✓		NA	0.0011	✓	✓	✓	✓	✓	✓	✓	NA
WG392134																		
Hg	✓	✓	✓	✓	✓	NA	152	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	NA

IS Outliers ³ (60-120%)				IS Outliers ³ (60-120%)			
Sample ID	%Recovery	%Recovery	%Recovery	CCV/CCB ID	%Recovery	%Recovery	%Recovery
None				None			

Comments: HTs OK;
 For 6010:PS and SD performed on FB. no CRIs; no end ICS. FB and EQRs all ND.
 For 6020: 3/9: No end ICS for WG391810; QC for WG391928 on non-project sample; FB and EQRs all ND.
 7470A: No CRA, but low std at RL; >110%; qualify all < the next std as J. FB and EQRs all ND.

¹20% for Hg ²For sample results <5X RL, ±RL ³Standard CLP NFG criteria used; no criteria specified in QAPP or Region III NFG



Date: April 11, 2012

Subject: Data Validation for Lab Report L12030258
Radford Army Ammunition Plant

From: Jeanne Peterson
Project Manager, AQA

To: Mary Lou Rochotte
Kemron Environmental Services, Inc.

OVERVIEW

Microbac Laboratories Inc., Marietta, Ohio, received one field sample associated with the project work described in the *Radford Army Ammunition Plant Final SWMU 40 (RAAP-009) Landfill Nitro Area IMWP* (August 2011) (project QAPP) on March 8, 2012. The field sample was assigned laboratory sample delivery group (SDG) number L12030258 and included one normal water sample. The sample was analyzed for biochemical oxygen demand (BOD) by method SM5210B and chemical oxygen demand (COD) by EPA method 410.4 as detailed in *Standard Methods for the Examination of Water and Wastewater* (1999) and *Method for Chemical Analysis of Water and Wastes* (EPA-600/4-79-020, March 1983), respectively.

SUMMARY

The sample was analyzed according to the quality control (QC) criteria of the applicable analytical method. The data for this sample were found to be compliant with the requirements of the project QAPP and/or EPA Region III's *Innovative Approaches to Data Validation* (June 1995) and *EPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses* (April 1993) (Region III NFG, collectively), and the results for all target analytes are considered usable.

MAJOR PROBLEMS

(Refer to Appendix B – Data Qualifier Summary)

- None

MINOR PROBLEMS

(Refer to Appendix B – Data Qualifier Summary)

- 40IDM030712: Biochemical oxygen demand 13.0 (J)

NOTES

(Refer to Appendix D – Support Documentation)

Sample Chain of Custody (COC) Records

- The sample was listed on COC #3656. Data were reported for all required analyses.

Preservation and Holding Times

- The sample was correctly preserved and analyzed within the holding times specified in the project QAPP and the Region III NFG.

Initial Calibration (ICAL)

- The ICAL correlation coefficient for COD was within the criteria specified in the project QAPP and the Region III NFG. ICAL criteria are not applicable to BOD.

Initial Calibration Verification (ICV)/Continuing Calibration Verification (CCV)

- The ICV/CCV percent differences (%Ds), and/or percent recoveries (%Rs), as applicable, for COD were within the criteria specified in the project QAPP and the Region III NFG. ICV/CCV criteria are not applicable to BOD.

Contract Required Detection Limit (CRDL)

- CRDL analysis is not applicable to the methods performed.

Field Blanks

- A field blank was not collected with the sample in this SDG.

Laboratory Method Blanks

- No target analytes were detected in the method blanks associated with the sample in this SDG.
- The unseeded and seeded blank dissolved oxygen uptakes were not within the method specified criteria for BOD. The associated results were not affected by the uptakes and, therefore, no sample data were qualified based on professional judgment.

Laboratory Control Samples/Laboratory Control Sample Duplicates (LCSs/LCSDs)

- The LCS/LCSD recoveries met project QAPP- and Region III-specified QC acceptance criteria with the following exceptions.
 - The LCS/LCSD recoveries were >110% for BOD. The associated sample result was a detect and, therefore, was qualified J.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

- MS analyses were not performed with the sample in this SDG.

Laboratory Sample Duplicate

- LCSDs were analyzed as the laboratory duplicates for all analyses and met project QAPP- and Region III-specified QC acceptance criteria.

Field Sample Duplicate

- A field sample duplicate was not collected with the sample in this SDG.

Sample Results

- The samples were analyzed for the methods requested on the COC. Limits of Detection (LODs) and Limits of Qualification (LOQs) were reported for all analyses. Project-required LODs and LOQs were not provided in the project QAPP; however, the sample results were above the laboratory-reported LOQs.

Action Level Notification

- Action levels were not specified in the Region III NFG for the methods performed.

Usability Statement

- There were two field sample data points associated with the data package for SDG L12030258. Of these field sample data points, one (50.00% of the total) was assessed and left unqualified and 7 (50.00% of the total) was assessed and qualified J.
- The field sample data point that was qualified J can be categorized as definitive data with a positively identified analyte concentration that is only an estimate due to QC deficiencies.
- The unqualified field sample data point can be categorized as definitive data with no associated QC deficiencies.

Report Content Statement

This report has been formatted for consistency with Appendix B, Region III Standard Operating Procedures for Data Validation Reports, contained in the guidance *EPA Region III Modifications to the National Functional Guidelines for Organic Data Review* (September 1994). The laboratory data were reviewed in accordance with the EPA Region III's *Innovative Approaches to Data Validation* (June 1995) and *EPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses* (April 1993) (Region III NFG, collectively), the *Radford Army Ammunition Plant Final SWMU 40 (RAAP-009) Landfill Nitro Area IMWP* (August 2011) (project QAPP), and the applicable SW-846 methods. This report only addresses those problems and issues that may affect data usability.

Attachments

Appendix A – Glossary of Data Qualifiers

Appendix B – Data Qualifier Summary

Appendix C – Laboratory Report Results/Data Summary

Appendix D – Support Documentation

Appendix A – Glossary of Data Qualifiers

Data Qualifier Codes

Codes Related to Identification

- U Not detected. The associated number indicates the approximate sample concentration necessary to be detected.
- B Not detected substantially above the level reported in laboratory or field blanks.
- R Unusable result. Analyte may or may not be present in the sample.

Codes Related to Quantitation

- J Analyte present. Reported value may or may not be accurate or precise.
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ Not detected. Quantitation limit may be inaccurate or imprecise.
- UL The analyte was not detected, and the reported quantitation limit is probably higher than reported.

Appendix B – Data Qualifier Summary

Data Qualifier Summary

Note: The results listed in this table are detects and qualified non-detects only. Unqualified non-detects are not listed.

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40IDM030712 L12030258-01	Biochemical oxygen demand	J		Laboratory control sample %R >UCL

Appendix C – Laboratory Report Results/Data Summary

Certificate of Analysis

Sample #: L12030258-01	PrePrep Method: N/A	Instrument: YSI-5000
Client ID: 40IDM030712	Prep Method: SM5210B	Prep Date: N/A
Matrix: Water	Analytical Method: SM5210B	Cal Date:
Workgroup #: WG391781	Analyst: TMM	Run Date: 03/09/2012 07:25
Collect Date: 03/07/2012 15:00	Dilution: 1	File ID: 00.1203090725-16
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Biochemical Oxygen Demand		13.0		3.00	1.00

Sample #: L12030258-01	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: 40IDM030712	Prep Method: METHOD	Prep Date: N/A
Matrix: Water	Analytical Method: 410.4 MOD	Cal Date: 02/20/2012 08:51
Workgroup #: WG391808	Analyst: DIH	Run Date: 03/09/2012 08:41
Collect Date: 03/07/2012 15:00	Dilution: 1	File ID: 1V.1203090841-10
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Chemical Oxygen Demand		97.5		20.0	10.0

Appendix D – Support Documentation

Laboratory Report Number: L12030258

Mary Lou Rochette
Kemron Environmental Services
156 Starlite Drive
Marietta, OH 45750

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on March 19 2012



David Vandenberg – Managing Director

State of Origin: VA
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 4.1



Microbac Laboratories * Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 * T: (740) 373-4071 F: (740) 373-4835 * www.microbac.com

Lab Report #: L12030258

Lab Project #: 2820.216

Project Name: Radford AAP

Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
40IDM030712	L12030258-01	03/07/2012 15:00	03/08/2012 13:01



Login Number: L12030258
Department: Conventionals
Analyst: Tammy Morris

METHOD

Analysis EPA405.1/SM 5210B (Biochemical Oxygen Demand)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 43556

Approved By: Deanna Hesson

A handwritten signature in cursive script, appearing to read "Deanna Hesson", written in dark ink.

Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM5210B
Login Number: L12030258

AAB#: WG391781

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
40IDM030712	01	03/07/12							2		03/09/12	1.7	2	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2339752
Report generated 03/16/2012 11:21



METHOD BLANK SUMMARY

Login Number: L12030258
Blank File ID: 00.1203090725-01
Prep Date: 03/09/12 07:25
Analyzed Date: 03/09/12 07:25
Analyst: TMM

Work Group: WG391781
Blank Sample ID: WG391781-01
Instrument ID: YSI-5000
Method: SM5210B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG391781-02	00.1203090725-02	03/09/12 07:25	
LCS2	WG391781-03	00.1203090725-03	03/09/12 07:25	
LCSX	WG391781-04	00.1203090725-04	03/09/12 07:25	
DUP	WG391781-06	00.1203090725-06	03/09/12 07:25	
40IDM030712	L12030258-01	00.1203090725-16	03/09/12 07:25	

Report Name: BLANK_SUMMARY
PDF File ID: 2339753
Report generated 03/16/2012 11:21



METHOD BLANK REPORT

Login Number: L12030258 Prep Date: 03/09/12 07:25 Sample ID: WG391781-01
Instrument ID: YSI-5000 Run Date: 03/09/12 07:25 Prep Method: SM5210B
File ID: 00.1203090725-01 Analyst: TMM Method: SM5210B
Workgroup (AAB#): WG391781 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: YSI-50 -

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Biochemical Oxygen Demand	1.00	3.00	1.00	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2339754

16-MAR-2012 11:21



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030258 Analyst: TMM Prep Method: SM5210B
Instrument ID: YSI-5000 Matrix: Water Method: SM5210B
Workgroup (AAB#): WG391781 Units: mg/L
QC Key: DOD4 Lot #: STD50039
Sample ID: WG391781-02 LCS File ID: 00.1203090725-02 Run Date: 03/09/2012 07:25
Sample ID: WG391781-03 LCS2 File ID: 00.1203090725-03 Run Date: 03/09/2012 07:25

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Biochemical Oxygen Demand	198	226	114	198	228	115	0.881	84.6 - 115.4	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2339755
Report generated: 03/16/2012 11:22





Login Number: L12030258
Department: Conventional
Analyst: Deanna Hesson

METHOD

Analysis EPA 410.4 MOD/SM5220D/HACH 8000 (Chemical Oxygen Demand)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 43555

Approved By: Deanna Hesson

A handwritten signature in cursive script, appearing to read "Deanna Hesson", is written in black ink.

Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 410.4 MOD
Login Number: L12030258

AAB#: WG391808

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
40IDM030712	01	03/07/12							28		03/09/12	1.7	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2333143
Report generated 03/09/2012 14:23



METHOD BLANK SUMMARY

Login Number: L12030258
Blank File ID: 1V.1203090841-01
Prep Date: 03/09/12 08:41
Analyzed Date: 03/09/12 08:41
Analyst: DIH

Work Group: WG391808
Blank Sample ID: WG391808-01
Instrument ID: UV-120-1V
Method: 410.4 MOD

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG391808-02	1V.1203090841-02	03/09/12 08:41	
LCS2	WG391808-03	1V.1203090841-03	03/09/12 08:41	
40IDM030712	L12030258-01	1V.1203090841-10	03/09/12 08:41	
DUP	WG391808-05	1V.1203090841-11	03/09/12 08:41	

Report Name: BLANK_SUMMARY
PDF File ID: 2333144
Report generated 03/09/2012 14:23



METHOD BLANK REPORT

Login Number: L12030258 Prep Date: 03/09/12 08:41 Sample ID: WG391808-01
Instrument ID: UV-120-1V Run Date: 03/09/12 08:41 Prep Method: METHOD
File ID: 1V.1203090841-01 Analyst: DIH Method: 410.4 MOD
Workgroup (AAB#): WG391808 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: UV-120-01-MAR-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Chemical Oxygen Demand	10.0	20.0	10.0	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2333145

09-MAR-2012 14:23



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12030258 Analyst: DIH Prep Method: METHOD
Instrument ID: UV-120-1V Matrix: Water Method: 410.4 MOD
Workgroup (AAB#): WG391808 Units: mg/L
QC Key: DOD4 Lot #: STD48498
Sample ID: WG391808-02 LCS File ID: 1V.1203090841-02 Run Date: 03/09/2012 08:41
Sample ID: WG391808-03 LCS2 File ID: 1V.1203090841-03 Run Date: 03/09/2012 08:41

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Chemical Oxygen Demand	100	99.3	99.3	100	101	101	1.81	90 - 110	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2333146
Report generated: 03/09/2012 14:23



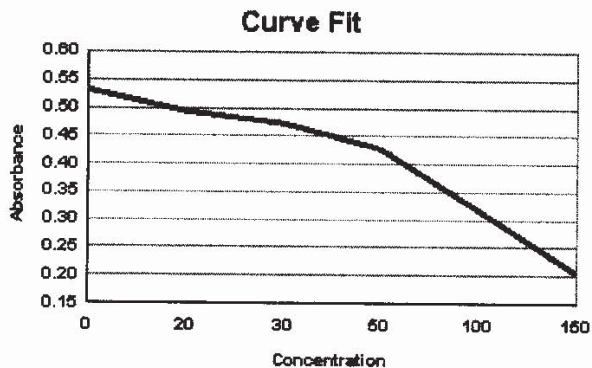
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup: WG390089
Analytical Method: 400
Instrument ID: UV-120-1V

Analyst: DIE
Initial Calibration Date: 02/20/2012

Analyte: **CHEMICAL OXYGEN DEMAND**
Number of Points: 6
Slope: -0.00220525
Y-Intercept: 0.535973
Coef. Of Correlation (R^2): 0.999600
Coef. Of Correlation (R): 0.999800

Concentration X	Absorbance Y	X ²	X * Y	Y-Fitted (mX^2+B)
0.00	0.532	0.00	0.00	0.535973
20.0	0.493	400	9.86	0.491868
30.0	0.471	900	14.1	0.469815
50.0	0.428	2500	21.4	0.425710
100	0.317	10000	31.7	0.315448
150	0.203	22500	30.5	0.205186



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 02/20/2012 11:13



Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG390089

File ID: 1V.1202200851-07

CCV ID: WG390089-07

Units: mg/L

Analyte: CHEMICAL OXYGEN DEMAND

Instrument ID: UV-120-1V

Run Date: 02/20/2012

Run Time: 08:51

Analyst: DIH

Cal ID: UV-120 - 20-FEB-12 08:51:06

Analyte	Expected	Found	RF	%D	Q
Chemical Oxygen Demand	100	107	0.00301	7.0	

* Exceeds %D Limit

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 02/20/2012 11:14



Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG391842

Instrument ID: UV-120-1V

File ID: 1V.1203090841-13

Run Date: 03/09/2012

CCV ID: WG391842-01

Run Time: 08:41

Units: mg/L

Analyst: DIE

Analyte: CHEMICAL OXYGEN DEMAND

Cal ID: UV-120 - 01-MAR-12

Analyte	Expected	Found	RF	%D	Q
Chemical Oxygen Demand	60	65.3	0.00653	8.8	

* Exceeds %D Limit

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/09/2012 14:19



Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG391842

Instrument ID: UV-120-1V

File ID: 1V.1203090841-14

Run Date: 03/09/2012

CCV ID: WG391842-02

Run Time: 08:41

Units: mg/L

Analyst: DIH

Analyte: CHEMICAL OXYGEN DEMAND

Cal ID: UV-120 - 01-MAR-12

Analyte	Expected	Found	RF	%D	Q
Chemical Oxygen Demand	60	64.8	0.00655	8.0	

* Exceeds %D Limit

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/09/2012 14:19



156 Starlite Drive
Marietta, OH 45750

Phone: 740-373-4308
Fax: 740-376-2536



ENVIRONMENTAL SERVICES

CHAIN-OF-CUSTODY RECORD

Company Name:		Contact Phone #:		Project Contact:		Turn Around Requirements:		Project ID:		Sampler (print):		Signature:	
KEMMLON		740-373-4308		MATT LOU ROBERTS		14-DAY		M0619 SUMN 40 RTHP (IDM-INTAKE)		Jenett Anderson		[Signature]	
Location:		RADFORD, VA		Sample I.D. No.		Grab		Date		Time		Matrix*	
TOTAL # (LAB USE)		221000022998		2		1		1		1		1	
Program		CWA		RCRA		DOD		AFCEE		Other		ADDITIONAL REQUIREMENTS	
Relinquished by:		[Signature]		Date		Time		Relinquished by:		Date		Time	
Relinquished by:		[Signature]		Date		Time		Relinquished by:		Date		Time	

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Page _____ of _____

Kemron–Radford Army Ammunition Plant Data Validation Summary Worksheet

SDG#: L12030258	Laboratory: Microbac	Validator: Jeanne Peterson	Validation Date: 04/10/2012
Site: Radford	AR/COC#: 3656		Validation Level: ☐ III ☒ IV
Matrix: Water	# of Samples: 1	Tracking docs present: See sample receipt and log-in documentation	
COCs present: yes	COCs signed: yes	COCs dated: yes	Sample Container Integrity: OK

Analyses:

☐ VOCs ☐ SVOCs ☐ PAHs ☐ GRO ☐ DRO ☐ Pests ☐ PCBs ☐ Metals ☒ Gen Chem
☐ Other:

Requested Analyses Not Reported		
Client Sample ID	Lab Sample ID	Analysis
None		

Hold Time/Preservation Outliers					
Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date
None					

Analysis ☐ <2X HT Analysis ☐ >2X HT Analysis Date Preparation Date Collection Date Pres. Lab Sample ID Analysis Client Sample ID
Comments: Sampled 3/7

Kemron-Radford Army Ammunition Plant Inorganic Worksheet

SDG: L12030258	Matrix: Water	Level III Lab Sample IDs: NA
Method/Batch #s: SM5210B/WG391781; EPA410.4/WG391808		Level IV Lab Sample IDs: L12030258-01

[illegible]

Comments: BOD 2nd source std nominal concentration not provided; recalculation matches reported raw data result.

BOD unseeded DO uptake 0.27; Seeded DO 0.438.

For the following method(s), recalculated concentration must be within $\pm 10\%$: COD

For BOD per method: unseeded dil'n water DO uptake should be $<0.2 \text{ ug/L}$; Std check solution - lab-derived limits; seed control standard DO uptake should be $0.6 < \text{DO} < 1.0 \text{ mg/L}$; sample pH: $6.5 < \text{sample} < 7.5$

³For sample conc <5X RL, $\pm$ RL.

BOD CALCULATIONS FOR SDG L12030258

Workgroup: **WG391781**

LOD = 1.00

LOQ = 3.00

	MB		LCS		LCSD		SSV		-01	
Sample volume (mL)	200	200	6		6		6		75	200
Sample seed	2	2	2	2	2	2	2	2	2	2
Blank seed (ml seed)	10	10	10	10	10	10	10	10	10	10
Initial DO of seeded blank	8.00	8.01	8.00	8.01	8.00	8.01	8.00	8.01	8.00	8.01
Final DO of seeded blank	5.71	5.92	5.71	5.92	5.71	5.92	5.71	5.92	5.71	5.92
Seeded blank result	0.458	0.418	0.4580	0.4180	0.458	0.418	0.458	0.418	0.458	0.418
Initial DO of sample	7.53	7.61	7.88		7.95		8.01		8.35	9.21
Final DO of sample	6.94	7.04	2.92		2.95		3		4.05	1.76
Oxygen (mg/L)	0.2280	0.1980	226.1		228.1		228.6		15.4	10.5
Average BOD (mg/L)	0.2130								12.98	
Spike Conc.			198		198		200			
%REC	<LOD		114		115		114			
RPD			0.88							

Regression Calculator for a Linear CF Curve - Conc. On X-Axis COD for SDG L12030258

Low	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10
Response Analyte	0.532	0.493	0.471	0.428	0.317	0.203	0	0	0	0
Conc Analyte	0.0	20.0	30.0	50.0	100.0	150.0	0.0	0.0	0.0	0.0
CF	5.3200E+19	0.0247	0.0157	0.0086	0.0032	0.0014				
x-axis	0	20	30	50	100	150	0	0	0	0
y-axis	1	0	0	0	0	0	0	0	0	0

Enter 0 for Response and Concentration if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

$$C_x = \frac{A_x - C_0}{C_1}$$

Perform Regression

Perform Regression
(Forced Zero)

C0	C1	r ²
5.3597E-01	-2.2052E-03	0.99960
5.3597E-01	-2.2053E-03	0.99960

Lab reported

LOD = 10.0
LOQ = 20.0

	ICV	CCV	CCV
Response	0.301	0.392	0.393
Amount On Col	106.55	65.29	64.83
True Value	100	60	60
%R	106.55	108.81	108.05
%D	6.55	8.81	8.05

	MB	LCS	LCSD	-01
WG391808				
Response	0.537	0.317	0.313	0.321
Amount On Col	-0.47	99.30	101.11	97.48
Dilution Factor	1	1	1	1
Final Conc	-0.466	99.296	101.110	97.482
True Value	100.0	100.0	100.0	
%R	<LOD	99.30	101.11	
RPD			1.81	

Analyzed on a sample from another SDG and not reported:

Sample	Dup	MS
0.505	0.514	0.403
14.05	9.96	60.30
1	1	1
14.045	9.964	60.298
		50.0
<LOQ	<LOD	92.51
	34.00	

Laboratory Report Number: L12060445

Mary Lou Rochette
Kemron Environmental Services
156 Starlite Drive
Marietta, OH 45750

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on June 28 2012



David Vandenberg – Managing Director

State of Origin: VA
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 4.1



Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

There were no discrepancies.

Discrepancy	Resolution
-------------	------------

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #
0015373	H	4.0		
0015959	H	4.0		
0013500	H	4.0		
0017276	H	4.0		
0017171	H	4.0		
0017278	H	4.0		
0017240	H	4.0		
0011043	H	4.0		
0016762	H	4.0		

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	NA
2	Were custody seals intact?	NA
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
40MW7GW061212	L12060445-01	06/12/2012 10:25	06/14/2012 14:14
40TB061212	L12060445-02	06/12/2012 00:01	06/14/2012 14:14
LFMW01GW061212	L12060445-03	06/12/2012 12:59	06/14/2012 14:14
LFMW01GW061212	L12060445-04	06/12/2012 12:59	06/14/2012 14:14
40MW6GW061212	L12060445-05	06/12/2012 15:02	06/14/2012 14:14
40MW6MSGW061212	L12060445-06	06/12/2012 15:02	06/14/2012 14:14
40MW6MSDGW061212	L12060445-07	06/12/2012 15:02	06/14/2012 14:14
40DUPGW061212	L12060445-08	06/12/2012 15:02	06/14/2012 14:14
40FB061212	L12060445-09	06/12/2012 16:00	06/14/2012 14:14
40EQR061212	L12060445-10	06/12/2012 16:30	06/14/2012 14:14
40MW5GW061212	L12060445-11	06/12/2012 17:51	06/14/2012 14:14
40MW5GW061212	L12060445-12	06/12/2012 17:51	06/14/2012 14:14

Microbac REPORT L12060445
PREPARED FOR Kemron Environmental Services
WORK ID:

1.0 Summary Data	5
1.1 Narratives	6
1.2 Certificate of Analysis	20
2.0 Full Sample Data Package	97
2.1 Volatiles Data	98
2.1.1 Volatiles GCMS Data (8260)	99
2.1.1.1 Summary Data	100
2.1.1.2 QC Summary Data	133
2.1.1.3 Sample Data	175
2.1.1.4 Standards Data	210
2.1.1.5 Raw QC Data	278
2.2 Semivolatiles Data	640
2.2.1 Semivolatiles GC/MS Data (8270)	298
2.2.1.1 Summary Data	299
2.2.1.2 QC Summary Data	329
2.2.1.3 Sample Data	364
2.2.1.4 Standards Data	387
2.2.1.5 Raw QC Data	467
2.2.2 Semivolatiles GC/MS Data (827-PAHL)	482
2.2.2.1 Summary Data	483
2.2.2.2 QC Summary Data	498
2.2.2.3 Sample Data	542
2.2.2.4 Standards Data	602
2.2.2.5 Raw QC Data	625
2.2 General Chromatography Data	640
2.2.3 6850 LC/MS Data	641
2.2.3.1 Summary Data	642
2.2.3.2 QC Summary Data	649
2.2.3.3 Sample Data	706
2.2.3.4 Standards Data	725
2.2.3.5 Raw QC Data	764
2.2.4 Pesticide GC Data (8081)	770
2.2.4.1 Summary Data	771
2.2.4.2 QC Summary Data	784
2.2.4.3 Sample Data	821
2.2.4.4 Standards Data	840
2.2.4.5 Raw QC Data	897
2.3 Metals Data	904
2.3.1 Metals I C P Data	905
2.3.1.1 Summary Data	906
2.3.1.2 QC Summary Data	926
2.3.1.3 Raw Data	982
2.3.2 Metals ICP-MS Data	1149
2.3.2.1 Summary Data	1150
2.3.2.2 QC Summary Data	1163
2.3.2.3 Raw Data	1195
2.3.3 Metals CVAA Data (Mercury)	1425
2.3.3.1 Summary Data	1426
2.3.3.2 QC Summary	1438
2.3.3.3 Raw Data	1479
3.0 Attachments	1484

1.0 Summary Data

1.1 Narratives



Login Number: L12060445

Department: Volatiles

Analyst: Franci Bolden

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260B

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analytes: Chloromethane, Dichlorodifluoromethane, n-Butylbenzene, Vinyl Acetate. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: 2,2-Dichloropropane, Acetone, Carbon Disulfide, Vinyl Acetate, n-Butylbenzene, trans-1,3-Dichloropropene. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Acetone, Chloromethane, Vinyl Acetate. Please see the applicable QC report for a detailed presentation of the failures.

Matrix Spikes: Recoveries out of range were observed for the following analytes: 2-Chloroethyl vinyl ether, Chloromethane, 1,2-Dichloropropane. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Other: None.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 48989

Approved By: Michael Albertson





Login Number: L12060445
Department: Semivolatiles
Analyst: Mike Cochran

METHOD

Preparation 3520C

Analysis SW-846 8270C/40 CFR 264 App. IX

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analytes: 2,4-Dinitrophenol, 4,6-Dinitro-2-Methylphenol, Benzoic Acid. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: 2-Nitroaniline, bis(2-Chloroisopropyl)ether, n-Nitrosodipropylamine. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: 3,3'-Dichlorobenzidine, 4-Nitroaniline, 4-Nitrophenol, Benzo[ghi]perylene, Butyl Benzyl Phthalate, Chrysene, Pentachlorophenol, Phenol. Please see the applicable QC report for a detailed presentation of the failures.

With the exception of Phenol all hits in the LCS were biased high; there were no hits found in the samples associated with the LCS.

Matrix Spikes: Recoveries out of range were observed for 23 analytes. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: Recoveries out of range were observed for the following surrogates: 2,4,6-Tribromophenol, p-Terphenyl-d14. Please see the applicable QC report for a detailed presentation of the failures.

Sample 01 was not re-extracted due to insufficient hold time. No analytes were detected in the samples with high surrogate recoveries.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak

completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

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Narrative ID: 48612

Approved By: Mike Cochran





Login Number: L12060445
Department: Semivolatiles
Analyst: Cassie A. Augenstein

METHOD

Preparation 3510C

Analysis SW-846 8270C

HOLDING TIMES

Sample Preparation: Samples 10 and 11 were re-extracted out of hold.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes in the re-extract: Dibenz[ah]anthracene, Benzo[ghi]perylene. Please see the applicable QC report for a detailed presentation of the failures.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Fluoranthene, Chrysene. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: Recoveries out of range were observed for the following surrogates: 2-Fluorobiphenyl, Nitrobenzene-d5. Please see the applicable QC report for a detailed presentation of the failures.

Samples 10 and 11 were re-extracted and yielded acceptable recoveries.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations

in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

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Narrative ID: 48738

Approved By: Mike Cochran





Login Number: L12060445
Department: General Chromatography
Analyst: Anthony Canter

METHOD

Analysis SW-846 6850

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Perchlorate. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration

is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

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Narrative ID: 48467

Approved By: Mike Cochran





Login Number: L12060445
Department: General Chromatography
Analyst: Eric Lawson

METHOD

Analysis SW-846 8081A

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 20%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor

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Narrative ID: 48464

Approved By: Mike Cochran





Login Number: L12060445
Department: Metals
Analyst: Kim Rhodes

METHOD

Preparation: SW-846 3005

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG400948 - All acceptance criteria were met.

Matrix Spikes: WG400948 - Sample 05 was chosen by the client for MS/MSD analysis. Samples 06(MS) and 07(MSD) yielded noncompliant recoveries for calcium.

SAMPLES

Samples: WG400948 - Client samples 01, 03, 04, 05, 06MS, 07MSD, 08, 11 and 12 required dilution analyses in order to obtain results for calcium and magnesium within the calibration range.

Narrative ID: 48312

Approved By: Sheri Pfalzgraf

A handwritten signature in black ink, appearing to read "Sheri L. Pfalzgraf", is written over the printed name.



Login Number: L12060445
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG400788 - All acceptance criteria were met.

Matrix Spikes: WG400788 - Sample 05 was chosen by the client for MS/MSD analysis. Samples 06(MS) and 07(MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 48166

Approved By: Sheri Pfalzgraf

A handwritten signature in black ink, appearing to read "Sheri L. Pfalzgraf".



Login Number: L12060445
Department: Metals - AA
Analyst: Pierce Morris

METHOD

Preparation: SW-846 7470

Analysis: SW-846 7470

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG401291 - All acceptance criteria were met.

Matrix Spikes: WG401291 - Sample 05 was chosen by the client for MS/MSD analysis. Samples 06(MS) and 07(MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 48365

Approved By: Sheri Pfalzgraf

A handwritten signature in black ink, appearing to read "Sheri L. Pfalzgraf", is written over the printed name.

1.2 Certificate of Analysis

Certificate of Analysis

Sample #: L12060445-01

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40MW7GW601212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401429

Analyst: FJB

Run Date: 06/23/2012 00:06

Collect Date: 06/12/2012 10:25

Dilution: 1

File ID: 11M84717

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.99		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	97.3	70	120		
4-Bromofluorobenzene	113	75	120		
Dibromofluoromethane	96.7	85	115		
Toluene-d8	106	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-01	PrePrep Method: N/A	Instrument: HPMS12
Client ID: 40MW7GW601212	Prep Method: 3520C	Prep Date: 06/18/2012 12:02
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/07/2012 15:27
Workgroup #: WG401264	Analyst: MDC	Run Date: 06/24/2012 16:19
Collect Date: 06/12/2012 10:25	Dilution: 1	File ID: 12M40149
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4		U	5.00	2.50
bis(2-Chloroisopropyl)ether	108-60-1		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	126	40	125	*	
2-Fluorobiphenyl	97.9	50	110		
2-Fluorophenol	91.5	20	110		
Nitrobenzene-d5	105	40	110		
p-Terphenyl-d14	137	50	135	*	
Phenol-d5	99.4	10	115		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Sample #: L12060445-01	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW7GW601212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 15:13
Collect Date: 06/12/2012 10:25	Dilution: 1	File ID: 7M55227
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0568	0.0284
Acenaphthylene	208-96-8		U	0.0568	0.0284
Acenaphthene	83-32-9		U	0.0568	0.0284
Fluorene	86-73-7		U	0.0568	0.0284
Phenanthrene	85-01-8		U	0.0568	0.0284
Anthracene	120-12-7		U	0.0568	0.0284
Fluoranthene	206-44-0	0.0327	J	0.0568	0.0284
Pyrene	129-00-0		U	0.0568	0.0284
Benzo(a)anthracene	56-55-3		U	0.0568	0.0284
Chrysene	218-01-9	0.0832		0.0568	0.0284
Benzo(b)fluoranthene	205-99-2		U	0.0568	0.0284
Benzo(k)fluoranthene	207-08-9		U	0.0568	0.0284
Benzo(a)pyrene	50-32-8		U	0.0568	0.0284
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0568	0.0284
Dibenzo(a,h)anthracene	53-70-3		U	0.0568	0.0284
Benzo(g,h,i)perylene	191-24-2		U	0.0568	0.0284
1-Methylnaphthalene	90-12-0		U	0.0568	0.0284
2-Methylnaphthalene	91-57-6		U	0.0568	0.0284

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Nitrobenzene-d5	95.6	35	114	
2-Fluorobiphenyl	99.7	50	110	
p-Terphenyl-d14	108	33	141	

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #: L12060445-01	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW7GW601212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 19:02
Collect Date: 06/12/2012 10:25	Dilution: 1	File ID: 1LM.LM16724
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	3.69		0.200	0.100

Sample #: L12060445-01	PrePrep Method: N/A	Instrument: HP15
Client ID: 40MW7GW601212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/19/2012 19:50
Collect Date: 06/12/2012 10:25	Dilution: 1	File ID: 15G32794.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0500	0.0100
4,4'-DDE	72-55-9		U	0.0500	0.0100
4,4'-DDT	50-29-3		U	0.0500	0.0100
Aldrin	309-00-2		U	0.0500	0.0100
alpha Chlordane	5103-71-9		U	0.0500	0.0100
alpha-BHC	319-84-6		U	0.0500	0.0100
beta-BHC	319-85-7		U	0.0500	0.0100
delta-BHC	319-86-8		U	0.0500	0.0100
Dieldrin	60-57-1		U	0.0500	0.0100
Endosulfan I	959-98-8		U	0.0500	0.0100
Endosulfan II	33213-65-9		U	0.0500	0.0100
Endosulfan sulfate	1031-07-8		U	0.0500	0.0100
Endrin	72-20-8		U	0.0500	0.0100
Endrin aldehyde	7421-93-4		U	0.0500	0.0100
Endrin ketone	53494-70-5		U	0.0500	0.0100
gamma Chlordane	5103-74-2		U	0.0500	0.0100
gamma-BHC (Lindane)	58-89-9		U	0.0500	0.0100
Heptachlor	76-44-8		U	0.0500	0.0100
Heptachlor epoxide	1024-57-3		U	0.0500	0.0100
Methoxychlor	72-43-5		U	0.0500	0.0100
Toxaphene	8001-35-2		U	1.00	0.300
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	64.5	25	140		

Certificate of Analysis

Decachlorobiphenyl	44.0	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Sample #: L12060445-01	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW7GW601212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 13:50
Collect Date: 06/12/2012 10:25	Dilution: 1	File ID: P2.062012.135040
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.0703	J	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Iron, Total	7439-89-6	0.149		0.100	0.0500
Potassium, Total	7440-09-7	1.67		1.00	0.500
Sodium, Total	7440-23-5	4.03		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-01	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW7GW601212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 16:23
Collect Date: 06/12/2012 10:25	Dilution: 10	File ID: P2.062112.162356
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	77.8		2.00	1.00
Magnesium, Total	7439-95-4	36.4		5.00	2.50

Sample #: L12060445-01	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW7GW601212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 09:47
Collect Date: 06/12/2012 10:25	Dilution: 1	File ID: NI.061912.094714
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.146		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00213		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00647		0.00200	0.00100
Nickel, Total	7440-02-0	0.00482		0.00400	0.00200
Selenium, Total	7782-49-2	0.000652	J	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-01

PrePrep Method: N/A

Instrument: HYDRA

Client ID: 40MW7GW601212

Prep Method: 7470A

Prep Date: 06/18/2012 10:33

Matrix: Water

Analytical Method: 7470A

Cal Date: 06/25/2012 13:06

Workgroup #: WG401291

Analyst: PDM

Run Date: 06/25/2012 13:27

Collect Date: 06/12/2012 10:25

Dilution: 1

File ID: HY.062512.132725

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-02

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40TB061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401429

Analyst: FJB

Run Date: 06/22/2012 16:55

Collect Date: 06/12/2012 00:01

Dilution: 1

File ID: 11M84703

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	95.7	70	120		
4-Bromofluorobenzene	109	75	120		
Dibromofluoromethane	95.9	85	115		
Toluene-d8	103	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-03	PrePrep Method: N/A	Instrument: HPMS11
Client ID: LFMW01GW061212	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 05/03/2012 21:37
Workgroup #: WG401456	Analyst: MES	Run Date: 06/23/2012 18:16
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: 11M84747
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.13		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	92.3	70	120		
4-Bromofluorobenzene	113	75	120		
Dibromofluoromethane	93.8	85	115		
Toluene-d8	105	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-03	PrePrep Method: N/A	Instrument: HPMS12
Client ID: LFMW01GW061212	Prep Method: 3520C	Prep Date: 06/18/2012 12:02
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/07/2012 15:27
Workgroup #: WG401264	Analyst: MDC	Run Date: 06/24/2012 16:51
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: 12M40150
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4		U	5.00	2.50
bis(2-Chloroisopropyl)ether	108-60-1		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.0	3.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	98.7	40	125		
2-Fluorobiphenyl	82.1	50	110		
2-Fluorophenol	75.2	20	110		
Nitrobenzene-d5	88.8	40	110		
p-Terphenyl-d14	106	50	135		
Phenol-d5	81.5	10	115		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-03

Client ID: LFMW01GW061212

Matrix: Water

Workgroup #: WG400971

Collect Date: 06/12/2012 12:59

Sample Tag: 01

PrePrep Method: N/A

Prep Method: 3510C

Analytical Method: 8270C

Analyst: CAA

Dilution: 1

Units: ug/L

Instrument: HPMS7

Prep Date: 06/18/2012 11:00

Cal Date: 06/01/2012 16:20

Run Date: 06/20/2012 15:41

File ID: 7M55228

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0562	0.0281
Acenaphthylene	208-96-8		U	0.0562	0.0281
Acenaphthene	83-32-9		U	0.0562	0.0281
Fluorene	86-73-7		U	0.0562	0.0281
Phenanthrene	85-01-8		U	0.0562	0.0281
Anthracene	120-12-7		U	0.0562	0.0281
Fluoranthene	206-44-0		U	0.0562	0.0281
Pyrene	129-00-0		U	0.0562	0.0281
Benzo(a)anthracene	56-55-3		U	0.0562	0.0281
Chrysene	218-01-9	0.0308	J	0.0562	0.0281
Benzo(b)fluoranthene	205-99-2		U	0.0562	0.0281
Benzo(k)fluoranthene	207-08-9		U	0.0562	0.0281
Benzo(a)pyrene	50-32-8		U	0.0562	0.0281
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0562	0.0281
Dibenzo(a,h)anthracene	53-70-3		U	0.0562	0.0281
Benzo(g,h,i)perylene	191-24-2		U	0.0562	0.0281
1-Methylnaphthalene	90-12-0		U	0.0562	0.0281
2-Methylnaphthalene	91-57-6		U	0.0562	0.0281
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	91.0	35	114		
2-Fluorobiphenyl	93.2	50	110		
p-Terphenyl-d14	113	33	141		
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-03

PrePrep Method: N/A

Instrument: LCMS1

Client ID: LFMW01GW061212

Prep Method: 6850

Prep Date: 06/19/2012 16:12

Matrix: Water

Analytical Method: 6850

Cal Date: 06/14/2012 16:52

Workgroup #: WG401077

Analyst: ADC

Run Date: 06/19/2012 19:21

Collect Date: 06/12/2012 12:59

Dilution: 1

File ID: 1LM.LM16725

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	4.81		0.200	0.100

Certificate of Analysis

Sample #: L12060445-03	PrePrep Method: N/A	Instrument: HP15
Client ID: LFMW01GW061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/19/2012 20:18
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: 15G32795.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0549	0.0110
4,4'-DDE	72-55-9		U	0.0549	0.0110
4,4'-DDT	50-29-3		U	0.0549	0.0110
Aldrin	309-00-2		U	0.0549	0.0110
alpha Chlordane	5103-71-9		U	0.0549	0.0110
alpha-BHC	319-84-6		U	0.0549	0.0110
beta-BHC	319-85-7		U	0.0549	0.0110
delta-BHC	319-86-8		U	0.0549	0.0110
Dieldrin	60-57-1		U	0.0549	0.0110
Endosulfan I	959-98-8		U	0.0549	0.0110
Endosulfan II	33213-65-9		U	0.0549	0.0110
Endosulfan sulfate	1031-07-8		U	0.0549	0.0110
Endrin	72-20-8		U	0.0549	0.0110
Endrin aldehyde	7421-93-4		U	0.0549	0.0110
Endrin ketone	53494-70-5		U	0.0549	0.0110
gamma Chlordane	5103-74-2		U	0.0549	0.0110
gamma-BHC (Lindane)	58-89-9		U	0.0549	0.0110
Heptachlor	76-44-8		U	0.0549	0.0110
Heptachlor epoxide	1024-57-3		U	0.0549	0.0110
Methoxychlor	72-43-5		U	0.0549	0.0110
Toxaphene	8001-35-2		U	1.10	0.330
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	65.3	25	140		
Decachlorobiphenyl	50.2	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-03	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: LFMW01GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 13:57
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: P2.062012.135735
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.0748	J	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Iron, Total	7439-89-6	0.120		0.100	0.0500
Potassium, Total	7440-09-7	1.74		1.00	0.500
Sodium, Total	7440-23-5	8.45		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-03

PrePrep Method: N/A

Instrument: PE-ICP2

Client ID: LFMW01GW061212

Prep Method: 3005A

Prep Date: 06/18/2012 10:52

Matrix: Water

Analytical Method: 6010B

Cal Date: 06/21/2012 08:50

Workgroup #: WG400948

Analyst: KHR

Run Date: 06/21/2012 16:30

Collect Date: 06/12/2012 12:59

Dilution: 10

File ID: P2.062112.163050

Sample Tag: DL01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	82.8		2.00	1.00
Magnesium, Total	7439-95-4	33.8		5.00	2.50

Sample #: L12060445-03

PrePrep Method: N/A

Instrument: ICP-MS2

Client ID: LFMW01GW061212

Prep Method: 3015

Prep Date: 06/15/2012 07:39

Matrix: Water

Analytical Method: 6020

Cal Date: 06/19/2012 08:58

Workgroup #: WG400788

Analyst: JYH

Run Date: 06/19/2012 11:09

Collect Date: 06/12/2012 12:59

Dilution: 1

File ID: NI.061912.110907

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0657		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00314		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00115	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00218		0.00200	0.00100
Nickel, Total	7440-02-0	0.00495		0.00400	0.00200
Selenium, Total	7782-49-2	0.000726	J	0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-03 **PrePrep Method:** N/A **Instrument:** HYDRA
Client ID: LFMW01GW061212 **Prep Method:** 7470A **Prep Date:** 06/18/2012 10:33
Matrix: Water **Analytical Method:** 7470A **Cal Date:** 06/25/2012 13:06
Workgroup #: WG401291 **Analyst:** PDM **Run Date:** 06/25/2012 13:31
Collect Date: 06/12/2012 12:59 **Dilution:** 1 **File ID:** HY.062512.133103
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-04 **PrePrep Method:** N/A **Instrument:** PE-ICP2
Client ID: LFMW01GW061212 **Prep Method:** 3005A **Prep Date:** 06/18/2012 10:52
Matrix: Water **Analytical Method:** 6010B **Cal Date:** 06/20/2012 09:37
Workgroup #: WG400948 **Analyst:** KHR **Run Date:** 06/20/2012 14:04
Collect Date: 06/12/2012 12:59 **Dilution:** 1 **File ID:** P2.062012.140430
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Potassium, Dissolved	7440-09-7	1.63		1.00	0.500
Sodium, Dissolved	7440-23-5	8.12		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-04 **PrePrep Method:** N/A **Instrument:** PE-ICP2
Client ID: LFMW01GW061212 **Prep Method:** 3005A **Prep Date:** 06/18/2012 10:52
Matrix: Water **Analytical Method:** 6010B **Cal Date:** 06/21/2012 08:50
Workgroup #: WG400948 **Analyst:** KHR **Run Date:** 06/21/2012 16:37
Collect Date: 06/12/2012 12:59 **Dilution:** 10 **File ID:** P2.062112.163745
Sample Tag: DL01 **Units:** mg/L

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Dissolved	7440-70-2	82.0		2.00	1.00
Magnesium, Dissolved	7439-95-4	32.7		5.00	2.50

Sample #: L12060445-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: LFMW01GW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:12
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: NI.061912.111223
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2		U	0.00100	0.000500
Barium, Dissolved	7440-39-3	0.0634		0.00300	0.00150
Cadmium, Dissolved	7440-43-9		U	0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.00272		0.00200	0.00100
Cobalt, Dissolved	7440-48-4		U	0.00100	0.000500
Copper, Dissolved	7440-50-8		U	0.00200	0.00100
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Manganese, Dissolved	7439-96-5		U	0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.00481		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.000700	J	0.00100	0.000500
Silver, Dissolved	7440-22-4		U	0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-04	PrePrep Method: N/A	Instrument: HYDRA
Client ID: LFMW01GW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:32
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: HY.062512.133239
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 40MW6GW061212	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 05/03/2012 21:37
Workgroup #: WG401456	Analyst: MES	Run Date: 06/23/2012 15:12
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 11M84741
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	2.71		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	92.9	70	120		
4-Bromofluorobenzene	115	75	120		
Dibromofluoromethane	96.5	85	115		
Toluene-d8	107	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-05

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40MW6GW061212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 17:22

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 12M40151

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4		U	5.00	2.50
bis(2-Chloroisopropyl)ether	108-60-1		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	94.2	40	125		
2-Fluorobiphenyl	77.9	50	110		
2-Fluorophenol	73.9	20	110		
Nitrobenzene-d5	84.4	40	110		
p-Terphenyl-d14	104	50	135		
Phenol-d5	79.5	10	115		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Sample #: L12060445-05	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW6GW061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 16:10
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 7M55229
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0562	0.0281
Acenaphthylene	208-96-8		U	0.0562	0.0281
Acenaphthene	83-32-9		U	0.0562	0.0281
Fluorene	86-73-7		U	0.0562	0.0281
Phenanthrene	85-01-8	0.236		0.0562	0.0281
Anthracene	120-12-7		U	0.0562	0.0281
Fluoranthene	206-44-0	0.606		0.0562	0.0281
Pyrene	129-00-0	0.476		0.0562	0.0281
Benzo(a)anthracene	56-55-3	0.211		0.0562	0.0281
Chrysene	218-01-9	0.890		0.0562	0.0281
Benzo(b)fluoranthene	205-99-2	0.261		0.0562	0.0281
Benzo(k)fluoranthene	207-08-9	0.170		0.0562	0.0281
Benzo(a)pyrene	50-32-8	0.0793		0.0562	0.0281
Indeno(1,2,3-cd)pyrene	193-39-5	0.0391	J	0.0562	0.0281
Dibenzo(a,h)anthracene	53-70-3		U	0.0562	0.0281
Benzo(g,h,i)perylene	191-24-2	0.0475	J	0.0562	0.0281
1-Methylnaphthalene	90-12-0		U	0.0562	0.0281
2-Methylnaphthalene	91-57-6		U	0.0562	0.0281

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Nitrobenzene-d5	90.7	35	114	
2-Fluorobiphenyl	92.2	50	110	
p-Terphenyl-d14	120	33	141	

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW6GW061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 20:37
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 1LM.LM16729
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.647		0.200	0.100

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: HP15
Client ID: 40MW6GW061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/19/2012 20:46
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 15G32796.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0538	0.0108
4,4'-DDE	72-55-9		U	0.0538	0.0108
4,4'-DDT	50-29-3		U	0.0538	0.0108
Aldrin	309-00-2		U	0.0538	0.0108
alpha Chlordane	5103-71-9		U	0.0538	0.0108
alpha-BHC	319-84-6		U	0.0538	0.0108
beta-BHC	319-85-7		U	0.0538	0.0108
delta-BHC	319-86-8		U	0.0538	0.0108
Dieldrin	60-57-1		U	0.0538	0.0108
Endosulfan I	959-98-8		U	0.0538	0.0108
Endosulfan II	33213-65-9		U	0.0538	0.0108
Endosulfan sulfate	1031-07-8		U	0.0538	0.0108
Endrin	72-20-8		U	0.0538	0.0108
Endrin aldehyde	7421-93-4		U	0.0538	0.0108
Endrin ketone	53494-70-5		U	0.0538	0.0108
gamma Chlordane	5103-74-2		U	0.0538	0.0108
gamma-BHC (Lindane)	58-89-9		U	0.0538	0.0108
Heptachlor	76-44-8		U	0.0538	0.0108
Heptachlor epoxide	1024-57-3		U	0.0538	0.0108
Methoxychlor	72-43-5		U	0.0538	0.0108
Toxaphene	8001-35-2		U	1.08	0.323
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	70.7	25	140		

Certificate of Analysis

Decachlorobiphenyl	53.2	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:11
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: P2.062012.141125
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.230		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Iron, Total	7439-89-6	0.296		0.100	0.0500
Potassium, Total	7440-09-7	1.14		1.00	0.500
Sodium, Total	7440-23-5	5.18		0.500	0.250
Vanadium, Total	7440-62-2	0.00809	J	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 16:44
Collect Date: 06/12/2012 15:02	Dilution: 10	File ID: P2.062112.164440
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	85.3		2.00	1.00
Magnesium, Total	7439-95-4	34.0		5.00	2.50

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW6GW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 09:37
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: NI.061912.093733
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0522		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00197	J	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00201		0.00200	0.00100
Lead, Total	7439-92-1	0.000525	J	0.00100	0.000500
Manganese, Total	7439-96-5	0.00293		0.00200	0.00100
Nickel, Total	7440-02-0	0.00489		0.00400	0.00200
Selenium, Total	7782-49-2	0.00124		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW6GW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:34
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: HY.062512.133417
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 40MW6MSGW061212	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 05/03/2012 21:37
Workgroup #: WG401456	Analyst: MES	Run Date: 06/23/2012 16:44
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 11M84744
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6	21.7		1.00	0.250
1,1,1-Trichloroethane	71-55-6	20.2		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	23.7		1.00	0.200
1,1,2-Trichloroethane	79-00-5	21.6		1.00	0.250
1,1-Dichloroethane	75-34-3	23.4		1.00	0.125
1,1-Dichloroethene	75-35-4	22.1		1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1-Dichloropropene	563-58-6	21.8		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	19.0		1.00	0.150
1,2,3-Trichloropropane	96-18-4	23.4		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	20.4		1.00	0.200
1,2,4-Trimethylbenzene	95-63-6	21.8		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.3		5.00	1.00
1,2-Dibromoethane	106-93-4	20.1		1.00	0.250
1,2-Dichlorobenzene	95-50-1	20.1		1.00	0.125
1,2-Dichloroethane	107-06-2	21.2		1.00	0.250
1,2-Dichloropropane	78-87-5	24.3		1.00	0.200
1,3,5-Trimethylbenzene	108-67-8	20.3		1.00	0.250
1,3-Dichlorobenzene	541-73-1	20.0		1.00	0.250
1,3-Dichloropropane	142-28-9	22.1		1.00	0.200
1,4-Dichlorobenzene	106-46-7	19.8		1.00	0.125
2,2-Dichloropropane	594-20-7	21.0		1.00	0.250
2-Butanone	78-93-3	20.0		10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8	22.2		1.00	0.125
2-Hexanone	591-78-6	19.8		10.0	2.50
4-Chlorotoluene	106-43-4	21.3		1.00	0.250
4-Methyl-2-pentanone	108-10-1	19.8		10.0	2.50
Acetone	67-64-1	25.6		10.0	2.50
Benzene	71-43-2	22.5		1.00	0.125
Bromobenzene	108-86-1	21.4		1.00	0.125
Bromochloromethane	74-97-5	20.3		1.00	0.200
Bromodichloromethane	75-27-4	23.1		1.00	0.250
Bromoform	75-25-2	21.5		1.00	0.500
Bromomethane	74-83-9	22.6		1.00	0.500
Carbon disulfide	75-15-0	21.8		1.00	0.500
Carbon tetrachloride	56-23-5	17.5		1.00	0.250
Chlorobenzene	108-90-7	21.4		1.00	0.125
Chlorodibromomethane	124-48-1	20.2		1.00	0.250
Chloroethane	75-00-3	22.2		1.00	0.500
Chloroform	67-66-3	24.2		1.00	0.125
Chloromethane	74-87-3	27.4		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	21.9		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	22.4		1.00	0.250
Dibromomethane	74-95-3	19.7		1.00	0.250
Dichlorodifluoromethane	75-71-8	24.8		1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Ethylbenzene	100-41-4	21.1		1.00	0.250
Hexachlorobutadiene	87-68-3	18.9		1.00	0.250
Isopropylbenzene	98-82-8	18.4		1.00	0.250
m-,p-Xylene	179601-23-1	41.4		1.00	0.500
Methylene chloride	75-09-2	22.1		5.00	0.250
n-Butylbenzene	104-51-8	23.0		1.00	0.250
n-Propylbenzene	103-65-1	21.5		1.00	0.125
Naphthalene	91-20-3	17.3		1.00	0.200
o-Xylene	95-47-6	19.8		1.00	0.250
p-Isopropyltoluene	99-87-6	20.3		1.00	0.250
sec-Butylbenzene	135-98-8	19.6		1.00	0.250
Styrene	100-42-5	20.9		1.00	0.125
tert-Butylbenzene	98-06-6	19.1		1.00	0.250
Tetrachloroethene	127-18-4	19.8		1.00	0.250
Toluene	108-88-3	21.7		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	20.9		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	21.3		1.00	0.500
Trichloroethene	79-01-6	18.8		1.00	0.250
Trichlorofluoromethane	75-69-4	16.7		1.00	0.250
Vinyl acetate	108-05-4	33.9		10.0	2.50
Vinyl chloride	75-01-4	23.2		1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	92.3	70	120		
4-Bromofluorobenzene	107	75	120		
Dibromofluoromethane	95.1	85	115		
Toluene-d8	103	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: HPMS12
Client ID: 40MW6MSGW061212	Prep Method: 3520C	Prep Date: 06/18/2012 12:02
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/07/2012 15:27
Workgroup #: WG401264	Analyst: MDC	Run Date: 06/24/2012 17:53
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 12M40152
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1	32.5		5.10	2.55
1,2-Dichlorobenzene	95-50-1	38.0		5.10	2.55
1,3-Dichlorobenzene	541-73-1	36.9		5.10	2.55
1,4-Dichlorobenzene	106-46-7	37.9		5.10	2.55

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
2,4,5-Trichlorophenol	95-95-4	57.3		5.10	2.55
2,4,6-Trichlorophenol	88-06-2	54.1		5.10	2.55
2,4-Dichlorophenol	120-83-2	43.6		5.10	2.55
2,4-Dimethylphenol	105-67-9	38.9		5.10	2.55
2,4-Dinitrophenol	51-28-5	57.0		25.5	12.8
2,4-Dinitrotoluene	121-14-2	60.7		5.10	2.55
2,6-Dinitrotoluene	606-20-2	57.2		5.10	2.55
2-Chloronaphthalene	91-58-7	50.2		5.10	2.55
2-Chlorophenol	95-57-8	48.8		5.10	2.55
2-Methylnaphthalene	91-57-6	39.6		5.10	2.55
2-Methylphenol	95-48-7	52.3		5.10	2.55
2-Nitroaniline	88-74-4	68.0		25.5	12.8
2-Nitrophenol	88-75-5	43.8		5.10	2.55
3,3'-Dichlorobenzidine	91-94-1	56.4		10.2	2.55
3-,4-Methylphenol	106-44-5	53.2		5.10	2.55
3-Nitroaniline	99-09-2	68.9		25.5	12.8
4,6-Dinitro-2-methylphenol	534-52-1	67.7		25.5	12.8
4-Bromophenyl-phenylether	101-55-3	51.2		5.10	2.55
4-Chloro-3-methylphenol	59-50-7	50.6		5.10	2.55
4-Chloroaniline	106-47-8	43.5		5.10	2.55
4-Chlorophenyl-phenyl ether	7005-72-3	52.9		5.10	2.55
4-Nitroaniline	100-01-6	64.8		25.5	12.8
4-Nitrophenol	100-02-7	72.4		25.5	12.8
Acenaphthene	83-32-9	53.6		5.10	2.55
Acenaphthylene	208-96-8	53.8		5.10	2.55
Anthracene	120-12-7	55.7		5.10	2.55
Benzo(a)anthracene	56-55-3	57.4		5.10	2.55
Benzo(a)pyrene	50-32-8	55.5		5.10	2.55
Benzo(b)fluoranthene	205-99-2	53.7		5.10	2.55
Benzo(g,h,i)Perylene	191-24-2	65.2		5.10	2.55
Benzo(k)fluoranthene	207-08-9	57.1		5.10	2.55
Benzoic acid	65-85-0	30.0		25.5	12.8
Benzyl alcohol	100-51-6	55.3		5.10	2.55
Bis(2-Chloroethoxy)Methane	111-91-1	37.6		5.10	2.55
Bis(2-Chloroethyl)ether	111-44-4	53.9		5.10	2.55
bis(2-Chloroisopropyl)ether	108-60-1	65.2		5.10	2.55
bis(2-Ethylhexyl)phthalate	117-81-7	65.1		10.2	3.06
Butylbenzylphthalate	85-68-7	66.2		5.10	2.55
Chrysene	218-01-9	59.8		5.10	2.55

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Di-N-Butylphthalate	84-74-2	59.0		5.10	2.55
Di-n-octylphthalate	117-84-0	65.3		5.10	2.55
Dibenzo(a,h)Anthracene	53-70-3	49.7		5.10	2.55
Dibenzofuran	132-64-9	53.4		5.10	2.55
Diethylphthalate	84-66-2	57.9		5.10	2.55
Dimethylphthalate	131-11-3	52.7		5.10	2.55
Fluoranthene	206-44-0	57.8		5.10	2.55
Fluorene	86-73-7	55.1		5.10	2.55
Hexachlorobenzene	118-74-1	54.6		5.10	2.55
Hexachlorobutadiene	87-68-3	33.7		5.10	2.55
Hexachlorocyclopentadiene	77-47-4	17.4		5.10	2.55
Hexachloroethane	67-72-1	37.6		5.10	2.55
Indeno(1,2,3-cd)pyrene	193-39-5	61.0		5.10	2.55
Isophorone	78-59-1	50.1		5.10	2.55
N-Nitrosodiphenylamine	86-30-6	54.7		5.10	2.55
N-Nitrosodipropylamine	621-64-7	64.5		5.10	2.55
Naphthalene	91-20-3	43.6		5.10	2.55
Nitrobenzene	98-95-3	48.9		5.10	2.55
Pentachlorophenol	87-86-5	61.8		25.5	12.8
Phenanthrene	85-01-8	57.8		5.10	2.55
Phenol	108-95-2	50.8		5.10	2.55
Pyrene	129-00-0	58.3		5.10	2.55
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	105	40	125		
2-Fluorobiphenyl	91.6	50	110		
2-Fluorophenol	82.7	20	110		
Nitrobenzene-d5	89.1	40	110		
p-Terphenyl-d14	99.8	50	135		
Phenol-d5	90.9	10	115		

Sample #: L12060445-06

PrePrep Method: N/A

Instrument: HPMS7

Client ID: 40MW6MSGW061212

Prep Method: 3510C

Prep Date: 06/18/2012 11:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/01/2012 16:20

Workgroup #: WG400971

Analyst: CAA

Run Date: 06/20/2012 16:38

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 7M55230

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	0.990		0.0568	0.0284
Acenaphthylene	208-96-8	1.02		0.0568	0.0284

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Acenaphthene	83-32-9	1.01		0.0568	0.0284
Fluorene	86-73-7	1.05		0.0568	0.0284
Phenanthrene	85-01-8	1.10		0.0568	0.0284
Anthracene	120-12-7	1.09		0.0568	0.0284
Fluoranthene	206-44-0	1.25		0.0568	0.0284
Pyrene	129-00-0	1.30		0.0568	0.0284
Benzo(a)anthracene	56-55-3	1.19		0.0568	0.0284
Chrysene	218-01-9	1.34		0.0568	0.0284
Benzo(b)fluoranthene	205-99-2	1.32		0.0568	0.0284
Benzo(k)fluoranthene	207-08-9	1.25		0.0568	0.0284
Benzo(a)pyrene	50-32-8	1.29		0.0568	0.0284
Indeno(1,2,3-cd)pyrene	193-39-5	1.14		0.0568	0.0284
Dibenzo(a,h)anthracene	53-70-3	1.17		0.0568	0.0284
Benzo(g,h,i)perylene	191-24-2	1.16		0.0568	0.0284
1-Methylnaphthalene	90-12-0	0.998		0.0568	0.0284
2-Methylnaphthalene	91-57-6	1.05		0.0568	0.0284
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	89.9	35	114		
2-Fluorobiphenyl	94.0	50	110		
p-Terphenyl-d14	119	33	141		

Sample #: L12060445-06

PrePrep Method: N/A

Instrument: LCMS1

Client ID: 40MW6MSGW061212

Prep Method: 6850

Prep Date: 06/19/2012 16:12

Matrix: Water

Analytical Method: 6850

Cal Date: 06/14/2012 16:52

Workgroup #: WG401077

Analyst: ADC

Run Date: 06/19/2012 20:56

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 1LM.LM16730

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.820		0.200	0.100

Sample #: L12060445-06

PrePrep Method: N/A

Instrument: HP15

Client ID: 40MW6MSGW061212

Prep Method: 3510C

Prep Date: 06/18/2012 08:00

Matrix: Water

Analytical Method: 8081A

Cal Date: 05/09/2012 20:58

Workgroup #: WG400970

Analyst: ECL

Run Date: 06/19/2012 21:15

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 15G32797.R

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.485		0.0538	0.0108

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDE	72-55-9	0.485		0.0538	0.0108
4,4'-DDT	50-29-3	0.510		0.0538	0.0108
Aldrin	309-00-2	0.431		0.0538	0.0108
alpha Chlordane	5103-71-9	0.459		0.0538	0.0108
alpha-BHC	319-84-6	0.467		0.0538	0.0108
beta-BHC	319-85-7	0.427		0.0538	0.0108
delta-BHC	319-86-8	0.425		0.0538	0.0108
Dieldrin	60-57-1	0.486		0.0538	0.0108
Endosulfan I	959-98-8	0.459		0.0538	0.0108
Endosulfan II	33213-65-9	0.456		0.0538	0.0108
Endosulfan sulfate	1031-07-8	0.479		0.0538	0.0108
Endrin	72-20-8	0.455		0.0538	0.0108
Endrin aldehyde	7421-93-4	0.420		0.0538	0.0108
Endrin ketone	53494-70-5	0.494		0.0538	0.0108
gamma Chlordane	5103-74-2	0.470		0.0538	0.0108
gamma-BHC (Lindane)	58-89-9	0.468		0.0538	0.0108
Heptachlor	76-44-8	0.451		0.0538	0.0108
Heptachlor epoxide	1024-57-3	0.465		0.0538	0.0108
Methoxychlor	72-43-5	0.545		0.0538	0.0108
Toxaphene	8001-35-2		U	1.08	0.323
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	67.2	25	140		
Decachlorobiphenyl	61.1	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6MSGW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:30
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: P2.062012.143016
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	5.60		0.100	0.0500
Beryllium, Total	7440-41-7	0.0240		0.00200	0.00100
Iron, Total	7439-89-6	2.36		0.100	0.0500
Potassium, Total	7440-09-7	26.9		1.00	0.500
Sodium, Total	7440-23-5	30.9		0.500	0.250
Vanadium, Total	7440-62-2	0.517		0.0100	0.00500
Zinc, Total	7440-66-6	0.493		0.0200	0.0100

Certificate of Analysis

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6MSGW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 17:04
Collect Date: 06/12/2012 15:02	Dilution: 10	File ID: P2.062112.170428
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	96.7		2.00	1.00
Magnesium, Total	7439-95-4	38.5		5.00	2.50

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW6MSGW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 09:40
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: NI.061912.094047
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0628		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0641		0.00100	0.000500
Barium, Total	7440-39-3	0.112		0.00300	0.00150
Cadmium, Total	7440-43-9	0.0639		0.000600	0.000300
Chromium, Total	7440-47-3	0.0662		0.00200	0.00100
Cobalt, Total	7440-48-4	0.0633		0.00100	0.000500
Copper, Total	7440-50-8	0.0633		0.00200	0.00100
Lead, Total	7439-92-1	0.0638		0.00100	0.000500
Manganese, Total	7439-96-5	0.0674		0.00200	0.00100
Nickel, Total	7440-02-0	0.0671		0.00400	0.00200
Selenium, Total	7782-49-2	0.0649		0.00100	0.000500
Silver, Total	7440-22-4	0.0574		0.00100	0.000500
Thallium, Total	7440-28-0	0.0629		0.000200	0.000100

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW6MSGW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:35
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: HY.062512.133553
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00496		0.000222	0.000111

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 40MW6MSDGW061212	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 05/03/2012 21:37
Workgroup #: WG401456	Analyst: MES	Run Date: 06/23/2012 17:14
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 11M84745
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6	22.0		1.00	0.250
1,1,1-Trichloroethane	71-55-6	21.0		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	23.9		1.00	0.200
1,1,2-Trichloroethane	79-00-5	21.7		1.00	0.250
1,1-Dichloroethane	75-34-3	24.0		1.00	0.125
1,1-Dichloroethene	75-35-4	22.6		1.00	0.500
1,1-Dichloropropene	563-58-6	22.4		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	19.7		1.00	0.150
1,2,3-Trichloropropane	96-18-4	22.9		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	21.2		1.00	0.200
1,2,4-Trimethylbenzene	95-63-6	21.9		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	18.9		5.00	1.00
1,2-Dibromoethane	106-93-4	20.3		1.00	0.250
1,2-Dichlorobenzene	95-50-1	20.3		1.00	0.125
1,2-Dichloroethane	107-06-2	21.4		1.00	0.250
1,2-Dichloropropane	78-87-5	25.3		1.00	0.200
1,3,5-Trimethylbenzene	108-67-8	20.6		1.00	0.250
1,3-Dichlorobenzene	541-73-1	20.2		1.00	0.250
1,3-Dichloropropane	142-28-9	22.8		1.00	0.200
1,4-Dichlorobenzene	106-46-7	19.8		1.00	0.125
2,2-Dichloropropane	594-20-7	22.0		1.00	0.250
2-Butanone	78-93-3	20.1		10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8	22.4		1.00	0.125
2-Hexanone	591-78-6	20.4		10.0	2.50
4-Chlorotoluene	106-43-4	21.4		1.00	0.250
4-Methyl-2-pentanone	108-10-1	21.2		10.0	2.50
Acetone	67-64-1	21.3		10.0	2.50
Benzene	71-43-2	22.8		1.00	0.125
Bromobenzene	108-86-1	21.9		1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromochloromethane	74-97-5	20.8		1.00	0.200
Bromodichloromethane	75-27-4	23.4		1.00	0.250
Bromoform	75-25-2	21.9		1.00	0.500
Bromomethane	74-83-9	23.0		1.00	0.500
Carbon disulfide	75-15-0	21.8		1.00	0.500
Carbon tetrachloride	56-23-5	18.4		1.00	0.250
Chlorobenzene	108-90-7	22.0		1.00	0.125
Chlorodibromomethane	124-48-1	20.3		1.00	0.250
Chloroethane	75-00-3	22.7		1.00	0.500
Chloroform	67-66-3	24.3		1.00	0.125
Chloromethane	74-87-3	27.3		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	22.5		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	22.8		1.00	0.250
Dibromomethane	74-95-3	20.3		1.00	0.250
Dichlorodifluoromethane	75-71-8	25.5		1.00	0.250
Ethylbenzene	100-41-4	21.4		1.00	0.250
Hexachlorobutadiene	87-68-3	19.9		1.00	0.250
Isopropylbenzene	98-82-8	18.9		1.00	0.250
m-,p-Xylene	179601-23-1	42.3		1.00	0.500
Methylene chloride	75-09-2	22.5		5.00	0.250
n-Butylbenzene	104-51-8	23.7		1.00	0.250
n-Propylbenzene	103-65-1	22.1		1.00	0.125
Naphthalene	91-20-3	17.3		1.00	0.200
o-Xylene	95-47-6	20.4		1.00	0.250
p-Isopropyltoluene	99-87-6	20.5		1.00	0.250
sec-Butylbenzene	135-98-8	20.2		1.00	0.250
Styrene	100-42-5	21.2		1.00	0.125
tert-Butylbenzene	98-06-6	19.6		1.00	0.250
Tetrachloroethene	127-18-4	20.7		1.00	0.250
Toluene	108-88-3	22.0		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	22.2		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	21.6		1.00	0.500
Trichloroethene	79-01-6	19.3		1.00	0.250
Trichlorofluoromethane	75-69-4	17.4		1.00	0.250
Vinyl acetate	108-05-4	33.6		10.0	2.50
Vinyl chloride	75-01-4	23.5		1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	92.3	70	120		
4-Bromofluorobenzene	108	75	120		

Certificate of Analysis

Dibromofluoromethane	96.5	85	115	
Toluene-d8	104	85	120	

U	Analyte was not detected. The concentration is below the reported LOD.			
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Sample #: L12060445-07	PrePrep Method: N/A	Instrument: HPMS12
Client ID: 40MW6MSDGW061212	Prep Method: 3520C	Prep Date: 06/18/2012 12:02
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/07/2012 15:27
Workgroup #: WG401264	Analyst: MDC	Run Date: 06/24/2012 18:24
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 12M40153
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1	31.8		5.00	2.50
1,2-Dichlorobenzene	95-50-1	36.6		5.00	2.50
1,3-Dichlorobenzene	541-73-1	35.0		5.00	2.50
1,4-Dichlorobenzene	106-46-7	35.5		5.00	2.50
2,4,5-Trichlorophenol	95-95-4	58.4		5.00	2.50
2,4,6-Trichlorophenol	88-06-2	54.3		5.00	2.50
2,4-Dichlorophenol	120-83-2	42.4		5.00	2.50
2,4-Dimethylphenol	105-67-9	38.6		5.00	2.50
2,4-Dinitrophenol	51-28-5	56.9		25.0	12.5
2,4-Dinitrotoluene	121-14-2	60.1		5.00	2.50
2,6-Dinitrotoluene	606-20-2	55.7		5.00	2.50
2-Chloronaphthalene	91-58-7	49.2		5.00	2.50
2-Chlorophenol	95-57-8	46.9		5.00	2.50
2-Methylnaphthalene	91-57-6	38.8		5.00	2.50
2-Methylphenol	95-48-7	50.6		5.00	2.50
2-Nitroaniline	88-74-4	64.0		25.0	12.5
2-Nitrophenol	88-75-5	43.2		5.00	2.50
3,3'-Dichlorobenzidine	91-94-1	54.3		10.0	2.50
3-,4-Methylphenol	106-44-5	51.6		5.00	2.50
3-Nitroaniline	99-09-2	66.9		25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1	68.2		25.0	12.5
4-Bromophenyl-phenylether	101-55-3	51.7		5.00	2.50
4-Chloro-3-methylphenol	59-50-7	48.9		5.00	2.50
4-Chloroaniline	106-47-8	42.7		5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3	53.7		5.00	2.50
4-Nitroaniline	100-01-6	64.6		25.0	12.5
4-Nitrophenol	100-02-7	68.2		25.0	12.5
Acenaphthene	83-32-9	53.5		5.00	2.50
Acenaphthylene	208-96-8	52.9		5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Anthracene	120-12-7	55.3		5.00	2.50
Benzo(a)anthracene	56-55-3	60.2		5.00	2.50
Benzo(a)pyrene	50-32-8	58.6		5.00	2.50
Benzo(b)fluoranthene	205-99-2	61.0		5.00	2.50
Benzo(g,h,i)Perylene	191-24-2	69.7		5.00	2.50
Benzo(k)fluoranthene	207-08-9	62.1		5.00	2.50
Benzoic acid	65-85-0	24.1	J	25.0	12.5
Benzyl alcohol	100-51-6	53.6		5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1	35.0		5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4	50.4		5.00	2.50
bis(2-Chloroisopropyl)ether	108-60-1	58.3		5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7	65.1		10.0	3.00
Butylbenzylphthalate	85-68-7	65.2		5.00	2.50
Chrysene	218-01-9	62.1		5.00	2.50
Di-N-Butylphthalate	84-74-2	58.3		5.00	2.50
Di-n-octylphthalate	117-84-0	65.7		5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3	53.2		5.00	2.50
Dibenzofuran	132-64-9	53.7		5.00	2.50
Diethylphthalate	84-66-2	57.3		5.00	2.50
Dimethylphthalate	131-11-3	52.3		5.00	2.50
Fluoranthene	206-44-0	58.8		5.00	2.50
Fluorene	86-73-7	55.5		5.00	2.50
Hexachlorobenzene	118-74-1	56.1		5.00	2.50
Hexachlorobutadiene	87-68-3	33.5		5.00	2.50
Hexachlorocyclopentadiene	77-47-4	18.2		5.00	2.50
Hexachloroethane	67-72-1	35.3		5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5	65.0		5.00	2.50
Isophorone	78-59-1	46.5		5.00	2.50
N-Nitrosodiphenylamine	86-30-6	53.0		5.00	2.50
N-Nitrosodipropylamine	621-64-7	59.7		5.00	2.50
Naphthalene	91-20-3	42.3		5.00	2.50
Nitrobenzene	98-95-3	45.1		5.00	2.50
Pentachlorophenol	87-86-5	64.6		25.0	12.5
Phenanthrene	85-01-8	57.3		5.00	2.50
Phenol	108-95-2	48.7		5.00	2.50
Pyrene	129-00-0	58.2		5.00	2.50
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	114	40	125		
2-Fluorobiphenyl	94.1	50	110		

Certificate of Analysis

2-Fluorophenol	79.0	20	110	
Nitrobenzene-d5	83.8	40	110	
p-Terphenyl-d14	107	50	135	
Phenol-d5	89.0	10	115	

J	Estimated value ; the analyte concentration was less than the LOQ.
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Sample #: L12060445-07	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW6MSDGW061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 17:06
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 7M55231
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	0.967		0.0500	0.0250
Acenaphthylene	208-96-8	1.00		0.0500	0.0250
Acenaphthene	83-32-9	0.982		0.0500	0.0250
Fluorene	86-73-7	1.03		0.0500	0.0250
Phenanthrene	85-01-8	1.06		0.0500	0.0250
Anthracene	120-12-7	1.07		0.0500	0.0250
Fluoranthene	206-44-0	1.14		0.0500	0.0250
Pyrene	129-00-0	1.16		0.0500	0.0250
Benzo(a)anthracene	56-55-3	1.05		0.0500	0.0250
Chrysene	218-01-9	1.16		0.0500	0.0250
Benzo(b)fluoranthene	205-99-2	1.13		0.0500	0.0250
Benzo(k)fluoranthene	207-08-9	1.10		0.0500	0.0250
Benzo(a)pyrene	50-32-8	1.14		0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5	0.981		0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3	0.988		0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2	0.999		0.0500	0.0250
1-Methylnaphthalene	90-12-0	0.972		0.0500	0.0250
2-Methylnaphthalene	91-57-6	1.02		0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	100	35	114		
2-Fluorobiphenyl	104	50	110		
p-Terphenyl-d14	119	33	141		

Certificate of Analysis

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW6MSDGW061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 21:15
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 1LM.LM16731
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.782		0.200	0.100

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: HP15
Client ID: 40MW6MSDGW061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/19/2012 21:43
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 15G32798.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.453		0.0521	0.0104
4,4'-DDE	72-55-9	0.459		0.0521	0.0104
4,4'-DDT	50-29-3	0.481		0.0521	0.0104
Aldrin	309-00-2	0.415		0.0521	0.0104
alpha Chlordane	5103-71-9	0.430		0.0521	0.0104
alpha-BHC	319-84-6	0.451		0.0521	0.0104
beta-BHC	319-85-7	0.397		0.0521	0.0104
delta-BHC	319-86-8	0.395		0.0521	0.0104
Dieldrin	60-57-1	0.453		0.0521	0.0104
Endosulfan I	959-98-8	0.432		0.0521	0.0104
Endosulfan II	33213-65-9	0.424		0.0521	0.0104
Endosulfan sulfate	1031-07-8	0.447		0.0521	0.0104
Endrin	72-20-8	0.418		0.0521	0.0104
Endrin aldehyde	7421-93-4	0.396		0.0521	0.0104
Endrin ketone	53494-70-5	0.462		0.0521	0.0104
gamma Chlordane	5103-74-2	0.444		0.0521	0.0104
gamma-BHC (Lindane)	58-89-9	0.446		0.0521	0.0104
Heptachlor	76-44-8	0.437		0.0521	0.0104
Heptachlor epoxide	1024-57-3	0.425		0.0521	0.0104
Methoxychlor	72-43-5	0.541		0.0521	0.0104
Toxaphene	8001-35-2		U	1.04	0.313
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	68.8	25	140		

Certificate of Analysis

Decachlorobiphenyl	64.6	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6MSDGW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:36
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: P2.062012.143616
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	5.69		0.100	0.0500
Beryllium, Total	7440-41-7	0.0247		0.00200	0.00100
Iron, Total	7439-89-6	2.41		0.100	0.0500
Potassium, Total	7440-09-7	27.3		1.00	0.500
Sodium, Total	7440-23-5	31.7		0.500	0.250
Vanadium, Total	7440-62-2	0.526		0.0100	0.00500
Zinc, Total	7440-66-6	0.497		0.0200	0.0100

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6MSDGW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 17:10
Collect Date: 06/12/2012 15:02	Dilution: 10	File ID: P2.062112.171026
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	96.6		2.00	1.00
Magnesium, Total	7439-95-4	38.0		5.00	2.50

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW6MSDGW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 09:44
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: NI.061912.094400
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0628		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0652		0.00100	0.000500
Barium, Total	7440-39-3	0.115		0.00300	0.00150

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Cadmium, Total	7440-43-9	0.0649		0.000600	0.000300
Chromium, Total	7440-47-3	0.0686		0.00200	0.00100
Cobalt, Total	7440-48-4	0.0648		0.00100	0.000500
Copper, Total	7440-50-8	0.0643		0.00200	0.00100
Lead, Total	7439-92-1	0.0651		0.00100	0.000500
Manganese, Total	7439-96-5	0.0686		0.00200	0.00100
Nickel, Total	7440-02-0	0.0681		0.00400	0.00200
Selenium, Total	7782-49-2	0.0665		0.00100	0.000500
Silver, Total	7440-22-4	0.0585		0.00100	0.000500
Thallium, Total	7440-28-0	0.0646		0.000200	0.000100

Sample #: L12060445-07

PrePrep Method: N/A

Instrument: HYDRA

Client ID: 40MW6MSDGW061212

Prep Method: 7470A

Prep Date: 06/18/2012 10:33

Matrix: Water

Analytical Method: 7470A

Cal Date: 06/25/2012 13:06

Workgroup #: WG401291

Analyst: PDM

Run Date: 06/25/2012 13:37

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: HY.062512.133735

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00483		0.000222	0.000111

Sample #: L12060445-08

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40DUPGW061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401456

Analyst: MES

Run Date: 06/23/2012 18:46

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 11M84748

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	2.73		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	95.1	70	120		
4-Bromofluorobenzene	112	75	120		
Dibromofluoromethane	95.9	85	115		
Toluene-d8	107	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: HPMS12
Client ID: 40DUPGW061212	Prep Method: 3520C	Prep Date: 06/18/2012 12:02
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/07/2012 15:27
Workgroup #: WG401264	Analyst: MDC	Run Date: 06/24/2012 18:55
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 12M40154
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.21	2.60
1,2-Dichlorobenzene	95-50-1		U	5.21	2.60
1,3-Dichlorobenzene	541-73-1		U	5.21	2.60
1,4-Dichlorobenzene	106-46-7		U	5.21	2.60
2,4,5-Trichlorophenol	95-95-4		U	5.21	2.60
2,4,6-Trichlorophenol	88-06-2		U	5.21	2.60
2,4-Dichlorophenol	120-83-2		U	5.21	2.60
2,4-Dimethylphenol	105-67-9		U	5.21	2.60
2,4-Dinitrophenol	51-28-5		U	26.0	13.0

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
2,4-Dinitrotoluene	121-14-2		U	5.21	2.60
2,6-Dinitrotoluene	606-20-2		U	5.21	2.60
2-Chloronaphthalene	91-58-7		U	5.21	2.60
2-Chlorophenol	95-57-8		U	5.21	2.60
2-Methylnaphthalene	91-57-6		U	5.21	2.60
2-Methylphenol	95-48-7		U	5.21	2.60
2-Nitroaniline	88-74-4		U	26.0	13.0
2-Nitrophenol	88-75-5		U	5.21	2.60
3,3'-Dichlorobenzidine	91-94-1		U	10.4	2.60
3,4-Methylphenol	106-44-5		U	5.21	2.60
3-Nitroaniline	99-09-2		U	26.0	13.0
4,6-Dinitro-2-methylphenol	534-52-1		U	26.0	13.0
4-Bromophenyl-phenylether	101-55-3		U	5.21	2.60
4-Chloro-3-methylphenol	59-50-7		U	5.21	2.60
4-Chloroaniline	106-47-8		U	5.21	2.60
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.21	2.60
4-Nitroaniline	100-01-6		U	26.0	13.0
4-Nitrophenol	100-02-7		U	26.0	13.0
Acenaphthene	83-32-9		U	5.21	2.60
Acenaphthylene	208-96-8		U	5.21	2.60
Anthracene	120-12-7		U	5.21	2.60
Benzo(a)anthracene	56-55-3		U	5.21	2.60
Benzo(a)pyrene	50-32-8		U	5.21	2.60
Benzo(b)fluoranthene	205-99-2		U	5.21	2.60
Benzo(g,h,i)Perylene	191-24-2		U	5.21	2.60
Benzo(k)fluoranthene	207-08-9		U	5.21	2.60
Benzoic acid	65-85-0		U	26.0	13.0
Benzyl alcohol	100-51-6		U	5.21	2.60
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.21	2.60
Bis(2-Chloroethyl)ether	111-44-4		U	5.21	2.60
bis(2-Chloroisopropyl)ether	108-60-1		U	5.21	2.60
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.4	3.13
Butylbenzylphthalate	85-68-7		U	5.21	2.60
Chrysene	218-01-9		U	5.21	2.60
Di-N-Butylphthalate	84-74-2		U	5.21	2.60
Di-n-octylphthalate	117-84-0		U	5.21	2.60
Dibenzo(a,h)Anthracene	53-70-3		U	5.21	2.60
Dibenzofuran	132-64-9		U	5.21	2.60
Diethylphthalate	84-66-2		U	5.21	2.60

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Dimethylphthalate	131-11-3		U	5.21	2.60
Fluoranthene	206-44-0		U	5.21	2.60
Fluorene	86-73-7		U	5.21	2.60
Hexachlorobenzene	118-74-1		U	5.21	2.60
Hexachlorobutadiene	87-68-3		U	5.21	2.60
Hexachlorocyclopentadiene	77-47-4		U	5.21	2.60
Hexachloroethane	67-72-1		U	5.21	2.60
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.21	2.60
Isophorone	78-59-1		U	5.21	2.60
N-Nitrosodiphenylamine	86-30-6		U	5.21	2.60
N-Nitrosodipropylamine	621-64-7		U	5.21	2.60
Naphthalene	91-20-3		U	5.21	2.60
Nitrobenzene	98-95-3		U	5.21	2.60
Pentachlorophenol	87-86-5		U	26.0	13.0
Phenanthrene	85-01-8		U	5.21	2.60
Phenol	108-95-2		U	5.21	2.60
Pyrene	129-00-0		U	5.21	2.60
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	96.8	40	125		
2-Fluorobiphenyl	81.9	50	110		
2-Fluorophenol	69.4	20	110		
Nitrobenzene-d5	89.1	40	110		
p-Terphenyl-d14	107	50	135		
Phenol-d5	77.4	10	115		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40DUPGW061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 17:34
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 7M55232
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0510	0.0255
Acenaphthylene	208-96-8		U	0.0510	0.0255
Acenaphthene	83-32-9		U	0.0510	0.0255
Fluorene	86-73-7		U	0.0510	0.0255
Phenanthrene	85-01-8		U	0.0510	0.0255
Anthracene	120-12-7		U	0.0510	0.0255

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Fluoranthene	206-44-0	0.0265	J	0.0510	0.0255
Pyrene	129-00-0		U	0.0510	0.0255
Benzo(a)anthracene	56-55-3		U	0.0510	0.0255
Chrysene	218-01-9	0.0301	J	0.0510	0.0255
Benzo(b)fluoranthene	205-99-2		U	0.0510	0.0255
Benzo(k)fluoranthene	207-08-9		U	0.0510	0.0255
Benzo(a)pyrene	50-32-8		U	0.0510	0.0255
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0510	0.0255
Dibenzo(a,h)anthracene	53-70-3		U	0.0510	0.0255
Benzo(g,h,i)perylene	191-24-2		U	0.0510	0.0255
1-Methylnaphthalene	90-12-0		U	0.0510	0.0255
2-Methylnaphthalene	91-57-6		U	0.0510	0.0255
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	90.4	35	114		
2-Fluorobiphenyl	95.1	50	110		
p-Terphenyl-d14	118	33	141		
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40DUPGW061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 21:34
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 1LM.LM16732
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.635		0.200	0.100

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: HP15
Client ID: 40DUPGW061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/19/2012 22:11
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 15G32799.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0575	0.0115
4,4'-DDE	72-55-9		U	0.0575	0.0115
4,4'-DDT	50-29-3		U	0.0575	0.0115

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Aldrin	309-00-2		U	0.0575	0.0115
alpha Chlordane	5103-71-9		U	0.0575	0.0115
alpha-BHC	319-84-6		U	0.0575	0.0115
beta-BHC	319-85-7		U	0.0575	0.0115
delta-BHC	319-86-8		U	0.0575	0.0115
Dieldrin	60-57-1		U	0.0575	0.0115
Endosulfan I	959-98-8		U	0.0575	0.0115
Endosulfan II	33213-65-9		U	0.0575	0.0115
Endosulfan sulfate	1031-07-8		U	0.0575	0.0115
Endrin	72-20-8		U	0.0575	0.0115
Endrin aldehyde	7421-93-4		U	0.0575	0.0115
Endrin ketone	53494-70-5		U	0.0575	0.0115
gamma Chlordane	5103-74-2		U	0.0575	0.0115
gamma-BHC (Lindane)	58-89-9		U	0.0575	0.0115
Heptachlor	76-44-8		U	0.0575	0.0115
Heptachlor epoxide	1024-57-3		U	0.0575	0.0115
Methoxychlor	72-43-5		U	0.0575	0.0115
Toxaphene	8001-35-2		U	1.15	0.345
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	66.0	25	140		
Decachlorobiphenyl	52.8	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40DUPGW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:42
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: P2.062012.144216
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.209		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Iron, Total	7439-89-6	0.238		0.100	0.0500
Potassium, Total	7440-09-7	1.05		1.00	0.500
Sodium, Total	7440-23-5	4.96		0.500	0.250
Vanadium, Total	7440-62-2	0.00642	J	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40DUPGW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 17:16
Collect Date: 06/12/2012 15:02	Dilution: 10	File ID: P2.062112.171626
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	85.0		2.00	1.00
Magnesium, Total	7439-95-4	33.1		5.00	2.50

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40DUPGW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:15
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: NI.061912.111538
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0488		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00143	J	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00114	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00182	J	0.00200	0.00100
Nickel, Total	7440-02-0	0.00494		0.00400	0.00200
Selenium, Total	7782-49-2	0.000697	J	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40DUPGW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 14:10
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: HY.062512.141049
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 40FB061212	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 05/03/2012 21:37
Workgroup #: WG401456	Analyst: MES	Run Date: 06/23/2012 19:17
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: 11M84749
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	93.5	70	120		
4-Bromofluorobenzene	114	75	120		
Dibromofluoromethane	94.1	85	115		
Toluene-d8	104	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-09

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40FB061212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 19:26

Collect Date: 06/12/2012 16:00

Dilution: 1

File ID: 12M40155

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.56	2.78
1,2-Dichlorobenzene	95-50-1		U	5.56	2.78
1,3-Dichlorobenzene	541-73-1		U	5.56	2.78
1,4-Dichlorobenzene	106-46-7		U	5.56	2.78
2,4,5-Trichlorophenol	95-95-4		U	5.56	2.78
2,4,6-Trichlorophenol	88-06-2		U	5.56	2.78
2,4-Dichlorophenol	120-83-2		U	5.56	2.78
2,4-Dimethylphenol	105-67-9		U	5.56	2.78
2,4-Dinitrophenol	51-28-5		U	27.8	13.9
2,4-Dinitrotoluene	121-14-2		U	5.56	2.78
2,6-Dinitrotoluene	606-20-2		U	5.56	2.78
2-Chloronaphthalene	91-58-7		U	5.56	2.78
2-Chlorophenol	95-57-8		U	5.56	2.78
2-Methylnaphthalene	91-57-6		U	5.56	2.78
2-Methylphenol	95-48-7		U	5.56	2.78
2-Nitroaniline	88-74-4		U	27.8	13.9
2-Nitrophenol	88-75-5		U	5.56	2.78
3,3'-Dichlorobenzidine	91-94-1		U	11.1	2.78
3-,4-Methylphenol	106-44-5		U	5.56	2.78
3-Nitroaniline	99-09-2		U	27.8	13.9

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
4,6-Dinitro-2-methylphenol	534-52-1		U	27.8	13.9
4-Bromophenyl-phenylether	101-55-3		U	5.56	2.78
4-Chloro-3-methylphenol	59-50-7		U	5.56	2.78
4-Chloroaniline	106-47-8		U	5.56	2.78
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.56	2.78
4-Nitroaniline	100-01-6		U	27.8	13.9
4-Nitrophenol	100-02-7		U	27.8	13.9
Acenaphthene	83-32-9		U	5.56	2.78
Acenaphthylene	208-96-8		U	5.56	2.78
Anthracene	120-12-7		U	5.56	2.78
Benzo(a)anthracene	56-55-3		U	5.56	2.78
Benzo(a)pyrene	50-32-8		U	5.56	2.78
Benzo(b)fluoranthene	205-99-2		U	5.56	2.78
Benzo(g,h,i)Perylene	191-24-2		U	5.56	2.78
Benzo(k)fluoranthene	207-08-9		U	5.56	2.78
Benzoic acid	65-85-0		U	27.8	13.9
Benzyl alcohol	100-51-6		U	5.56	2.78
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.56	2.78
Bis(2-Chloroethyl)ether	111-44-4		U	5.56	2.78
bis(2-Chloroisopropyl)ether	108-60-1		U	5.56	2.78
bis(2-Ethylhexyl)phthalate	117-81-7		U	11.1	3.33
Butylbenzylphthalate	85-68-7		U	5.56	2.78
Chrysene	218-01-9		U	5.56	2.78
Di-N-Butylphthalate	84-74-2		U	5.56	2.78
Di-n-octylphthalate	117-84-0		U	5.56	2.78
Dibenzo(a,h)Anthracene	53-70-3		U	5.56	2.78
Dibenzofuran	132-64-9		U	5.56	2.78
Diethylphthalate	84-66-2		U	5.56	2.78
Dimethylphthalate	131-11-3		U	5.56	2.78
Fluoranthene	206-44-0		U	5.56	2.78
Fluorene	86-73-7		U	5.56	2.78
Hexachlorobenzene	118-74-1		U	5.56	2.78
Hexachlorobutadiene	87-68-3		U	5.56	2.78
Hexachlorocyclopentadiene	77-47-4		U	5.56	2.78
Hexachloroethane	67-72-1		U	5.56	2.78
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.56	2.78
Isophorone	78-59-1		U	5.56	2.78
N-Nitrosodiphenylamine	86-30-6		U	5.56	2.78
N-Nitrosodipropylamine	621-64-7		U	5.56	2.78

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	5.56	2.78
Nitrobenzene	98-95-3		U	5.56	2.78
Pentachlorophenol	87-86-5		U	27.8	13.9
Phenanthrene	85-01-8		U	5.56	2.78
Phenol	108-95-2		U	5.56	2.78
Pyrene	129-00-0		U	5.56	2.78
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	102	40	125		
2-Fluorobiphenyl	83.8	50	110		
2-Fluorophenol	78.5	20	110		
Nitrobenzene-d5	88.8	40	110		
p-Terphenyl-d14	107	50	135		
Phenol-d5	84.7	10	115		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40FB061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 18:02
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: 7M55233
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0549	0.0275
Acenaphthylene	208-96-8		U	0.0549	0.0275
Acenaphthene	83-32-9		U	0.0549	0.0275
Fluorene	86-73-7		U	0.0549	0.0275
Phenanthrene	85-01-8	0.0354	J	0.0549	0.0275
Anthracene	120-12-7		U	0.0549	0.0275
Fluoranthene	206-44-0	0.0631		0.0549	0.0275
Pyrene	129-00-0	0.0462	J	0.0549	0.0275
Benzo(a)anthracene	56-55-3		U	0.0549	0.0275
Chrysene	218-01-9	0.0988		0.0549	0.0275
Benzo(b)fluoranthene	205-99-2		U	0.0549	0.0275
Benzo(k)fluoranthene	207-08-9		U	0.0549	0.0275
Benzo(a)pyrene	50-32-8		U	0.0549	0.0275
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0549	0.0275
Dibenzo(a,h)anthracene	53-70-3		U	0.0549	0.0275
Benzo(g,h,i)perylene	191-24-2		U	0.0549	0.0275
1-Methylnaphthalene	90-12-0		U	0.0549	0.0275

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
2-Methylnaphthalene	91-57-6		U	0.0549	0.0275
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	106	35	114		
2-Fluorobiphenyl	106	50	110		
p-Terphenyl-d14	128	33	141		
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40FB061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 21:53
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: 1LM.LM16733
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: HP15
Client ID: 40FB061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/19/2012 23:36
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: 15G32802.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0532	0.0106
4,4'-DDE	72-55-9		U	0.0532	0.0106
4,4'-DDT	50-29-3		U	0.0532	0.0106
Aldrin	309-00-2		U	0.0532	0.0106
alpha Chlordane	5103-71-9		U	0.0532	0.0106
alpha-BHC	319-84-6		U	0.0532	0.0106
beta-BHC	319-85-7		U	0.0532	0.0106
delta-BHC	319-86-8		U	0.0532	0.0106
Dieldrin	60-57-1		U	0.0532	0.0106
Endosulfan I	959-98-8		U	0.0532	0.0106
Endosulfan II	33213-65-9		U	0.0532	0.0106
Endosulfan sulfate	1031-07-8		U	0.0532	0.0106
Endrin	72-20-8		U	0.0532	0.0106

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Endrin aldehyde	7421-93-4		U	0.0532	0.0106
Endrin ketone	53494-70-5		U	0.0532	0.0106
gamma Chlordane	5103-74-2		U	0.0532	0.0106
gamma-BHC (Lindane)	58-89-9		U	0.0532	0.0106
Heptachlor	76-44-8		U	0.0532	0.0106
Heptachlor epoxide	1024-57-3		U	0.0532	0.0106
Methoxychlor	72-43-5		U	0.0532	0.0106
Toxaphene	8001-35-2		U	1.06	0.319
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	62.2	25	140		
Decachlorobiphenyl	57.0	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40FB061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:48
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: P2.062012.144816
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2		U	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40FB061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:18
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: NI.061912.111853
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3		U	0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3		U	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5		U	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-09

PrePrep Method: N/A

Instrument: HYDRA

Client ID: 40FB061212

Prep Method: 7470A

Prep Date: 06/18/2012 10:33

Matrix: Water

Analytical Method: 7470A

Cal Date: 06/25/2012 13:06

Workgroup #: WG401291

Analyst: PDM

Run Date: 06/25/2012 13:39

Collect Date: 06/12/2012 16:00

Dilution: 1

File ID: HY.062512.133912

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-10

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40EQR061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401456

Analyst: MES

Run Date: 06/23/2012 19:48

Collect Date: 06/12/2012 16:30

Dilution: 1

File ID: 11M84750

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	91.6	70	120		
4-Bromofluorobenzene	110	75	120		
Dibromofluoromethane	95.5	85	115		
Toluene-d8	105	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-10

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40EQR061212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 19:58

Collect Date: 06/12/2012 16:30

Dilution: 1

File ID: 12M40156

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.56	2.78
1,2-Dichlorobenzene	95-50-1		U	5.56	2.78
1,3-Dichlorobenzene	541-73-1		U	5.56	2.78
1,4-Dichlorobenzene	106-46-7		U	5.56	2.78

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
2,4,5-Trichlorophenol	95-95-4		U	5.56	2.78
2,4,6-Trichlorophenol	88-06-2		U	5.56	2.78
2,4-Dichlorophenol	120-83-2		U	5.56	2.78
2,4-Dimethylphenol	105-67-9		U	5.56	2.78
2,4-Dinitrophenol	51-28-5		U	27.8	13.9
2,4-Dinitrotoluene	121-14-2		U	5.56	2.78
2,6-Dinitrotoluene	606-20-2		U	5.56	2.78
2-Chloronaphthalene	91-58-7		U	5.56	2.78
2-Chlorophenol	95-57-8		U	5.56	2.78
2-Methylnaphthalene	91-57-6		U	5.56	2.78
2-Methylphenol	95-48-7		U	5.56	2.78
2-Nitroaniline	88-74-4		U	27.8	13.9
2-Nitrophenol	88-75-5		U	5.56	2.78
3,3'-Dichlorobenzidine	91-94-1		U	11.1	2.78
3-,4-Methylphenol	106-44-5		U	5.56	2.78
3-Nitroaniline	99-09-2		U	27.8	13.9
4,6-Dinitro-2-methylphenol	534-52-1		U	27.8	13.9
4-Bromophenyl-phenylether	101-55-3		U	5.56	2.78
4-Chloro-3-methylphenol	59-50-7		U	5.56	2.78
4-Chloroaniline	106-47-8		U	5.56	2.78
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.56	2.78
4-Nitroaniline	100-01-6		U	27.8	13.9
4-Nitrophenol	100-02-7		U	27.8	13.9
Acenaphthene	83-32-9		U	5.56	2.78
Acenaphthylene	208-96-8		U	5.56	2.78
Anthracene	120-12-7		U	5.56	2.78
Benzo(a)anthracene	56-55-3		U	5.56	2.78
Benzo(a)pyrene	50-32-8		U	5.56	2.78
Benzo(b)fluoranthene	205-99-2		U	5.56	2.78
Benzo(g,h,i)Perylene	191-24-2		U	5.56	2.78
Benzo(k)fluoranthene	207-08-9		U	5.56	2.78
Benzoic acid	65-85-0		U	27.8	13.9
Benzyl alcohol	100-51-6		U	5.56	2.78
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.56	2.78
Bis(2-Chloroethyl)ether	111-44-4		U	5.56	2.78
bis(2-Chloroisopropyl)ether	108-60-1		U	5.56	2.78
bis(2-Ethylhexyl)phthalate	117-81-7		U	11.1	3.33
Butylbenzylphthalate	85-68-7		U	5.56	2.78
Chrysene	218-01-9		U	5.56	2.78

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Di-N-Butylphthalate	84-74-2		U	5.56	2.78
Di-n-octylphthalate	117-84-0		U	5.56	2.78
Dibenzo(a,h)Anthracene	53-70-3		U	5.56	2.78
Dibenzofuran	132-64-9		U	5.56	2.78
Diethylphthalate	84-66-2		U	5.56	2.78
Dimethylphthalate	131-11-3		U	5.56	2.78
Fluoranthene	206-44-0		U	5.56	2.78
Fluorene	86-73-7		U	5.56	2.78
Hexachlorobenzene	118-74-1		U	5.56	2.78
Hexachlorobutadiene	87-68-3		U	5.56	2.78
Hexachlorocyclopentadiene	77-47-4		U	5.56	2.78
Hexachloroethane	67-72-1		U	5.56	2.78
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.56	2.78
Isophorone	78-59-1		U	5.56	2.78
N-Nitrosodiphenylamine	86-30-6		U	5.56	2.78
N-Nitrosodipropylamine	621-64-7		U	5.56	2.78
Naphthalene	91-20-3		U	5.56	2.78
Nitrobenzene	98-95-3		U	5.56	2.78
Pentachlorophenol	87-86-5		U	27.8	13.9
Phenanthrene	85-01-8		U	5.56	2.78
Phenol	108-95-2		U	5.56	2.78
Pyrene	129-00-0		U	5.56	2.78
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	101	40	125		
2-Fluorobiphenyl	86.6	50	110		
2-Fluorophenol	75.5	20	110		
Nitrobenzene-d5	94.5	40	110		
p-Terphenyl-d14	111	50	135		
Phenol-d5	85.6	10	115		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40EQR061212	Prep Method: 3510C	Prep Date: 06/22/2012 10:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG401489	Analyst: CAA	Run Date: 06/25/2012 11:16
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: 7M55309
Sample Tag: RE01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0549	0.0275

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Acenaphthylene	208-96-8		U	0.0549	0.0275
Acenaphthene	83-32-9		U	0.0549	0.0275
Fluorene	86-73-7		U	0.0549	0.0275
Phenanthrene	85-01-8		U	0.0549	0.0275
Anthracene	120-12-7		U	0.0549	0.0275
Fluoranthene	206-44-0		U	0.0549	0.0275
Pyrene	129-00-0		U	0.0549	0.0275
Benzo(a)anthracene	56-55-3		U	0.0549	0.0275
Chrysene	218-01-9		U	0.0549	0.0275
Benzo(b)fluoranthene	205-99-2		U	0.0549	0.0275
Benzo(k)fluoranthene	207-08-9		U	0.0549	0.0275
Benzo(a)pyrene	50-32-8		U	0.0549	0.0275
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0549	0.0275
Dibenzo(a,h)anthracene	53-70-3		UQ	0.0549	0.0275
Benzo(g,h,i)perylene	191-24-2		UQ	0.0549	0.0275
1-Methylnaphthalene	90-12-0		U	0.0549	0.0275
2-Methylnaphthalene	91-57-6		U	0.0549	0.0275
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	81.8	35	114		
2-Fluorobiphenyl	79.2	50	110		
p-Terphenyl-d14	92.7	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				
UQ	Undetected; the analyte was analyzed for, but not detected.				

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40EQR061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 18:31
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: 7M55234
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		UQ	0.0538	0.0269
Acenaphthylene	208-96-8		UQ	0.0538	0.0269
Acenaphthene	83-32-9		UQ	0.0538	0.0269
Fluorene	86-73-7		UQ	0.0538	0.0269
Phenanthrene	85-01-8	0.0286		0.0538	0.0269
Anthracene	120-12-7		UQ	0.0538	0.0269
Fluoranthene	206-44-0	0.0345		0.0538	0.0269
Pyrene	129-00-0		UQ	0.0538	0.0269

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(a)anthracene	56-55-3		UQ	0.0538	0.0269
Chrysene	218-01-9	0.0496		0.0538	0.0269
Benzo(b)fluoranthene	205-99-2		UQ	0.0538	0.0269
Benzo(k)fluoranthene	207-08-9		UQ	0.0538	0.0269
Benzo(a)pyrene	50-32-8		UQ	0.0538	0.0269
Indeno(1,2,3-cd)pyrene	193-39-5		UQ	0.0538	0.0269
Dibenzo(a,h)anthracene	53-70-3		UQ	0.0538	0.0269
Benzo(g,h,i)perylene	191-24-2		UQ	0.0538	0.0269
1-Methylnaphthalene	90-12-0		UQ	0.0538	0.0269
2-Methylnaphthalene	91-57-6		UQ	0.0538	0.0269
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	115	35	114	*	
2-Fluorobiphenyl	117	50	110	*	
p-Terphenyl-d14	123	33	141		
UQ	Undetected; the analyte was analyzed for, but not detected.				

Sample #: L12060445-10

PrePrep Method: N/A

Instrument: LCMS1

Client ID: 40EQR061212

Prep Method: 6850

Prep Date: 06/19/2012 16:12

Matrix: Water

Analytical Method: 6850

Cal Date: 06/14/2012 16:52

Workgroup #: WG401077

Analyst: ADC

Run Date: 06/19/2012 22:12

Collect Date: 06/12/2012 16:30

Dilution: 1

File ID: 1LM.LM16734

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-10

PrePrep Method: N/A

Instrument: HP15

Client ID: 40EQR061212

Prep Method: 3510C

Prep Date: 06/18/2012 08:00

Matrix: Water

Analytical Method: 8081A

Cal Date: 05/09/2012 20:58

Workgroup #: WG400970

Analyst: ECL

Run Date: 06/20/2012 00:05

Collect Date: 06/12/2012 16:30

Dilution: 1

File ID: 15G32803.R

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0526	0.0105
4,4'-DDE	72-55-9		U	0.0526	0.0105
4,4'-DDT	50-29-3		U	0.0526	0.0105
Aldrin	309-00-2		U	0.0526	0.0105
alpha Chlordane	5103-71-9		U	0.0526	0.0105

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
alpha-BHC	319-84-6		U	0.0526	0.0105
beta-BHC	319-85-7		U	0.0526	0.0105
delta-BHC	319-86-8		U	0.0526	0.0105
Dieldrin	60-57-1		U	0.0526	0.0105
Endosulfan I	959-98-8		U	0.0526	0.0105
Endosulfan II	33213-65-9		U	0.0526	0.0105
Endosulfan sulfate	1031-07-8		U	0.0526	0.0105
Endrin	72-20-8		U	0.0526	0.0105
Endrin aldehyde	7421-93-4		U	0.0526	0.0105
Endrin ketone	53494-70-5		U	0.0526	0.0105
gamma Chlordane	5103-74-2		U	0.0526	0.0105
gamma-BHC (Lindane)	58-89-9		U	0.0526	0.0105
Heptachlor	76-44-8		U	0.0526	0.0105
Heptachlor epoxide	1024-57-3		U	0.0526	0.0105
Methoxychlor	72-43-5		U	0.0526	0.0105
Toxaphene	8001-35-2		U	1.05	0.316
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	69.2	25	140		
Decachlorobiphenyl	52.9	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40EQR061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:55
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: P2.062012.145512
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	0.177	J	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40EQR061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:22
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: NI.061912.112207
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3		U	0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3		U	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5		U	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40EQR061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:44
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: HY.062512.134417
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 40MW5GW061212	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 05/03/2012 21:37
Workgroup #: WG401456	Analyst: MES	Run Date: 06/23/2012 20:18
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: 11M84751
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	2.59		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	93.5	70	120		
4-Bromofluorobenzene	113	75	120		
Dibromofluoromethane	94.5	85	115		
Toluene-d8	106	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-11

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40MW5GW061212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 20:29

Collect Date: 06/12/2012 17:51

Dilution: 1

File ID: 12M40157

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.10	2.55
1,2-Dichlorobenzene	95-50-1		U	5.10	2.55
1,3-Dichlorobenzene	541-73-1		U	5.10	2.55
1,4-Dichlorobenzene	106-46-7		U	5.10	2.55
2,4,5-Trichlorophenol	95-95-4		U	5.10	2.55
2,4,6-Trichlorophenol	88-06-2		U	5.10	2.55
2,4-Dichlorophenol	120-83-2		U	5.10	2.55
2,4-Dimethylphenol	105-67-9		U	5.10	2.55
2,4-Dinitrophenol	51-28-5		U	25.5	12.8
2,4-Dinitrotoluene	121-14-2		U	5.10	2.55
2,6-Dinitrotoluene	606-20-2		U	5.10	2.55
2-Chloronaphthalene	91-58-7		U	5.10	2.55
2-Chlorophenol	95-57-8		U	5.10	2.55
2-Methylnaphthalene	91-57-6		U	5.10	2.55
2-Methylphenol	95-48-7		U	5.10	2.55
2-Nitroaniline	88-74-4		U	25.5	12.8
2-Nitrophenol	88-75-5		U	5.10	2.55
3,3'-Dichlorobenzidine	91-94-1		U	10.2	2.55
3-,4-Methylphenol	106-44-5		U	5.10	2.55
3-Nitroaniline	99-09-2		U	25.5	12.8
4,6-Dinitro-2-methylphenol	534-52-1		U	25.5	12.8
4-Bromophenyl-phenylether	101-55-3		U	5.10	2.55
4-Chloro-3-methylphenol	59-50-7		U	5.10	2.55
4-Chloroaniline	106-47-8		U	5.10	2.55
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.10	2.55
4-Nitroaniline	100-01-6		U	25.5	12.8
4-Nitrophenol	100-02-7		U	25.5	12.8
Acenaphthene	83-32-9		U	5.10	2.55
Acenaphthylene	208-96-8		U	5.10	2.55
Anthracene	120-12-7		U	5.10	2.55
Benzo(a)anthracene	56-55-3		U	5.10	2.55
Benzo(a)pyrene	50-32-8		U	5.10	2.55
Benzo(b)fluoranthene	205-99-2		U	5.10	2.55

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(g,h,i)Perylene	191-24-2		U	5.10	2.55
Benzo(k)fluoranthene	207-08-9		U	5.10	2.55
Benzoic acid	65-85-0		U	25.5	12.8
Benzyl alcohol	100-51-6		U	5.10	2.55
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.10	2.55
Bis(2-Chloroethyl)ether	111-44-4		U	5.10	2.55
bis(2-Chloroisopropyl)ether	108-60-1		U	5.10	2.55
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.2	3.06
Butylbenzylphthalate	85-68-7		U	5.10	2.55
Chrysene	218-01-9		U	5.10	2.55
Di-N-Butylphthalate	84-74-2		U	5.10	2.55
Di-n-octylphthalate	117-84-0		U	5.10	2.55
Dibenzo(a,h)Anthracene	53-70-3		U	5.10	2.55
Dibenzofuran	132-64-9		U	5.10	2.55
Diethylphthalate	84-66-2		U	5.10	2.55
Dimethylphthalate	131-11-3		U	5.10	2.55
Fluoranthene	206-44-0		U	5.10	2.55
Fluorene	86-73-7		U	5.10	2.55
Hexachlorobenzene	118-74-1		U	5.10	2.55
Hexachlorobutadiene	87-68-3		U	5.10	2.55
Hexachlorocyclopentadiene	77-47-4		U	5.10	2.55
Hexachloroethane	67-72-1		U	5.10	2.55
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.10	2.55
Isophorone	78-59-1		U	5.10	2.55
N-Nitrosodiphenylamine	86-30-6		U	5.10	2.55
N-Nitrosodipropylamine	621-64-7		U	5.10	2.55
Naphthalene	91-20-3		U	5.10	2.55
Nitrobenzene	98-95-3		U	5.10	2.55
Pentachlorophenol	87-86-5		U	25.5	12.8
Phenanthrene	85-01-8		U	5.10	2.55
Phenol	108-95-2		U	5.10	2.55
Pyrene	129-00-0		U	5.10	2.55
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	101	40	125		
2-Fluorobiphenyl	86.0	50	110		
2-Fluorophenol	76.0	20	110		
Nitrobenzene-d5	90.6	40	110		
p-Terphenyl-d14	109	50	135		
Phenol-d5	83.4	10	115		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Sample #: L12060445-11	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW5GW061212	Prep Method: 3510C	Prep Date: 06/22/2012 10:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG401489	Analyst: CAA	Run Date: 06/25/2012 11:44
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: 7M55310
Sample Tag: RE01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0521	0.0260
Acenaphthylene	208-96-8		U	0.0521	0.0260
Acenaphthene	83-32-9		U	0.0521	0.0260
Fluorene	86-73-7		U	0.0521	0.0260
Phenanthrene	85-01-8		U	0.0521	0.0260
Anthracene	120-12-7		U	0.0521	0.0260
Fluoranthene	206-44-0		U	0.0521	0.0260
Pyrene	129-00-0		U	0.0521	0.0260
Benzo(a)anthracene	56-55-3		U	0.0521	0.0260
Chrysene	218-01-9		U	0.0521	0.0260
Benzo(b)fluoranthene	205-99-2		U	0.0521	0.0260
Benzo(k)fluoranthene	207-08-9		U	0.0521	0.0260
Benzo(a)pyrene	50-32-8		U	0.0521	0.0260
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0521	0.0260
Dibenzo(a,h)anthracene	53-70-3		UQ	0.0521	0.0260
Benzo(g,h,i)perylene	191-24-2		UQ	0.0521	0.0260
1-Methylnaphthalene	90-12-0		U	0.0521	0.0260
2-Methylnaphthalene	91-57-6		U	0.0521	0.0260

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Nitrobenzene-d5	80.3	35	114	
2-Fluorobiphenyl	73.5	50	110	
p-Terphenyl-d14	79.5	33	141	

U	Analyte was not detected. The concentration is below the reported LOD.
UQ	Undetected; the analyte was analyzed for, but not detected.

Certificate of Analysis

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW5GW061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 18:59
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: 7M55235
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		UQ	0.0526	0.0263
Acenaphthylene	208-96-8		UQ	0.0526	0.0263
Acenaphthene	83-32-9		UQ	0.0526	0.0263
Fluorene	86-73-7		UQ	0.0526	0.0263
Phenanthrene	85-01-8	0.0299		0.0526	0.0263
Anthracene	120-12-7		UQ	0.0526	0.0263
Fluoranthene	206-44-0	0.0532	Q	0.0526	0.0263
Pyrene	129-00-0	0.0390		0.0526	0.0263
Benzo(a)anthracene	56-55-3		UQ	0.0526	0.0263
Chrysene	218-01-9	0.0805	Q	0.0526	0.0263
Benzo(b)fluoranthene	205-99-2		UQ	0.0526	0.0263
Benzo(k)fluoranthene	207-08-9		UQ	0.0526	0.0263
Benzo(a)pyrene	50-32-8		UQ	0.0526	0.0263
Indeno(1,2,3-cd)pyrene	193-39-5		UQ	0.0526	0.0263
Dibenzo(a,h)anthracene	53-70-3		UQ	0.0526	0.0263
Benzo(g,h,i)perylene	191-24-2		UQ	0.0526	0.0263
1-Methylnaphthalene	90-12-0		UQ	0.0526	0.0263
2-Methylnaphthalene	91-57-6		UQ	0.0526	0.0263
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	110	35	114		
2-Fluorobiphenyl	115	50	110	*	
p-Terphenyl-d14	124	33	141		
Q	One or more quality control criteria failed. See narrative.				
UQ	Undetected; the analyte was analyzed for, but not detected.				

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW5GW061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 22:31
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: 1LM.LM16735
Sample Tag: 01	Units: ug/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.986		0.200	0.100

Sample #: L12060445-11

PrePrep Method: N/A

Instrument: HP15

Client ID: 40MW5GW061212

Prep Method: 3510C

Prep Date: 06/18/2012 08:00

Matrix: Water

Analytical Method: 8081A

Cal Date: 05/09/2012 20:58

Workgroup #: WG400970

Analyst: ECL

Run Date: 06/20/2012 00:33

Collect Date: 06/12/2012 17:51

Dilution: 1

File ID: 15G32804.R

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0549	0.0110
4,4'-DDE	72-55-9		U	0.0549	0.0110
4,4'-DDT	50-29-3		U	0.0549	0.0110
Aldrin	309-00-2		U	0.0549	0.0110
alpha Chlordane	5103-71-9		U	0.0549	0.0110
alpha-BHC	319-84-6		U	0.0549	0.0110
beta-BHC	319-85-7		U	0.0549	0.0110
delta-BHC	319-86-8		U	0.0549	0.0110
Dieldrin	60-57-1		U	0.0549	0.0110
Endosulfan I	959-98-8		U	0.0549	0.0110
Endosulfan II	33213-65-9		U	0.0549	0.0110
Endosulfan sulfate	1031-07-8		U	0.0549	0.0110
Endrin	72-20-8		U	0.0549	0.0110
Endrin aldehyde	7421-93-4		U	0.0549	0.0110
Endrin ketone	53494-70-5		U	0.0549	0.0110
gamma Chlordane	5103-74-2		U	0.0549	0.0110
gamma-BHC (Lindane)	58-89-9		U	0.0549	0.0110
Heptachlor	76-44-8		U	0.0549	0.0110
Heptachlor epoxide	1024-57-3		U	0.0549	0.0110
Methoxychlor	72-43-5		U	0.0549	0.0110
Toxaphene	8001-35-2		U	1.10	0.330

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	76.0	25	140	
Decachlorobiphenyl	44.1	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 15:02
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: P2.062012.150205
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.911		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Iron, Total	7439-89-6	0.950		0.100	0.0500
Potassium, Total	7440-09-7	1.27		1.00	0.500
Sodium, Total	7440-23-5	5.28		0.500	0.250
Vanadium, Total	7440-62-2	0.00874	J	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 17:23
Collect Date: 06/12/2012 17:51	Dilution: 10	File ID: P2.062112.172322
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	89.9		2.00	1.00
Magnesium, Total	7439-95-4	34.7		5.00	2.50

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW5GW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:25
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: NI.061912.112522
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0569		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Chromium, Total	7440-47-3	0.00262		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00198	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00484		0.00200	0.00100
Nickel, Total	7440-02-0	0.00552		0.00400	0.00200
Selenium, Total	7782-49-2	0.000784	J	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW5GW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:46
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: HY.062512.134614
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Sample #: L12060445-12	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 15:08
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: P2.062012.150802
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Potassium, Dissolved	7440-09-7	1.24		1.00	0.500
Sodium, Dissolved	7440-23-5	5.17		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-12	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 17:30
Collect Date: 06/12/2012 17:51	Dilution: 10	File ID: P2.062112.173016
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Dissolved	7440-70-2	88.4		2.00	1.00
Magnesium, Dissolved	7439-95-4	34.6		5.00	2.50

Sample #: L12060445-12	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW5GW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:28
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: NI.061912.112835
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2		U	0.00100	0.000500
Barium, Dissolved	7440-39-3	0.0543		0.00300	0.00150
Cadmium, Dissolved	7440-43-9		U	0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.00135	J	0.00200	0.00100
Cobalt, Dissolved	7440-48-4		U	0.00100	0.000500
Copper, Dissolved	7440-50-8		U	0.00200	0.00100
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Manganese, Dissolved	7439-96-5		U	0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.00489		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.000847	J	0.00100	0.000500
Silver, Dissolved	7440-22-4		U	0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #: L12060445-12	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW5GW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:48
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: HY.062512.134805
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

2.0 Full Sample Data Package

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data



Login Number: L12060445

Department: Volatiles

Analyst: Franci Bolden

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260B

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analytes: Chloromethane, Dichlorodifluoromethane, n-Butylbenzene, Vinyl Acetate. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: 2,2-Dichloropropane, Acetone, Carbon Disulfide, Vinyl Acetate, n-Butylbenzene, trans-1,3-Dichloropropene. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Acetone, Chloromethane, Vinyl Acetate. Please see the applicable QC report for a detailed presentation of the failures.

Matrix Spikes: Recoveries out of range were observed for the following analytes: 2-Chloroethyl vinyl ether, Chloromethane, 1,2-Dichloropropane. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Other: None.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 48989

Approved By: Michael Albertson



Certificate of Analysis

Sample #: L12060445-01

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40MW7GW601212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401429

Analyst: FJB

Run Date: 06/23/2012 00:06

Collect Date: 06/12/2012 10:25

Dilution: 1

File ID: 11M84717

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.99		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	97.3	70	120		
4-Bromofluorobenzene	113	75	120		
Dibromofluoromethane	96.7	85	115		
Toluene-d8	106	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-02

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40TB061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401429

Analyst: FJB

Run Date: 06/22/2012 16:55

Collect Date: 06/12/2012 00:01

Dilution: 1

File ID: 11M84703

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	95.7	70	120		
4-Bromofluorobenzene	109	75	120		
Dibromofluoromethane	95.9	85	115		
Toluene-d8	103	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12060445-03

PrePrep Method: N/A

Instrument: HPMS11

Client ID: LFMW01GW061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401456

Analyst: MES

Run Date: 06/23/2012 18:16

Collect Date: 06/12/2012 12:59

Dilution: 1

File ID: 11M84747

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.13		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	92.3	70	120		
4-Bromofluorobenzene	113	75	120		
Dibromofluoromethane	93.8	85	115		
Toluene-d8	105	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12060445-05

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40MW6GW061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401456

Analyst: MES

Run Date: 06/23/2012 15:12

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 11M84741

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	2.71		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	92.9	70	120		
4-Bromofluorobenzene	115	75	120		
Dibromofluoromethane	96.5	85	115		
Toluene-d8	107	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12060445-06

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40MW6MSGW061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401456

Analyst: MES

Run Date: 06/23/2012 16:44

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 11M84744

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6	21.7		1.00	0.250
1,1,1,1-Trichloroethane	71-55-6	20.2		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	23.7		1.00	0.200
1,1,2-Trichloroethane	79-00-5	21.6		1.00	0.250
1,1-Dichloroethane	75-34-3	23.4		1.00	0.125
1,1-Dichloroethene	75-35-4	22.1		1.00	0.500
1,1-Dichloropropene	563-58-6	21.8		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	19.0		1.00	0.150
1,2,3-Trichloropropane	96-18-4	23.4		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	20.4		1.00	0.200
1,2,4-Trimethylbenzene	95-63-6	21.8		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.3		5.00	1.00
1,2-Dibromoethane	106-93-4	20.1		1.00	0.250
1,2-Dichlorobenzene	95-50-1	20.1		1.00	0.125
1,2-Dichloroethane	107-06-2	21.2		1.00	0.250
1,2-Dichloropropane	78-87-5	24.3		1.00	0.200
1,3,5-Trimethylbenzene	108-67-8	20.3		1.00	0.250
1,3-Dichlorobenzene	541-73-1	20.0		1.00	0.250
1,3-Dichloropropane	142-28-9	22.1		1.00	0.200
1,4-Dichlorobenzene	106-46-7	19.8		1.00	0.125
2,2-Dichloropropane	594-20-7	21.0		1.00	0.250
2-Butanone	78-93-3	20.0		10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8	22.2		1.00	0.125
2-Hexanone	591-78-6	19.8		10.0	2.50
4-Chlorotoluene	106-43-4	21.3		1.00	0.250
4-Methyl-2-pentanone	108-10-1	19.8		10.0	2.50
Acetone	67-64-1	25.6		10.0	2.50
Benzene	71-43-2	22.5		1.00	0.125
Bromobenzene	108-86-1	21.4		1.00	0.125
Bromochloromethane	74-97-5	20.3		1.00	0.200
Bromodichloromethane	75-27-4	23.1		1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2	21.5		1.00	0.500
Bromomethane	74-83-9	22.6		1.00	0.500
Carbon disulfide	75-15-0	21.8		1.00	0.500
Carbon tetrachloride	56-23-5	17.5		1.00	0.250
Chlorobenzene	108-90-7	21.4		1.00	0.125
Chlorodibromomethane	124-48-1	20.2		1.00	0.250
Chloroethane	75-00-3	22.2		1.00	0.500
Chloroform	67-66-3	24.2		1.00	0.125
Chloromethane	74-87-3	27.4		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	21.9		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	22.4		1.00	0.250
Dibromomethane	74-95-3	19.7		1.00	0.250
Dichlorodifluoromethane	75-71-8	24.8		1.00	0.250
Ethylbenzene	100-41-4	21.1		1.00	0.250
Hexachlorobutadiene	87-68-3	18.9		1.00	0.250
Isopropylbenzene	98-82-8	18.4		1.00	0.250
m-,p-Xylene	179601-23-1	41.4		1.00	0.500
Methylene chloride	75-09-2	22.1		5.00	0.250
n-Butylbenzene	104-51-8	23.0		1.00	0.250
n-Propylbenzene	103-65-1	21.5		1.00	0.125
Naphthalene	91-20-3	17.3		1.00	0.200
o-Xylene	95-47-6	19.8		1.00	0.250
p-Isopropyltoluene	99-87-6	20.3		1.00	0.250
sec-Butylbenzene	135-98-8	19.6		1.00	0.250
Styrene	100-42-5	20.9		1.00	0.125
tert-Butylbenzene	98-06-6	19.1		1.00	0.250
Tetrachloroethene	127-18-4	19.8		1.00	0.250
Toluene	108-88-3	21.7		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	20.9		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	21.3		1.00	0.500
Trichloroethene	79-01-6	18.8		1.00	0.250
Trichlorofluoromethane	75-69-4	16.7		1.00	0.250
Vinyl acetate	108-05-4	33.9		10.0	2.50
Vinyl chloride	75-01-4	23.2		1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	92.3	70	120		
4-Bromofluorobenzene	107	75	120		
Dibromofluoromethane	95.1	85	115		
Toluene-d8	103	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12060445-07

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40MW6MSDGW061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401456

Analyst: MES

Run Date: 06/23/2012 17:14

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 11M84745

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6	22.0		1.00	0.250
1,1,1,1-Trichloroethane	71-55-6	21.0		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	23.9		1.00	0.200
1,1,2-Trichloroethane	79-00-5	21.7		1.00	0.250
1,1-Dichloroethane	75-34-3	24.0		1.00	0.125
1,1-Dichloroethene	75-35-4	22.6		1.00	0.500
1,1-Dichloropropene	563-58-6	22.4		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	19.7		1.00	0.150
1,2,3-Trichloropropane	96-18-4	22.9		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	21.2		1.00	0.200
1,2,4-Trimethylbenzene	95-63-6	21.9		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	18.9		5.00	1.00
1,2-Dibromoethane	106-93-4	20.3		1.00	0.250
1,2-Dichlorobenzene	95-50-1	20.3		1.00	0.125
1,2-Dichloroethane	107-06-2	21.4		1.00	0.250
1,2-Dichloropropane	78-87-5	25.3		1.00	0.200
1,3,5-Trimethylbenzene	108-67-8	20.6		1.00	0.250
1,3-Dichlorobenzene	541-73-1	20.2		1.00	0.250
1,3-Dichloropropane	142-28-9	22.8		1.00	0.200
1,4-Dichlorobenzene	106-46-7	19.8		1.00	0.125
2,2-Dichloropropane	594-20-7	22.0		1.00	0.250
2-Butanone	78-93-3	20.1		10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8	22.4		1.00	0.125
2-Hexanone	591-78-6	20.4		10.0	2.50
4-Chlorotoluene	106-43-4	21.4		1.00	0.250
4-Methyl-2-pentanone	108-10-1	21.2		10.0	2.50
Acetone	67-64-1	21.3		10.0	2.50
Benzene	71-43-2	22.8		1.00	0.125
Bromobenzene	108-86-1	21.9		1.00	0.125
Bromochloromethane	74-97-5	20.8		1.00	0.200
Bromodichloromethane	75-27-4	23.4		1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2	21.9		1.00	0.500
Bromomethane	74-83-9	23.0		1.00	0.500
Carbon disulfide	75-15-0	21.8		1.00	0.500
Carbon tetrachloride	56-23-5	18.4		1.00	0.250
Chlorobenzene	108-90-7	22.0		1.00	0.125
Chlorodibromomethane	124-48-1	20.3		1.00	0.250
Chloroethane	75-00-3	22.7		1.00	0.500
Chloroform	67-66-3	24.3		1.00	0.125
Chloromethane	74-87-3	27.3		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	22.5		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	22.8		1.00	0.250
Dibromomethane	74-95-3	20.3		1.00	0.250
Dichlorodifluoromethane	75-71-8	25.5		1.00	0.250
Ethylbenzene	100-41-4	21.4		1.00	0.250
Hexachlorobutadiene	87-68-3	19.9		1.00	0.250
Isopropylbenzene	98-82-8	18.9		1.00	0.250
m-,p-Xylene	179601-23-1	42.3		1.00	0.500
Methylene chloride	75-09-2	22.5		5.00	0.250
n-Butylbenzene	104-51-8	23.7		1.00	0.250
n-Propylbenzene	103-65-1	22.1		1.00	0.125
Naphthalene	91-20-3	17.3		1.00	0.200
o-Xylene	95-47-6	20.4		1.00	0.250
p-Isopropyltoluene	99-87-6	20.5		1.00	0.250
sec-Butylbenzene	135-98-8	20.2		1.00	0.250
Styrene	100-42-5	21.2		1.00	0.125
tert-Butylbenzene	98-06-6	19.6		1.00	0.250
Tetrachloroethene	127-18-4	20.7		1.00	0.250
Toluene	108-88-3	22.0		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	22.2		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	21.6		1.00	0.500
Trichloroethene	79-01-6	19.3		1.00	0.250
Trichlorofluoromethane	75-69-4	17.4		1.00	0.250
Vinyl acetate	108-05-4	33.6		10.0	2.50
Vinyl chloride	75-01-4	23.5		1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	92.3	70	120		
4-Bromofluorobenzene	108	75	120		
Dibromofluoromethane	96.5	85	115		
Toluene-d8	104	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
---	--

Certificate of Analysis

Sample #: L12060445-08

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40DUPGW061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401456

Analyst: MES

Run Date: 06/23/2012 18:46

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 11M84748

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	2.73		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	95.1	70	120		
4-Bromofluorobenzene	112	75	120		
Dibromofluoromethane	95.9	85	115		
Toluene-d8	107	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12060445-09

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40FB061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401456

Analyst: MES

Run Date: 06/23/2012 19:17

Collect Date: 06/12/2012 16:00

Dilution: 1

File ID: 11M84749

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	93.5	70	120		
4-Bromofluorobenzene	114	75	120		
Dibromofluoromethane	94.1	85	115		
Toluene-d8	104	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12060445-10

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40EQR061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401456

Analyst: MES

Run Date: 06/23/2012 19:48

Collect Date: 06/12/2012 16:30

Dilution: 1

File ID: 11M84750

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	91.6	70	120		
4-Bromofluorobenzene	110	75	120		
Dibromofluoromethane	95.5	85	115		
Toluene-d8	105	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12060445-11

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 40MW5GW061212

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/03/2012 21:37

Workgroup #: WG401456

Analyst: MES

Run Date: 06/23/2012 20:18

Collect Date: 06/12/2012 17:51

Dilution: 1

File ID: 11M84751

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	2.59		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	93.5	70	120		
4-Bromofluorobenzene	113	75	120		
Dibromofluoromethane	94.5	85	115		
Toluene-d8	106	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

$$RF = [(Ax) (Cis)] / [(Ais) (Cx)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100

RF = Calculated Response Factor	1.0039
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2.0 Calculating the concentration (C) of a compound in water using the average RF: *

$$Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured	3122498
Cis = Concentration of the specific internal standard (ug/L)	25
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	611048
RF = Average RF from the ICAL	1.004
Vs = Purge volume of sample (mL)	10
Vn = Nominal purge volume of sample (mL) (10.0 mL)	10
Cx = Concentration of the compound in the sample being measured (ug/L)	127.2428

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

$$Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured	3122498
Cis = Concentration of the specific internal standard (ug/L)	25
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	611048
RF = Average RF from the ICAL	1.004
Ws = Weight of sample purged (g)	5
Wn = Nominal purge weight (g) (5.0 g)	5
Cx = Concentration of the compound in the sample being measured (ug/L)	127.2428

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	254.4856

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, $y = mx + b$

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

$$y = 86550/593147 = 0.1459$$

Step 3: Solve for x

$$x = (y - b)/m = [(0.1459 - (-0.00642))/0.213] = 0.7152$$

Step 4: Solve for analyte concentration Cx

$$Cx = Cis (x) = (25.0)(0.7152) = 17.88$$

Example Spreadsheet Calculation:

Slope from curve, m:	0.213
Intercept from curve, b:	-0.00642
Area of analyte, Ax:	86550
Area of Internal Standard, Ais:	593147
Concentration of IS, Cis	25.00
Response Ratio:	0.145917
Amount Ratio:	0.715195
Concentration:	17.87988
Units of Internal Standard:	ug/L

5.0 Concentration from Quadratic Regression**Step 1 - Retrieve Curve Data from Plot, $y = Ax^2 + Bx + C$**

Where:

$$Ax^2 + Bx + (C - y) = 0$$

A, B, C = constants from the ICAL quadratic regression

y = Response ratio = Area of analyte/Area of internal standard (IS)

x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

$$Ax^2 + Bx + C - y = 0$$

$$x = \frac{b \pm \sqrt{(b^2 - 4a(c - y))}}{2a} \quad (\text{Two possible solutions})$$

Step 4: Solve for analyte concentration Cx

$$Cx = (Cis)(\text{Amount ratio})$$

Example Spreadsheet Calculation:

Value of A from plot:	-0.00629
Value of B from plot:	0.511
Value of C from plot:	-0.0276
Area of unknown from quantitation report:	293821
Area of IS from quantitation report:	784848
Response ratio, y:	0.374367
C - y:	-0.40197
Root 1 - Computed amount ratio, X1:	80.44567
Root 2 - Computed amount ratio, X2:	0.794396 use this solution
Concentration of IS, Cis:	25.00
Concentration of analyte, Cx:	19.86 ug/L

Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 050312
 Analyst1: ADC Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 14
 Method: 624 SOP: MSV10 Rev: 8
 Method: 5030C/5035A SOP: PAT01 Rev: 13
 Maintenance Log ID: 41642

Internal Standard: STD51423 Surrogate Standard: STD51518
 CCV: NA LCS: STD51372 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG396851

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M83323	RINSE	NA	1	1		05/03/12 12:10
11M83324	RINSE	NA	1	1		05/03/12 13:03
11M83325	RINSE	NA	1	1		05/03/12 13:43
11M83326	RINSE	NA	1	1		05/03/12 14:37
11M83327	WG396851-01 BFB 50ng 8260	NA	1	1	STD51241	05/03/12 15:46
11M83328	WG396851-01 BFB 50ng 8260	NA	1	1	STD51241	05/03/12 15:58
11M83329	WG396851-01 BFB 50ng 8260	NA	1	1	STD51241	05/03/12 16:30
11M83330	WG396851-02 0.3ug/L STD 8260	NA	1	1	STD51468	05/03/12 17:01
11M83331	WG396851-03 0.4ug/L STD 8260	NA	1	1	STD51468	05/03/12 17:32
11M83332	WG396851-04 1ug/L STD 8260	NA	1	1	STD51468	05/03/12 18:02
11M83333	WG396851-05 2ug/L STD 8260	NA	1	1	STD51468	05/03/12 18:33
11M83334	WG396851-06 5ug/L STD 8260	NA	1	1	STD51468	05/03/12 19:04
11M83335	WG396851-07 20ug/L STD 8260	NA	1	1	STD51468	05/03/12 19:34
11M83336	WG396851-08 50ug/L STD 8260	NA	1	1	STD51468	05/03/12 20:05
11M83337	WG396851-09 100ug/L STD 8260	NA	1	1	STD51468	05/03/12 20:35
11M83338	WG396851-10 200ug/L STD 8260	NA	1	1	STD51468	05/03/12 21:06
11M83339	WG396851-11 300ug/L STD 8260	NA	1	1	STD51468	05/03/12 21:37
11M83340	RINSE	NA	1	1		05/03/12 22:08
11M83341	WG396851-12 50ug/L ALT SRC 8260	NA	1	1	STD51372	05/03/12 22:38
11M83342	RINSE	NA	1	1		05/03/12 23:09

Approved: May 09, 2012

Page: 1

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 062212
 Analyst1: FJB Analyst2: NA
 Method: 8260 SOP: MSV01 Rev: 14
 Method: 5030/5035 SOP: PAT01 Rev: 13
 Method: 624 SOP: MSV10 Rev: 8
 Maintenance Log ID: 42278

Internal Standard: STD52042 Surrogate Standard: STD52067
 CCV: STD52233 LCS: STD52408 MS/MSD: STD52408
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG401429

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M84697	WG401428-01 BFB 50ng 8260	NA	1	1	STD52401	06/22/12 13:52
11M84698	WG401428-02 50ug/L CCV 8260	NA	1	1	STD52233	06/22/12 14:17
11M84699	WG401XXX-01 100ug/L CCV A9	NA	1	1	STDXXXXX	06/22/12 14:48
11M84700	WG401429-01 VBLK0622 BLANK 8260	NA	1	1		06/22/12 15:18
11M84701	WG401429-02 20ug/L LCS 8260	NA	1	1	STD52408	06/22/12 15:54
11M84702	L12060585-04 500X C 826-SPE D1	6	1	1		06/22/12 16:25
11M84703	L12060445-02 A 826-SPE	<2	1	1		06/22/12 16:55
11M84704	L12060476-03 A 826-SPE	<2	1	1		06/22/12 17:26
11M84705	L12060615-02 A 826-SPE	<2	1	1		06/22/12 17:57
11M84706	L12060617-07 A 826-SPE1	8	1	1		06/22/12 18:28
11M84707	L12060617-06 A 826-SPE1	8	1	1		06/22/12 18:58
11M84708	L12060615-01 A 826-SPE	8	1	1		06/22/12 19:29
11M84709	L12060476-01 A 826-SPE	<2	1	1		06/22/12 20:00
11M84710	L12060476-02 A 826-SPE	<2	1	1		06/22/12 20:31
11M84711	L12060617-01 A 826-SPE1	8	1	1		06/22/12 21:01
11M84712	L12060617-02 REF A 826-SPE1	8	1	1		06/22/12 21:32
11M84713	L12060617-03 MS A 826-SPE1	8	1	1	STD52408	06/22/12 22:03
11M84714	L12060617-04 MSD A 826-SPE1	8	1	1	STD52408	06/22/12 22:33
11M84715	L12060617-05 A 826-SPE1	8	1	1		06/22/12 23:04
11M84716	L12060617-08 A 826-SPE1	8	1	1		06/22/12 23:35
11M84717	L12060445-01 A 826-SPE	<2	1	1		06/23/12 00:06
11M84718	L12060586-02 20X B 826-SPE A1	5	1	20		06/23/12 00:36
11M84719	L12060450-01 A 826-SPE	<2	1	1		06/23/12 01:07
11M84720	L12060454-01 A 826-SPE	<2	1	1		06/23/12 01:38
11M84721	RINSE	NA	1	1		06/23/12 02:08
11M84722	WG401429-06 624 BLANK	NA	1	1		06/23/12 02:39
11M84723	L12060623-01 A 624-SPE	<2	2	1		06/23/12 03:10
11M84724	CCV	NA	1	1		06/23/12 03:41
11M84725	RINSE	NA	1	1		06/23/12 04:11
11M84726	RINSE	NA	1	1		06/23/12 04:42

Comments

Seq.	Rerun	Dil.	Reason	Analytes
------	-------	------	--------	----------

Approved: June 27, 2012

Page: 1

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 062212
Analyst1: FJB Analyst2: NA
Method: 8260 SOP: MSV01 Rev: 14
Method: 5030/5035 SOP: PAT01 Rev: 13
Method: 624 SOP: MSV10 Rev: 8
Maintenance Log ID: 42278

Internal Standard: STD52042 Surrogate Standard: STD52067
CCV: STD52233 LCS: STD52408 MS/MSD: STD52408
Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG401429

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
22				
File ID: 11M84718				
cloudy matrix				

Approved: June 27, 2012

Page: 2



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 062312
 Analyst1: MES Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 14
 Method: 624 SOP: MSV10 Rev: 8
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13
 Maintenance Log ID: 42273

Internal Standard: STD52042 Surrogate Standard: STD52067
 CCV: STD52233 LCS: STD52408 MS/MSD: STD52408
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG401456

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M84727	WG401455-01 BFB 50ng 8260	NA	1	1	STD52401	06/23/12 08:05
11M84728	WG401455-01 BFB 50ng 8260	NA	1	1	STD52401	06/23/12 08:35
11M84729	WG401455-01 BFB 50ng 8260	NA	1	1	STD52401	06/23/12 09:03
11M84730	WG401455-02 50ug/L CCV 8260	NA	1	1	STD52233	06/23/12 09:34
11M84731	WG401XXX-01 100ug/L CCV A9	NA	1	1	STDXXXXX	06/23/12 10:05
11M84732	WG401456-01 BLANK 6/23	NA	1	1		06/23/12 10:35
11M84733	WG401456-02 20ug/L LCS 8260	NA	1	1	STD52408	06/23/12 11:06
11M84734	L12060422-19 A 826-SPE	<2	1	1		06/23/12 11:37
11M84735	L12060598-01 B 826-SPE	<2	1	1		06/23/12 12:07
11M84736	L12060422-07 A 826-SPE	<2	1	1		06/23/12 12:38
11M84737	L12060422-09 A 826-SPE	<2	1	1		06/23/12 13:08
11M84738	L12060422-11 A 826-SPE	<2	1	1		06/23/12 13:39
11M84739	L12060422-13 A 826-SPE	<2	1	1		06/23/12 14:10
11M84740	L12060422-01 A 826-SPE	<2	1	1		06/23/12 14:41
11M84741	L12060445-05 A 826-SPE	<2	1	1		06/23/12 15:12
11M84742	L12060422-03 MS A 826-SPE	<2	1	1	STD52408	06/23/12 15:42
11M84743	L12060422-05 MSD A 826-SPE	<2	1	1	STD52408	06/23/12 16:13
11M84744	L12060445-06 MS A 826-SPE	<2	1	1	STD52408	06/23/12 16:44
11M84745	L12060445-07 MSD A 826-SPE	<2	1	1	STD52408	06/23/12 17:14
11M84746	L12060422-15 A 826-SPE	<2	1	1		06/23/12 17:45
11M84747	L12060445-03 A 826-SPE	<2	1	1		06/23/12 18:16
11M84748	L12060445-08 A 826-SPE	<2	1	1		06/23/12 18:46
11M84749	L12060445-09 A 826-SPE	<2	1	1		06/23/12 19:17
11M84750	L12060445-10 A 826-SPE	<2	1	1		06/23/12 19:48
11M84751	L12060445-11 A 826-SPE	<2	1	1		06/23/12 20:18
11M84752	L12060422-17 A 2X 826-SPE	<2	1	2		06/23/12 20:49
11M84753	RINSE	NA	1	1		06/23/12 21:20
11M84754	WG401456-09 624 BLANK	NA	1	1		06/23/12 21:50
11M84755	L12060677-01 A 624-SPE	7	2	1		06/23/12 22:21
11M84756	RINSE	NA	1	1		06/23/12 22:51
11M84757	RINSE	NA	1	1		06/23/12 23:22
11M84758	RINSE	NA	1	1		06/23/12 23:53

Approved: June 27, 2012

Page: 1

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 062312
 Analyst1: MES Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 14
 Method: 624 SOP: MSV10 Rev: 8
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13
 Maintenance Log ID: 42273

Internal Standard: STD52042 Surrogate Standard: STD52067
 CCV: STD52233 LCS: STD52408 MS/MSD: STD52408
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG401456

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			
File ID: 11M84727				
Tune failed, DNR.				
2	X			
File ID: 11M84728				
Tune failed, DNR. Purged the 3rd bfb.				
5				
File ID: 11M84731				
Not needed, DNR.				
26	X	10	Over Calibration Range	11-DCA
File ID: 11M84752				

Approved: June 27, 2012

Page: 2





Microbac Laboratories Inc.

Data Checklist

Date: 03-MAY-2012

Analyst: ADC

Analyst: NA

Method: 8260

Instrument: HPMS11

Curve Workgroup: WG396851

Runlog ID: 46590

Analytical Workgroups: _____

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	NA
TCL Hits	NA
Spectra of TCL Hits	NA
Surrogates	NA
Internal Standards Criteria	NA
Library Searches	NA
Calculations & Correct Factors	NA
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	ADC
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
08-MAY-2012



Secondary Reviewer:
09-MAY-2012



CHECKLIST1 - Modified 03/05/2008

Generated: MAY-09-2012 09:21:12



Microbac Laboratories Inc.

Data Checklist

Date: 22-JUN-2012

Analyst: FJB

Analyst: NA

Method: 8260/624

Instrument: HPMS11

Curve Workgroup: NA

Runlog ID: 47491

Analytical Workgroups: WG401429

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	TMB
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	FJB
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
27-JUN-2012



Secondary Reviewer:
27-JUN-2012




Microbac Laboratories Inc.

Data Checklist

Date: 23-JUN-2012

Analyst: MES

Analyst: NA

Method: 8260B/624/OVAP

Instrument: HPMS11

Curve Workgroup: NA

Runlog ID: 47507

Analytical Workgroups: WG401456

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
27-JUN-2012

Tiffany Bailey

Secondary Reviewer:
27-JUN-2012

Nien C. Tsai



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B
Login Number: L12060445

AAB#: WG401429

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
40MW7GW601212	01	06/12/12							14		06/23/12	10.6	14	
40TB061212	02	06/12/12							14		06/22/12	10.7	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2474499
Report generated 06/28/2012 13:25



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B

AAB#: WG401456

Login Number: L12060445

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
LFMW01GW061212	03	06/12/12							14		06/23/12	11.2	14	
40MW6GW061212	05	06/12/12							14		06/23/12	11	14	
40MW6MSGW061212	06	06/12/12							14		06/23/12	11.1	14	
40MW6MSDGW061212	07	06/12/12							14		06/23/12	11.1	14	
40DUPGW061212	08	06/12/12							14		06/23/12	11.2	14	
40FB061212	09	06/12/12							14		06/23/12	11.1	14	
40EQR061212	10	06/12/12							14		06/23/12	11.1	14	
40MW5GW061212	11	06/12/12							14		06/23/12	11.1	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2474499
Report generated 06/28/2012 13:25



**Microbac Laboratories Inc.
SURROGATE STANDARDS**

Login Number: L12060445
Instrument Id: HPMS11
Workgroup (AAB#): WG401456

Method: 8260
CAL ID: HPMS11 - 03-MAY-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L12060445-03	1.00	01	92.3	93.8	113	105
L12060445-05	1.00	01	92.9	96.5	115	107
L12060445-06	1.00	01	92.3	95.1	107	103
L12060445-07	1.00	01	92.3	96.5	108	104
L12060445-08	1.00	01	95.1	95.9	112	107
L12060445-09	1.00	01	93.5	94.1	114	104
L12060445-10	1.00	01	91.6	95.5	110	105
L12060445-11	1.00	01	93.5	94.5	113	106
WG401456-01	1.00	01	93.0	93.8	113	106
WG401456-02	1.00	01	92.6	95.7	106	104
WG401456-09	1.00	01	94.2	95.4	116	107

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2471464
Report generated: 06/28/2012 13:25



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12060445
Instrument Id: HPMS11
Workgroup (AAB#): WG401429

Method: 8260
CAL ID: HPMS11 - 03-MAY-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L12060445-01	1.00	01	97.3	96.7	113	106
L12060445-02	1.00	01	95.7	95.9	109	103
WG401429-01	1.00	01	100	96.8	113	105
WG401429-02	1.00	01	96.1	96.5	105	103
WG401429-06	1.00	01	95.0	94.7	113	106

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2471464
Report generated: 06/28/2012 13:25



METHOD BLANK SUMMARY

Login Number: L12060445
Blank File ID: 11M84700
Prep Date: 06/22/12 15:18
Analyzed Date: 06/22/12 15:18
Analyst: FJB

Work Group: WG401429
Blank Sample ID: WG401429-01
Instrument ID: HPMS11
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG401429-02	11M84701	06/22/12 15:54	01
40TB061212	L12060445-02	11M84703	06/22/12 16:55	01
40MW7GW601212	L12060445-01	11M84717	06/23/12 00:06	01

Report Name: BLANK_SUMMARY
PDF File ID: 2474500
Report generated 06/28/2012 13:25



METHOD BLANK SUMMARY

Login Number: <u>L12060445</u>	Work Group: <u>WG401456</u>
Blank File ID: <u>11M84732</u>	Blank Sample ID: <u>WG401456-01</u>
Prep Date: <u>06/23/12 10:35</u>	Instrument ID: <u>HPMS11</u>
Analyzed Date: <u>06/23/12 10:35</u>	Method: <u>8260B</u>
Analyst: <u>MES</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG401456-02	11M84733	06/23/12 11:06	01
40MW6GW061212	L12060445-05	11M84741	06/23/12 15:12	01
40MW6MSGW061212	L12060445-06	11M84744	06/23/12 16:44	01
40MW6MSDGW061212	L12060445-07	11M84745	06/23/12 17:14	01
LFMW01GW061212	L12060445-03	11M84747	06/23/12 18:16	01
40DUPGW061212	L12060445-08	11M84748	06/23/12 18:46	01
40FB061212	L12060445-09	11M84749	06/23/12 19:17	01
40EQR061212	L12060445-10	11M84750	06/23/12 19:48	01
40MW5GW061212	L12060445-11	11M84751	06/23/12 20:18	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2474500
 Report generated 06/28/2012 13:25



METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/22/12 15:18 Sample ID: WG401429-01
 Instrument ID: HPMS11 Run Date: 06/22/12 15:18 Prep Method: 5030B/5030C/503
 File ID: 11M84700 Analyst: FJB Method: 8260B
 Workgroup (AAB#): WG401429 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11 - 03-MAY-12

Analytes	L0D	L0Q	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 2474501

28-JUN-2012 13:25



METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/22/12 15:18 Sample ID: WG401429-01
 Instrument ID: HPMS11 Run Date: 06/22/12 15:18 Prep Method: 5030B/5030C/503
 File ID: 11M84700 Analyst: FJB Method: 8260B
 Workgroup (AAB#): WG401429 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11 - 03-MAY-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Naphthalene	0.200	1.00	0.200	1	U
o-Xylene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	100	70 - 120	PASS
4-Bromofluorobenzene	113	75 - 120	PASS
Dibromofluoromethane	96.8	85 - 115	PASS
Toluene-d8	105	85 - 120	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2474501

28-JUN-2012 13:25



METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/23/12 10:35 Sample ID: WG401456-01
 Instrument ID: HPMS11 Run Date: 06/23/12 10:35 Prep Method: 5030B/5030C/503
 File ID: 11M84732 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG401456 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11 - 03-MAY-12

Analytes	L0D	L0Q	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 2474501

28-JUN-2012 13:25



METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/23/12 10:35 Sample ID: WG401456-01
 Instrument ID: HPMS11 Run Date: 06/23/12 10:35 Prep Method: 5030B/5030C/503
 File ID: 11M84732 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG401456 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11 - 03-MAY-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Naphthalene	0.200	1.00	0.200	1	U
o-Xylene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	93.0	70 - 120	PASS
4-Bromofluorobenzene	113	75 - 120	PASS
Dibromofluoromethane	93.8	85 - 115	PASS
Toluene-d8	106	85 - 120	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

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28-JUN-2012 13:25



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445	Run Date: 06/22/2012	Sample ID: WG401429-02
Instrument ID: HPMS11	Run Time: 15:54	Prep Method: 5030B/5030C/503
File ID: 11M84701	Analyst: FJB	Method: 8260B
Workgroup (AAB#): WG401429	Matrix: Water	Units: ug/L
QC Key: D0D4	Lot#: STD52284	Cal ID: HPMS11 - 03-MAY-12

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,1,1,2-Tetrachloroethane	20.0	22.3	111	80	-	130	
1,1,1-Trichloroethane	20.0	21.7	108	65	-	130	
1,1,2,2-Tetrachloroethane	20.0	24.2	121	65	-	130	
1,1,2-Trichloroethane	20.0	22.3	112	75	-	125	
1,1-Dichloroethane	20.0	23.5	118	70	-	135	
1,1-Dichloroethene	20.0	23.4	117	70	-	130	
1,1-Dichloropropene	20.0	23.4	117	75	-	130	
1,2,3-Trichlorobenzene	20.0	20.2	101	55	-	140	
1,2,3-Trichloropropane	20.0	23.5	117	75	-	125	
1,2,4-Trichlorobenzene	20.0	22.0	110	65	-	135	
1,2,4-Trimethylbenzene	20.0	22.3	111	75	-	130	
1,2-Dibromo-3-chloropropane	20.0	19.3	96.4	50	-	130	
1,2-Dibromoethane	20.0	21.1	105	80	-	120	
1,2-Dichlorobenzene	20.0	20.5	102	70	-	120	
1,2-Dichloroethane	20.0	21.9	109	70	-	130	
1,2-Dichloropropane	20.0	24.6	123	75	-	125	
1,3,5-Trimethylbenzene	20.0	20.9	105	75	-	130	
1,3-Dichlorobenzene	20.0	20.4	102	75	-	125	
1,3-Dichloropropane	20.0	23.0	115	75	-	125	
1,4-Dichlorobenzene	20.0	20.3	101	75	-	125	
2,2-Dichloropropane	20.0	25.8	129	70	-	135	
2-Butanone	20.0	22.2	111	30	-	150	
2-Chloroethyl vinyl ether	20.0	22.1	111	45	-	160	
2-Chlorotoluene	20.0	22.2	111	75	-	125	
2-Hexanone	20.0	21.0	105	55	-	130	
4-Chlorotoluene	20.0	22.0	110	75	-	130	
4-Methyl-2-pentanone	20.0	22.0	110	60	-	135	
Acetone	20.0	28.3	141	40	-	140	*
Benzene	20.0	23.0	115	80	-	120	
Bromobenzene	20.0	21.8	109	75	-	125	
Bromochloromethane	20.0	21.3	106	65	-	130	
Bromodichloromethane	20.0	23.6	118	75	-	120	
Bromoform	20.0	22.9	114	70	-	130	
Bromomethane	20.0	18.5	92.4	30	-	145	
Carbon disulfide	20.0	23.1	115	35	-	160	
Carbon tetrachloride	20.0	20.4	102	65	-	140	
Chlorobenzene	20.0	22.0	110	80	-	120	
Chlorodibromomethane	20.0	20.7	103	60	-	135	
Chloroethane	20.0	22.0	110	60	-	135	
Chloroform	20.0	22.3	111	65	-	135	
Chloromethane	20.0	26.7	133	40	-	125	*

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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445	Run Date: 06/22/2012	Sample ID: WG401429-02
Instrument ID: HPMS11	Run Time: 15:54	Prep Method: 5030B/5030C/503
File ID: 11M84701	Analyst: FJB	Method: 8260B
Workgroup (AAB#): WG401429	Matrix: Water	Units: ug/L
QC Key: DOD4	Lot#: STD52284	Cal ID: HPMS11 - 03-MAY-12

Analytes	Expected	Found	% Rec	LCS Limits		Q
cis-1,2-Dichloroethene	20.0	22.5	112	70	- 125	
cis-1,3-Dichloropropene	20.0	23.2	116	70	- 130	
Dibromomethane	20.0	20.7	104	75	- 125	
Dichlorodifluoromethane	20.0	27.9	139	30	- 155	
Ethylbenzene	20.0	21.9	109	75	- 125	
Hexachlorobutadiene	20.0	20.2	101	50	- 140	
Isopropylbenzene	20.0	19.0	94.8	75	- 125	
m-,p-Xylene	40.0	43.1	108	75	- 130	
Methylene chloride	20.0	21.6	108	55	- 140	
n-Butylbenzene	20.0	24.5	122	70	- 135	
n-Propylbenzene	20.0	22.3	112	70	- 130	
Naphthalene	20.0	18.6	93.1	55	- 140	
o-Xylene	20.0	20.1	100	80	- 120	
p-Isopropyltoluene	20.0	21.1	105	75	- 130	
sec-Butylbenzene	20.0	20.8	104	70	- 125	
Styrene	20.0	21.3	107	65	- 135	
tert-Butylbenzene	20.0	20.2	101	70	- 130	
Tetrachloroethene	20.0	21.6	108	45	- 150	
Toluene	20.0	22.1	111	75	- 120	
trans-1,2-Dichloroethene	20.0	21.4	107	60	- 140	
trans-1,3-Dichloropropene	20.0	23.1	115	55	- 140	
Trichloroethene	20.0	20.0	100	70	- 125	
Trichlorofluoromethane	20.0	18.5	92.5	60	- 145	
Vinyl acetate	20.0	43.0	215	10	- 190	*
Vinyl chloride	20.0	24.0	120	50	- 145	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	96.1	70 - 120	PASS
4-Bromofluorobenzene	105	75 - 120	PASS
Dibromofluoromethane	96.5	85 - 115	PASS
Toluene-d8	103	85 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2471459
Report generated: 06/28/2012 13:25



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445	Run Date: 06/23/2012	Sample ID: WG401456-02
Instrument ID: HPMS11	Run Time: 11:06	Prep Method: 5030B/5030C/503
File ID: 11M84733	Analyst: MES	Method: 8260B
Workgroup (AAB#): WG401456	Matrix: Water	Units: ug/L
QC Key: DOD4	Lot#: STD52408	Cal ID: HPMS11 - 03-MAY-12

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,1,1,2-Tetrachloroethane	20.0	21.7	108	80	-	130	
1,1,1-Trichloroethane	20.0	20.6	103	65	-	130	
1,1,2,2-Tetrachloroethane	20.0	22.7	113	65	-	130	
1,1,2-Trichloroethane	20.0	21.5	107	75	-	125	
1,1-Dichloroethane	20.0	23.1	116	70	-	135	
1,1-Dichloroethene	20.0	22.2	111	70	-	130	
1,1-Dichloropropene	20.0	21.9	109	75	-	130	
1,2,3-Trichlorobenzene	20.0	19.1	95.3	55	-	140	
1,2,3-Trichloropropane	20.0	21.8	109	75	-	125	
1,2,4-Trichlorobenzene	20.0	21.3	106	65	-	135	
1,2,4-Trimethylbenzene	20.0	21.9	109	75	-	130	
1,2-Dibromo-3-chloropropane	20.0	17.8	89.2	50	-	130	
1,2-Dibromoethane	20.0	19.8	99.0	80	-	120	
1,2-Dichlorobenzene	20.0	20.1	100	70	-	120	
1,2-Dichloroethane	20.0	21.4	107	70	-	130	
1,2-Dichloropropane	20.0	24.3	121	75	-	125	
1,3,5-Trimethylbenzene	20.0	20.6	103	75	-	130	
1,3-Dichlorobenzene	20.0	20.3	101	75	-	125	
1,3-Dichloropropane	20.0	22.0	110	75	-	125	
1,4-Dichlorobenzene	20.0	19.8	98.9	75	-	125	
2,2-Dichloropropane	20.0	24.1	120	70	-	135	
2-Butanone	20.0	20.8	104	30	-	150	
2-Chloroethyl vinyl ether	20.0	21.0	105	45	-	160	
2-Chlorotoluene	20.0	22.1	110	75	-	125	
2-Hexanone	20.0	20.6	103	55	-	130	
4-Chlorotoluene	20.0	21.3	106	75	-	130	
4-Methyl-2-pentanone	20.0	20.5	102	60	-	135	
Acetone	20.0	35.5	177	40	-	140	*
Benzene	20.0	22.7	114	80	-	120	
Bromobenzene	20.0	21.1	106	75	-	125	
Bromochloromethane	20.0	20.3	102	65	-	130	
Bromodichloromethane	20.0	23.2	116	75	-	120	
Bromoform	20.0	21.4	107	70	-	130	
Bromomethane	20.0	18.7	93.5	30	-	145	
Carbon disulfide	20.0	21.9	110	35	-	160	
Carbon tetrachloride	20.0	19.2	95.9	65	-	140	
Chlorobenzene	20.0	21.8	109	80	-	120	
Chlorodibromomethane	20.0	20.0	99.9	60	-	135	
Chloroethane	20.0	21.0	105	60	-	135	
Chloroform	20.0	21.9	110	65	-	135	
Chloromethane	20.0	27.7	138	40	-	125	*

LCS - Modified 03/06/2008
PDF File ID: 2471459
Report generated: 06/28/2012 13:25



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445	Run Date: 06/23/2012	Sample ID: WG401456-02
Instrument ID: HPMS11	Run Time: 11:06	Prep Method: 5030B/5030C/503
File ID: 11M84733	Analyst: MES	Method: 8260B
Workgroup (AAB#): WG401456	Matrix: Water	Units: ug/L
QC Key: DOD4	Lot#: STD52408	Cal ID: HPMS11 - 03-MAY-12

Analytes	Expected	Found	% Rec	LCS Limits			Q
cis-1,2-Dichloroethene	20.0	22.1	110	70	-	125	
cis-1,3-Dichloropropene	20.0	22.8	114	70	-	130	
Dibromomethane	20.0	19.4	96.8	75	-	125	
Dichlorodifluoromethane	20.0	25.6	128	30	-	155	
Ethylbenzene	20.0	21.4	107	75	-	125	
Hexachlorobutadiene	20.0	19.1	95.5	50	-	140	
Isopropylbenzene	20.0	18.8	94.2	75	-	125	
m-,p-Xylene	40.0	42.1	105	75	-	130	
Methylene chloride	20.0	21.0	105	55	-	140	
n-Butylbenzene	20.0	23.8	119	70	-	135	
n-Propylbenzene	20.0	21.9	110	70	-	130	
Naphthalene	20.0	16.6	83.2	55	-	140	
o-Xylene	20.0	20.0	100	80	-	120	
p-Isopropyltoluene	20.0	20.4	102	75	-	130	
sec-Butylbenzene	20.0	20.2	101	70	-	125	
Styrene	20.0	21.3	106	65	-	135	
tert-Butylbenzene	20.0	19.3	96.3	70	-	130	
Tetrachloroethene	20.0	20.4	102	45	-	150	
Toluene	20.0	22.0	110	75	-	120	
trans-1,2-Dichloroethene	20.0	20.8	104	60	-	140	
trans-1,3-Dichloropropene	20.0	21.8	109	55	-	140	
Trichloroethene	20.0	18.9	94.3	70	-	125	
Trichlorofluoromethane	20.0	17.4	87.2	60	-	145	
Vinyl acetate	20.0	40.1	200	10	-	190	*
Vinyl chloride	20.0	25.4	127	50	-	145	

Surrogates	% Recovery	Surrogate Limits			Qualifier
1,2-Dichloroethane-d4	92.6	70	-	120	PASS
4-Bromofluorobenzene	106	75	-	120	PASS
Dibromofluoromethane	95.7	85	-	115	PASS
Toluene-d8	104	85	-	120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2471459
Report generated: 06/28/2012 13:25



MS/MSD REPORT

Loginnum: L12060445Cal ID: HPMS11- 03-MAY-12Worknum: WG401456Instrument ID: HPMS11

Contract #:

Prep Method: 5030B/5030C/Parent ID: L12060445-05File ID: 11M84741Dil: 1Method: 5035ASample ID: L12060445-06 MSFile ID: 11M84744Dil: 1Matrix: 8260BSample ID: L12060445-07 MSDFile ID: 11M84745Dil: 1Units: Waterug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1,2-Tetrachloroethane	U	20.0	21.7	109	20.0	22.0	110	1.05	80 - 130	30	
1,1,1-Trichloroethane	U	20.0	20.2	101	20.0	21.0	105	3.83	65 - 130	30	
1,1,2,2-Tetrachloroethane	U	20.0	23.7	119	20.0	23.9	120	0.904	65 - 130	30	
1,1,2-Trichloroethane	U	20.0	21.6	108	20.0	21.7	109	0.737	75 - 125	30	
1,1-Dichloroethane	U	20.0	23.4	117	20.0	24.0	120	2.75	70 - 135	30	
1,1-Dichloroethene	U	20.0	22.1	110	20.0	22.6	113	2.24	70 - 130	30	
1,1-Dichloropropene	U	20.0	21.8	109	20.0	22.4	112	2.50	75 - 130	30	
1,2,3-Trichlorobenzene	U	20.0	19.0	95.2	20.0	19.7	98.3	3.17	55 - 140	30	
1,2,3-Trichloropropane	U	20.0	23.4	117	20.0	22.9	114	2.08	75 - 125	30	
1,2,4-Trichlorobenzene	U	20.0	20.4	102	20.0	21.2	106	3.73	65 - 135	30	
1,2,4-Trimethylbenzene	U	20.0	21.8	109	20.0	21.9	110	0.827	75 - 130	30	
1,2-Dibromo-3-chloropropane	U	20.0	19.3	96.3	20.0	18.9	94.3	2.15	50 - 130	30	
1,2-Dibromoethane	U	20.0	20.1	101	20.0	20.3	102	1.06	80 - 120	30	
1,2-Dichlorobenzene	U	20.0	20.1	101	20.0	20.3	102	1.12	70 - 120	30	
1,2-Dichloroethane	U	20.0	21.2	106	20.0	21.4	107	1.00	70 - 130	30	
1,2-Dichloropropane	U	20.0	24.3	121	20.0	25.3	127	4.23	75 - 125	30	*
1,3,5-Trimethylbenzene	U	20.0	20.3	102	20.0	20.6	103	1.33	75 - 130	30	
1,3-Dichlorobenzene	U	20.0	20.0	99.8	20.0	20.2	101	1.40	75 - 125	30	
1,3-Dichloropropane	U	20.0	22.1	110	20.0	22.8	114	3.41	75 - 125	30	
1,4-Dichlorobenzene	U	20.0	19.8	98.9	20.0	19.8	98.9	0.0576	75 - 125	30	
2,2-Dichloropropane	U	20.0	21.0	105	20.0	22.0	110	4.82	70 - 135	30	
2-Butanone	U	20.0	20.0	99.9	20.0	20.1	101	0.675	30 - 150	30	
2-Chloroethyl vinyl ether	U	20.0	0	0	20.0	0	0	NA	58 - 160	20	**
2-Chlorotoluene	U	20.0	22.2	111	20.0	22.4	112	0.863	75 - 125	30	
2-Hexanone	U	20.0	19.8	98.9	20.0	20.4	102	3.21	55 - 130	30	
4-Chlorotoluene	U	20.0	21.3	106	20.0	21.4	107	0.603	75 - 130	30	
4-Methyl-2-pentanone	U	20.0	19.8	99	20.0	21.2	106	6.92	60 - 135	30	
Acetone	U	20.0	25.6	128	20.0	21.3	106	18.3	40 - 140	30	
Benzene	U	20.0	22.5	113	20.0	22.8	114	1.29	80 - 120	30	
Bromobenzene	U	20.0	21.4	107	20.0	21.9	110	2.74	75 - 125	30	
Bromochloromethane	U	20.0	20.3	101	20.0	20.8	104	2.52	65 - 130	30	
Bromodichloromethane	U	20.0	23.1	115	20.0	23.4	117	1.29	75 - 120	30	
Bromoform	U	20.0	21.5	107	20.0	21.9	109	1.84	70 - 130	30	
Bromomethane	U	20.0	22.6	113	20.0	23.0	115	2.09	30 - 145	30	
Carbon disulfide	U	20.0	21.8	109	20.0	21.8	109	0.195	35 - 160	30	
Carbon tetrachloride	U	20.0	17.5	87.5	20.0	18.4	92.1	5.07	65 - 140	30	
Chlorobenzene	U	20.0	21.4	107	20.0	22.0	110	2.57	80 - 120	30	
Chlorodibromomethane	U	20.0	20.2	101	20.0	20.3	102	0.577	60 - 135	30	
Chloroethane	U	20.0	22.2	111	20.0	22.7	113	2.01	60 - 135	30	
Chloroform	2.71	20.0	24.2	108	20.0	24.3	108	0.192	65 - 135	30	
Chloromethane	U	20.0	27.4	137	20.0	27.3	137	0.176	40 - 125	30	*

MS_MSD - Modified 03/06/2008

PDF File ID: 2471460

Report generated 06/28/2012 13:25



MS/MSD REPORT

Loginnum: L12060445 Cal ID: HPMS11 03-MAY-12
 Instrument ID: HPMS11 Contract #: _____
 Parent ID: L12060445-05 File ID: 11M84741 Dil: 1
 Sample ID: L12060445-06 MS File ID: 11M84744 Dil: 1
 Sample ID: L12060445-07 MSD File ID: 11M84745 Dil: 1

Worknum: WG401456
 Prep Method: 5030B/5030C/
 Method: 5035A
 Matrix: 8260B
 Units: Water
ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
cis-1,2-Dichloroethene	U	20.0	21.9	109	20.0	22.5	112	2.72	70 - 125	30	
cis-1,3-Dichloropropene	U	20.0	22.4	112	20.0	22.8	114	1.59	70 - 130	30	
Dibromomethane	U	20.0	19.7	98.7	20.0	20.3	101	2.65	75 - 125	30	
Dichlorodifluoromethane	U	20.0	24.8	124	20.0	25.5	127	2.51	30 - 155	30	
Ethylbenzene	U	20.0	21.1	106	20.0	21.4	107	1.26	75 - 125	30	
Hexachlorobutadiene	U	20.0	18.9	94.7	20.0	19.9	99.4	4.81	50 - 140	30	
Isopropylbenzene	U	20.0	18.4	91.9	20.0	18.9	94.4	2.67	75 - 125	30	
m-,p-Xylene	U	40.0	41.4	103	40.0	42.3	106	2.08	75 - 130	30	
Methylene chloride	U	20.0	22.1	111	20.0	22.5	112	1.48	55 - 140	30	
n-Butylbenzene	U	20.0	23.0	115	20.0	23.7	118	2.66	70 - 135	30	
n-Propylbenzene	U	20.0	21.5	108	20.0	22.1	111	2.83	70 - 130	30	
Naphthalene	U	20.0	17.3	86.5	20.0	17.3	86.4	0.0058	55 - 140	30	
o-Xylene	U	20.0	19.8	99.2	20.0	20.4	102	2.77	80 - 120	30	
p-Isopropyltoluene	U	20.0	20.3	102	20.0	20.5	103	1.01	75 - 130	30	
sec-Butylbenzene	U	20.0	19.6	98.2	20.0	20.2	101	2.63	70 - 125	30	
Styrene	U	20.0	20.9	104	20.0	21.2	106	1.40	65 - 135	30	
tert-Butylbenzene	U	20.0	19.1	95.5	20.0	19.6	98.1	2.68	70 - 130	30	
Tetrachloroethene	U	20.0	19.8	98.8	20.0	20.7	103	4.60	45 - 150	30	
Toluene	U	20.0	21.7	109	20.0	22.0	110	1.16	75 - 120	30	
trans-1,2-Dichloroethene	U	20.0	20.9	105	20.0	22.2	111	5.81	60 - 140	30	
trans-1,3-Dichloropropene	U	20.0	21.3	106	20.0	21.6	108	1.59	55 - 140	30	
Trichloroethene	U	20.0	18.8	93.9	20.0	19.3	96.7	2.84	70 - 125	30	
Trichlorofluoromethane	U	20.0	16.7	83.7	20.0	17.4	87	3.89	60 - 145	30	
Vinyl acetate	U	20.0	33.9	169	20.0	33.6	168	0.887	10 - 190	20	
Vinyl chloride	U	20.0	23.2	116	20.0	23.5	117	1.15	50 - 145	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12060445

Instrument: HPMS11

Analyst: ADC

Workgroup: WG396851

Tune ID: WG396851-01

Run Date: 05/03/2012

Run Time: 16:30

File ID: 11M83329

Cal ID: HPMS11 -

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.3	3670	PASS
75.0	95.0	30.0	60.0	51.8	9391	PASS
95.0	95.0	100	100	100	18119	PASS
96.0	95.0	5.00	9.00	7.25	1313	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	85.2	15443	PASS
175	174	5.00	9.00	8.49	1311	PASS
176	174	95.0	101	98.2	15168	PASS
177	176	5.00	9.00	6.63	1006	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG396851-02	STD	01	05/03/2012 17:01	
WG396851-03	STD	01	05/03/2012 17:32	
WG396851-04	STD	01	05/03/2012 18:02	
WG396851-05	STD	01	05/03/2012 18:33	
WG396851-06	STD	01	05/03/2012 19:04	
WG396851-07	STD	01	05/03/2012 19:34	
WG396851-08	STD-CCV	01	05/03/2012 20:05	
WG396851-09	STD	01	05/03/2012 20:35	
WG396851-10	STD	01	05/03/2012 21:06	
WG396851-11	STD	01	05/03/2012 21:37	
WG396851-12	SSCV	01	05/03/2012 22:38	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2474502
Report generated 06/28/2012 13:25



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12060445
Instrument: HPMS11
Analyst: FJB
Workgroup: WG401428

Tune ID: WG401428-01
Run Date: 06/22/2012
Run Time: 13:52
File ID: 11M84697

Cal ID: HPMS11-03-MAY-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	23.0	2158	PASS
75.0	95.0	30.0	60.0	49.8	4671	PASS
95.0	95.0	100	100	100	9375	PASS
96.0	95.0	5.00	9.00	6.93	650	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	85.2	7988	PASS
175	174	5.00	9.00	7.02	561	PASS
176	174	95.0	101	97.4	7781	PASS
177	176	5.00	9.00	7.08	551	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG401428-02	CCV	01	06/22/2012 14:17	
WG401429-01	BLANK	01	06/22/2012 15:18	
WG401429-02	LCS	01	06/22/2012 15:54	
L12060445-02	40TB061212	01	06/22/2012 16:55	
L12060445-01	40MW7GW601212	01	06/23/2012 00:06	
WG401429-06	BLANK2	01	06/23/2012 02:39	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2474502
Report generated 06/28/2012 13:25



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12060445
Instrument: HPMS11
Analyst: MES
Workgroup: WG401455

Tune ID: WG401455-01
Run Date: 06/23/2012
Run Time: 09:03
File ID: 11M84729

Cal ID: HPMS11-03-MAY-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.8	4063	PASS
75.0	95.0	30.0	60.0	51.2	9992	PASS
95.0	95.0	100	100	100	19512	PASS
96.0	95.0	5.00	9.00	6.55	1278	PASS
173	174	0	2.00	0.673	112	PASS
174	95.0	50.0	100	85.3	16652	PASS
175	174	5.00	9.00	7.60	1265	PASS
176	174	95.0	101	97.4	16221	PASS
177	176	5.00	9.00	7.06	1145	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG401455-02	CCV	01	06/23/2012 09:34	
WG401456-01	BLANK	01	06/23/2012 10:35	
WG401456-02	LCS	01	06/23/2012 11:06	
L12060445-05	40MW6GW061212	01	06/23/2012 15:12	
L12060445-06	40MW6MSGW061212	01	06/23/2012 16:44	
L12060445-07	40MW6MSDGW061212	01	06/23/2012 17:14	
L12060445-03	LFMW01GW061212	01	06/23/2012 18:16	
L12060445-08	40DUPGW061212	01	06/23/2012 18:46	
L12060445-09	40FB061212	01	06/23/2012 19:17	
L12060445-10	40EQR061212	01	06/23/2012 19:48	
L12060445-11	40MW5GW061212	01	06/23/2012 20:18	
WG401456-09	BLANK2	01	06/23/2012 21:50	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2474502
Report generated 06/28/2012 13:25



Calibration Table Report
Method: 8260WTR.M
Title: 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
Last Calibration: Fri May 04 08:32:33 2012
Curve: WG396851
Calibration Files

											R ²		
Compound	0.3	0.4	1	2	5	20	50	100	200	300	Linear	Quadratic	
	11M83330.D	11M83331.D	11M83332.D	11M83333.D	11M83334.D	11M83335.D	11M83336.D	11M83337.D	11M83338.D	11M83339.D	Avg	%RSD	
Fluorobenzene	ISTD												
Dichlorodifluoromethane			0.343	0.307	0.307	0.329	0.331	0.322	0.319		0.323	4.030	
Chloromethane	0.528	0.589	0.549	0.516	0.550	0.584	0.566	0.551			0.554	4.540	
Vinyl Chloride	0.418	0.678	0.556	0.652	0.683	0.501	0.434				0.560	20.219	
1,3-Butadiene			0.499	0.433	0.319	0.279	0.146	0.137	0.128	0.277	53.952	FAIL	
Bromomethane		0.197	0.177	0.160	0.162	0.178	0.187	0.183			0.178	7.555	
Chloroethane		0.203	0.194	0.169	0.185	0.196	0.191	0.198			0.191	5.816	
Trichlorofluoromethane	0.522	0.528	0.515	0.503	0.542	0.552	0.560	0.590			0.539	5.160	
Diethyl ether		0.179	0.182	0.182	0.190	0.189	0.204		0.206	0.190	5.786		
Isoprene	0.358	0.432	0.400	0.379	0.416	0.440	0.460	0.470		0.419	9.278		
Acrolein				0.012	0.013	0.013	0.013	0.014	0.013	0.013	4.103		
1,1,2-Trichloro-1,2,2-Trifluoroel	0.211	0.283	0.279	0.274	0.288	0.292	0.296	0.314		0.280	10.893		
Acetone		0.074	0.064	0.060	0.051	0.048	0.044	0.048	0.044	0.054	19.809	0.998	
1,1-Dichloroethene	0.324	0.370	0.370	0.375	0.387	0.391	0.395	0.425		0.379	7.552		
Tert-Butyl Alcohol			0.010	0.011	0.013	0.013	0.014		0.015	0.013	14.140		
Dimethyl Sulfide	0.308	0.313	0.299	0.281	0.302	0.314	0.317	0.351		0.311	6.421		
Iodomethane		0.258	0.305	0.330	0.406	0.417	0.384	0.380		0.354	16.522	0.999	
Methyl acetate		0.169	0.163	0.161	0.149	0.155	0.161	0.173		0.161	5.001		
Methylene Chloride		0.279	0.268	0.255	0.257	0.266	0.269	0.294		0.270	4.938		
Carbon Disulfide	0.733	0.784	0.740	0.706	0.751	0.782	0.798	0.893		0.774	7.406		
Acrylonitrile		0.043	0.048	0.058	0.056	0.060	0.059	0.063	0.053	0.055	11.971		
Methyl Tert Butyl Ether	0.611	0.650	0.620	0.596	0.620	0.632	0.638	0.676		0.630	3.913		
trans-1,2-Dichloroethene	0.224	0.275	0.257	0.265	0.273	0.279	0.285	0.310		0.271	9.090		
n-Hexane		0.260	0.258	0.257	0.271	0.282	0.284	0.303		0.274	6.307		
Diisopropyl ether		0.757	0.744	0.761	0.791	0.780	0.837		0.884	0.794	6.320		
Vinyl Acetate				0.099	0.126	0.163	0.165	0.158	0.172	0.147	19.242	0.998	
1,1-Dichloroethane	0.456	0.431	0.431	0.424	0.446	0.465	0.472	0.506		0.454	6.015		
Ethyl-Tert-Butyl ether		0.732	0.727	0.740	0.774	0.759	0.818		0.873	0.775	6.864		
2-Butanone		0.061	0.066	0.069	0.064	0.064	0.064	0.062	0.065	0.064	3.768		
Propionitrile		0.016	0.019	0.019	0.019	0.019	0.020		0.020	0.019	6.764		
2,2-Dichloropropane	0.338	0.365	0.326	0.343	0.361	0.379	0.400	0.422		0.367	8.895		
cis-1,2-Dichloroethene	0.272	0.289	0.288	0.273	0.289	0.301	0.307	0.329		0.294	6.386		
Chloroform	0.477	0.454	0.497	0.475	0.460	0.466	0.478	0.490	0.523	0.480	4.433		
1-Bromopropane		0.040	0.047	0.052	0.056	0.059	0.059	0.062	0.064	0.055	14.414		
Bromochloromethane	0.160	0.179	0.183	0.181	0.190	0.194	0.198	0.209		0.187	7.878		
Tetrahydrofuran		0.041	0.040	0.042	0.042	0.041	0.043		0.042	0.042	2.386		
Dibromofluoromethane		0.338	0.305	0.288	0.282	0.302	0.304	0.314		0.305	5.984		
1,1,1-Trichloroethane	0.400	0.444	0.422	0.406	0.441	0.466	0.486	0.537		0.450	10.054		
Cyclohexane	0.324	0.365	0.345	0.335	0.355	0.375	0.384	0.420		0.363	8.389		
1,1-Dichloropropene	0.311	0.357	0.337	0.337	0.361	0.373	0.380	0.408		0.358	8.375		
Carbon Tetrachloride	0.272	0.349	0.340	0.377	0.420	0.455	0.491	0.490		0.399	19.628	0.998	
Tert-Amyl-Methyl ether		0.658	0.661	0.68	0.708	0.703	0.759		0.79	0.70844	7.03178		
1,2-Dichloroethane-d4		0.353	0.284	0.272	0.267	0.286	0.285	0.292		0.29151	9.76338		
Heptane										0	0		
1,2-Dichloroethane	0.307	0.343	0.313	0.333	0.331	0.345	0.351	0.378		0.33748	6.65068		
Benzene	1.033	1.055	0.971	0.962	1.011	1.054	1.09	1.192		1.04612	6.99279		
Trichloroethene	0.373	0.361	0.332	0.308	0.326	0.332	0.34	0.372		0.34299	6.76518		
Methylcyclohexane	0.311	0.36	0.345	0.331	0.362	0.378	0.383	0.403		0.35909	8.27287		
1,2-Dichloropropane	0.223	0.246	0.235	0.226	0.236	0.245	0.249	0.267		0.24083	5.8499		
1,4-Dioxane			0.001	0.002	0.002	0.002	0.002		0.002	0.00171	14.9014		
Bromodichloromethane	0.264	0.307	0.304	0.314	0.336	0.356	0.366	0.391		0.32963	12.2734		
Dibromomethane	0.078	0.132	0.15	0.146	0.151	0.158	0.157	0.166		0.14223	19.524	0.999	
2-Chloroethyl Vinyl Ether		0.075	0.091	0.096	0.102	0.111	0.11	0.115	0.121	0.10273	14.3876		
4-Methyl-2-Pentanone			0.053	0.053	0.054	0.059	0.058	0.058	0.06	0.05626	5.46038		
cis-1,3-Dichloropropene	0.331	0.355	0.339	0.353	0.383	0.406	0.419	0.454		0.3797	11.3835		
Dimethyl Disulfide		0.097	0.107	0.116	0.18	0.23	0.256	0.296		0.18306	43.5133	0.999	
Chlorobenzene-d5	ISTD												
Toluene-d8		1.539	1.306	1.259	1.191	1.261	1.301	1.374		1.31869	8.48083		
Toluene	1.494	1.412	1.423	1.376	1.454	1.518	1.597	1.756		1.5037	8.20773		
Ethyl Methacrylate		0.229	0.224	0.235	0.279	0.303	0.313	0.331		0.27352	16.0932	0.998	
Paraldehyde			0.001	0.002	0.003	0.004	0.004		0.004	0.00302	43.7361	0.99	
trans-1,3-Dichloropropene	0.366	0.353	0.36	0.369	0.43	0.462	0.481			0.40316	13.3116		
1,1,2-Trichloroethane	0.217	0.262	0.241	0.238	0.251	0.253	0.257	0.268		0.24838	6.50556		
2-Hexanone		0.128	0.126	0.119	0.124	0.127	0.128	0.125	0.128	0.12559	2.53673		
1,3-Dichloropropane	0.385	0.408	0.422	0.403	0.418	0.423	0.431	0.447		0.41721	4.49361		
Tetrachloroethene	0.228	0.303	0.31	0.296	0.309	0.319	0.332	0.367		0.30808	12.7266		
Dibromochloromethane	0.231	0.241	0.263	0.277	0.328	0.357	0.378	0.404		0.30977	21.2848	1	
1,2-Dibromoethane	0.226	0.259	0.249	0.252	0.261	0.265	0.268	0.278		0.25721	6.0551		
1-Chlorohexane	0.344	0.418	0.387	0.403	0.441	0.457	0.476	0.523		0.4311	12.9061		
Chlorobenzene	0.907	0.96	0.932	0.946	0.999	1.073	1.19			1.00094	9.90877		
1,1,1,2-Tetrachloroethane	0.21	0.282	0.288	0.3	0.359	0.418	0.478	0.592		0.36596	34.0219	1	
Ethylbenzene	0.453	0.52	0.489	0.514	0.547	0.599	0.68			0.54317	13.8903		
m-,p-Xylene	0.627	0.618	0.602	0.608	0.668	0.74	0.832			0.67074	12.7659		
o-Xylene	0.592	0.59	0.577	0.586	0.632	0.672	0.724	0.854		0.65339	14.6374		
Styrene	0.94	0.95	0.936	0.953	1.055	1.156	1.289			1.03962	13.1528		
Bromoform	0.083	0.108	0.133	0.143	0.184	0.216	0.231			0.15684	35.2652	0.999	
Isopropylbenzene	1.332	1.485	1.423	1.433	1.573	1.698	1.824			1.53825	11.2018		
1,4-Dichlorobenzene-d4	ISTD												
1,1,2,2-Tetrachloroethane	0.409	0.406	0.416	0.452	0.467	0.47	0.469	0.471		0.44502	6.63947		
p-Bromofluorobenzene		0.959	0.82	0.789	0.765	0.791	0.811	0.85		0.82634	7.79135		

1,2,3-Trichloropropane		0.125	0.127	0.141	0.139	0.137	0.137	0.137	0.1347	4.53278	
trans-1,4-Dichloro-2-Butene			0.068	0.071	0.109	0.119	0.128	0.136	0.10505	27.7626	0.997
n-Propylbenzene	3.012	3.211	3.053	3.098	3.22	3.304	3.441	3.684	3.25284	6.85924	
Bromobenzene	0.746	0.75	0.764	0.749	0.756	0.768	0.769	0.81	0.7771	5.62286	
1,3,5-Trimethylbenzene		2.167	2.356	2.258	2.245	2.361	2.44	2.6	2.41569	9.75123	
2-Chlorotoluene		2.105	2.156	2.069	2.046	2.128	2.191	2.3	2.18762	6.90226	
4-Chlorotoluene		1.745	1.924	1.732	1.744	1.843	1.928	2.043	1.91446	10.9638	
a-Methylstyrene			1.239	1.237	1.222	1.352	1.454	1.569	1.34534	10.5263	
tert-Butylbenzene		0.468	0.482	0.506	0.482	0.509	0.535	0.574	0.52573	11.5484	
1,2,4-Trimethylbenzene		2.174	2.259	2.243	2.29	2.449	2.647	2.869	2.5133	14.2017	
sec-Butylbenzene		2.399	2.782	2.567	2.646	2.79	2.932	3.071	2.8206	10.901	
p-Isopropyltoluene			2.003	2.269	2.088	2.249	2.415	2.551	2.4202	14.4534	
1,3-Dichlorobenzene			1.508	1.428	1.357	1.434	1.472	1.543	1.52412	9.65745	
1,4-Dichlorobenzene	1.567	1.467	1.467	1.436	1.471	1.489	1.562	1.644	1.55137	8.58086	
n-Butylbenzene		1.447	1.751	1.67	1.781	1.966	2.084	2.205	1.84356	14.0544	
1,2-Dichlorobenzene	1.291	1.327	1.316	1.278	1.315	1.375	1.413	1.481	1.38135	8.36434	
1,2-Dibromo-3-Chloropropane			0.1	0.029	0.052	0.067	0.074	0.082	0.06954	33.2561	0.994
1,2,4-Trichlorobenzene		0.691	0.713	0.683	0.725	0.822	0.87	0.965	0.7812	13.6889	
Hexachlorobutadiene		0.141	0.275	0.285	0.258	0.292	0.29	0.302	0.27074	20.5111	0.998
Naphthalene		1.072	1.322	1.298	1.38	1.591	1.714	1.887	1.52374	20.0108	0.999
1,2,3-Trichlorobenzene		0.632	0.642	0.651	0.675	0.722	0.76	0.853	0.73004	13.9762	

Tue May 08 16:06:10 2012

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L12060445</u>	Run Date: <u>05/03/2012</u>	Sample ID: <u>WG396851-12</u>
Instrument ID: <u>HPMS11</u>	Run Time: <u>22:38</u>	Method: <u>8260B</u>
File ID: <u>11M83341</u>	Analyst: <u>ADC</u>	QC Key: <u>D0D4</u>
ICal Workgroup: <u>WG396851</u>	Cal ID: <u>HPMS11 - 03-MAY-12</u>	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	54.9	ug/L	0.417	9.80	20	
1,2-Dichloropropane	CCC	50.0	53.9	ug/L	0.259	7.70	20	
Chloroform	CCC	50.0	53.7	ug/L	0.516	7.50	20	
Ethylbenzene	CCC	50.0	58.1	ug/L	0.631	16.1	20	
Toluene	CCC	50.0	52.8	ug/L	1.59	5.60	20	
Vinyl Chloride	CCC	50.0	46.8	ug/L	0.517	6.40	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	53.9	ug/L	0.480	7.80	20	
1,1-Dichloroethane	SPCC	50.0	54.1	ug/L	0.491	8.20	20	
Bromoform	SPCC	50.0	56.4	ug/L	0.237	12.9	20	
Chlorobenzene	SPCC	50.0	55.9	ug/L	1.12	11.7	20	
Chloromethane	SPCC	50.0	63.6	ug/L	0.705	27.2	20	*
1,1,1,2-Tetrachloroethane		50.0	54.1	ug/L	0.451	8.20	20	
1,1,1-Trichloroethane		50.0	54.4	ug/L	0.490	8.90	20	
1,1,2-Trichloroethane		50.0	53.9	ug/L	0.268	7.70	20	
1,1-Dichloropropene		50.0	54.0	ug/L	0.387	8.10	20	
1,2,3-Trichlorobenzene		50.0	57.1	ug/L	0.833	14.2	20	
1,2,3-Trichloropropane		50.0	59.3	ug/L	0.160	18.6	20	
1,2,4-Trichlorobenzene		50.0	60.0	ug/L	0.937	20.0	20	
1,2,4-Trimethylbenzene		50.0	57.0	ug/L	2.87	14.0	20	
1,2-Dibromo-3-Chloropropane		50.0	53.4	ug/L	0.0854	6.80	20	
1,2-Dibromoethane		50.0	54.2	ug/L	0.279	8.40	20	
1,2-Dichlorobenzene		50.0	53.0	ug/L	1.46	6.00	20	
1,2-Dichloroethane		50.0	54.1	ug/L	0.365	8.20	20	
1,3,5-Trimethylbenzene		50.0	53.2	ug/L	2.57	6.40	20	
1,3-Dichlorobenzene		50.0	51.9	ug/L	1.58	3.80	20	
1,3-Dichloropropane		50.0	54.3	ug/L	0.453	8.60	20	
1,4-Dichlorobenzene		50.0	52.0	ug/L	1.61	4.00	20	
2,2-Dichloropropane		50.0	51.7	ug/L	0.379	3.30	20	
2-Butanone		50.0	52.0	ug/L	0.0670	4.10	20	
2-Chloroethyl Vinyl Ether		50.0	56.8	ug/L	0.117	13.7	30	
2-Chlorotoluene		50.0	51.7	ug/L	2.26	3.50	20	
2-Hexanone		50.0	50.8	ug/L	0.128	1.60	20	
4-Chlorotoluene		50.0	50.9	ug/L	1.95	1.90	20	
4-Methyl-2-Pentanone		50.0	52.4	ug/L	0.0590	4.80	20	
Acetone		50.0	53.7	ug/L	0.0496	7.40	20	
Benzene		50.0	53.0	ug/L	1.11	6.00	20	
Bromobenzene		50.0	52.3	ug/L	0.813	4.70	20	
Bromochloromethane		50.0	55.4	ug/L	0.207	10.9	20	
Bromodichloromethane		50.0	59.6	ug/L	0.393	19.1	20	
Bromomethane		50.0	56.3	ug/L	0.200	12.5	20	
Carbon Disulfide		50.0	53.7	ug/L	0.831	7.40	20	
Carbon Tetrachloride		50.0	51.6	ug/L	0.495	3.30	20	

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Version 1.5 PDF File ID: 2471461
Report generated 06/28/2012 13:25



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12060445	Run Date: 05/03/2012	Sample ID: WG396851-12
Instrument ID: HPMS11	Run Time: 22:38	Method: 8260B
File ID: 11M83341	Analyst: ADC	QC Key: D0D4
ICal Workgroup: WG396851	Cal ID: HPMS11 - 03-MAY-12	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Dibromochloromethane	50.0	54.0	ug/L	0.383	8.10	20	
Chloroethane	50.0	53.7	ug/L	0.205	7.40	20	
cis-1,2-Dichloroethene	50.0	53.9	ug/L	0.317	7.80	20	
cis-1,3-Dichloropropene	50.0	55.7	ug/L	0.423	11.4	20	
Dibromomethane	50.0	51.1	ug/L	0.165	2.30	20	
Dichlorodifluoromethane	50.0	71.0	ug/L	0.458	41.9	20	*
Hexachlorobutadiene	50.0	48.3	ug/L	0.300	3.30	20	
Isopropylbenzene	50.0	49.7	ug/L	1.53	0.600	20	
m-,p-Xylene	100	115	ug/L	0.769	14.6	20	
Methylene Chloride	50.0	52.8	ug/L	0.285	5.60	20	
n-Butylbenzene	50.0	60.5	ug/L	2.23	21.1	20	*
n-Propylbenzene	50.0	52.4	ug/L	3.41	4.80	20	
Naphthalene	50.0	53.4	ug/L	1.86	6.90	20	
o-Xylene	50.0	52.7	ug/L	0.689	5.50	20	
p-Isopropyltoluene	50.0	55.2	ug/L	2.67	10.3	20	
sec-Butylbenzene	50.0	52.5	ug/L	2.96	4.90	20	
Styrene	50.0	59.1	ug/L	1.23	18.1	20	
tert-Butylbenzene	50.0	51.4	ug/L	0.541	2.90	20	
Tetrachloroethene	50.0	54.8	ug/L	0.338	9.60	20	
trans-1,2-Dichloroethene	50.0	53.4	ug/L	0.290	6.80	20	
trans-1,3-Dichloropropene	50.0	54.0	ug/L	0.435	8.00	20	
Trichloroethene	50.0	51.1	ug/L	0.351	2.30	20	
Trichlorofluoromethane	50.0	52.9	ug/L	0.571	5.80	20	
Vinyl Acetate	50.0	80.3	ug/L	0.261	60.6	40	*

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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Version 1.5 PDF File ID: 2471461
Report generated 06/28/2012 13:25



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/22/2012 Sample ID: WG401428-02
 Instrument ID: HPMS11 Run Time: 14:17 Method: 8260B
 File ID: 11M84698 Analyst: FJB QC Key: D0D4
 Workgroup (AAB#): WG401429 Cal ID: HPMS11 - 03-MAY-12
 Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	54.0	ug/L	0.410	7.98	20	
1,2-Dichloropropane	CCC	50.0	57.4	ug/L	0.277	14.8	20	
Chloroform	CCC	50.0	51.4	ug/L	0.493	2.76	20	
Ethylbenzene	CCC	50.0	54.6	ug/L	0.593	9.14	20	
Toluene	CCC	50.0	53.0	ug/L	1.59	5.98	20	
Vinyl Chloride	CCC	50.0	50.5	ug/L	0.549	0.951	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	51.5	ug/L	0.458	3.00	20	
1,1-Dichloroethane	SPCC	50.0	57.2	ug/L	0.519	14.4	20	
Bromoform	SPCC	50.0	50.1	ug/L	0.207	0.137	20	
Chlorobenzene	SPCC	50.0	54.4	ug/L	1.09	8.87	20	
Chloromethane	SPCC	50.0	51.0	ug/L	0.566	2.09	20	
1,1,1,2-Tetrachloroethane		50.0	50.5	ug/L	0.417	0.940	20	
1,1,1-Trichloroethane		50.0	51.3	ug/L	0.462	2.60	20	
1,1,2-Trichloroethane		50.0	48.7	ug/L	0.242	2.62	20	
1,1-Dichloropropene		50.0	55.6	ug/L	0.398	11.2	20	
1,2,3-Trichlorobenzene		50.0	46.4	ug/L	0.678	7.14	20	
1,2,3-Trichloropropane		50.0	48.9	ug/L	0.132	2.14	20	
1,2,4-Trichlorobenzene		50.0	53.2	ug/L	0.832	6.46	20	
1,2,4-Trimethylbenzene		50.0	52.2	ug/L	2.62	4.39	20	
1,2-Dibromo-3-Chloropropane		50.0	42.7	ug/L	0.0681	14.5	20	
1,2-Dibromoethane		50.0	46.3	ug/L	0.238	7.41	20	
1,2-Dichlorobenzene		50.0	47.1	ug/L	1.30	5.83	20	
1,2-Dichloroethane		50.0	48.8	ug/L	0.329	2.40	20	
1,3,5-Trimethylbenzene		50.0	50.4	ug/L	2.43	0.770	20	
1,3-Dichlorobenzene		50.0	48.9	ug/L	1.49	2.11	20	
1,3-Dichloropropane		50.0	50.5	ug/L	0.421	0.950	20	
1,4-Dichlorobenzene		50.0	47.8	ug/L	1.48	4.36	20	
2,2-Dichloropropane		50.0	61.1	ug/L	0.448	22.2	20	*
2-Butanone		50.0	48.0	ug/L	0.0617	4.05	20	
2-Chloroethyl Vinyl Ether		50.0	53.2	ug/L	0.109	6.38	40	
2-Chlorotoluene		50.0	48.1	ug/L	2.10	3.81	20	
2-Hexanone		50.0	44.0	ug/L	0.111	11.9	20	
4-Chlorotoluene		50.0	55.0	ug/L	2.10	9.91	20	
4-Methyl-2-Pentanone		50.0	45.4	ug/L	0.0511	9.17	20	
Acetone		50.0	60.6	ug/L	0.0559	21.2	20	*
Benzene		50.0	54.3	ug/L	1.14	8.62	20	
Bromobenzene		50.0	51.0	ug/L	0.793	2.08	20	
Bromochloromethane		50.0	46.9	ug/L	0.175	6.15	20	
Bromodichloromethane		50.0	55.8	ug/L	0.368	11.6	20	
Bromomethane		50.0	48.2	ug/L	0.171	3.69	20	
Carbon Disulfide		50.0	39.8	ug/L	0.616	20.3	20	*
Carbon Tetrachloride		50.0	46.8	ug/L	0.448	6.34	20	

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 PDF File ID: 2471463
 Report generated 06/28/2012 13:25



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445	Run Date: 06/22/2012	Sample ID: WG401428-02
Instrument ID: HPMS11	Run Time: 14:17	Method: 8260B
File ID: 11M84698	Analyst: FJB	QC Key: D0D4
Workgroup (AAB#): WG401429	Cal ID: HPMS11 - 03-MAY-12	
Matrix: WATER		

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Dibromochloromethane	50.0	46.8	ug/L	0.330	6.37	20	
Chloroethane	50.0	50.6	ug/L	0.193	1.10	20	
cis-1,2-Dichloroethene	50.0	53.3	ug/L	0.313	6.56	20	
cis-1,3-Dichloropropene	50.0	54.3	ug/L	0.413	8.67	20	
Dibromomethane	50.0	45.7	ug/L	0.147	8.59	20	
Dichlorodifluoromethane	50.0	48.8	ug/L	0.315	2.40	20	
Hexachlorobutadiene	50.0	49.5	ug/L	0.307	0.927	20	
Isopropylbenzene	50.0	53.9	ug/L	1.66	7.77	20	
m-, p-Xylene	100	109	ug/L	0.729	8.65	20	
Methylene Chloride	50.0	49.6	ug/L	0.268	0.702	20	
n-Butylbenzene	50.0	59.1	ug/L	2.18	18.1	20	
n-Propylbenzene	50.0	54.7	ug/L	3.56	9.47	20	
Naphthalene	50.0	41.6	ug/L	1.43	16.8	20	
o-Xylene	50.0	51.5	ug/L	0.673	2.95	20	
p-Isopropyltoluene	50.0	53.0	ug/L	2.57	6.00	20	
sec-Butylbenzene	50.0	50.4	ug/L	2.84	0.708	20	
Styrene	50.0	56.1	ug/L	1.17	12.2	20	
tert-Butylbenzene	50.0	49.0	ug/L	0.515	2.09	20	
Tetrachloroethene	50.0	49.9	ug/L	0.308	0.112	20	
trans-1,2-Dichloroethene	50.0	52.0	ug/L	0.282	3.98	20	
trans-1,3-Dichloropropene	50.0	57.9	ug/L	0.467	15.7	20	
Trichloroethene	50.0	45.7	ug/L	0.314	8.53	20	
Trichlorofluoromethane	50.0	44.3	ug/L	0.478	11.4	20	
Vinyl Acetate	50.0	71.1	ug/L	0.230	42.2	40	*
1,2-Dichloroethene	100	105	ug/L	0.297	5.27	40	
Xylenes	150	160	ug/L	0.701	6.75	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

CCV - Modified 03/05/2008

PDF File ID: 2471463

Report generated 06/28/2012 13:25



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445	Run Date: 06/23/2012	Sample ID: WG401455-02
Instrument ID: HPMS11	Run Time: 09:34	Method: 8260B
File ID: 11M84730	Analyst: MES	QC Key: D0D4
Workgroup (AAB#): WG401456	Cal ID: HPMS11 - 03-MAY-12	
Matrix: WATER		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	54.9	ug/L	0.416	9.70	20	
1,2-Dichloropropane	CCC	50.0	59.8	ug/L	0.288	19.5	20	
Chloroform	CCC	50.0	53.7	ug/L	0.516	7.47	20	
Ethylbenzene	CCC	50.0	56.7	ug/L	0.616	13.5	20	
Toluene	CCC	50.0	55.5	ug/L	1.67	11.0	20	
Vinyl Chloride	CCC	50.0	52.5	ug/L	0.566	5.05	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	55.3	ug/L	0.493	10.7	20	
1,1-Dichloroethane	SPCC	50.0	59.0	ug/L	0.536	18.1	20	
Bromoform	SPCC	50.0	52.6	ug/L	0.219	5.28	20	
Chlorobenzene	SPCC	50.0	57.2	ug/L	1.15	14.4	20	
Chloromethane	SPCC	50.0	52.7	ug/L	0.584	5.33	20	
1,1,1,2-Tetrachloroethane		50.0	53.2	ug/L	0.443	6.36	20	
1,1,1-Trichloroethane		50.0	52.4	ug/L	0.472	4.76	20	
1,1,2-Trichloroethane		50.0	51.8	ug/L	0.258	3.67	20	
1,1-Dichloropropene		50.0	56.2	ug/L	0.403	12.4	20	
1,2,3-Trichlorobenzene		50.0	47.2	ug/L	0.690	5.52	20	
1,2,3-Trichloropropane		50.0	52.3	ug/L	0.141	4.50	20	
1,2,4-Trichlorobenzene		50.0	55.2	ug/L	0.862	10.3	20	
1,2,4-Trimethylbenzene		50.0	56.2	ug/L	2.83	12.5	20	
1,2-Dibromo-3-Chloropropane		50.0	44.4	ug/L	0.0709	11.2	20	
1,2-Dibromoethane		50.0	48.2	ug/L	0.248	3.55	20	
1,2-Dichlorobenzene		50.0	50.4	ug/L	1.39	0.883	20	
1,2-Dichloroethane		50.0	51.8	ug/L	0.350	3.56	20	
1,3,5-Trimethylbenzene		50.0	54.3	ug/L	2.63	8.68	20	
1,3-Dichlorobenzene		50.0	52.7	ug/L	1.61	5.46	20	
1,3-Dichloropropane		50.0	52.9	ug/L	0.442	5.81	20	
1,4-Dichlorobenzene		50.0	51.3	ug/L	1.59	2.52	20	
2,2-Dichloropropane		50.0	59.9	ug/L	0.440	19.8	20	
2-Butanone		50.0	48.4	ug/L	0.0623	3.15	20	
2-Chloroethyl Vinyl Ether		50.0	54.0	ug/L	0.111	8.02	40	
2-Chlorotoluene		50.0	55.8	ug/L	2.44	11.6	20	
2-Hexanone		50.0	47.0	ug/L	0.118	6.08	20	
4-Chlorotoluene		50.0	59.9	ug/L	2.29	19.9	20	
4-Methyl-2-Pentanone		50.0	49.3	ug/L	0.0554	1.49	20	
Acetone		50.0	53.3	ug/L	0.0492	6.59	20	
Benzene		50.0	56.3	ug/L	1.18	12.7	20	
Bromobenzene		50.0	54.7	ug/L	0.851	9.48	20	
Bromochloromethane		50.0	48.8	ug/L	0.182	2.31	20	
Bromodichloromethane		50.0	58.9	ug/L	0.388	17.8	20	
Bromomethane		50.0	48.1	ug/L	0.171	3.80	20	
Carbon Disulfide		50.0	39.7	ug/L	0.615	20.5	20	*
Carbon Tetrachloride		50.0	48.0	ug/L	0.460	4.02	20	

CCV - Modified 03/05/2008
 PDF File ID: 2471463
 Report generated 06/28/2012 13:25



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445	Run Date: 06/23/2012	Sample ID: WG401455-02
Instrument ID: HPMS11	Run Time: 09:34	Method: 8260B
File ID: 11M84730	Analyst: MES	QC Key: D0D4
Workgroup (AAB#): WG401456	Cal ID: HPMS11 - 03-MAY-12	
Matrix: WATER		

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Dibromochloromethane	50.0	48.7	ug/L	0.344	2.58	20	
Chloroethane	50.0	50.9	ug/L	0.195	1.86	20	
cis-1,2-Dichloroethene	50.0	54.6	ug/L	0.321	9.29	20	
cis-1,3-Dichloropropene	50.0	57.2	ug/L	0.435	14.5	20	
Dibromomethane	50.0	49.2	ug/L	0.159	1.62	20	
Dichlorodifluoromethane	50.0	46.8	ug/L	0.302	6.47	20	
Hexachlorobutadiene	50.0	46.6	ug/L	0.289	6.75	20	
Isopropylbenzene	50.0	56.7	ug/L	1.74	13.3	20	
m-,p-Xylene	100	114	ug/L	0.762	13.6	20	
Methylene Chloride	50.0	51.5	ug/L	0.278	2.97	20	
n-Butylbenzene	50.0	61.1	ug/L	2.25	22.1	20	*
n-Propylbenzene	50.0	57.3	ug/L	3.73	14.7	20	
Naphthalene	50.0	42.1	ug/L	1.45	15.8	20	
o-Xylene	50.0	53.6	ug/L	0.700	7.16	20	
p-Isopropyltoluene	50.0	55.4	ug/L	2.68	10.8	20	
sec-Butylbenzene	50.0	52.8	ug/L	2.98	5.61	20	
Styrene	50.0	58.9	ug/L	1.22	17.8	20	
tert-Butylbenzene	50.0	52.4	ug/L	0.551	4.79	20	
Tetrachloroethene	50.0	50.3	ug/L	0.310	0.688	20	
trans-1,2-Dichloroethene	50.0	52.9	ug/L	0.286	5.71	20	
trans-1,3-Dichloropropene	50.0	60.5	ug/L	0.488	20.9	20	*
Trichloroethene	50.0	47.2	ug/L	0.324	5.56	20	
Trichlorofluoromethane	50.0	44.2	ug/L	0.476	11.7	20	
Vinyl Acetate	50.0	68.1	ug/L	0.220	36.1	40	
1,2-Dichloroethene	100	108	ug/L	0.304	7.50	40	
Xylenes	150	167	ug/L	0.731	11.4	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2471463
Report generated 06/28/2012 13:25



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12060445
Instrument ID: HPMS11
Workgroup (AAB#): WG401429

ICAL CCV Number: WG396851-08
CAL ID: HPMS11 - 03-MAY-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG396851-08	NA	NA	223120	384086	480987
Upper Limit	NA	NA	446240	768172	961974
Lower Limit	NA	NA	111560	192043	240494
<u>L12060445-01</u>	<u>1.00</u>	<u>01</u>	<u>191364</u>	<u>391679</u>	<u>521643</u>
<u>L12060445-02</u>	<u>1.00</u>	<u>01</u>	<u>222442</u>	<u>445951</u>	<u>581951</u>
<u>WG401429-01</u>	<u>1.00</u>	<u>01</u>	<u>236243</u>	<u>470173</u>	<u>616940</u>
<u>WG401429-02</u>	<u>1.00</u>	<u>01</u>	<u>286008</u>	<u>518685</u>	<u>668133</u>

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12060445
Instrument ID: HPMS11
Workgroup (AAB#): WG401456

ICAL CCV Number: WG396851-08
CAL ID: HPMS11 - 03-MAY-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG396851-08	NA	NA	223120	384086	480987
Upper Limit	NA	NA	446240	768172	961974
Lower Limit	NA	NA	111560	192043	240494
<u>L12060445-03</u>	1.00	01	196347	411857	549941
L12060445-05	1.00	01	182856	384727	512373
L12060445-06	1.00	01	256268	469642	597007
L12060445-07	1.00	01	262294	480063	609876
L12060445-08	1.00	01	191351	397307	527933
L12060445-09	1.00	01	189257	398894	522104
L12060445-10	1.00	01	187170	391938	517689
L12060445-11	1.00	01	187601	386588	513796
WG401456-01	1.00	01	208800	432468	571271
WG401456-02	1.00	01	265094	480084	622654

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12060445
Instrument ID: HPMS11
Workgroup (AAB#): WG401429

ICAL CCV Number: WG396851-08
CAL ID: HPMS11 - 03-MAY-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG396851-08	NA	NA	16.74	13.94	10.31
Upper Limit	NA	NA	17.24	14.44	10.81
Lower Limit	NA	NA	16.24	13.44	9.81
L12060445-01	1.00	01	16.73	13.92	10.29
L12060445-02	1.00	01	16.72	13.92	10.29
WG401429-01	1.00	01	16.73	13.92	10.29
WG401429-02	1.00	01	16.73	13.92	10.29

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12060445
Instrument ID: HPMS11
Workgroup (AAB#): WG401456

ICAL CCV Number: WG396851-08
CAL ID: HPMS11 - 03-MAY-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG396851-08	NA	NA	16.74	13.94	10.31
Upper Limit	NA	NA	17.24	14.44	10.81
Lower Limit	NA	NA	16.24	13.44	9.81
<u>L12060445-03</u>	1.00	01	16.72	13.92	10.29
<u>L12060445-05</u>	1.00	01	16.72	13.92	10.29
<u>L12060445-06</u>	1.00	01	16.72	13.92	10.29
<u>L12060445-07</u>	1.00	01	16.72	13.92	10.29
<u>L12060445-08</u>	1.00	01	16.72	13.92	10.29
<u>L12060445-09</u>	1.00	01	16.72	13.92	10.29
<u>L12060445-10</u>	1.00	01	16.72	13.92	10.29
<u>L12060445-11</u>	1.00	01	16.72	13.92	10.29
WG401456-01	1.00	01	16.72	13.92	10.29
WG401456-02	1.00	01	16.72	13.92	10.29

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



2.1.1.3 Sample Data

Data File : C:\MSDCHEM\1\DATA\062212\11M84717.D Vial: 21
 Acq On : 23 Jun 2012 00:06 Operator: FJB
 Sample : L12060445-01 A 826-SPE Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 25 10:17:20 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Wed May 23 13:06:58 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	521643	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	391679	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.73	152	191364	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.30	111	153658	24.1731	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 118		Recovery =	96.68%		
43) 1,2-Dichloroethane-d4	9.91	65	147915	24.3178	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	97.28%		
58) Toluene-d8	12.15	98	547471	26.4989	ug/L	-0.02
Spiked Amount 25.000	Range 88 - 110		Recovery =	106.00%		
80) p-Bromofluorobenzene	15.31	95	178296	28.1879	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery =	112.76%		
Target Compounds						
13) Acetone	6.03	43	228	Below Cal	# 45	Qvalue
33) Chloroform	9.03	83	19963	1.9931	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M84717.D 8260WTR.M Mon Jun 25 10:17:21 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062212\11M84717.D

Vial: 21

Acq On : 23 Jun 2012 00:06

Operator: FJB

Sample : L12060445-01 A 826-SPE

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 25 10:17 2012

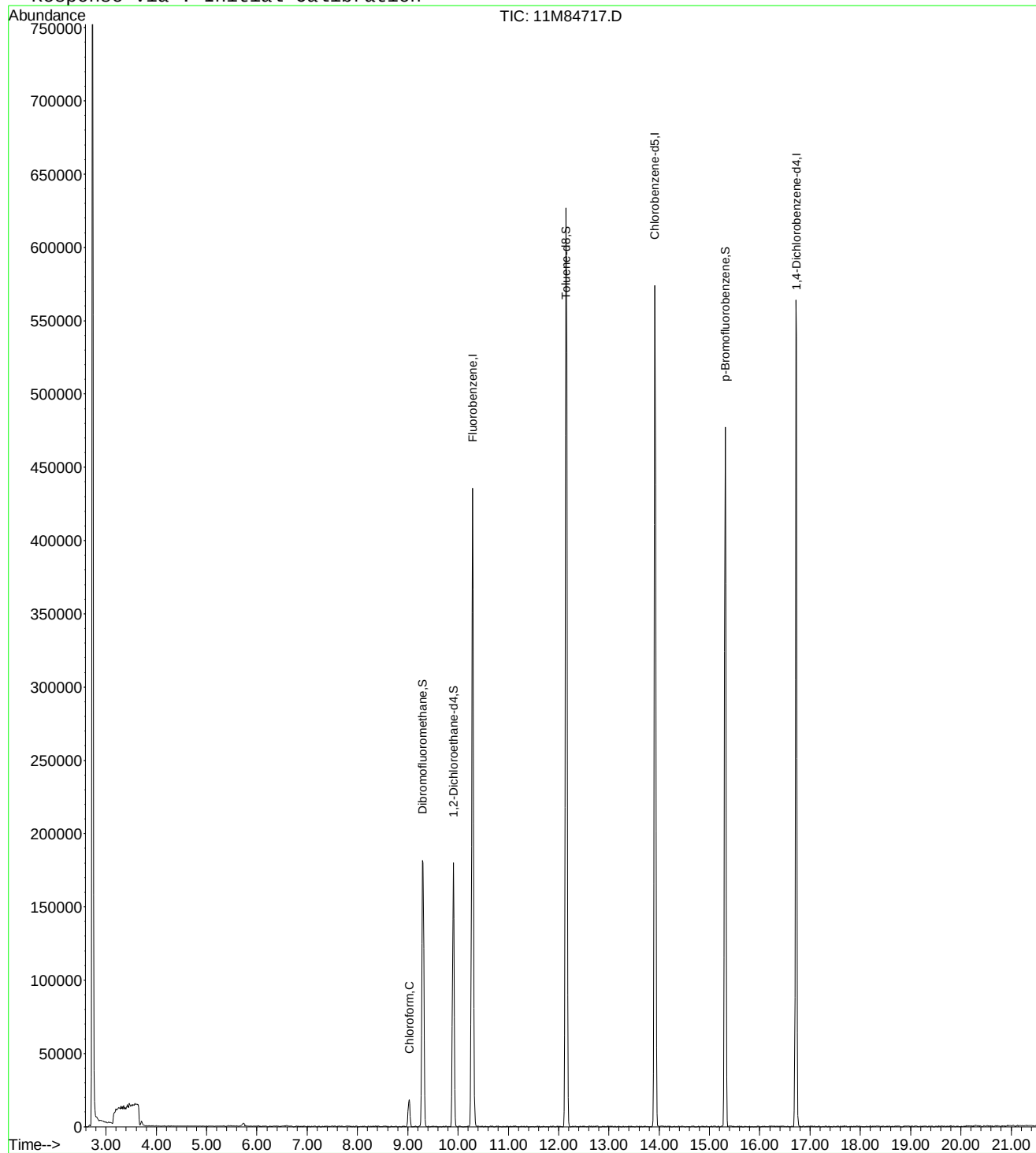
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

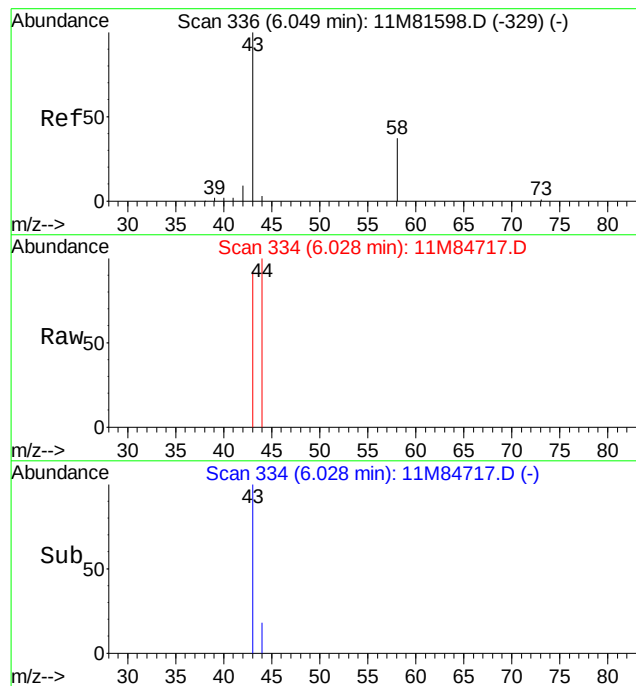
Response via : Initial Calibration



11M84717.D 8260WTR.M

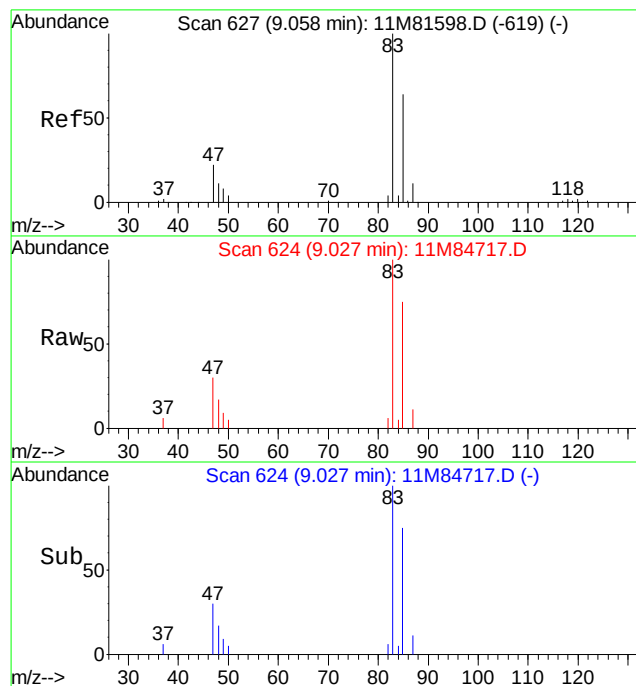
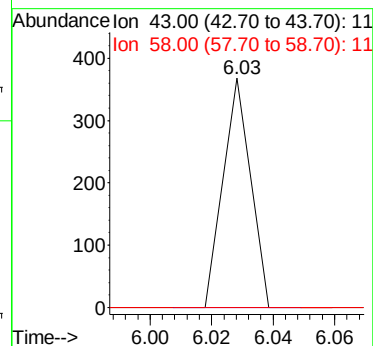
Mon Jun 25 10:17:22 2012

Page 2



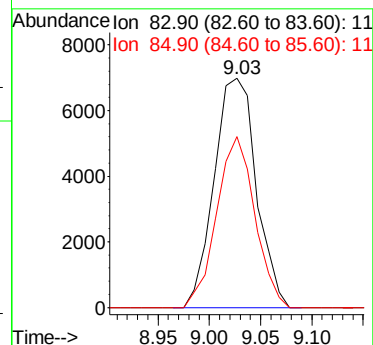
#13
Acetone
Concen: Below Cal
RT: 6.03 min Scan# 334
Delta R.T. -0.01 min
Lab File: 11M84717.D
Acq: 23 Jun 2012 00:06

Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.6	41.2#



#33
Chloroform
Concen: 1.99 ug/L
RT: 9.03 min Scan# 624
Delta R.T. -0.01 min
Lab File: 11M84717.D
Acq: 23 Jun 2012 00:06

Tgt Ion	Ratio	Lower	Upper
83	100		
85	67.3	40.7	94.9



Data File : C:\MSDCHEM\1\DATA\062212\11M84703.D Vial: 7
 Acq On : 22 Jun 2012 16:55 Operator: FJB
 Sample : L12060445-02 A 826-SPE Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 25 10:16:59 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Wed May 23 13:06:58 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	581951	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	445951	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.72	152	222442	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.30	111	169959	23.9667	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 118		Recovery =	95.88%		
43) 1,2-Dichloroethane-d4	9.91	65	162397	23.9319	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	95.72%		
58) Toluene-d8	12.15	98	607443	25.8235	ug/L	-0.02
Spiked Amount 25.000	Range 88 - 110		Recovery =	103.28%		
80) p-Bromofluorobenzene	15.31	95	200257	27.2366	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery =	108.96%		
Target Compounds						
					Qvalue	
4) Vinyl Chloride	3.69	62	228	0.1241	ug/L #	6
13) Acetone	6.03	43	731	Below Cal	#	45
20) Carbon Disulfide	7.03	76	2201	0.1222	ug/L #	75

(#) = qualifier out of range (m) = manual integration
 11M84703.D 8260WTR.M Mon Jun 25 10:17:00 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062212\11M84703.D

Vial: 7

Acq On : 22 Jun 2012 16:55

Operator: FJB

Sample : L12060445-02 A 826-SPE

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 25 10:16 2012

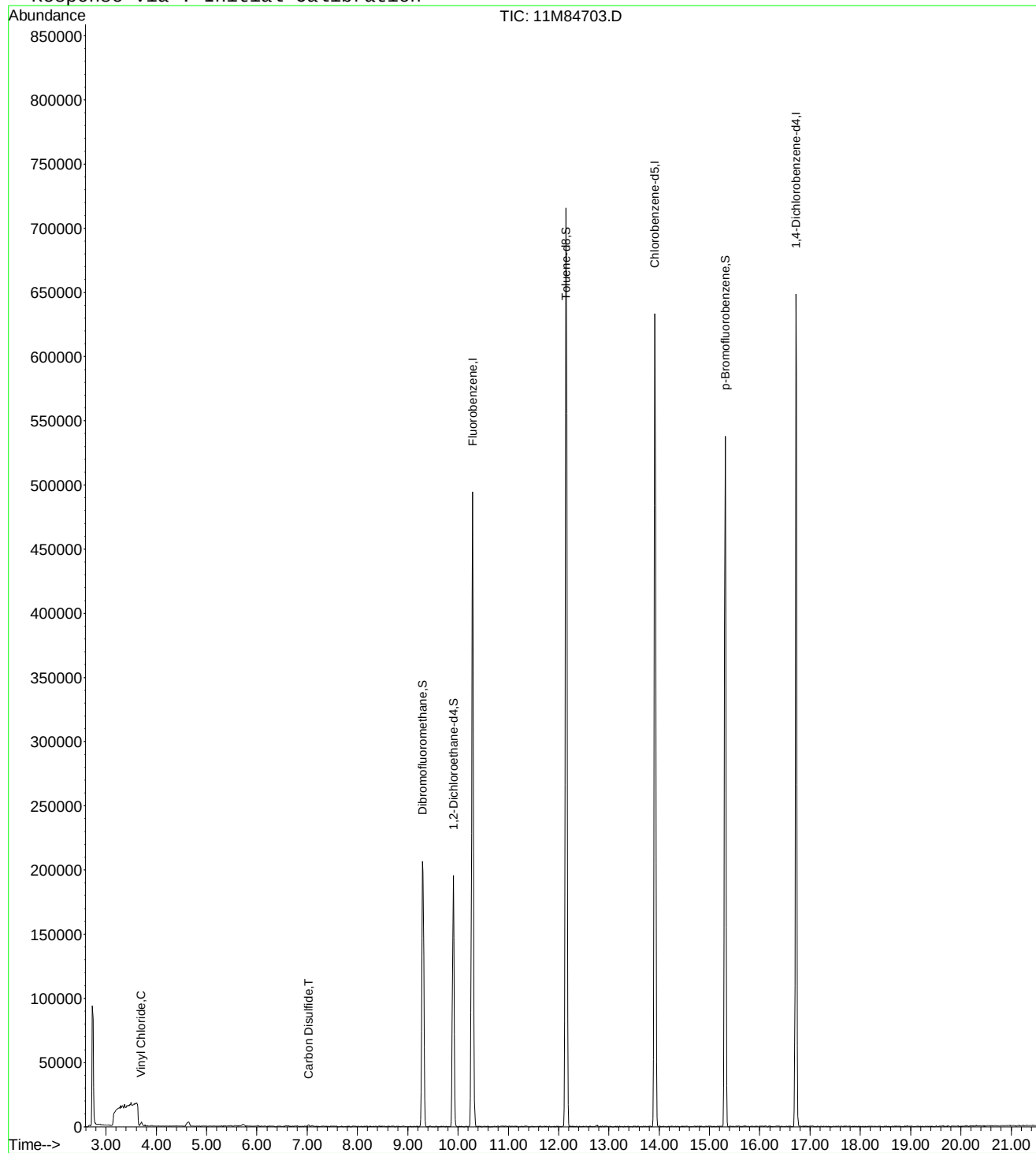
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

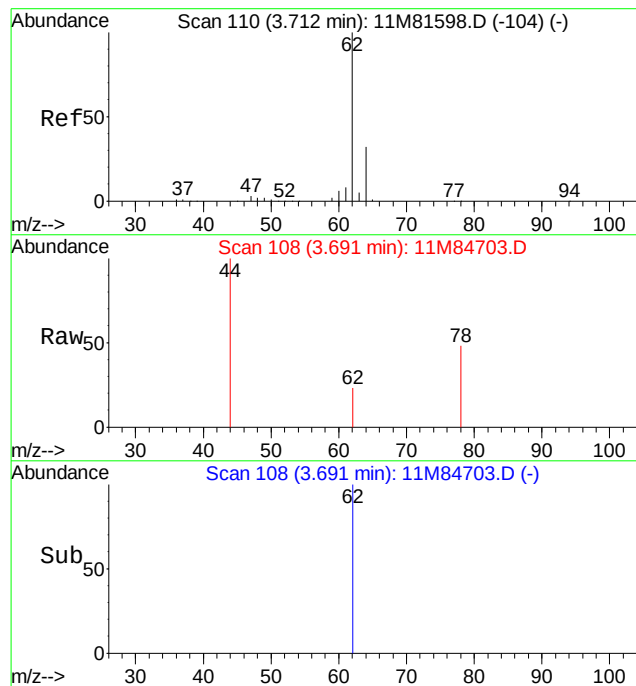
Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration



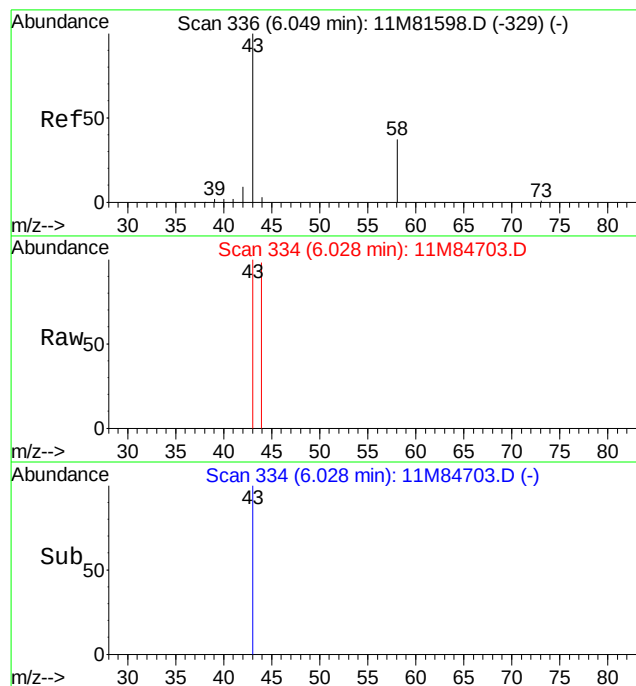
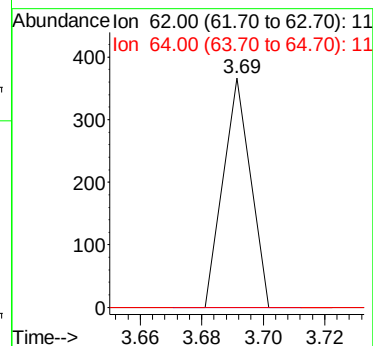
11M84703.D 8260WTR.M Mon Jun 25 10:17:00 2012

Page 2



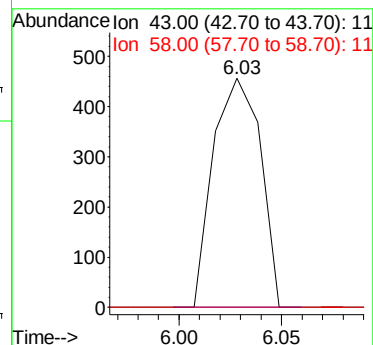
#4
 Vinyl Chloride
 Concen: 0.12 ug/L
 RT: 3.69 min Scan# 108
 Delta R.T. -0.01 min
 Lab File: 11M84703.D
 Acq: 22 Jun 2012 16:55

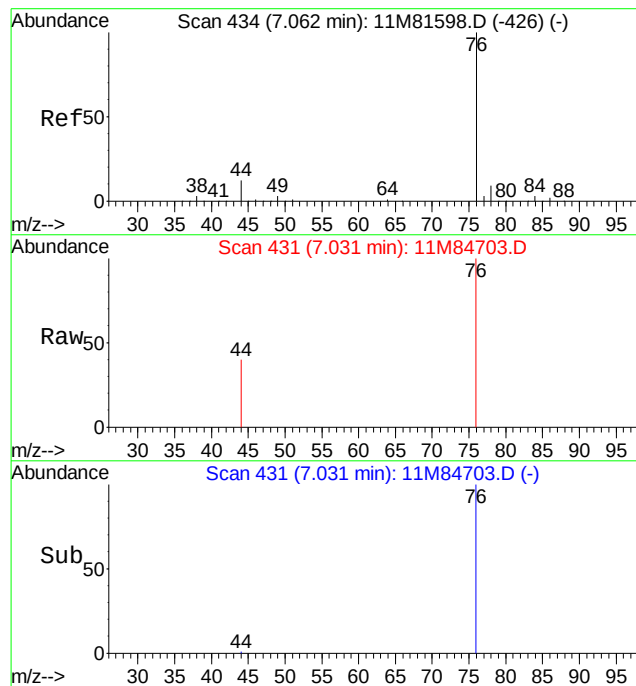
Tgt Ion	Ratio	Lower	Upper
62	100		
64	86.4	19.9	46.5#



#13
 Acetone
 Concen: Below Cal
 RT: 6.03 min Scan# 334
 Delta R.T. -0.01 min
 Lab File: 11M84703.D
 Acq: 22 Jun 2012 16:55

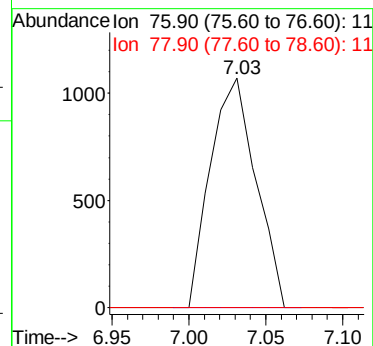
Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.6	41.2#





#20
 Carbon Disulfide
 Concen: 0.12 ug/L
 RT: 7.03 min Scan# 431
 Delta R.T. -0.01 min
 Lab File: 11M84703.D
 Acq: 22 Jun 2012 16:55

Tgt Ion	Ratio	Lower	Upper
76	100		
78	0.0	5.3	12.5#



Data File : C:\MSDCHEM\1\DATA\062312\11M84747.D Vial: 19
 Acq On : 23 Jun 2012 18:16 Operator: MES
 Sample : L12060445-03 A 826-SPE Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 26 12:28:05 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Wed May 23 13:06:58 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	549941	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	411857	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.72	152	196347	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.30	111	157152	23.4506	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 118		Recovery =	93.80%		
43) 1,2-Dichloroethane-d4	9.91	65	147953	23.0724	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	92.28%		
58) Toluene-d8	12.15	98	572522	26.3538	ug/L	-0.02
Spiked Amount 25.000	Range 88 - 110		Recovery =	105.40%		
80) p-Bromofluorobenzene	15.31	95	182663	28.1454	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery =	112.60%		
Target Compounds						
3) Chloromethane	3.47	50	1819	0.1493	ug/L	# 48
13) Acetone	6.02	43	235	Below Cal		# 45
33) Chloroform	9.03	83	11971	1.1337	ug/L	95
100) Naphthalene	19.54	128	234	0.2614	ug/L	# 72

(#) = qualifier out of range (m) = manual integration
 11M84747.D 8260WTR.M Tue Jun 26 12:28:06 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062312\11M84747.D

Vial: 19

Acq On : 23 Jun 2012 18:16

Operator: MES

Sample : L12060445-03 A 826-SPE

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 26 12:28 2012

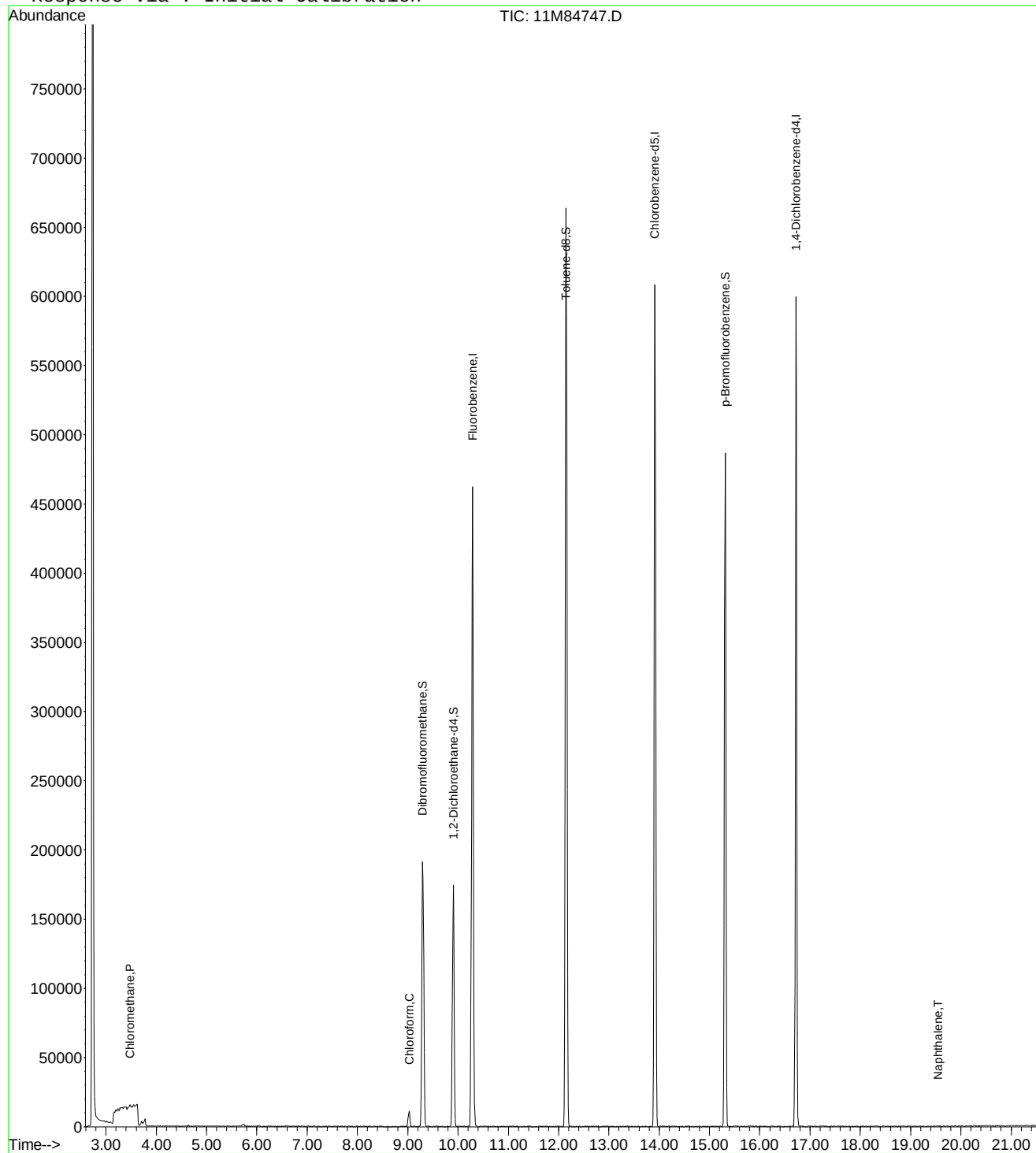
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

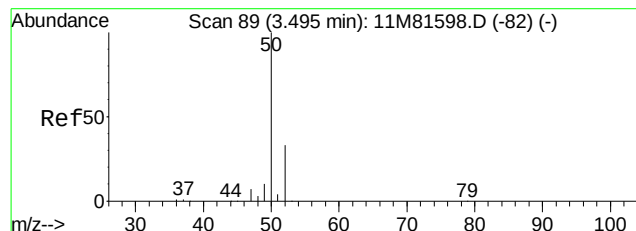
Response via : Initial Calibration



11M84747.D 8260WTR.M

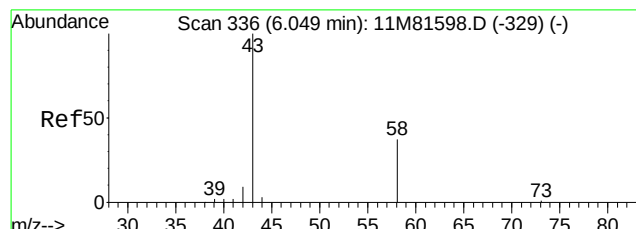
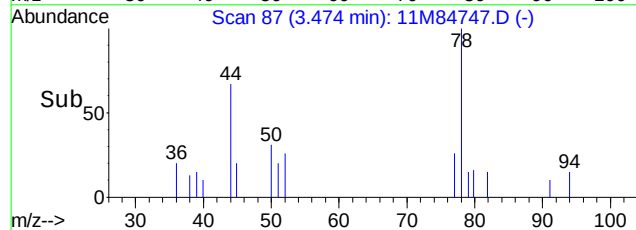
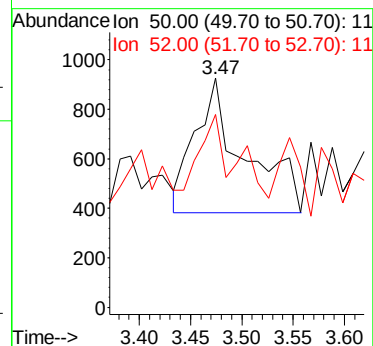
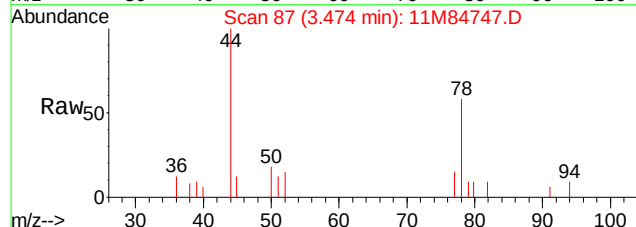
Tue Jun 26 12:28:06 2012

Page 2



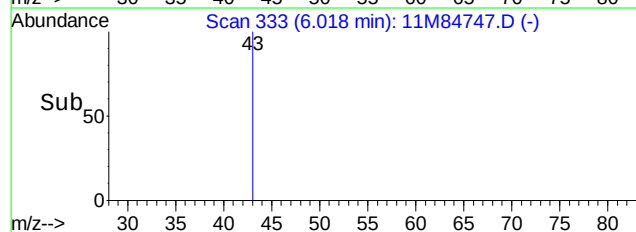
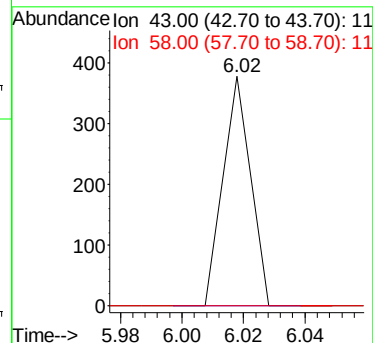
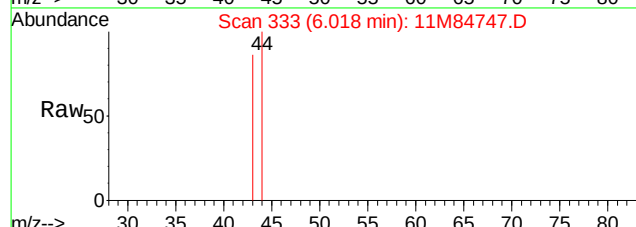
#3
Chloromethane
Concen: 0.15 ug/L
RT: 3.47 min Scan# 87
Delta R.T. -0.01 min
Lab File: 11M84747.D
Acq: 23 Jun 2012 18:16

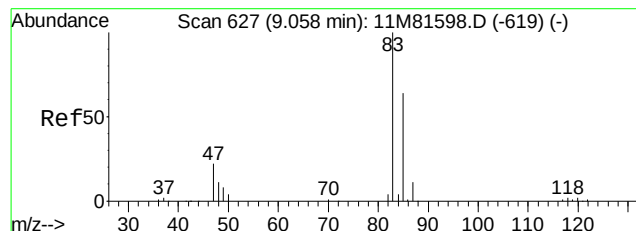
Tgt Ion: 50 Resp: 1819
Ion Ratio Lower Upper
50 100
52 61.3 19.4 45.2#



#13
Acetone
Concen: Below Cal
RT: 6.02 min Scan# 333
Delta R.T. -0.02 min
Lab File: 11M84747.D
Acq: 23 Jun 2012 18:16

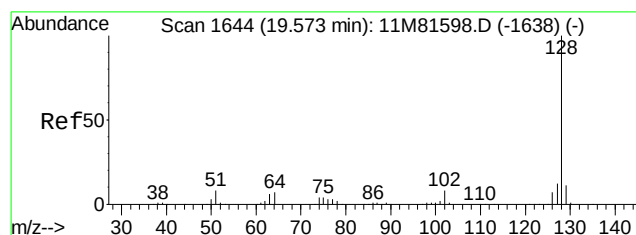
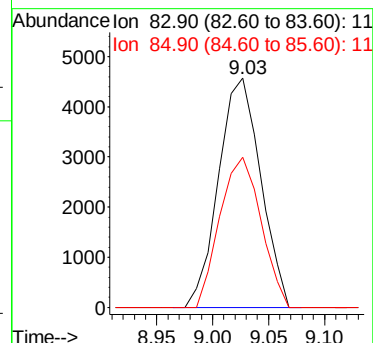
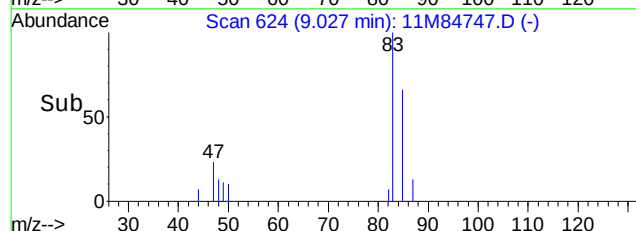
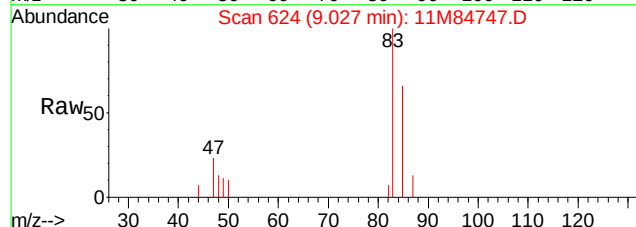
Tgt Ion: 43 Resp: 235
Ion Ratio Lower Upper
43 100
58 0.0 17.6 41.2#





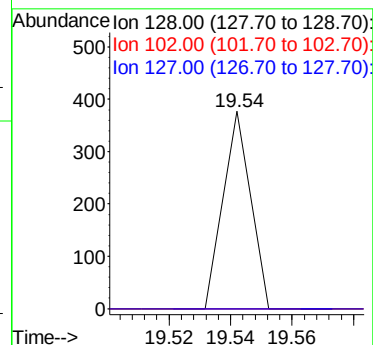
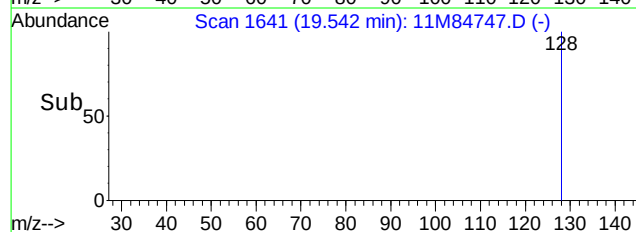
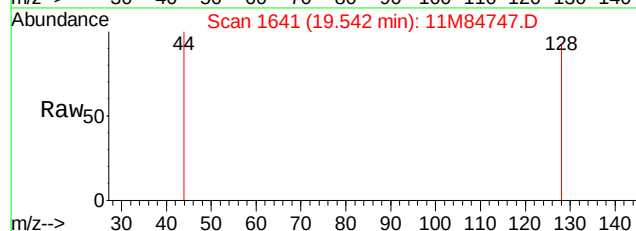
#33
Chloroform
Concen: 1.13 ug/L
RT: 9.03 min Scan# 624
Delta R.T. -0.01 min
Lab File: 11M84747.D
Acq: 23 Jun 2012 18:16

Tgt Ion: 83 Resp: 11971
Ion Ratio Lower Upper
83 100
85 64.0 40.7 94.9



#100
Naphthalene
Concen: 0.26 ug/L
RT: 19.54 min Scan# 1641
Delta R.T. -0.02 min
Lab File: 11M84747.D
Acq: 23 Jun 2012 18:16

Tgt Ion: 128 Resp: 234
Ion Ratio Lower Upper
128 100
102 0.0 7.2 8.8#
127 0.0 11.4 14.0#



Data File : C:\MSDCHEM\1\DATA\062312\11M84741.D Vial: 13
 Acq On : 23 Jun 2012 15:12 Operator: MES
 Sample : L12060445-05 A 826-SPE Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 26 12:28:01 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Wed May 23 13:06:58 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	512373	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	384727	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.72	152	182856	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.30	111	150665	24.1311	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 118		Recovery =	96.52%		
43) 1,2-Dichloroethane-d4	9.91	65	138705	23.2162	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	92.88%		
58) Toluene-d8	12.15	98	543245	26.7695	ug/L	-0.02
Spiked Amount 25.000	Range 88 - 110		Recovery =	107.08%		
80) p-Bromofluorobenzene	15.31	95	173117	28.6426	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery =	114.56%		
Target Compounds						
13) Acetone	6.02	43	192	Below Cal	# 45	Qvalue
33) Chloroform	9.03	83	26697	2.7137	ug/L	94

(#) = qualifier out of range (m) = manual integration
 11M84741.D 8260WTR.M Tue Jun 26 12:28:02 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062312\11M84741.D

Vial: 13

Acq On : 23 Jun 2012 15:12

Operator: MES

Sample : L12060445-05 A 826-SPE

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 26 12:28 2012

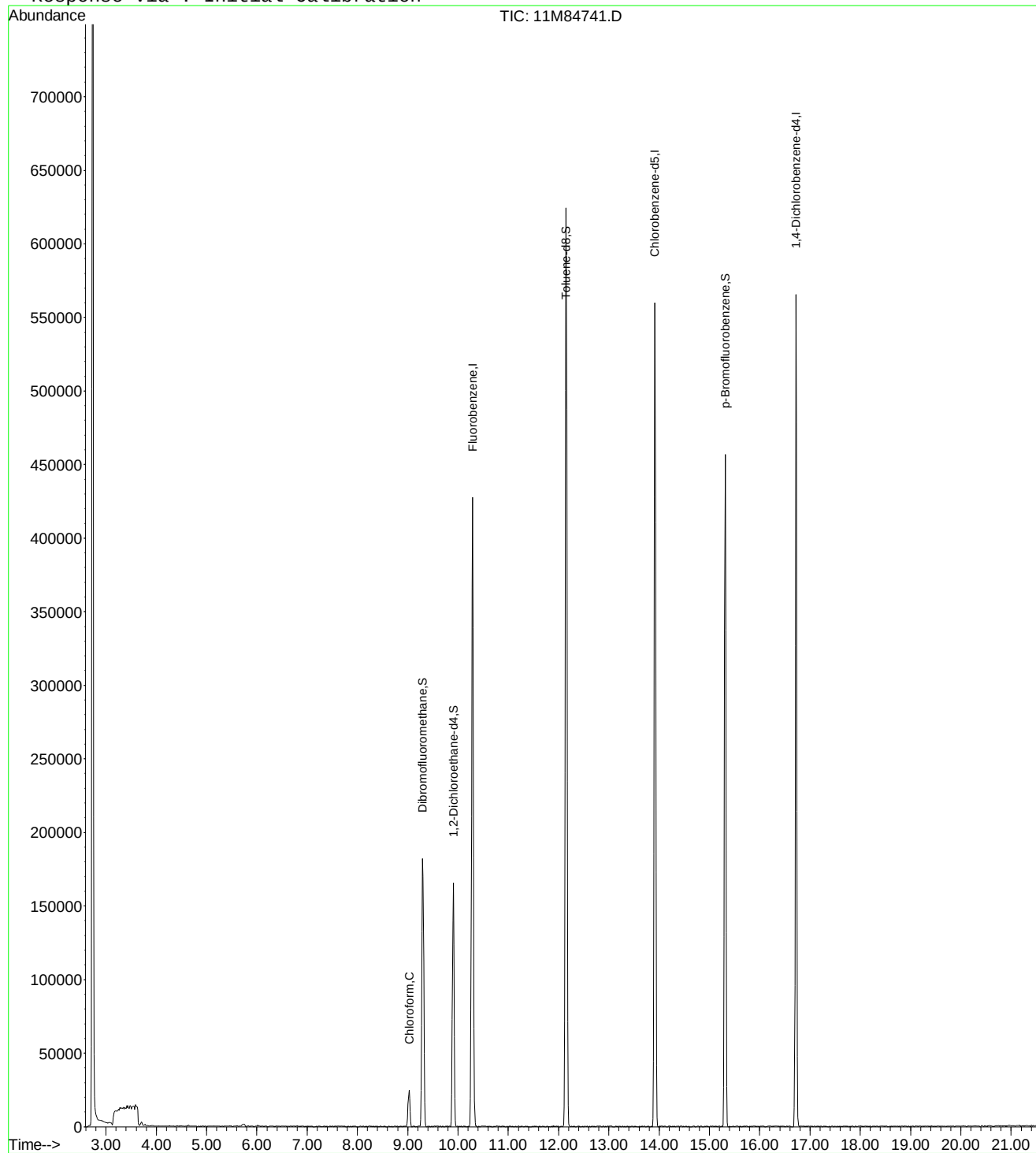
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

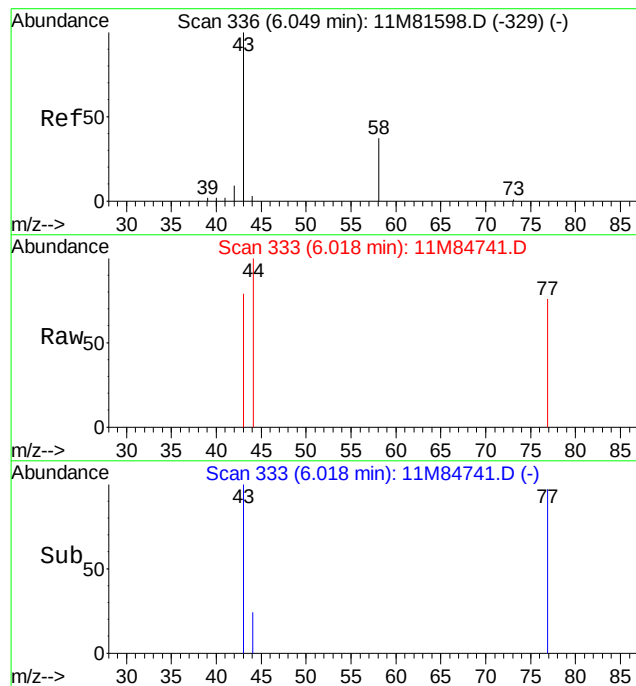
Response via : Initial Calibration



11M84741.D 8260WTR.M

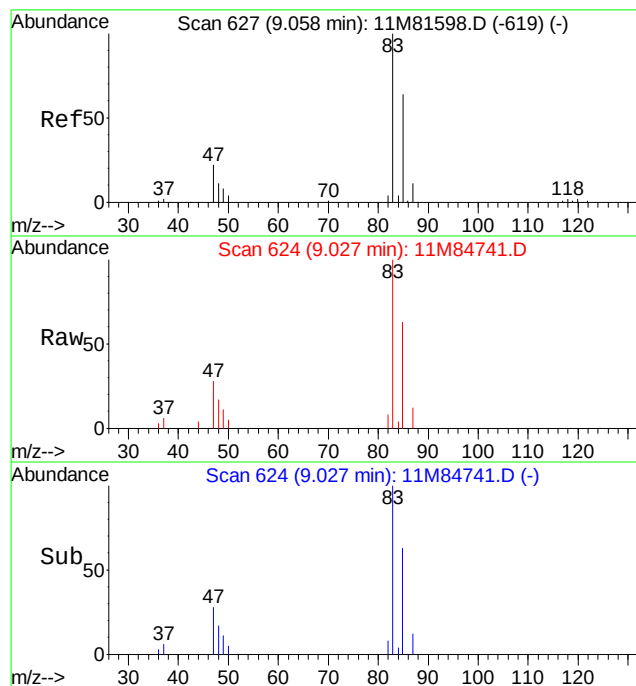
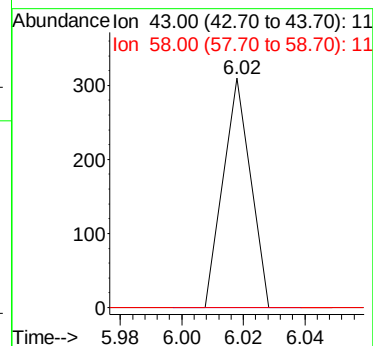
Tue Jun 26 12:28:02 2012

Page 2



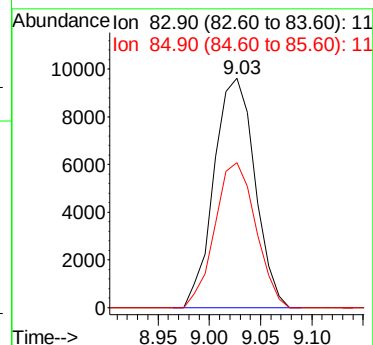
#13
Acetone
Concen: Below Cal
RT: 6.02 min Scan# 333
Delta R.T. -0.02 min
Lab File: 11M84741.D
Acq: 23 Jun 2012 15:12

Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.6	41.2#



#33
Chloroform
Concen: 2.71 ug/L
RT: 9.03 min Scan# 624
Delta R.T. -0.01 min
Lab File: 11M84741.D
Acq: 23 Jun 2012 15:12

Tgt Ion	Ratio	Lower	Upper
83	100		
85	63.0	40.7	94.9



Data File : C:\MSDCHEM\1\data\062312\11M84744.D

Vial: 16

Acq On : 23 Jun 2012 16:44

Operator: MES

Sample : L12060445-06 MS A 826-SPE

Inst : hpms11

Misc : 1,1 STD52408

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 23 17:05:55 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	597007	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	469642	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.72	152	256268	25.00	ug/L	-0.02

System Monitoring Compounds

37) Dibromofluoromethane	9.30	111	173048	23.7869	ug/L	-0.02
Spiked Amount	25.000	Range	86 - 118	Recovery	=	95.16%
43) 1,2-Dichloroethane-d4	9.91	65	160684	23.0823	ug/L	-0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	92.32%
58) Toluene-d8	12.15	98	639281	25.8061	ug/L	-0.02
Spiked Amount	25.000	Range	88 - 110	Recovery	=	103.24%
80) p-Bromofluorobenzene	15.31	95	227321	26.8365	ug/L	-0.02
Spiked Amount	25.000	Range	86 - 115	Recovery	=	107.36%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.04	85	191236	24.8239	ug/L	100
3) Chloromethane	3.47	50	362216	27.3775	ug/L	96
4) Vinyl Chloride	3.69	62	336251	23.1874	ug/L	97
5) 1,3-Butadiene	3.72	54	105301	15.8928	ug/L	99
6) Bromomethane	4.55	94	95748	22.5677	ug/L	99
7) Chloroethane	4.70	64	101336	22.2270	ug/L	98
8) Trichlorofluoromethane	5.17	101	215496	16.7409	ug/L	100
9) Diethyl ether	5.71	59	2714	0.5973	ug/L	# 1
10) Isoprene	5.73	67	170936	17.0676	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	5.94	101	129696	19.4313	ug/L	94
13) Acetone	6.01	43	28667	25.5638	ug/L	86
14) 1,1-Dichloroethene	6.24	61	200229	22.0945	ug/L	96
16) Dimethyl Sulfide	6.48	62	158091	21.2994	ug/L	99
17) Iodomethane	6.73	142	166695	18.3013	ug/L	98
18) Methyl acetate	6.75	43	61807	16.0287	ug/L	96
19) Methylene Chloride	6.99	84	142519	22.1272	ug/L	93
20) Carbon Disulfide	7.03	76	402446	21.7832	ug/L	99
21) Acrylonitrile	7.17	53	31098	23.6405	ug/L	94
22) Methyl Tert Butyl Ether	7.20	73	309744	20.5836	ug/L	96
23) trans-1,2-Dichloroethene	7.42	96	135368	20.9217	ug/L	91
24) n-Hexane	7.51	57	142944	21.8671	ug/L	94
26) Vinyl Acetate	7.99	43	125668	33.8986	ug/L	96
27) 1,1-Dichloroethane	8.02	63	253628	23.3920	ug/L	99
29) 2-Butanone	8.55	43	30689	19.9758	ug/L	99
31) 2,2-Dichloropropane	8.76	77	183813	20.9746	ug/L	100
32) cis-1,2-Dichloroethene	8.82	96	153281	21.8614	ug/L	92
33) Chloroform	9.03	83	277919	24.2450	ug/L	97
34) 1-Bromopropane	9.15	122	31134	23.7441	ug/L	98
35) Bromochloromethane	9.24	130	90311	20.2751	ug/L	88
38) 1,1,1-Trichloroethane	9.53	97	217019	20.1812	ug/L	98
39) Cyclohexane	9.56	56	192452	22.2132	ug/L	91
40) 1,1-Dichloropropene	9.72	75	186537	21.8149	ug/L	94
41) Carbon Tetrachloride	9.85	117	197814	17.5050	ug/L	99
45) 1,2-Dichloroethane	10.02	62	170911	21.2072	ug/L	97
46) Benzene	10.05	78	563079	22.5396	ug/L	100
47) Trichloroethene	10.76	130	153896	18.7891	ug/L	96
48) Methylcyclohexane	10.85	83	174519	20.3520	ug/L	96
49) 1,2-Dichloropropane	10.97	63	139588	24.2721	ug/L	93
51) Bromodichloromethane	11.25	83	181521	23.0599	ug/L	98
52) Dibromomethane	11.33	93	75405	19.7334	ug/L	97

(#) = qualifier out of range (m) = manual integration
 11M84744.D 8260WTR.M Sat Jun 23 17:05:55 2012

Page 1

Data File : C:\MSDCHEM\1\data\062312\11M84744.D

Vial: 16

Acq On : 23 Jun 2012 16:44

Operator: MES

Sample : L12060445-06 MS A 826-SPE

Inst : hpms11

Misc : 1,1 STD52408

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 23 17:05:55 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
54) 4-Methyl-2-Pentanone	11.56	58	26610	19.8053	ug/L	93
55) cis-1,3-Dichloropropene	11.85	75	203190	22.4090	ug/L	100
56) Dimethyl Disulfide	12.10	79	107375	21.9583	ug/L	97
59) Toluene	12.24	91	614267	21.7455	ug/L	99
60) Ethyl Methacrylate	12.34	69	126145	21.4893	ug/L	96
62) trans-1,3-Dichloropropene	12.41	75	161271	21.2938	ug/L	97
63) 1,1,2-Trichloroethane	12.60	97	100575	21.5554	ug/L	99
64) 2-Hexanone	12.55	43	46659	19.7763	ug/L	94
65) 1,3-Dichloropropane	12.89	76	172978	22.0703	ug/L	96
66) Tetrachloroethene	13.01	164	114318	19.7526	ug/L	100
67) Dibromochloromethane	13.26	129	129278	20.2110	ug/L	99
68) 1,2-Dibromoethane	13.49	107	97236	20.1241	ug/L	98
69) 1-Chlorohexane	13.58	91	176611	21.8077	ug/L	95
70) Chlorobenzene	13.96	112	402497	21.4056	ug/L	100
71) 1,1,1,2-Tetrachloroethane	13.99	131	153391	21.7211	ug/L	98
72) Ethylbenzene	13.99	106	215647	21.1339	ug/L	93
73) m-, p-Xylene	14.07	106	521568	41.3935	ug/L	94
74) o-Xylene	14.60	106	243404	19.8304	ug/L	95
75) Styrene	14.63	104	407766	20.8790	ug/L	98
76) Bromoform	15.10	173	76614	21.4955	ug/L	99
77) Isopropylbenzene	14.99	105	531112	18.3794	ug/L	100
79) 1,1,2,2-Tetrachloroethane	15.19	83	108205	23.7197	ug/L	98
81) 1,2,3-Trichloropropane	15.36	110	32256	23.3614	ug/L	98
82) trans-1,4-Dichloro-2-Buten	15.41	53	24942	19.9897	ug/L	89
83) n-Propylbenzene	15.46	91	717517	21.5187	ug/L	97
84) Bromobenzene	15.58	156	170104	21.3541	ug/L	93
85) 1,3,5-Trimethylbenzene	15.63	105	503842	20.3469	ug/L	99
86) 2-Chlorotoluene	15.72	91	497572	22.1885	ug/L	96
87) 4-Chlorotoluene	15.76	91	417560	21.2774	ug/L	97
88) a-Methylstyrene	16.01	118	283088	20.5274	ug/L	97
89) tert-Butylbenzene	16.07	134	102905	19.0949	ug/L	95
90) 1,2,4-Trimethylbenzene	16.11	105	560809	21.7679	ug/L	99
91) sec-Butylbenzene	16.32	105	567805	19.6383	ug/L	100
92) p-Isopropyltoluene	16.46	119	503669	20.3020	ug/L	99
93) 1,3-Dichlorobenzene	16.65	146	311702	19.9510	ug/L	97
94) 1,4-Dichlorobenzene	16.76	146	314426	19.7719	ug/L	98
95) n-Butylbenzene	16.95	91	435433	23.0414	ug/L	97
96) 1,2-Dichlorobenzene	17.23	146	284627	20.1010	ug/L	97
97) 1,2-Dibromo-3-Chloropropan	18.15	75	15494	19.2636	ug/L	91
98) 1,2,4-Trichlorobenzene	19.20	180	163298	20.3922	ug/L	97
99) Hexachlorobutadiene	19.34	225	59719	18.9490	ug/L	97
100) Naphthalene	19.54	128	297699	17.2907	ug/L	100
101) 1,2,3-Trichlorobenzene	19.82	180	142540	19.0473	ug/L	98

 (#) = qualifier out of range (m) = manual integration
 11M84744.D 8260WTR.M Sat Jun 23 17:05:55 2012

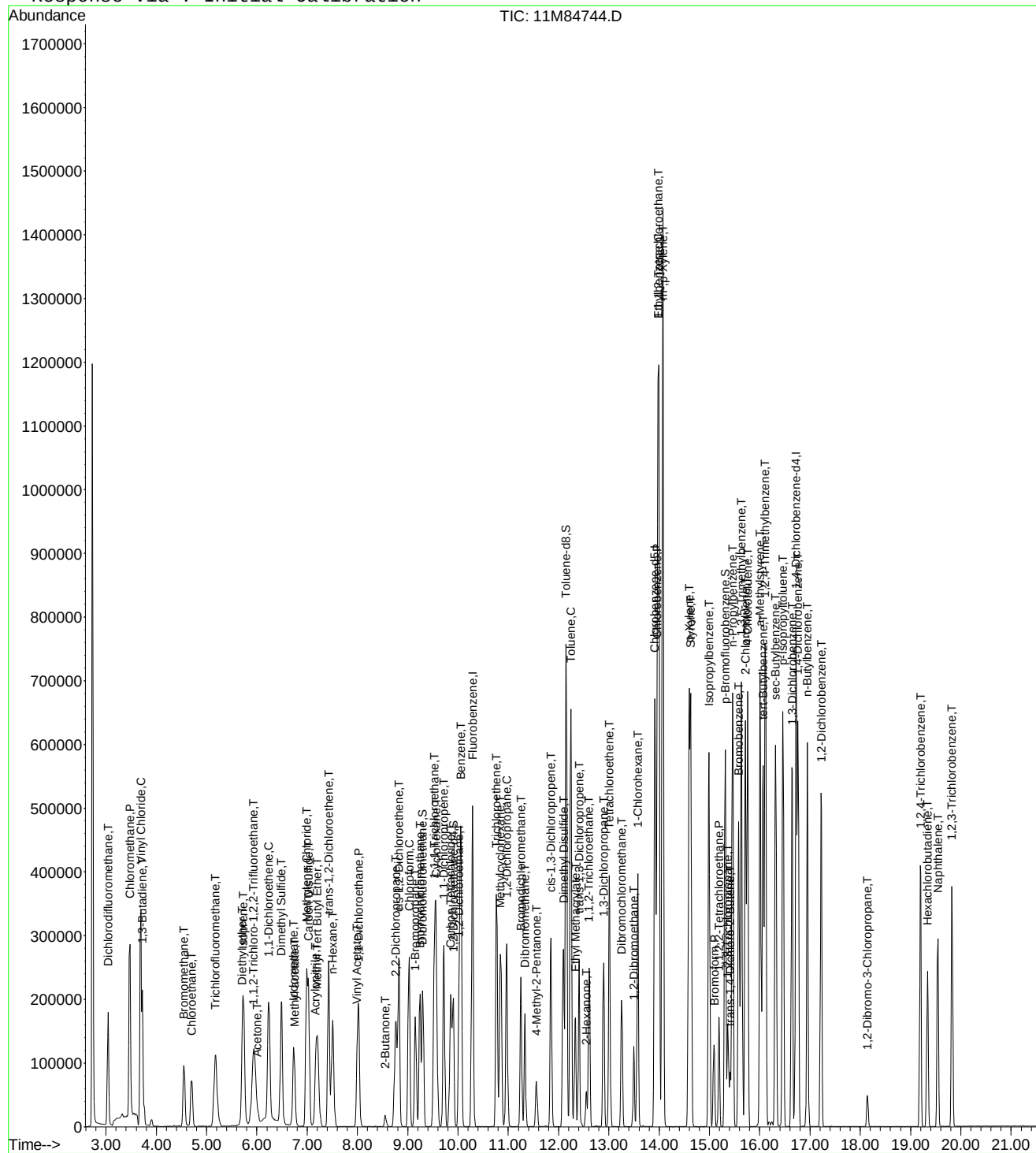
Page 2

Data File : C:\MSDCHEM\1\data\062312\11M84744.D
Acq On : 23 Jun 2012 16:44
Sample : L12060445-06 MS A 826-SPE
Misc : 1,1 STD52408
MS Integration Params: rteint.p
Quant Time: Jun 23 17:05 2012

Vial: 16
Operator: MES
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
Last Update : Wed May 23 13:06:58 2012
Response via : Initial Calibration



Page 3

Data File : C:\MSDCHEM\1\data\062312\11M84745.D

Vial: 17

Acq On : 23 Jun 2012 17:14

Operator: MES

Sample : L12060445-07 MSD A 826-SPE

Inst : hpms11

Misc : 1,1 STD52408

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 23 17:36:22 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	609876	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	480063	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.72	152	262294	25.00	ug/L	-0.02

System Monitoring Compounds

37) Dibromofluoromethane	9.30	111	179308	24.1273	ug/L	-0.02
Spiked Amount	25.000	Range	86 - 118	Recovery	=	96.52%
43) 1,2-Dichloroethane-d4	9.91	65	164051	23.0687	ug/L	-0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	92.28%
58) Toluene-d8	12.15	98	659157	26.0308	ug/L	-0.02
Spiked Amount	25.000	Range	88 - 110	Recovery	=	104.12%
80) p-Bromofluorobenzene	15.31	95	233952	26.9848	ug/L	-0.02
Spiked Amount	25.000	Range	86 - 115	Recovery	=	107.92%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.04	85	200319	25.4542	ug/L	100
3) Chloromethane	3.47	50	369372	27.3293	ug/L	99
4) Vinyl Chloride	3.69	62	347116	23.4548	ug/L	97
5) 1,3-Butadiene	3.72	54	104875	15.4945	ug/L	99
6) Bromomethane	4.55	94	99876	23.0439	ug/L	99
7) Chloroethane	4.70	64	105621	22.6780	ug/L	98
8) Trichlorofluoromethane	5.17	101	228877	17.4052	ug/L	99
9) Diethyl ether	5.67	59	7174	1.5455	ug/L	# 12
10) Isoprene	5.73	67	176856	17.2860	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	5.94	101	136731	20.0531	ug/L	93
13) Acetone	6.02	43	24541	21.2842	ug/L	81
14) 1,1-Dichloroethene	6.24	61	209174	22.5945	ug/L	96
16) Dimethyl Sulfide	6.48	62	162686	21.4560	ug/L	99
17) Iodomethane	6.73	142	171478	18.4268	ug/L	97
18) Methyl acetate	6.74	43	64295	16.3221	ug/L	# 91
19) Methylene Chloride	6.99	84	147767	22.4579	ug/L	93
20) Carbon Disulfide	7.03	76	411922	21.8256	ug/L	99
21) Acrylonitrile	7.16	53	30218	22.4868	ug/L	99
22) Methyl Tert Butyl Ether	7.20	73	319700	20.7969	ug/L	96
23) trans-1,2-Dichloroethene	7.42	96	146567	22.1746	ug/L	93
24) n-Hexane	7.51	57	145991	21.8619	ug/L	95
26) Vinyl Acetate	7.99	43	127150	33.5994	ug/L	97
27) 1,1-Dichloroethane	8.02	63	266318	24.0441	ug/L	99
29) 2-Butanone	8.55	43	31563	20.1112	ug/L	99
31) 2,2-Dichloropropane	8.77	77	197057	22.0113	ug/L	98
32) cis-1,2-Dichloroethene	8.83	96	160902	22.4641	ug/L	92
33) Chloroform	9.03	83	284454	24.2915	ug/L	98
34) 1-Bromopropane	9.15	122	31200	23.2924	ug/L	99
35) Bromochloromethane	9.24	130	94614	20.7930	ug/L	89
38) 1,1,1-Trichloroethane	9.53	97	230363	20.9700	ug/L	98
39) Cyclohexane	9.56	56	201460	22.7622	ug/L	90
40) 1,1-Dichloropropene	9.72	75	195388	22.3679	ug/L	95
41) Carbon Tetrachloride	9.85	117	212795	18.4163	ug/L	99
45) 1,2-Dichloroethane	10.02	62	176353	21.4207	ug/L	96
46) Benzene	10.06	78	582703	22.8330	ug/L	100
47) Trichloroethene	10.76	130	161744	19.3305	ug/L	97
48) Methylcyclohexane	10.85	83	183189	20.9122	ug/L	95
49) 1,2-Dichloropropane	10.97	63	148762	25.3215	ug/L	91
51) Bromodichloromethane	11.25	83	187850	23.3604	ug/L	99
52) Dibromomethane	11.33	93	79126	20.2641	ug/L	96

(#) = qualifier out of range (m) = manual integration
 11M84745.D 8260WTR.M Sat Jun 23 17:36:22 2012

Page 1

Data File : C:\MSDCHEM\1\data\062312\11M84745.D

Vial: 17

Acq On : 23 Jun 2012 17:14

Operator: MES

Sample : L12060445-07 MSD A 826-SPE

Inst : hpms11

Misc : 1,1 STD52408

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 23 17:36:22 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
54) 4-Methyl-2-Pentanone	11.56	58	29133	21.2256	ug/L	89
55) cis-1,3-Dichloropropene	11.85	75	210892	22.7677	ug/L	99
56) Dimethyl Disulfide	12.09	79	110280	22.0666	ug/L	97
59) Toluene	12.24	91	635229	21.9994	ug/L	99
60) Ethyl Methacrylate	12.34	69	128989	21.4965	ug/L	95
62) trans-1,3-Dichloropropene	12.41	75	167484	21.6341	ug/L	96
63) 1,1,2-Trichloroethane	12.60	97	103567	21.7148	ug/L	99
64) 2-Hexanone	12.55	43	49249	20.4209	ug/L	95
65) 1,3-Dichloropropane	12.89	76	182953	22.8363	ug/L	97
66) Tetrachloroethene	13.01	164	122359	20.6830	ug/L	99
67) Dibromochloromethane	13.26	129	132936	20.3279	ug/L	99
68) 1,2-Dibromoethane	13.49	107	100449	20.3378	ug/L	98
69) 1-Chlorohexane	13.58	91	181937	21.9777	ug/L	94
70) Chlorobenzene	13.96	112	422139	21.9629	ug/L	100
71) 1,1,1,2-Tetrachloroethane	13.99	131	158590	21.9513	ug/L	99
72) Ethylbenzene	13.99	106	223222	21.4014	ug/L	91
73) m-,p-Xylene	14.07	106	544370	42.2653	ug/L	94
74) o-Xylene	14.60	106	255786	20.3868	ug/L	95
75) Styrene	14.63	104	422707	21.1742	ug/L	98
76) Bromoform	15.09	173	79883	21.8958	ug/L	97
77) Isopropylbenzene	14.99	105	557567	18.8761	ug/L	98
79) 1,1,2,2-Tetrachloroethane	15.19	83	111755	23.9351	ug/L	97
81) 1,2,3-Trichloropropane	15.36	110	32336	22.8813	ug/L	96
82) trans-1,4-Dichloro-2-Buten	15.41	53	25788	20.1770	ug/L	90
83) n-Propylbenzene	15.46	91	755447	22.1357	ug/L	98
84) Bromobenzene	15.58	156	178933	21.9464	ug/L	94
85) 1,3,5-Trimethylbenzene	15.63	105	522599	20.6196	ug/L	99
86) 2-Chlorotoluene	15.72	91	513684	22.3808	ug/L	97
87) 4-Chlorotoluene	15.76	91	429963	21.4060	ug/L	97
88) a-Methylstyrene	16.01	118	287772	20.3877	ug/L	97
89) tert-Butylbenzene	16.07	134	108190	19.6143	ug/L	97
90) 1,2,4-Trimethylbenzene	16.11	105	578765	21.9488	ug/L	99
91) sec-Butylbenzene	16.32	105	596658	20.1621	ug/L	99
92) p-Isopropyltoluene	16.46	119	520766	20.5089	ug/L	99
93) 1,3-Dichlorobenzene	16.65	146	323517	20.2315	ug/L	98
94) 1,4-Dichlorobenzene	16.76	146	322005	19.7833	ug/L	96
95) n-Butylbenzene	16.95	91	457665	23.6614	ug/L	95
96) 1,2-Dichlorobenzene	17.23	146	294608	20.3279	ug/L	98
97) 1,2-Dibromo-3-Chloropropan	18.14	75	15511	18.8536	ug/L	94
98) 1,2,4-Trichlorobenzene	19.20	180	173486	21.1667	ug/L	97
99) Hexachlorobutadiene	19.34	225	64173	19.8822	ug/L	95
100) Naphthalene	19.54	128	304681	17.2897	ug/L	99
101) 1,2,3-Trichlorobenzene	19.82	180	150587	19.6603	ug/L	97

 (#) = qualifier out of range (m) = manual integration
 11M84745.D 8260WTR.M Sat Jun 23 17:36:22 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\062312\11M84748.D Vial: 20
 Acq On : 23 Jun 2012 18:46 Operator: MES
 Sample : L12060445-08 A 826-SPE Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 26 12:28:07 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Wed May 23 13:06:58 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	527933	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	397307	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.72	152	191351	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.30	111	154179	23.9661	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 118		Recovery =	95.88%		
43) 1,2-Dichloroethane-d4	9.91	65	146345	23.7730	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	95.08%		
58) Toluene-d8	12.15	98	558457	26.6478	ug/L	-0.02
Spiked Amount 25.000	Range 88 - 110		Recovery =	106.60%		
80) p-Bromofluorobenzene	15.31	95	177854	28.1199	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery =	112.48%		
Target Compounds						
13) Acetone	6.02	43	510	Below Cal	# 45	Qvalue
33) Chloroform	9.03	83	27691	2.7318	ug/L	93

(#) = qualifier out of range (m) = manual integration
 11M84748.D 8260WTR.M Tue Jun 26 12:28:07 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062312\11M84748.D

Vial: 20

Acq On : 23 Jun 2012 18:46

Operator: MES

Sample : L12060445-08 A 826-SPE

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 26 12:28 2012

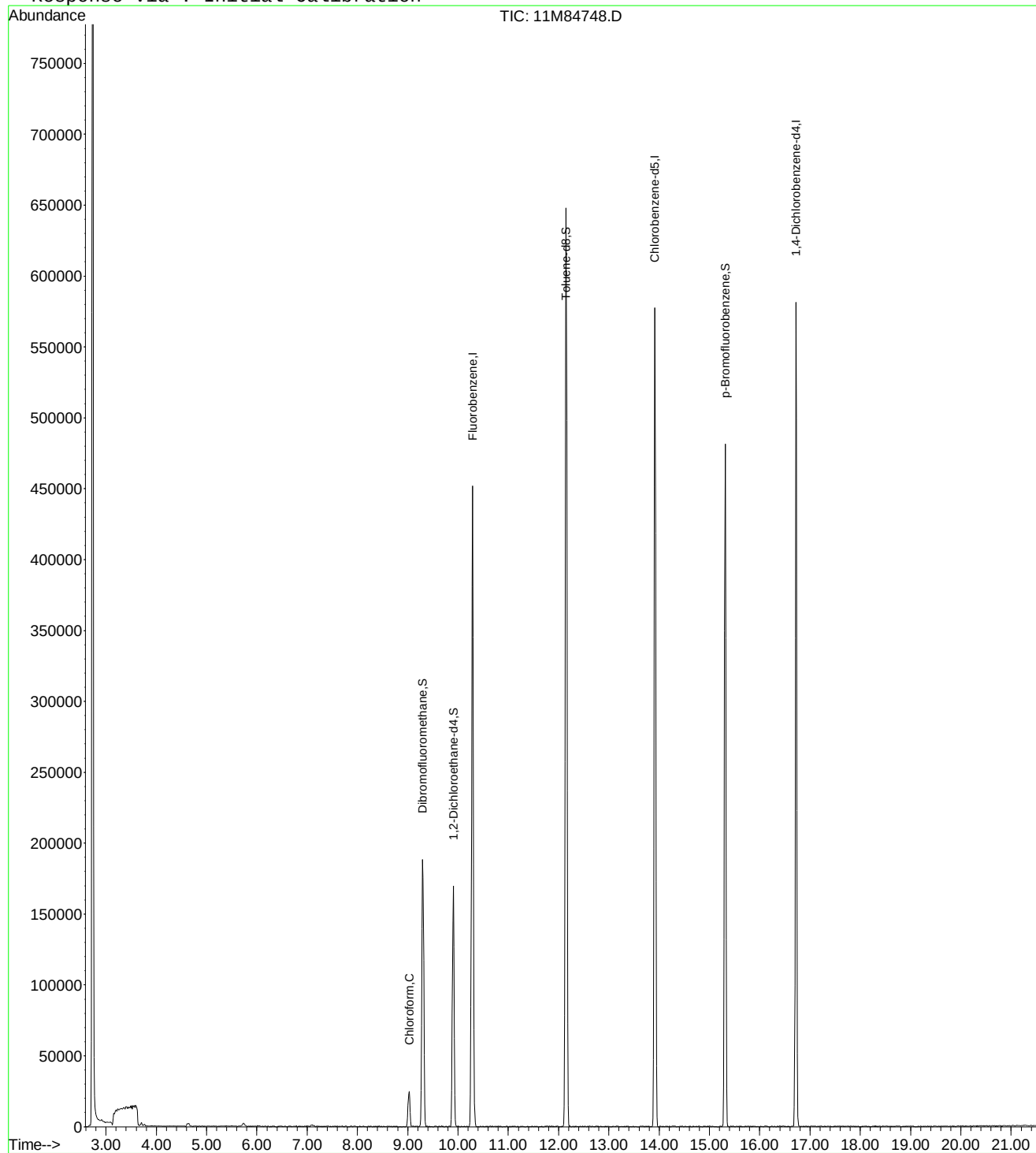
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

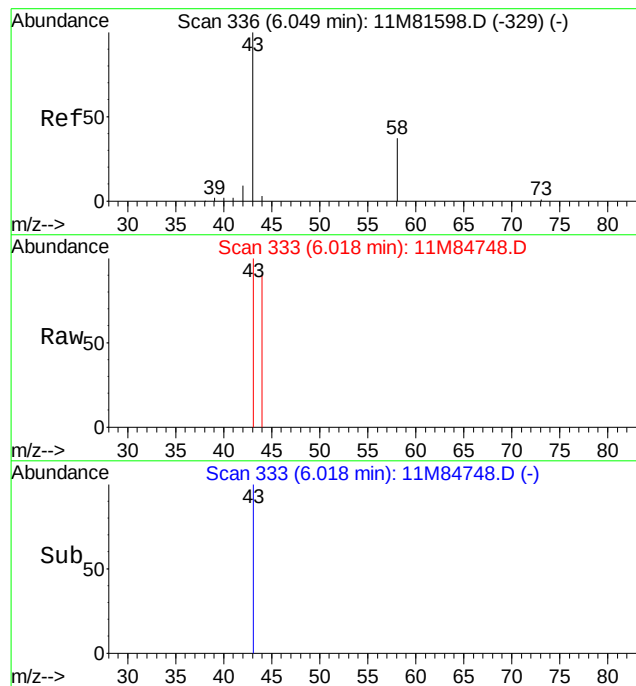
Response via : Initial Calibration



11M84748.D 8260WTR.M

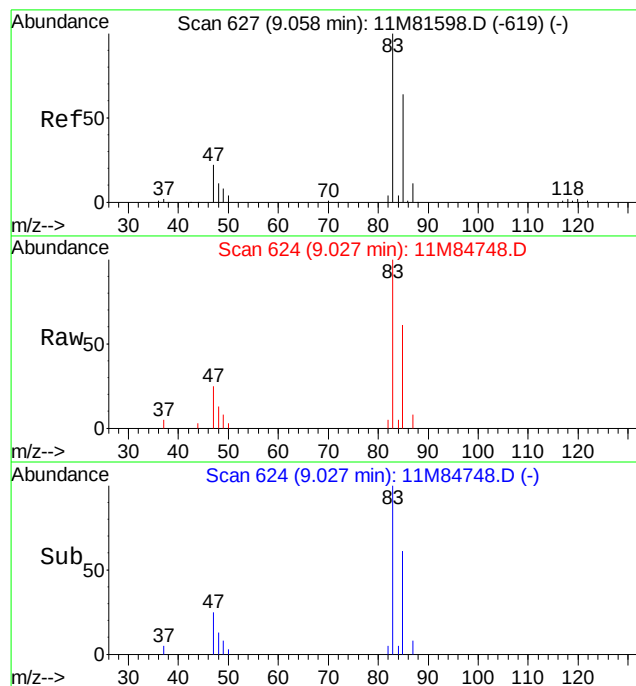
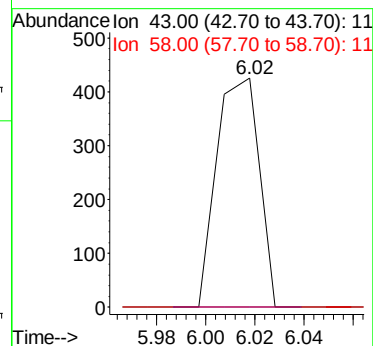
Tue Jun 26 12:28:07 2012

Page 2



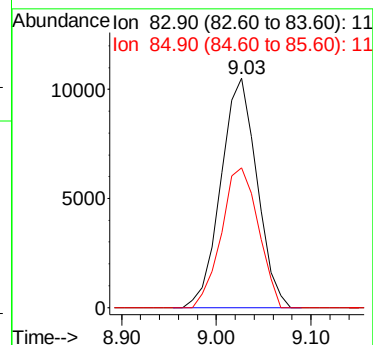
#13
Acetone
Concen: Below Cal
RT: 6.02 min Scan# 333
Delta R.T. -0.02 min
Lab File: 11M84748.D
Acq: 23 Jun 2012 18:46

Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.6	41.2#



#33
Chloroform
Concen: 2.73 ug/L
RT: 9.03 min Scan# 624
Delta R.T. -0.01 min
Lab File: 11M84748.D
Acq: 23 Jun 2012 18:46

Tgt Ion	Ratio	Lower	Upper
83	100		
85	62.5	40.7	94.9



Data File : C:\MSDCHEM\1\DATA\062312\11M84749.D Vial: 21
 Acq On : 23 Jun 2012 19:17 Operator: MES
 Sample : L12060445-09 A 826-SPE Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 26 12:28:08 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Wed May 23 13:06:58 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	522104	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	398894	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.72	152	189257	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.30	111	149727	23.5339	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 118		Recovery =	94.12%		
43) 1,2-Dichloroethane-d4	9.91	65	142355	23.3830	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	93.52%		
58) Toluene-d8	12.15	98	545187	25.9111	ug/L	-0.02
Spiked Amount 25.000	Range 88 - 110		Recovery =	103.64%		
80) p-Bromofluorobenzene	15.31	95	177521	28.3778	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery =	113.52%		
Target Compounds						
					Qvalue	
4) Vinyl Chloride	3.61	62	229	0.1258	ug/L #	41
13) Acetone	6.01	43	2081	1.3383	ug/L #	45
19) Methylene Chloride	6.98	84	721	0.1280	ug/L	85

(#) = qualifier out of range (m) = manual integration
 11M84749.D 8260WTR.M Tue Jun 26 12:28:09 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062312\11M84749.D

Vial: 21

Acq On : 23 Jun 2012 19:17

Operator: MES

Sample : L12060445-09 A 826-SPE

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 26 12:28 2012

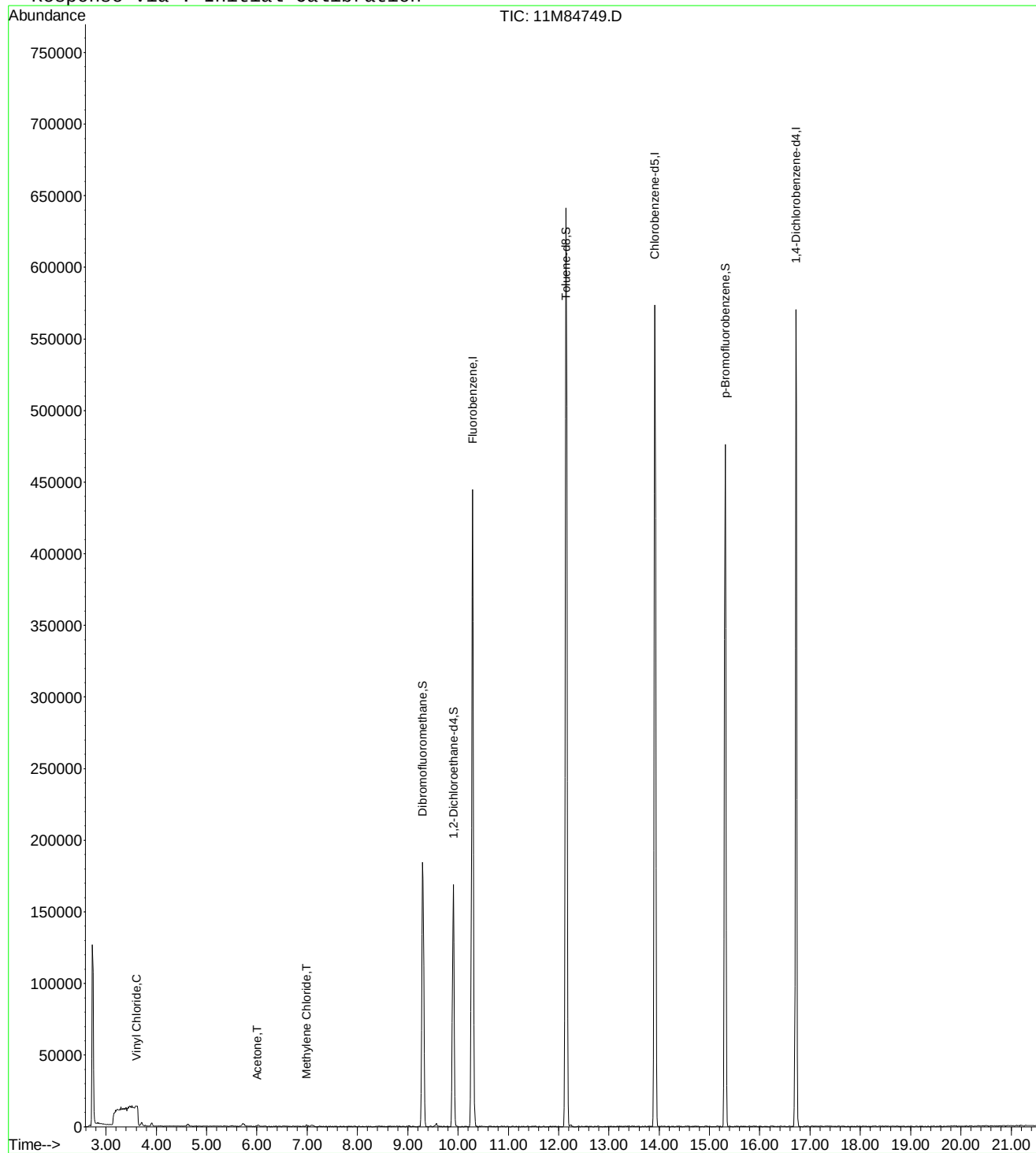
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

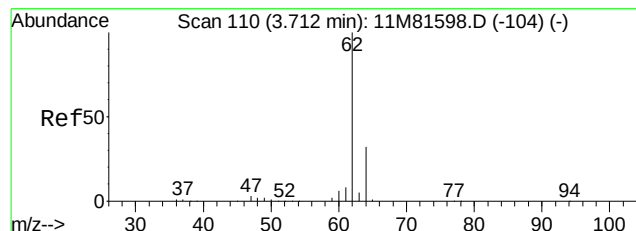
Response via : Initial Calibration



11M84749.D 8260WTR.M

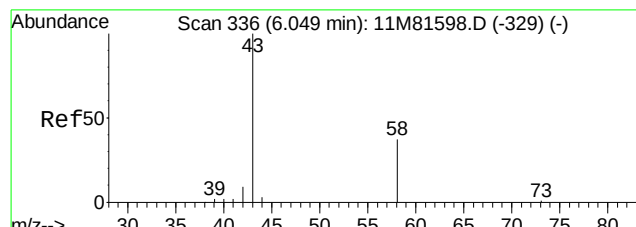
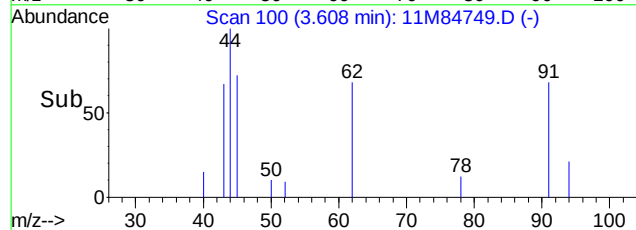
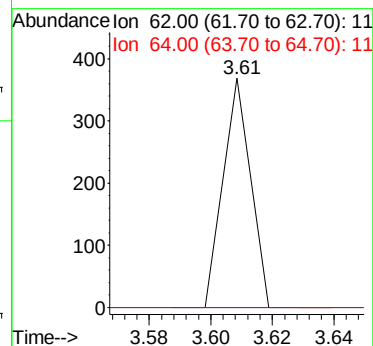
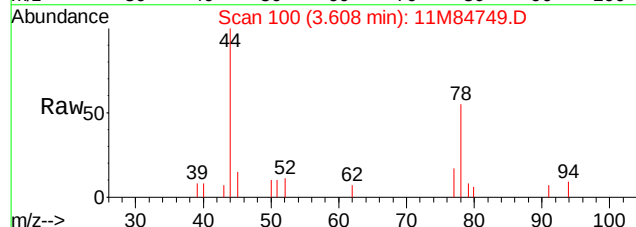
Tue Jun 26 12:28:09 2012

Page 2



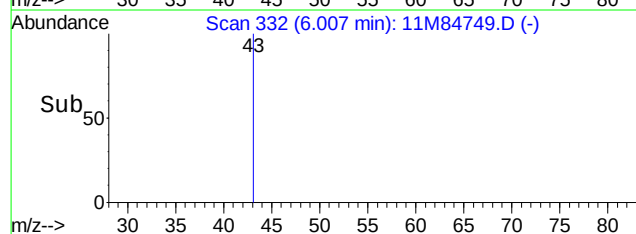
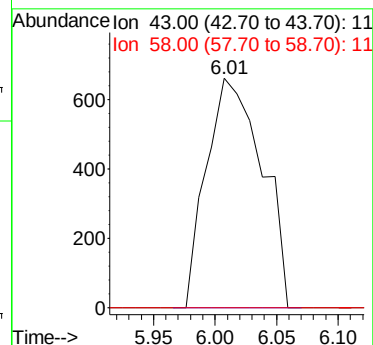
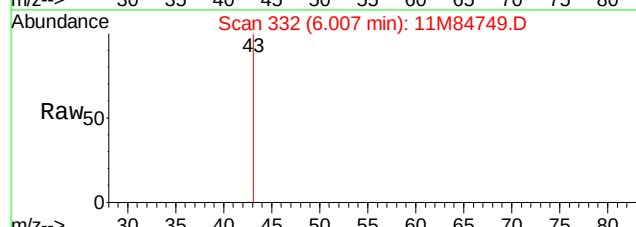
#4
 Vinyl Chloride
 Concen: 0.13 ug/L
 RT: 3.61 min Scan# 100
 Delta R.T. -0.09 min
 Lab File: 11M84749.D
 Acq: 23 Jun 2012 19:17

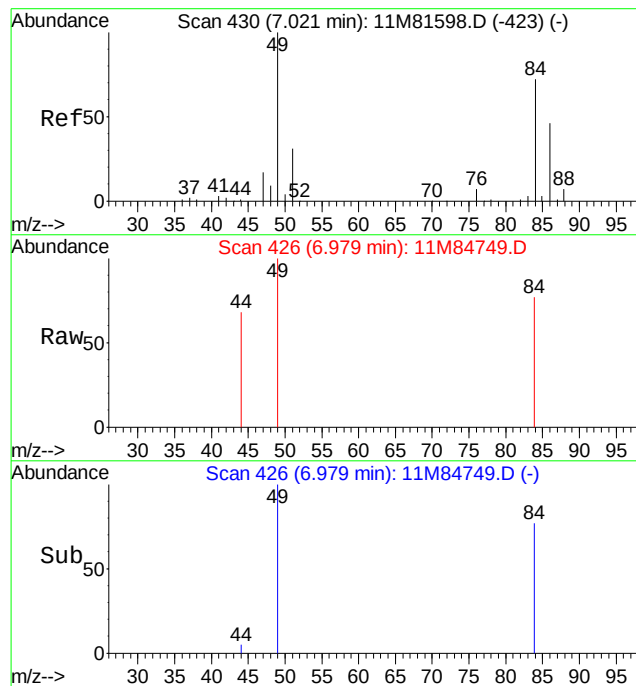
Tgt Ion	Ratio	Lower	Upper
62	100		
64	0.0	19.9	46.5#



#13
 Acetone
 Concen: 1.34 ug/L
 RT: 6.01 min Scan# 332
 Delta R.T. -0.03 min
 Lab File: 11M84749.D
 Acq: 23 Jun 2012 19:17

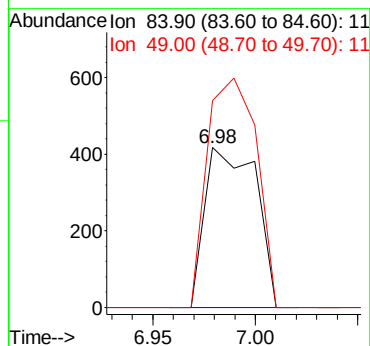
Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.6	41.2#





#19
Methylene Chloride
Concen: 0.13 ug/L
RT: 6.98 min Scan# 426
Delta R.T. -0.02 min
Lab File: 11M84749.D
Acq: 23 Jun 2012 19:17

Tgt Ion	Ratio	Lower	Upper
84	100		
49	139.0	73.4	171.4



Data File : C:\MSDCHEM\1\DATA\062312\11M84750.D Vial: 22
 Acq On : 23 Jun 2012 19:48 Operator: MES
 Sample : L12060445-10 A 826-SPE Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 26 12:28:10 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Wed May 23 13:06:58 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	517689	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	391938	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.72	152	187170	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.30	111	150571	23.8684	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 118		Recovery =	95.48%		
43) 1,2-Dichloroethane-d4	9.91	65	138281	22.9075	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	91.64%		
58) Toluene-d8	12.15	98	544774	26.3510	ug/L	-0.02
Spiked Amount 25.000	Range 88 - 110		Recovery =	105.40%		
80) p-Bromofluorobenzene	15.31	95	170891	27.6226	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery =	110.48%		
Target Compounds						
					Qvalue	
3) Chloromethane	3.46	50	1793	0.1563	ug/L #	42
13) Acetone	6.03	43	1173	0.3921	ug/L #	45
39) Cyclohexane	9.56	56	1249	0.1662	ug/L #	10

 (#) = qualifier out of range (m) = manual integration
 11M84750.D 8260WTR.M Tue Jun 26 12:28:10 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062312\11M84750.D

Vial: 22

Acq On : 23 Jun 2012 19:48

Operator: MES

Sample : L12060445-10 A 826-SPE

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 26 12:28 2012

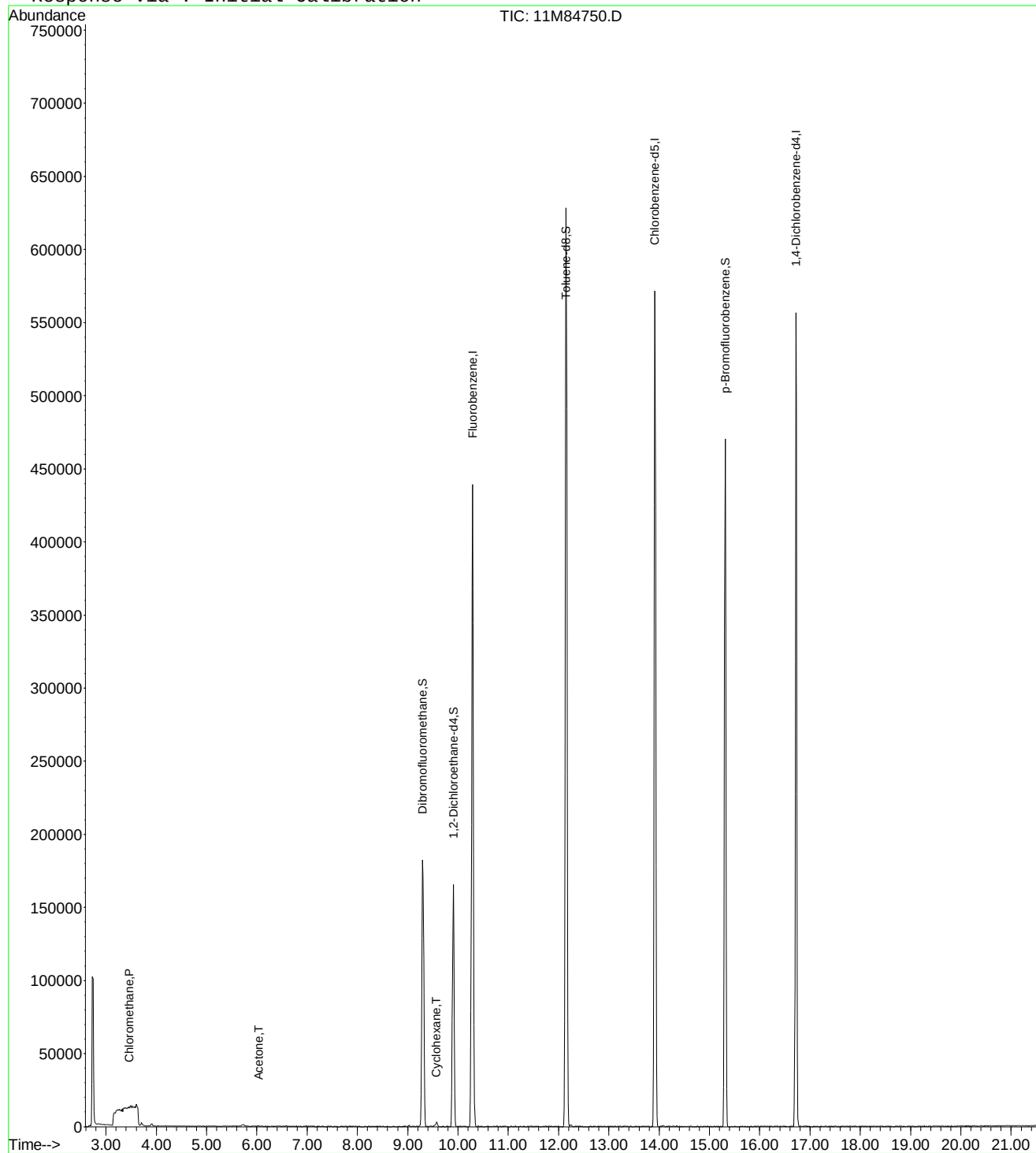
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

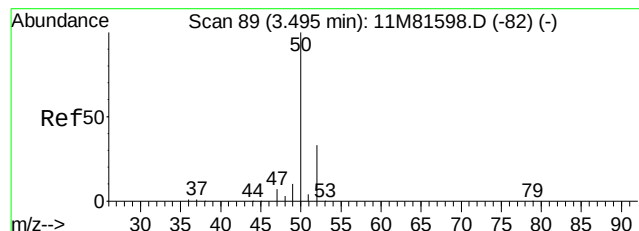
Response via : Initial Calibration



11M84750.D 8260WTR.M

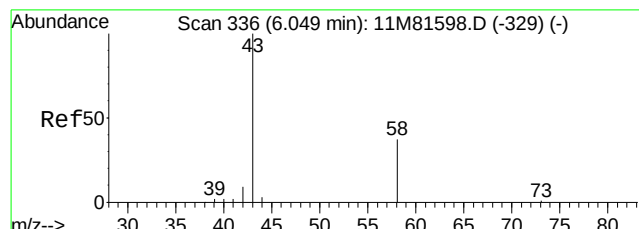
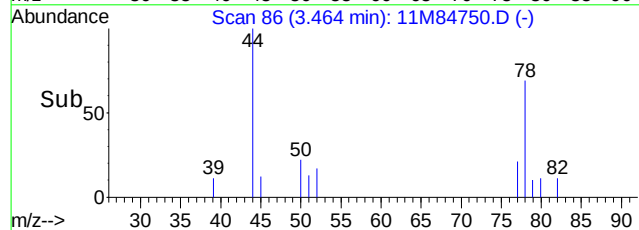
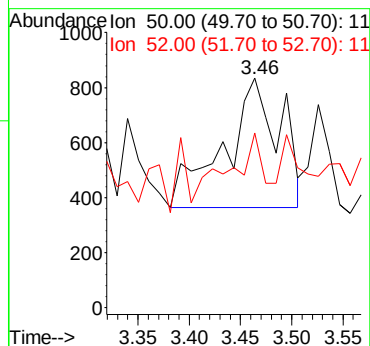
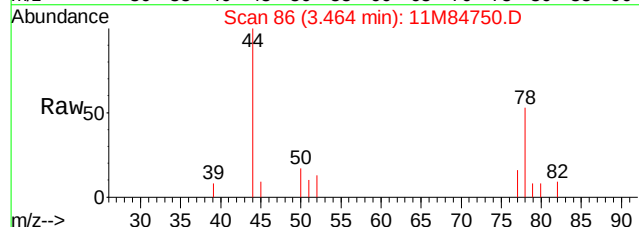
Tue Jun 26 12:28:10 2012

Page 2



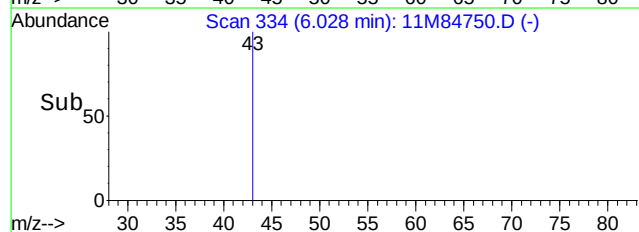
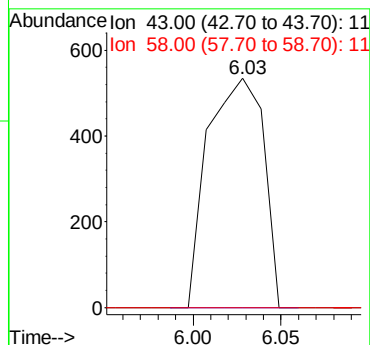
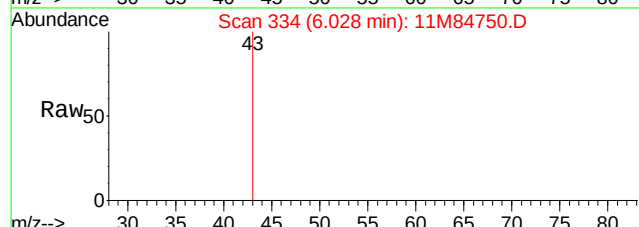
#3
Chloromethane
Concen: 0.16 ug/L
RT: 3.46 min Scan# 86
Delta R.T. -0.02 min
Lab File: 11M84750.D
Acq: 23 Jun 2012 19:48

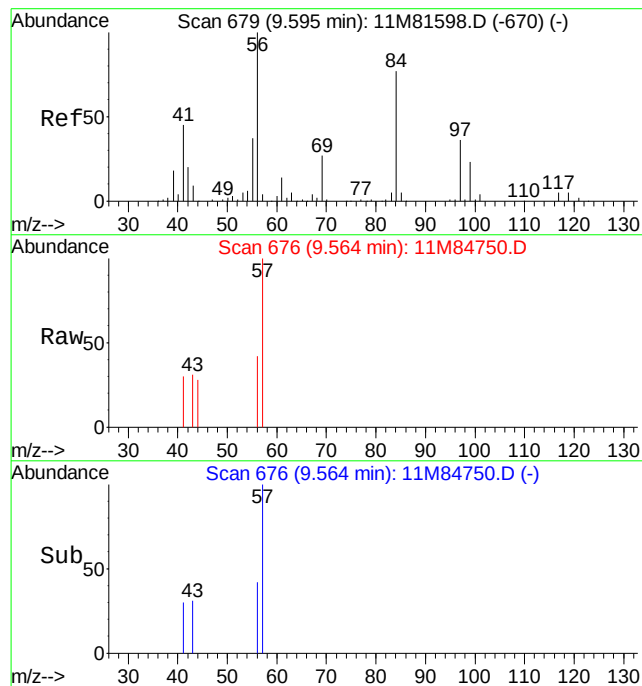
Tgt Ion: 50 Resp: 1793
Ion Ratio Lower Upper
50 100
52 0.0 19.4 45.2#



#13
Acetone
Concen: 0.39 ug/L
RT: 6.03 min Scan# 334
Delta R.T. -0.01 min
Lab File: 11M84750.D
Acq: 23 Jun 2012 19:48

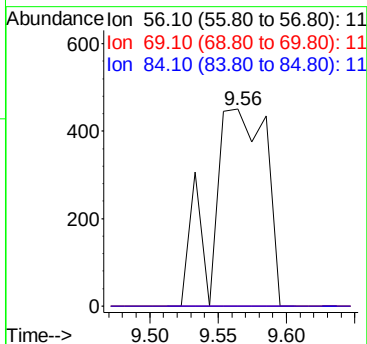
Tgt Ion: 43 Resp: 1173
Ion Ratio Lower Upper
43 100
58 0.0 17.6 41.2#





#39
 Cyclohexane
 Concen: 0.17 ug/L
 RT: 9.56 min Scan# 676
 Delta R.T. -0.01 min
 Lab File: 11M84750.D
 Acq: 23 Jun 2012 19:48

Tgt Ion	Ratio	Lower	Upper
56	100		
69	0.0	20.6	48.2#
84	0.0	60.1	140.3#



Data File : C:\MSDCHEM\1\DATA\062312\11M84751.D Vial: 23
 Acq On : 23 Jun 2012 20:18 Operator: MES
 Sample : L12060445-11 A 826-SPE Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 26 12:28:11 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Wed May 23 13:06:58 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	513796	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	386588	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.72	152	187601	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.30	111	147946	23.6300	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 118		Recovery =	94.52%		
43) 1,2-Dichloroethane-d4	9.91	65	140005	23.3689	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	93.48%		
58) Toluene-d8	12.15	98	541314	26.5460	ug/L	-0.02
Spiked Amount 25.000	Range 88 - 110		Recovery =	106.20%		
80) p-Bromofluorobenzene	15.31	95	175417	28.2890	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery =	113.16%		
Target Compounds						
13) Acetone	6.02	43	586	Below Cal	# 45	Qvalue
33) Chloroform	9.03	83	25565	2.5914	ug/L	94

(#) = qualifier out of range (m) = manual integration
 11M84751.D 8260WTR.M Tue Jun 26 12:28:12 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062312\11M84751.D

Vial: 23

Acq On : 23 Jun 2012 20:18

Operator: MES

Sample : L12060445-11 A 826-SPE

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 26 12:28 2012

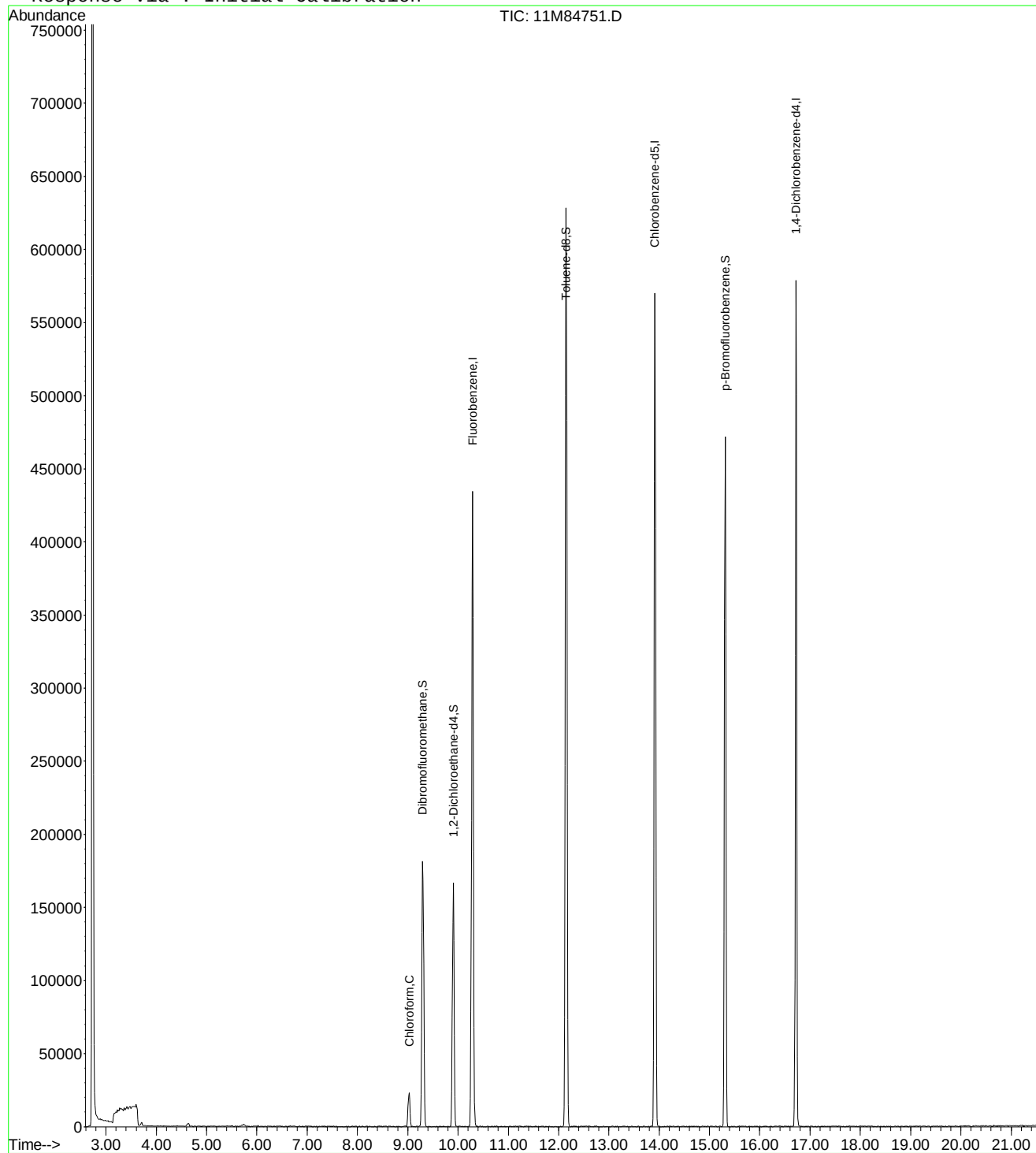
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

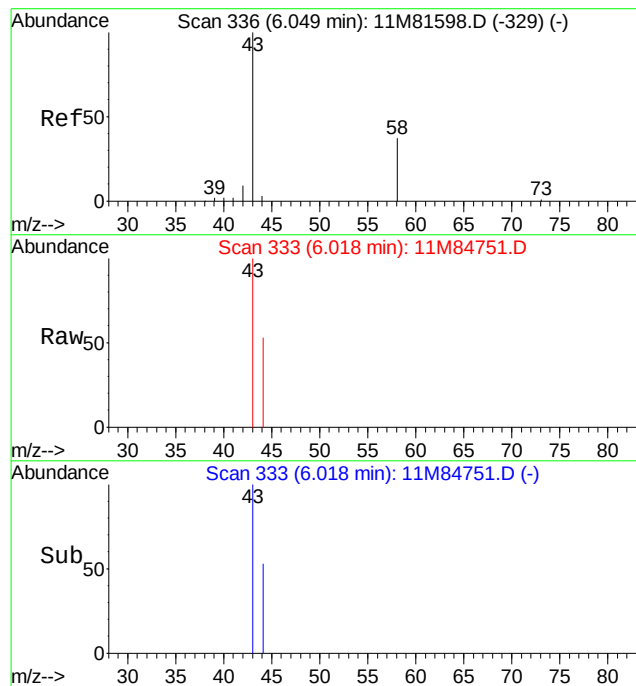
Response via : Initial Calibration



11M84751.D 8260WTR.M

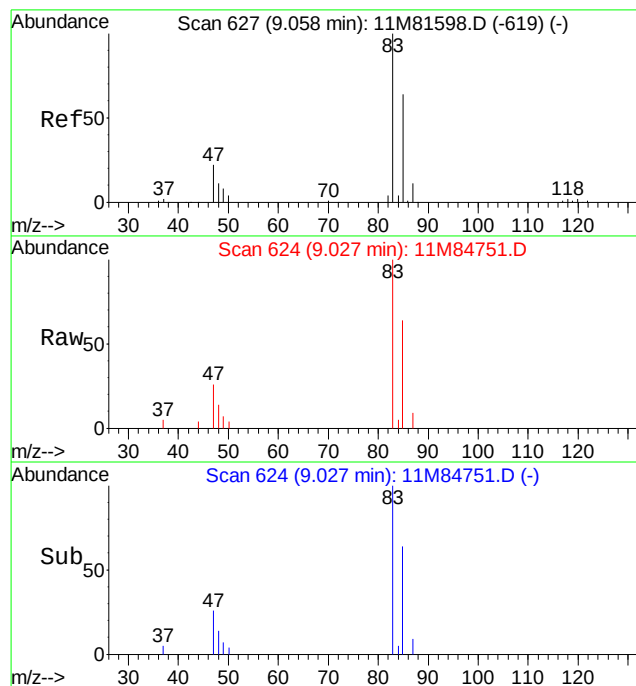
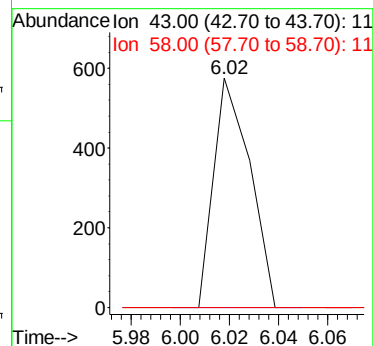
Tue Jun 26 12:28:12 2012

Page 2



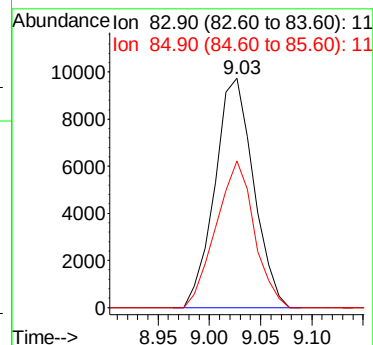
#13
Acetone
Concen: Below Cal
RT: 6.02 min Scan# 333
Delta R.T. -0.02 min
Lab File: 11M84751.D
Acq: 23 Jun 2012 20:18

Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.6	41.2#



#33
Chloroform
Concen: 2.59 ug/L
RT: 9.03 min Scan# 624
Delta R.T. -0.01 min
Lab File: 11M84751.D
Acq: 23 Jun 2012 20:18

Tgt Ion	Ratio	Lower	Upper
83	100		
85	63.0	40.7	94.9



2.1.1.4 Standards Data

Data File : C:\MSDCHEM\1\DATA\050312\11M83330.D

Vial: 2

Acq On : 3 May 2012 17:01

Operator: ADC

Sample : WG396851-02 0.3ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:10 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.31	96	603349	25.00	ug/L	0.00
57) Chlorobenzene-d5	13.94	117	458535	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	16.75	152	228662	25.00	ug/L	0.01

System Monitoring Compounds

37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount	25.000	Range	86 - 118	Recovery	=	0.00%#
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount	25.000	Range	80 - 120	Recovery	=	0.00%#
58) Toluene-d8	0.00	98	0	0.0000	ug/L	
Spiked Amount	25.000	Range	88 - 110	Recovery	=	0.00%#
80) p-Bromofluorobenzene	0.00	95	0	0.0000	ug/L	
Spiked Amount	25.000	Range	86 - 115	Recovery	=	0.00%#

Target Compounds

					Qvalue
5) 1,3-Butadiene	3.62	54	2147	0.3206	ug/L 88
13) Acetone	6.04	43	245	Below Cal	# 45
14) 1,1-Dichloroethene	6.26	61	2850	0.3112	ug/L 92
19) Methylene Chloride	7.01	84	2172	0.3337	ug/L 84
22) Methyl Tert Butyl Ether	7.24	73	4165	0.2739	ug/L 87
23) trans-1,2-Dichloroethene	7.44	96	2143	0.3277	ug/L 75
27) 1,1-Dichloroethane	8.04	63	3474	0.3170	ug/L # 83
31) 2,2-Dichloropropane	8.78	77	3003	0.3391	ug/L # 56
32) cis-1,2-Dichloroethene	8.84	96	1978	0.2791	ug/L 95
33) Chloroform	9.05	83	3456	0.2983	ug/L 92
35) Bromochloromethane	9.26	130	852	0.1893	ug/L # 61
38) 1,1,1-Trichloroethane	9.55	97	3120	0.2871	ug/L # 78
40) 1,1-Dichloropropene	9.74	75	2539	0.2938	ug/L 98
41) Carbon Tetrachloride	9.88	117	2863	0.5677	ug/L # 84
45) 1,2-Dichloroethane	10.04	62	2374	0.2915	ug/L # 57
46) Benzene	10.07	78	8253	0.3269	ug/L 98
47) Trichloroethene	10.78	130	3634	0.4390	ug/L 96
49) 1,2-Dichloropropane	10.98	63	1728	0.2973	ug/L # 67
51) Bromodichloromethane	11.27	83	2291	0.2880	ug/L # 89
52) Dibromomethane	11.34	93	870	0.4493	ug/L 96
55) cis-1,3-Dichloropropene	11.86	75	2340	0.2554	ug/L 99
59) Toluene	12.26	91	8764	0.3178	ug/L 98
62) trans-1,3-Dichloropropene	12.42	75	1727	0.2336	ug/L # 49
63) 1,1,2-Trichloroethane	12.62	97	1049	0.2303	ug/L 97
65) 1,3-Dichloropropane	12.91	76	2278	0.2977	ug/L 74
66) Tetrachloroethene	13.04	164	1419	0.2511	ug/L 76
67) Dibromochloromethane	13.28	129	1202	0.4376	ug/L 85
68) 1,2-Dibromoethane	13.51	107	871	0.1846	ug/L 69
70) Chlorobenzene	13.99	112	5942	0.3237	ug/L 88
71) 1,1,1,2-Tetrachloroethane	14.01	131	1323	0.4387	ug/L 79
72) Ethylbenzene	14.01	106	2851	0.2862	ug/L 90
73) m-, p-Xylene	14.09	106	7915	0.6434	ug/L 95
74) o-Xylene	14.62	106	3949	0.3295	ug/L 85
75) Styrene	14.65	104	5406	0.2835	ug/L 98
76) Bromoform	15.12	173	237	0.4125	ug/L # 28
77) Isopropylbenzene	15.01	105	8925	0.3163	ug/L 99
79) 1,1,2,2-Tetrachloroethane	15.22	83	984	0.2417	ug/L 82
81) 1,2,3-Trichloropropane	15.39	110	198	0.1607	ug/L 95
83) n-Propylbenzene	15.49	91	9668	0.3250	ug/L 95
84) Bromobenzene	15.60	156	2047	0.2880	ug/L 94

(#) = qualifier out of range (m) = manual integration
 11M83330.D 8260WTR.M Fri May 04 08:37:11 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\050312\11M83330.D Vial: 2
 Acq On : 3 May 2012 17:01 Operator: ADC
 Sample : WG396851-02 0.3ug/L STD 8260 Inst : HPMS11
 Misc : 1,1 STD51468 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 08:37:10 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Fri May 04 08:32:33 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
85) 1,3,5-Trimethylbenzene	15.65	105	6558	0.2968	ug/L	95
86) 2-Chlorotoluene	15.74	91	6610	0.3304	ug/L	95
87) 4-Chlorotoluene	15.78	91	5834	0.3332	ug/L	93
89) tert-Butylbenzene	16.09	134	1267	0.2635	ug/L	70
90) 1,2,4-Trimethylbenzene	16.14	105	7433	0.3233	ug/L	92
91) sec-Butylbenzene	16.34	105	8643	0.3350	ug/L	96
92) p-Isopropyltoluene	16.48	119	6527	0.2949	ug/L	92
93) 1,3-Dichlorobenzene	16.67	146	3911	0.2806	ug/L	99
94) 1,4-Dichlorobenzene	16.78	146	4300	0.3030	ug/L #	1
95) n-Butylbenzene	16.97	91	5178	0.3071	ug/L #	91
96) 1,2-Dichlorobenzene	17.25	146	3542	0.2803	ug/L	98
98) 1,2,4-Trichlorobenzene	19.22	180	1737	0.2431	ug/L #	66
99) Hexachlorobutadiene	19.36	225	747	0.5063	ug/L #	21
100) Naphthalene	19.56	128	2836	0.4281	ug/L #	72
101) 1,2,3-Trichlorobenzene	19.84	180	1338	0.2004	ug/L #	76

 (#) = qualifier out of range (m) = manual integration
 11M83330.D 8260WTR.M Fri May 04 08:37:11 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\050312\11M83330.D

Vial: 2

Acq On : 3 May 2012 17:01

Operator: ADC

Sample : WG396851-02 0.3ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 4 8:37 2012

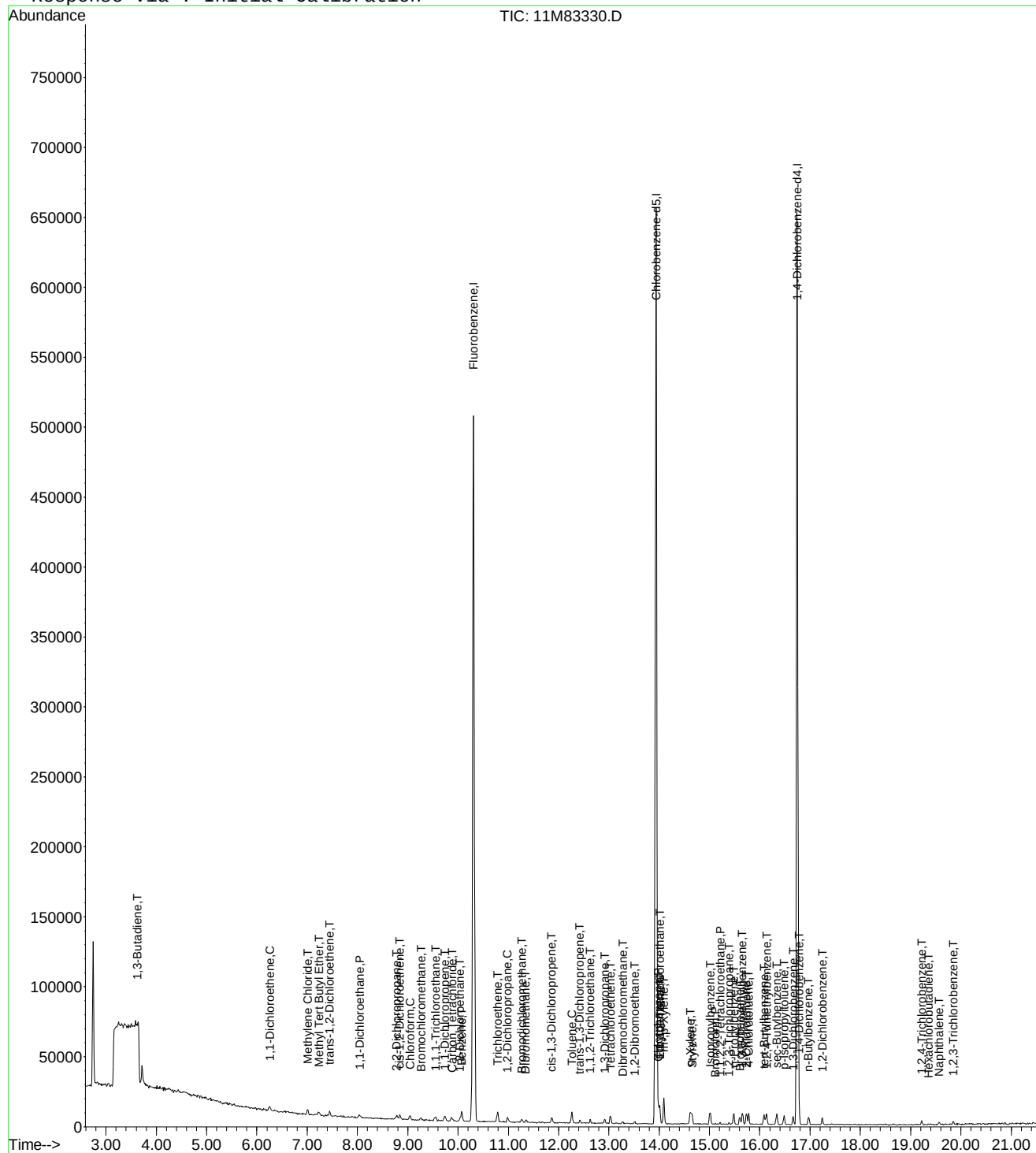
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

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Last Update      : Fri May 04 08:32:33 2012
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Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050312\11M83331.D

Vial: 3

Acq On : 3 May 2012 17:32

Operator: ADC

Sample : WG396851-03 0.4ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:12 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.31	96	549265	25.00	ug/L	0.00
57) Chlorobenzene-d5	13.94	117	422702	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	16.74	152	216998	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount	25.000	Range	86 - 118	Recovery	=	0.00%#
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount	25.000	Range	80 - 120	Recovery	=	0.00%#
58) Toluene-d8	0.00	98	0	0.0000	ug/L	
Spiked Amount	25.000	Range	88 - 110	Recovery	=	0.00%#
80) p-Bromofluorobenzene	0.00	95	0	0.0000	ug/L	
Spiked Amount	25.000	Range	86 - 115	Recovery	=	0.00%#

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.05	85	2902	0.4094	ug/L	# 68
3) Chloromethane	3.49	50	4642	0.3814	ug/L	# 42
4) Vinyl Chloride	3.70	62	3675	0.3610	ug/L	99
6) Bromomethane	4.57	94	1529	0.3917	ug/L	97
7) Chloroethane	4.73	64	1468	0.3500	ug/L	# 43
8) Trichlorofluoromethane	5.19	101	4591	0.3877	ug/L	96
10) Isoprene	5.75	67	3146	0.3414	ug/L	76
12) 1,1,2-Trichloro-1,2,2-Trif	5.97	101	1850	0.3013	ug/L	95
13) Acetone	6.05	43	195	Below Cal		# 45
14) 1,1-Dichloroethene	6.26	61	2847	0.3415	ug/L	91
16) Dimethyl Sulfide	6.50	62	2704	0.3960	ug/L	88
17) Iodomethane	6.74	142	1360	0.5060	ug/L	# 60
19) Methylene Chloride	7.01	84	2526	0.4263	ug/L	93
20) Carbon Disulfide	7.04	76	6446	0.3792	ug/L	# 85
22) Methyl Tert Butyl Ether	7.23	73	5372	0.3880	ug/L	# 68
23) trans-1,2-Dichloroethene	7.43	96	1970	0.3309	ug/L	77
24) n-Hexane	7.52	57	2394	0.3981	ug/L	# 63
27) 1,1-Dichloroethane	8.04	63	4009	0.4019	ug/L	# 64
31) 2,2-Dichloropropane	8.79	77	2974	0.3689	ug/L	# 42
32) cis-1,2-Dichloroethene	8.84	96	2390	0.3705	ug/L	87
33) Chloroform	9.04	83	3988	0.3781	ug/L	85
35) Bromochloromethane	9.26	130	1405	0.3428	ug/L	94
38) 1,1,1-Trichloroethane	9.55	97	3518	0.3556	ug/L	# 75
39) Cyclohexane	9.59	56	2851	0.3577	ug/L	93
40) 1,1-Dichloropropene	9.74	75	2732	0.3473	ug/L	85
41) Carbon Tetrachloride	9.86	117	2389	0.5471	ug/L	# 76
45) 1,2-Dichloroethane	10.04	62	2697	0.3637	ug/L	# 75
46) Benzene	10.07	78	9082	0.3951	ug/L	94
47) Trichloroethene	10.78	130	3274	0.4345	ug/L	96
48) Methylcyclohexane	10.86	83	2735	0.3467	ug/L	88
49) 1,2-Dichloropropane	10.98	63	1959	0.3702	ug/L	73
51) Bromodichloromethane	11.27	83	2321	0.3205	ug/L	# 94
52) Dibromomethane	11.35	93	686	0.4195	ug/L	# 14
55) cis-1,3-Dichloropropene	11.86	75	2909	0.3487	ug/L	93
56) Dimethyl Disulfide	12.12	79	638	1.0191	ug/L	83
59) Toluene	12.26	91	10107	0.3975	ug/L	89
60) Ethyl Methacrylate	12.36	69	1513	0.8605	ug/L	77
62) trans-1,3-Dichloropropene	12.43	75	2477	0.3634	ug/L	# 64
63) 1,1,2-Trichloroethane	12.62	97	1468	0.3496	ug/L	96
65) 1,3-Dichloropropane	12.91	76	2607	0.3696	ug/L	85

(#) = qualifier out of range (m) = manual integration
 11M83331.D 8260WTR.M Fri May 04 08:37:12 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\050312\11M83331.D

Vial: 3

Acq On : 3 May 2012 17:32

Operator: ADC

Sample : WG396851-03 0.4ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:12 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
66) Tetrachloroethene	13.03	164	1542	0.2960	ug/L	69
67) Dibromochloromethane	13.27	129	1559	0.5165	ug/L	99
68) 1,2-Dibromoethane	13.51	107	1528	0.3514	ug/L	91
69) 1-Chlorohexane	13.60	91	2326	0.3191	ug/L	85
70) Chlorobenzene	13.98	112	6136	0.3626	ug/L	98
71) 1,1,1,2-Tetrachloroethane	14.01	131	1421	0.4723	ug/L	81
72) Ethylbenzene	14.01	106	3067	0.3340	ug/L	86
73) m-,p-Xylene	14.09	106	8481	0.7478	ug/L	90
74) o-Xylene	14.61	106	4007	0.3627	ug/L	98
75) Styrene	14.65	104	6355	0.3615	ug/L	95
76) Bromoform	15.12	173	560	0.5236	ug/L #	28
77) Isopropylbenzene	15.01	105	9010	0.3464	ug/L	96
79) 1,1,2,2-Tetrachloroethane	15.21	83	1419	0.3674	ug/L	83
83) n-Propylbenzene	15.48	91	10456	0.3703	ug/L	90
84) Bromobenzene	15.60	156	2604	0.3861	ug/L	64
85) 1,3,5-Trimethylbenzene	15.65	105	7524	0.3588	ug/L	99
86) 2-Chlorotoluene	15.74	91	7308	0.3849	ug/L	100
87) 4-Chlorotoluene	15.78	91	6058	0.3646	ug/L	98
88) a-Methylstyrene	16.03	118	3825	0.3276	ug/L	91
89) tert-Butylbenzene	16.09	134	1625	0.3561	ug/L	81
90) 1,2,4-Trimethylbenzene	16.13	105	7548	0.3460	ug/L	96
91) sec-Butylbenzene	16.34	105	8328	0.3402	ug/L	100
92) p-Isopropyltoluene	16.48	119	6955	0.3311	ug/L	87
93) 1,3-Dichlorobenzene	16.67	146	5234	0.3956	ug/L	85
94) 1,4-Dichlorobenzene	16.78	146	5094	0.3783	ug/L #	13
95) n-Butylbenzene	16.97	91	5025	0.3140	ug/L #	93
96) 1,2-Dichlorobenzene	17.25	146	4607	0.3842	ug/L	95
98) 1,2,4-Trichlorobenzene	19.22	180	2398	0.3536	ug/L #	60
99) Hexachlorobutadiene	19.36	225	491	0.4257	ug/L #	47
100) Naphthalene	19.56	128	3723	0.4988	ug/L #	72
101) 1,2,3-Trichlorobenzene	19.85	180	2196	0.3466	ug/L	80

 (#) = qualifier out of range (m) = manual integration
 11M83331.D 8260WTR.M Fri May 04 08:37:12 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\050312\11M83332.D

Vial: 4

Acq On : 3 May 2012 18:02

Operator: ADC

Sample : WG396851-04 1ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:13 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.31	96	534064	25.00	ug/L	0.00
57) Chlorobenzene-d5	13.94	117	410761	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	16.74	152	209178	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.33	111	3612	0.5550	ug/L	0.01
Spiked Amount	25.000	Range	86 - 118	Recovery	=	2.24%#
43) 1,2-Dichloroethane-d4	9.93	65	3770	0.6054	ug/L	0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	2.44%#
58) Toluene-d8	12.17	98	12642	0.5835	ug/L	0.00
Spiked Amount	25.000	Range	88 - 110	Recovery	=	2.32%#
80) p-Bromofluorobenzene	15.33	95	4012	0.5803	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	2.32%#

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.05	85	7319	1.0620	ug/L	93
3) Chloromethane	3.48	50	12577	1.0626	ug/L	96
4) Vinyl Chloride	3.70	62	14477	1.1317	ug/L	99
5) 1,3-Butadiene	3.75	54	8464	1.4280	ug/L	80
6) Bromomethane	4.57	94	4210	1.1092	ug/L	97
7) Chloroethane	4.71	64	4336	1.0631	ug/L	87
8) Trichlorofluoromethane	5.20	101	11279	0.9795	ug/L	92
9) Diethyl ether	5.71	59	19078	4.6934	ug/L	97
10) Isoprene	5.75	67	9229	1.0301	ug/L	91
11) Acrolein	5.93	56	207	0.7332	ug/L	# 13
12) 1,1,2-Trichloro-1,2,2-Trif	5.95	101	6048	1.0129	ug/L	100
13) Acetone	6.04	43	1576	0.7690	ug/L	# 45
14) 1,1-Dichloroethene	6.26	61	7901	0.9746	ug/L	96
15) Tert-Butyl Alcohol	6.36	59	1735	6.4423	ug/L	# 59
16) Dimethyl Sulfide	6.50	62	6695	1.0083	ug/L	99
17) Iodomethane	6.74	142	5516	1.0109	ug/L	97
18) Methyl acetate	6.76	43	3606	1.0454	ug/L	# 74
19) Methylene Chloride	7.01	84	5966	1.0354	ug/L	93
20) Carbon Disulfide	7.05	76	16752	1.0136	ug/L	98
21) Acrylonitrile	7.19	53	924	0.7852	ug/L	97
22) Methyl Tert Butyl Ether	7.23	73	13880	1.0311	ug/L	94
23) trans-1,2-Dichloroethene	7.44	96	5867	1.0136	ug/L	98
24) n-Hexane	7.52	57	5560	0.9508	ug/L	# 76
25) Diisopropyl ether	7.86	45	80883	4.7711	ug/L	98
26) Vinyl Acetate	8.00	43	1526	3.0165	ug/L	# 70
27) 1,1-Dichloroethane	8.04	63	9199	0.9484	ug/L	# 91
28) Ethyl-Tert-Butyl ether	8.41	59	78234	4.7262	ug/L	100
29) 2-Butanone	8.57	43	1293	0.9408	ug/L	# 49
30) Propionitrile	8.67	54	1733	4.2728	ug/L	# 60
31) 2,2-Dichloropropane	8.79	77	7802	0.9952	ug/L	88
32) cis-1,2-Dichloroethene	8.85	96	6173	0.9842	ug/L	96
33) Chloroform	9.04	83	10622	1.0358	ug/L	100
34) 1-Bromopropane	9.17	122	859	0.7323	ug/L	85
35) Bromochloromethane	9.25	130	3819	0.9584	ug/L	95
36) Tetrahydrofuran	9.29	42	4411	4.9451	ug/L	93
38) 1,1,1-Trichloroethane	9.55	97	9481	0.9856	ug/L	# 97
39) Cyclohexane	9.58	56	7789	1.0050	ug/L	98
40) 1,1-Dichloropropene	9.73	75	7631	0.9976	ug/L	100
41) Carbon Tetrachloride	9.86	117	7454	1.0454	ug/L	96
42) Tert-Amyl-Methyl ether	9.83	73	70273	4.6433	ug/L	# 99

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

11M83332.D 8260WTR.M Fri May 04 08:37:14 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\050312\11M83332.D

Vial: 4

Acq On : 3 May 2012 18:02

Operator: ADC

Sample : WG396851-04 1ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:13 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.03	62	7319	1.0152	ug/L	94
46) Benzene	10.07	78	22548	1.0090	ug/L	96
47) Trichloroethene	10.78	130	7722	1.0539	ug/L	95
48) Methylcyclohexane	10.87	83	7687	1.0021	ug/L	98
49) 1,2-Dichloropropane	10.98	63	5252	1.0209	ug/L	88
51) Bromodichloromethane	11.26	83	6552	0.9304	ug/L #	93
52) Dibromomethane	11.35	93	2815	1.0407	ug/L	92
53) 2-Chloroethyl Vinyl Ether	11.55	63	1611	0.7341	ug/L #	44
54) 4-Methyl-2-Pentanone	11.58	58	785	0.6531	ug/L #	50
55) cis-1,3-Dichloropropene	11.87	75	7574	0.9338	ug/L	94
56) Dimethyl Disulfide	12.11	79	2068	1.3522	ug/L	99
59) Toluene	12.26	91	23197	0.9389	ug/L	95
60) Ethyl Methacrylate	12.36	69	3766	1.2956	ug/L	94
62) trans-1,3-Dichloropropene	12.43	75	5796	0.8750	ug/L	92
63) 1,1,2-Trichloroethane	12.64	97	4310	1.0561	ug/L	95
64) 2-Hexanone	12.58	43	2106	1.0206	ug/L #	75
65) 1,3-Dichloropropane	12.91	76	6701	0.9775	ug/L	95
66) Tetrachloroethene	13.03	164	4982	0.9842	ug/L	93
67) Dibromochloromethane	13.28	129	3954	0.9555	ug/L	97
68) 1,2-Dibromoethane	13.51	107	4250	1.0057	ug/L	97
69) 1-Chlorohexane	13.60	91	6867	0.9695	ug/L	99
70) Chlorobenzene	13.99	112	15766	0.9587	ug/L	98
71) 1,1,1,2-Tetrachloroethane	14.01	131	4630	1.0287	ug/L	100
72) Ethylbenzene	14.01	106	8536	0.9565	ug/L	96
73) m-, p-Xylene	14.09	106	20303	1.8423	ug/L	98
74) o-Xylene	14.62	106	9693	0.9029	ug/L	93
75) Styrene	14.65	104	15602	0.9134	ug/L	96
76) Bromoform	15.12	173	1782	0.9374	ug/L	95
77) Isopropylbenzene	15.01	105	24398	0.9653	ug/L	99
79) 1,1,2,2-Tetrachloroethane	15.21	83	3395	0.9118	ug/L	90
81) 1,2,3-Trichloropropane	15.39	110	1050	0.9317	ug/L	62
82) trans-1,4-Dichloro-2-Buten	15.43	53	187	1.7318	ug/L #	1
83) n-Propylbenzene	15.48	91	26870	0.9873	ug/L	99
84) Bromobenzene	15.60	156	6390	0.9828	ug/L	66
85) 1,3,5-Trimethylbenzene	15.65	105	19712	0.9752	ug/L	97
86) 2-Chlorotoluene	15.74	91	18038	0.9855	ug/L	97
87) 4-Chlorotoluene	15.78	91	16095	1.0048	ug/L	99
88) a-Methylstyrene	16.03	118	10366	0.9209	ug/L	97
89) tert-Butylbenzene	16.09	134	4034	0.9171	ug/L	84
90) 1,2,4-Trimethylbenzene	16.14	105	18899	0.8987	ug/L	99
91) sec-Butylbenzene	16.34	105	23274	0.9862	ug/L	98
92) p-Isopropyltoluene	16.48	119	18989	0.9377	ug/L	97
93) 1,3-Dichlorobenzene	16.67	146	11949	0.9370	ug/L	100
94) 1,4-Dichlorobenzene	16.78	146	12277	0.9458	ug/L #	68
95) n-Butylbenzene	16.97	91	14655	0.9501	ug/L	96
96) 1,2-Dichlorobenzene	17.25	146	11011	0.9527	ug/L	98
98) 1,2,4-Trichlorobenzene	19.22	180	5969	0.9132	ug/L	99
99) Hexachlorobutadiene	19.36	225	2297	1.1255	ug/L	96
100) Naphthalene	19.56	128	11059	1.0294	ug/L #	93
101) 1,2,3-Trichlorobenzene	19.84	180	5374	0.8798	ug/L	87

(#) = qualifier out of range (m) = manual integration
 11M83332.D 8260WTR.M Fri May 04 08:37:14 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\050312\11M83333.D

Vial: 5

Acq On : 3 May 2012 18:33

Operator: ADC

Sample : WG396851-05 2ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:14 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.31	96	518293	25.00	ug/L	0.00
57) Chlorobenzene-d5	13.94	117	398843	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	16.74	152	209309	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.32	111	6316	1.0000	ug/L	0.00
Spiked Amount	25.000	Range	86 - 118	Recovery	=	4.00%#
43) 1,2-Dichloroethane-d4	9.93	65	5891	0.9748	ug/L	0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	3.88%#
58) Toluene-d8	12.17	98	20839	0.9905	ug/L	0.00
Spiked Amount	25.000	Range	88 - 110	Recovery	=	3.96%#
80) p-Bromofluorobenzene	15.33	95	6864	0.9921	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	3.96%#

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.05	85	12736	1.9043	ug/L	100
3) Chloromethane	3.48	50	22761	1.9816	ug/L	# 74
4) Vinyl Chloride	3.70	62	23042	1.7901	ug/L	98
5) 1,3-Butadiene	3.74	54	20696	3.5980	ug/L	81
6) Bromomethane	4.57	94	7327	1.9892	ug/L	100
7) Chloroethane	4.72	64	8046	2.0328	ug/L	86
8) Trichlorofluoromethane	5.19	101	21370	1.9123	ug/L	99
9) Diethyl ether	5.71	59	94149	23.8666	ug/L	100
10) Isoprene	5.75	67	16600	1.9092	ug/L	96
11) Acrolein	5.95	56	475	1.7336	ug/L	70
12) 1,1,2-Trichloro-1,2,2-Trif	5.96	101	11562	1.9953	ug/L	97
13) Acetone	6.03	43	2653	1.9616	ug/L	# 45
14) 1,1-Dichloroethene	6.26	61	15337	1.9494	ug/L	100
15) Tert-Butyl Alcohol	6.37	59	10628	40.6643	ug/L	# 91
16) Dimethyl Sulfide	6.50	62	12407	1.9254	ug/L	97
17) Iodomethane	6.75	142	12634	1.9142	ug/L	99
18) Methyl acetate	6.77	43	6740	2.0134	ug/L	# 78
19) Methylene Chloride	7.00	84	11127	1.9899	ug/L	96
20) Carbon Disulfide	7.04	76	30703	1.9143	ug/L	99
21) Acrylonitrile	7.18	53	1998	1.7495	ug/L	99
22) Methyl Tert Butyl Ether	7.21	73	25713	1.9682	ug/L	99
23) trans-1,2-Dichloroethene	7.44	96	10652	1.8963	ug/L	99
24) n-Hexane	7.53	57	10701	1.8856	ug/L	# 85
25) Diisopropyl ether	7.85	45	385743	23.4467	ug/L	99
26) Vinyl Acetate	8.01	43	2699	3.3660	ug/L	# 70
27) 1,1-Dichloroethane	8.03	63	17889	1.9005	ug/L	98
28) Ethyl-Tert-Butyl ether	8.40	59	376774	23.4540	ug/L	99
29) 2-Butanone	8.57	43	2729	2.0461	ug/L	# 63
30) Propionitrile	8.66	54	9921	25.2051	ug/L	94
31) 2,2-Dichloropropane	8.79	77	13514	1.7763	ug/L	96
32) cis-1,2-Dichloroethene	8.84	96	11960	1.9648	ug/L	96
33) Chloroform	9.04	83	19676	1.9772	ug/L	94
34) 1-Bromopropane	9.17	122	1966	1.7271	ug/L	97
35) Bromochloromethane	9.26	130	7581	1.9604	ug/L	96
36) Tetrahydrofuran	9.29	42	20833	24.0663	ug/L	97
38) 1,1,1-Trichloroethane	9.55	97	17496	1.8741	ug/L	97
39) Cyclohexane	9.57	56	14288	1.8996	ug/L	99
40) 1,1-Dichloropropene	9.74	75	13987	1.8842	ug/L	94
41) Carbon Tetrachloride	9.87	117	14081	1.7305	ug/L	98
42) Tert-Amyl-Methyl ether	9.83	73	342481	23.3182	ug/L	100

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

11M83333.D 8260WTR.M Fri May 04 08:37:15 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\050312\11M83333.D

Vial: 5

Acq On : 3 May 2012 18:33

Operator: ADC

Sample : WG396851-05 2ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:14 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.03	62	12958	1.8521	ug/L	99
46) Benzene	10.07	78	40253	1.8560	ug/L	99
47) Trichloroethene	10.78	130	13753	1.9341	ug/L	98
48) Methylcyclohexane	10.87	83	14286	1.9190	ug/L	97
49) 1,2-Dichloropropane	10.99	63	9763	1.9554	ug/L	95
50) 1,4-Dioxane	11.26	88	1335	37.6086	ug/L	99
51) Bromodichloromethane	11.27	83	12614	1.8458	ug/L	95
52) Dibromomethane	11.35	93	6200	2.0741	ug/L	95
53) 2-Chloroethyl Vinyl Ether	11.55	63	3787	1.7781	ug/L	90
54) 4-Methyl-2-Pentanone	11.58	58	2177	1.8664	ug/L	# 75
55) cis-1,3-Dichloropropene	11.87	75	14043	1.7840	ug/L	99
56) Dimethyl Disulfide	12.11	79	4422	1.9238	ug/L	89
59) Toluene	12.26	91	45395	1.8923	ug/L	100
60) Ethyl Methacrylate	12.35	69	7157	1.9787	ug/L	92
61) Paraldehyde	12.39	89	437	28.5992	ug/L	# 1
62) trans-1,3-Dichloropropene	12.43	75	11482	1.7852	ug/L	95
63) 1,1,2-Trichloroethane	12.64	97	7697	1.9425	ug/L	98
64) 2-Hexanone	12.57	43	4032	2.0123	ug/L	81
65) 1,3-Dichloropropane	12.91	76	13466	2.0231	ug/L	100
66) Tetrachloroethene	13.03	164	9904	2.0150	ug/L	97
67) Dibromochloromethane	13.28	129	8395	1.7989	ug/L	97
68) 1,2-Dibromoethane	13.51	107	7945	1.9362	ug/L	100
69) 1-Chlorohexane	13.60	91	12357	1.7967	ug/L	97
70) Chlorobenzene	13.98	112	29745	1.8627	ug/L	97
71) 1,1,1,2-Tetrachloroethane	14.01	131	9179	1.8508	ug/L	92
72) Ethylbenzene	14.01	106	15594	1.7995	ug/L	97
73) m-,p-Xylene	14.09	106	38442	3.5925	ug/L	100
74) o-Xylene	14.62	106	18420	1.7671	ug/L	100
75) Styrene	14.65	104	29854	1.8000	ug/L	97
76) Bromoform	15.11	173	4229	1.7945	ug/L	88
77) Isopropylbenzene	15.01	105	45389	1.8495	ug/L	99
79) 1,1,2,2-Tetrachloroethane	15.21	83	6972	1.8712	ug/L	96
81) 1,2,3-Trichloropropane	15.40	110	2120	1.8799	ug/L	75
82) trans-1,4-Dichloro-2-Butene	15.44	53	1131	2.5856	ug/L	# 26
83) n-Propylbenzene	15.48	91	51127	1.8773	ug/L	99
84) Bromobenzene	15.60	156	12541	1.9275	ug/L	99
85) 1,3,5-Trimethylbenzene	15.65	105	37817	1.8698	ug/L	95
86) 2-Chlorotoluene	15.74	91	34649	1.8918	ug/L	98
87) 4-Chlorotoluene	15.78	91	29008	1.8098	ug/L	100
88) a-Methylstyrene	16.03	118	20707	1.8384	ug/L	99
89) tert-Butylbenzene	16.08	134	8477	1.9259	ug/L	92
90) 1,2,4-Trimethylbenzene	16.13	105	37557	1.7848	ug/L	99
91) sec-Butylbenzene	16.34	105	42988	1.8204	ug/L	98
92) p-Isopropyltoluene	16.48	119	34961	1.7254	ug/L	99
93) 1,3-Dichlorobenzene	16.67	146	22715	1.7801	ug/L	98
94) 1,4-Dichlorobenzene	16.78	146	24047	1.8514	ug/L	90
95) n-Butylbenzene	16.97	91	27963	1.8117	ug/L	99
96) 1,2-Dichlorobenzene	17.25	146	21392	1.8497	ug/L	99
97) 1,2-Dibromo-3-Chloropropan	18.16	75	491	1.2705	ug/L	57
98) 1,2,4-Trichlorobenzene	19.22	180	11442	1.7494	ug/L	100
99) Hexachlorobutadiene	19.36	225	4775	2.0752	ug/L	90
100) Naphthalene	19.56	128	21734	1.7860	ug/L	99
101) 1,2,3-Trichlorobenzene	19.85	180	10899	1.7832	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M83333.D 8260WTR.M Fri May 04 08:37:15 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\050312\11M83334.D

Vial: 6

Acq On : 3 May 2012 19:04

Operator: ADC

Sample : WG396851-06 5ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:16 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.31	96	503454	25.00	ug/L	0.00
57) Chlorobenzene-d5	13.94	117	391947	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	16.74	152	206722	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.32	111	14515	2.3660	ug/L	0.00
Spiked Amount	25.000	Range	86 - 118	Recovery	=	9.48%#
43) 1,2-Dichloroethane-d4	9.93	65	13685	2.3311	ug/L	0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	9.32%#
58) Toluene-d8	12.17	98	49354	2.3872	ug/L	0.00
Spiked Amount	25.000	Range	88 - 110	Recovery	=	9.56%#
80) p-Bromofluorobenzene	15.33	95	16301	2.3857	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	9.56%#

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.05	85	30912	4.7582	ug/L	100
3) Chloromethane	3.48	50	51914	4.6530	ug/L	86
4) Vinyl Chloride	3.70	62	65691	5.1020	ug/L	98
5) 1,3-Butadiene	3.74	54	43618	7.8065	ug/L	96
6) Bromomethane	4.57	94	16076	4.4932	ug/L	97
7) Chloroethane	4.71	64	17043	4.4328	ug/L	97
8) Trichlorofluoromethane	5.19	101	50667	4.6675	ug/L	99
9) Diethyl ether	5.71	59	183634	47.9229	ug/L	99
10) Isoprene	5.75	67	38137	4.5155	ug/L	100
11) Acrolein	5.92	56	2491	9.3595	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	5.96	101	27572	4.8985	ug/L	97
13) Acetone	6.04	43	6057	5.7646	ug/L	91
14) 1,1-Dichloroethene	6.26	61	37740	4.9383	ug/L	97
15) Tert-Butyl Alcohol	6.36	59	21827	85.9748	ug/L	98
16) Dimethyl Sulfide	6.50	62	28334	4.5268	ug/L	99
17) Iodomethane	6.75	142	33186	4.5854	ug/L	97
18) Methyl acetate	6.76	43	16189	4.9785	ug/L	# 89
19) Methylene Chloride	7.00	84	25640	4.7205	ug/L	97
20) Carbon Disulfide	7.05	76	71069	4.5616	ug/L	99
21) Acrylonitrile	7.19	53	5820	5.2465	ug/L	93
22) Methyl Tert Butyl Ether	7.23	73	59988	4.7272	ug/L	99
23) trans-1,2-Dichloroethene	7.44	96	26654	4.8850	ug/L	98
24) n-Hexane	7.53	57	25840	4.6875	ug/L	97
25) Diisopropyl ether	7.85	45	766207	47.9451	ug/L	99
26) Vinyl Acetate	8.01	43	10005	5.5472	ug/L	# 89
27) 1,1-Dichloroethane	8.04	63	42703	4.6703	ug/L	98
28) Ethyl-Tert-Butyl ether	8.40	59	745333	47.7642	ug/L	99
29) 2-Butanone	8.57	43	6928	5.3475	ug/L	90
30) Propionitrile	8.66	54	18931	49.5134	ug/L	98
31) 2,2-Dichloropropane	8.79	77	34505	4.6689	ug/L	99
32) cis-1,2-Dichloroethene	8.84	96	27486	4.6486	ug/L	95
33) Chloroform	9.04	83	46323	4.7920	ug/L	99
34) 1-Bromopropane	9.17	122	5267	4.7633	ug/L	98
35) Bromochloromethane	9.26	130	18195	4.8439	ug/L	98
36) Tetrahydrofuran	9.28	42	42153	50.1305	ug/L	96
38) 1,1,1-Trichloroethane	9.54	97	40907	4.5109	ug/L	99
39) Cyclohexane	9.58	56	33695	4.6118	ug/L	99
40) 1,1-Dichloropropene	9.74	75	33975	4.7116	ug/L	99
41) Carbon Tetrachloride	9.87	117	37917	4.2273	ug/L	99
42) Tert-Amyl-Methyl ether	9.83	73	685005	48.0141	ug/L	100

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

11M83334.D 8260WTR.M Fri May 04 08:37:16 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\050312\11M83334.D

Vial: 6

Acq On : 3 May 2012 19:04

Operator: ADC

Sample : WG396851-06 5ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:16 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.04	62	33533	4.9341	ug/L	96
46) Benzene	10.07	78	96837	4.5966	ug/L	98
47) Trichloroethene	10.78	130	31046	4.4947	ug/L	97
48) Methylcyclohexane	10.87	83	33341	4.6106	ug/L	99
49) 1,2-Dichloropropane	10.98	63	22711	4.6829	ug/L	100
50) 1,4-Dioxane	11.25	88	3140	91.0648	ug/L	84
51) Bromodichloromethane	11.27	83	31584	4.7579	ug/L	98
52) Dibromomethane	11.34	93	14730	4.7453	ug/L	96
53) 2-Chloroethyl Vinyl Ether	11.55	63	9654	4.6665	ug/L	97
54) 4-Methyl-2-Pentanone	11.58	58	5319	4.6945	ug/L	99
55) cis-1,3-Dichloropropene	11.87	75	35513	4.6444	ug/L	100
56) Dimethyl Disulfide	12.11	79	11665	3.7092	ug/L	93
59) Toluene	12.26	91	107843	4.5745	ug/L	99
60) Ethyl Methacrylate	12.35	69	18430	4.2420	ug/L	98
61) Paraldehyde	12.38	89	1447	42.6994	ug/L	24
62) trans-1,3-Dichloropropene	12.43	75	28945	4.5794	ug/L	99
63) 1,1,2-Trichloroethane	12.64	97	18621	4.7820	ug/L	97
64) 2-Hexanone	12.57	43	9296	4.7211	ug/L	96
65) 1,3-Dichloropropane	12.91	76	31572	4.8268	ug/L	100
66) Tetrachloroethene	13.03	164	23228	4.8091	ug/L	100
67) Dibromochloromethane	13.28	129	21684	4.3211	ug/L	99
68) 1,2-Dibromoethane	13.51	107	19755	4.8990	ug/L	98
69) 1-Chlorohexane	13.60	91	31575	4.6717	ug/L	99
70) Chlorobenzene	13.98	112	74173	4.7266	ug/L	98
71) 1,1,1,2-Tetrachloroethane	14.01	131	23517	4.4112	ug/L	96
72) Ethylbenzene	14.01	106	40324	4.7352	ug/L	97
73) m-,p-Xylene	14.09	106	95354	9.0678	ug/L	99
74) o-Xylene	14.61	106	45918	4.4826	ug/L	96
75) Styrene	14.65	104	74701	4.5831	ug/L	99
76) Bromoform	15.11	173	11226	4.2392	ug/L	96
77) Isopropylbenzene	15.01	105	112351	4.6587	ug/L	99
79) 1,1,2,2-Tetrachloroethane	15.21	83	18681	5.0766	ug/L	99
81) 1,2,3-Trichloropropane	15.39	110	5832	5.2362	ug/L	78
82) trans-1,4-Dichloro-2-Butene	15.43	53	2927	4.2433	ug/L #	21
83) n-Propylbenzene	15.48	91	128083	4.7619	ug/L	99
84) Bromobenzene	15.60	156	31269	4.8662	ug/L	97
85) 1,3,5-Trimethylbenzene	15.65	105	92830	4.6473	ug/L	98
86) 2-Chlorotoluene	15.74	91	84597	4.6767	ug/L	99
87) 4-Chlorotoluene	15.78	91	72125	4.5561	ug/L	98
88) a-Methylstyrene	16.03	118	50520	4.5413	ug/L	99
89) tert-Butylbenzene	16.09	134	19927	4.5838	ug/L	99
90) 1,2,4-Trimethylbenzene	16.13	105	94663	4.5550	ug/L	99
91) sec-Butylbenzene	16.34	105	109377	4.6896	ug/L	98
92) p-Isopropyltoluene	16.48	119	92965	4.6454	ug/L	99
93) 1,3-Dichlorobenzene	16.67	146	59294	4.7048	ug/L	96
94) 1,4-Dichlorobenzene	16.78	146	60800	4.7396	ug/L	97
95) n-Butylbenzene	16.97	91	73650	4.8313	ug/L	99
96) 1,2-Dichlorobenzene	17.25	146	54364	4.7595	ug/L	96
97) 1,2-Dibromo-3-Chloropropan	18.17	75	2154	3.7703	ug/L	98
98) 1,2,4-Trichlorobenzene	19.22	180	29980	4.6411	ug/L	98
99) Hexachlorobutadiene	19.36	225	10674	4.3886	ug/L	96
100) Naphthalene	19.56	128	57065	4.3358	ug/L	99
101) 1,2,3-Trichlorobenzene	19.85	180	27923	4.6256	ug/L	97

(#) = qualifier out of range (m) = manual integration
 11M83334.D 8260WTR.M Fri May 04 08:37:17 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\050312\11M83334.D

Vial: 6

Acq On : 3 May 2012 19:04

Operator: ADC

Sample : WG396851-06 5ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 4 8:37 2012

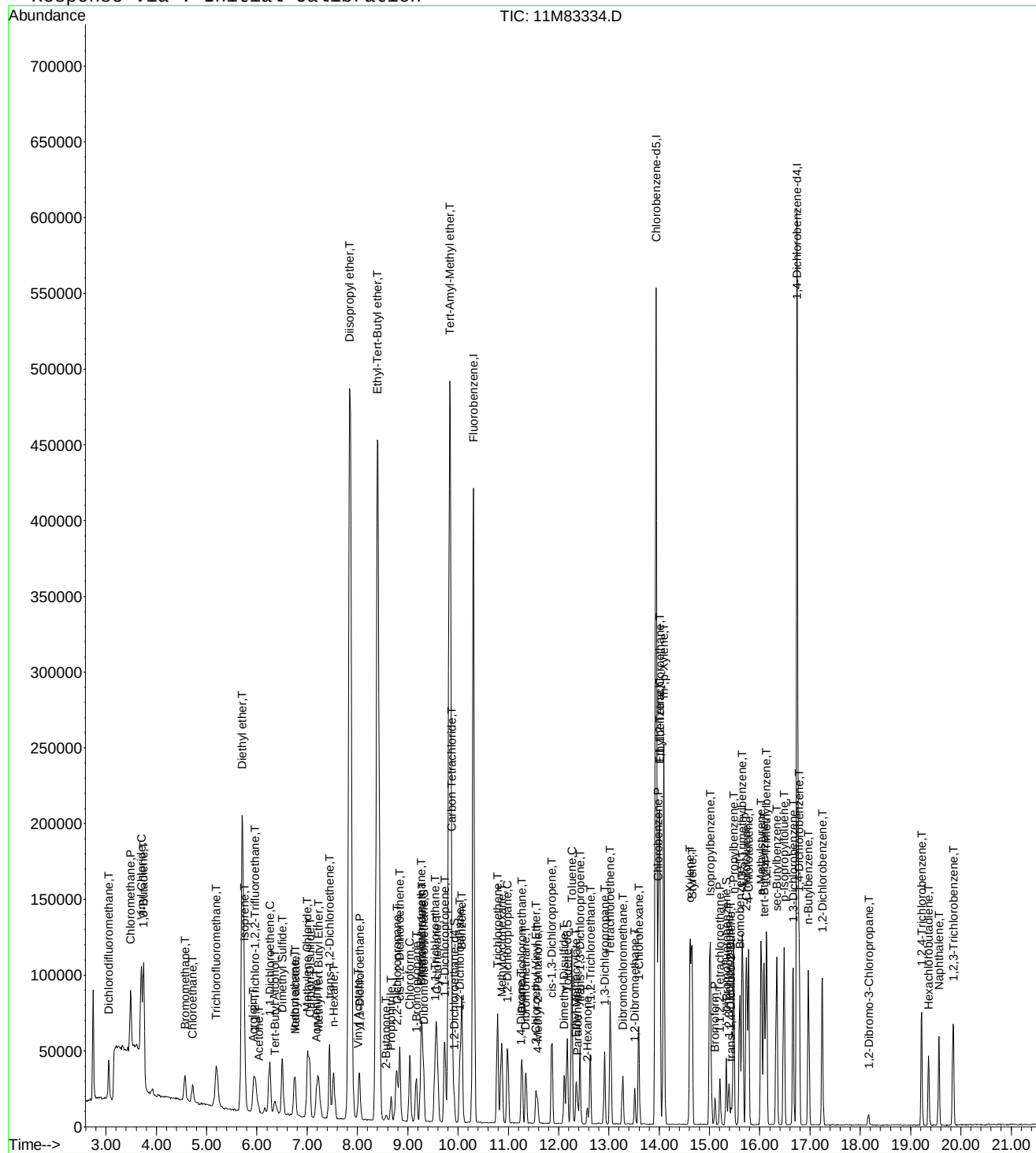
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration



11M83334.D 8260WTR.M

Fri May 04 08:37:17 2012

Page 3

Data File : C:\MSDCHEM\1\DATA\050312\11M83335.D

Vial: 7

Acq On : 3 May 2012 19:34

Operator: ADC

Sample : WG396851-07 20ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:18 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.31	96	504254	25.00	ug/L	0.00
57) Chlorobenzene-d5	13.94	117	394623	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	16.74	152	217927	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.32	111	56858	9.2532	ug/L	0.00
Spiked Amount	25.000	Range	86 - 118	Recovery	=	37.00%#
43) 1,2-Dichloroethane-d4	9.93	65	53945	9.1746	ug/L	0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	36.68%#
58) Toluene-d8	12.17	98	188061	9.0347	ug/L	0.00
Spiked Amount	25.000	Range	88 - 110	Recovery	=	36.12%#
80) p-Bromofluorobenzene	15.33	95	66677	9.2565	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	37.04%#

Target Compounds

					Qvalue
2) Dichlorodifluoromethane	3.05	85	132635	20.3839	ug/L 99
3) Chloromethane	3.48	50	221719	19.8408	ug/L 100
4) Vinyl Chloride	3.70	62	275695	22.4469	ug/L 99
5) 1,3-Butadiene	3.73	54	128779	23.0114	ug/L 99
6) Bromomethane	4.56	94	65223	18.2007	ug/L 98
7) Chloroethane	4.71	64	74645	19.3842	ug/L 99
8) Trichlorofluoromethane	5.19	101	218630	20.1084	ug/L 100
9) Diethyl ether	5.71	59	306304	79.8092	ug/L 99
10) Isoprene	5.74	67	167911	19.8494	ug/L 99
11) Acrolein	5.94	56	10552	39.5846	ug/L 98
12) 1,1,2-Trichloro-1,2,2-Trif	5.96	101	116029	20.5813	ug/L 100
13) Acetone	6.03	43	19491	20.4115	ug/L 95
14) 1,1-Dichloroethene	6.26	61	156029	20.3841	ug/L 98
15) Tert-Butyl Alcohol	6.36	59	40914	160.9013	ug/L 98
16) Dimethyl Sulfide	6.50	62	121955	19.4531	ug/L 99
17) Iodomethane	6.74	142	163899	21.2474	ug/L 100
18) Methyl acetate	6.76	43	60073	18.4447	ug/L 100
19) Methylene Chloride	7.00	84	103618	19.0467	ug/L 100
20) Carbon Disulfide	7.04	76	302977	19.4157	ug/L 100
21) Acrylonitrile	7.18	53	22628	20.3657	ug/L 99
22) Methyl Tert Butyl Ether	7.22	73	249921	19.6631	ug/L 98
23) trans-1,2-Dichloroethene	7.44	96	110195	20.1638	ug/L 98
24) n-Hexane	7.53	57	109324	19.8002	ug/L 100
25) Diisopropyl ether	7.85	45	1276533	79.7519	ug/L 100
26) Vinyl Acetate	8.01	43	50946	17.6180	ug/L 99
27) 1,1-Dichloroethane	8.03	63	179901	19.6442	ug/L 99
28) Ethyl-Tert-Butyl ether	8.40	59	1249608	79.9533	ug/L 100
29) 2-Butanone	8.57	43	25982	20.0228	ug/L 99
30) Propionitrile	8.68	54	31316	81.7760	ug/L 99
31) 2,2-Dichloropropane	8.78	77	145801	19.6973	ug/L 100
32) cis-1,2-Dichloroethene	8.84	96	116663	19.6994	ug/L 98
33) Chloroform	9.04	83	187798	19.3966	ug/L 98
34) 1-Bromopropane	9.17	122	22540	20.3519	ug/L 97
35) Bromochloromethane	9.26	130	76485	20.3296	ug/L 99
36) Tetrahydrofuran	9.29	42	67948	80.6790	ug/L 99
38) 1,1,1-Trichloroethane	9.54	97	177976	19.5948	ug/L 99
39) Cyclohexane	9.57	56	143330	19.5864	ug/L 98
40) 1,1-Dichloropropene	9.73	75	145571	20.1555	ug/L 100
41) Carbon Tetrachloride	9.87	117	169303	17.7335	ug/L 100
42) Tert-Amyl-Methyl ether	9.83	73	1142423	79.9489	ug/L 100

(#) = qualifier out of range (m) = manual integration
 11M83335.D 8260WTR.M Fri May 04 08:37:18 2012

Data File : C:\MSDCHEM\1\DATA\050312\11M83335.D

Vial: 7

Acq On : 3 May 2012 19:34

Operator: ADC

Sample : WG396851-07 20ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:18 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.04	62	133505	19.6128	ug/L	99
46) Benzene	10.07	78	407963	19.3343	ug/L	99
47) Trichloroethene	10.78	130	131634	19.0272	ug/L	100
48) Methylcyclohexane	10.87	83	145964	20.1530	ug/L	99
49) 1,2-Dichloropropane	10.99	63	95354	19.6303	ug/L	98
50) 1,4-Dioxane	11.26	88	5892	170.6059	ug/L	97
51) Bromodichloromethane	11.27	83	135736	20.4153	ug/L	100
52) Dibromomethane	11.34	93	61085	18.9356	ug/L	98
53) 2-Chloroethyl Vinyl Ether	11.55	63	41168	19.8682	ug/L	98
54) 4-Methyl-2-Pentanone	11.58	58	21756	19.1711	ug/L	96
55) cis-1,3-Dichloropropene	11.87	75	154470	20.1695	ug/L	100
56) Dimethyl Disulfide	12.11	79	72686	17.9282	ug/L	97
59) Toluene	12.26	91	458914	19.3343	ug/L	100
60) Ethyl Methacrylate	12.35	69	88109	17.9613	ug/L	97
61) Paraldehyde	12.38	89	3747	74.2185	ug/L	62
62) trans-1,3-Dichloropropene	12.43	75	135848	21.3469	ug/L	100
63) 1,1,2-Trichloroethane	12.62	97	79302	20.2271	ug/L	99
64) 2-Hexanone	12.57	43	39124	19.7350	ug/L	98
65) 1,3-Dichloropropane	12.91	76	132004	20.0443	ug/L	99
66) Tetrachloroethene	13.03	164	97440	20.0369	ug/L	98
67) Dibromochloromethane	13.28	129	103648	19.3127	ug/L	99
68) 1,2-Dibromoethane	13.51	107	82436	20.3045	ug/L	100
69) 1-Chlorohexane	13.60	91	139336	20.4757	ug/L	100
70) Chlorobenzene	13.98	112	315279	19.9547	ug/L	99
71) 1,1,1,2-Tetrachloroethane	14.01	131	113479	19.2985	ug/L	100
72) Ethylbenzene	14.01	106	172803	20.1545	ug/L	99
73) m-,p-Xylene	14.09	106	421771	39.8366	ug/L	99
74) o-Xylene	14.61	106	199414	19.3350	ug/L	98
75) Styrene	14.65	104	333044	20.2948	ug/L	99
76) Bromoform	15.11	173	57953	19.4899	ug/L	99
77) Isopropylbenzene	15.01	105	496481	20.4472	ug/L	99
79) 1,1,2,2-Tetrachloroethane	15.21	83	81431	20.9911	ug/L	99
81) 1,2,3-Trichloropropane	15.39	110	24224	20.6309	ug/L	96
82) trans-1,4-Dichloro-2-Butene	15.43	53	19032	18.0972	ug/L	87
83) n-Propylbenzene	15.48	91	561375	19.7979	ug/L	99
84) Bromobenzene	15.60	156	133970	19.7769	ug/L	98
85) 1,3,5-Trimethylbenzene	15.65	105	411635	19.5479	ug/L	99
86) 2-Chlorotoluene	15.74	91	370972	19.4535	ug/L	100
87) 4-Chlorotoluene	15.78	91	321231	19.2486	ug/L	100
88) a-Methylstyrene	16.03	118	235638	20.0929	ug/L	100
89) tert-Butylbenzene	16.09	134	88664	19.3469	ug/L	99
90) 1,2,4-Trimethylbenzene	16.13	105	426954	19.4879	ug/L	100
91) sec-Butylbenzene	16.34	105	486415	19.7831	ug/L	99
92) p-Isopropyltoluene	16.48	119	420961	19.9535	ug/L	100
93) 1,3-Dichlorobenzene	16.67	146	256621	19.3153	ug/L	99
94) 1,4-Dichlorobenzene	16.78	146	259579	19.1948	ug/L	99
95) n-Butylbenzene	16.97	91	342774	21.3294	ug/L	99
96) 1,2-Dichlorobenzene	17.25	146	239676	19.9045	ug/L	100
97) 1,2-Dibromo-3-Chloropropan	18.16	75	11643	17.0858	ug/L	100
98) 1,2,4-Trichlorobenzene	19.22	180	143256	21.0367	ug/L	99
99) Hexachlorobutadiene	19.36	225	50825	18.9640	ug/L	97
100) Naphthalene	19.56	128	277305	18.8934	ug/L	99
101) 1,2,3-Trichlorobenzene	19.85	180	125942	19.7902	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M83335.D 8260WTR.M Fri May 04 08:37:18 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\050312\11M83335.D

Vial: 7

Acq On : 3 May 2012 19:34

Operator: ADC

Sample : WG396851-07 20ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 4 8:37 2012

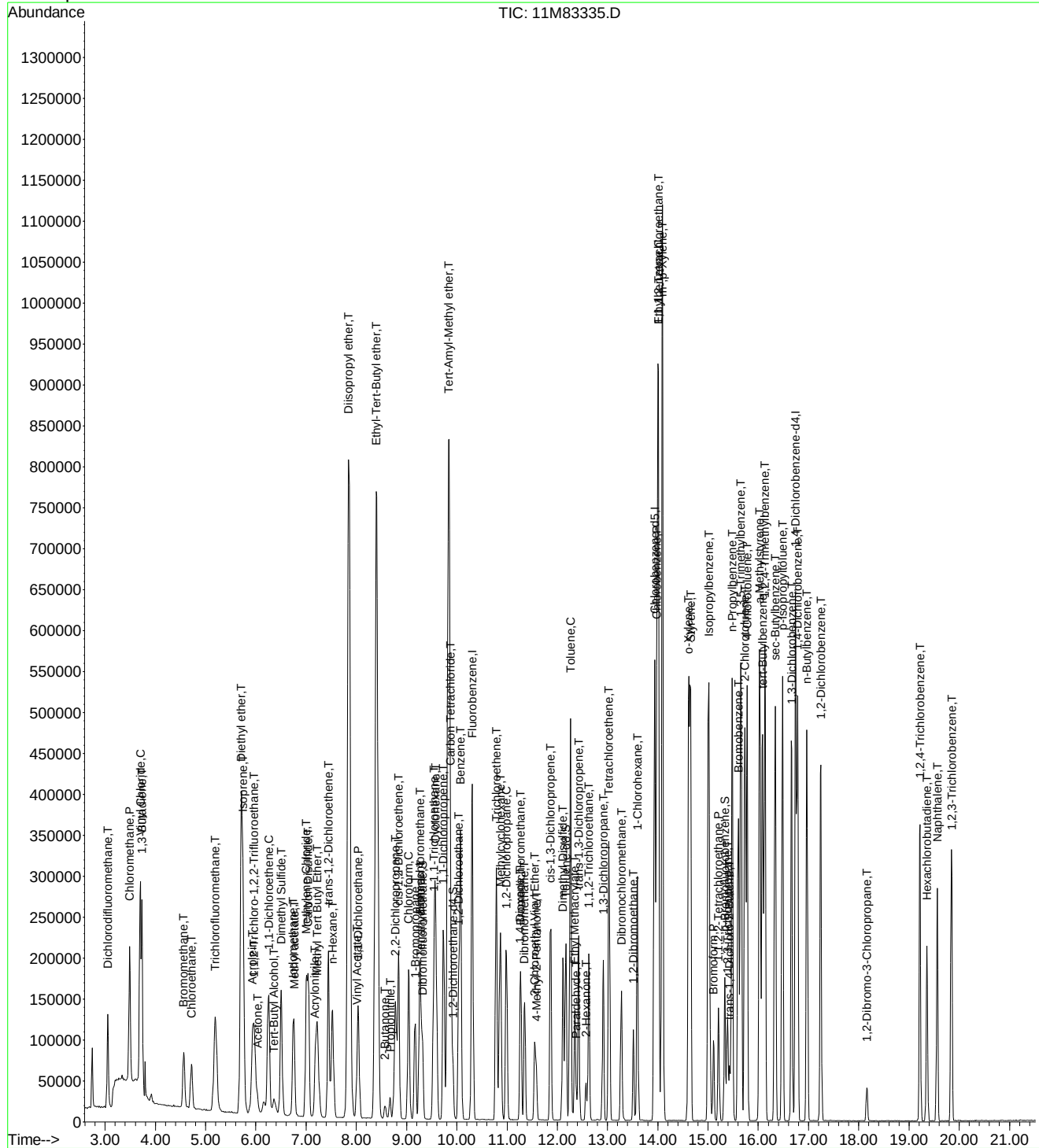
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration



Fri May 04 08:37:19 2012

Page 3

Data File : C:\MSDCHEM\1\DATA\050312\11M83336.D

Vial: 8

Acq On : 3 May 2012 20:05

Operator: ADC

Sample : WG396851-08 50ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:19 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.31	96	480987	25.00	ug/L	0.00
57) Chlorobenzene-d5	13.94	117	384086	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	16.74	152	223120	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.32	111	145401	24.8076	ug/L	0.00
Spiked Amount	25.000	Range	86 - 118	Recovery	=	99.24%
43) 1,2-Dichloroethane-d4	9.92	65	137797	24.5692	ug/L	0.00
Spiked Amount	25.000	Range	80 - 120	Recovery	=	98.28%
58) Toluene-d8	12.17	98	484290	23.9042	ug/L	0.00
Spiked Amount	25.000	Range	88 - 110	Recovery	=	95.60%
80) p-Bromofluorobenzene	15.33	95	176477	23.9294	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	95.72%

Target Compounds

					Qvalue
2) Dichlorodifluoromethane	3.05	85	318854	51.3733	ug/L 100
3) Chloromethane	3.48	50	563739	52.8872	ug/L 100
4) Vinyl Chloride	3.69	62	482108	45.0205	ug/L 100
5) 1,3-Butadiene	3.73	54	268855	50.3654	ug/L 100
6) Bromomethane	4.56	94	171174	50.0773	ug/L 100
7) Chloroethane	4.71	64	188407	51.2932	ug/L 100
8) Trichlorofluoromethane	5.19	101	531021	51.2031	ug/L 100
9) Diethyl ether	5.71	59	363507	99.2954	ug/L 100
10) Isoprene	5.74	67	422799	52.3984	ug/L 100
11) Acrolein	5.94	56	25506	100.3112	ug/L 100
12) 1,1,2-Trichloro-1,2,2-Trif	5.95	101	280955	52.2467	ug/L 100
13) Acetone	6.04	43	44817	50.4094	ug/L 98
14) 1,1-Dichloroethene	6.25	61	376546	51.5728	ug/L 100
15) Tert-Butyl Alcohol	6.38	59	50544	208.3883	ug/L 100
16) Dimethyl Sulfide	6.50	62	301714	50.4547	ug/L 100
17) Iodomethane	6.74	142	401579	54.0338	ug/L 100
18) Methyl acetate	6.76	43	149397	48.0894	ug/L 100
19) Methylene Chloride	7.00	84	256318	49.3946	ug/L 100
20) Carbon Disulfide	7.04	76	752620	50.5634	ug/L 100
21) Acrylonitrile	7.18	53	57797	54.5350	ug/L 100
22) Methyl Tert Butyl Ether	7.22	73	607604	50.1170	ug/L 100
23) trans-1,2-Dichloroethene	7.44	96	268312	51.4716	ug/L 100
24) n-Hexane	7.52	57	271740	51.5970	ug/L 100
25) Diisopropyl ether	7.85	45	1501361	98.3355	ug/L 100
26) Vinyl Acetate	8.01	43	156564	51.0038	ug/L 100
27) 1,1-Dichloroethane	8.03	63	447578	51.2371	ug/L 100
28) Ethyl-Tert-Butyl ether	8.40	59	1460808	97.9878	ug/L 100
29) 2-Butanone	8.57	43	61992	50.0845	ug/L 100
30) Propionitrile	8.66	54	37445	102.5107	ug/L 100
31) 2,2-Dichloropropane	8.78	77	365024	51.6992	ug/L 100
32) cis-1,2-Dichloroethene	8.84	96	289632	51.2722	ug/L 100
33) Chloroform	9.04	83	459935	49.8019	ug/L 100
34) 1-Bromopropane	9.17	122	56406	53.3940	ug/L 100
35) Bromochloromethane	9.26	130	186215	51.8900	ug/L 100
36) Tetrahydrofuran	9.29	42	79210	98.6006	ug/L 100
38) 1,1,1-Trichloroethane	9.54	97	448385	51.7542	ug/L 100
39) Cyclohexane	9.57	56	360938	51.7091	ug/L 100
40) 1,1-Dichloropropene	9.73	75	358842	52.0881	ug/L 100
41) Carbon Tetrachloride	9.87	117	437910	47.5369	ug/L 100
42) Tert-Amyl-Methyl ether	9.83	73	1352091	99.1990	ug/L 100

(#) = qualifier out of range (m) = manual integration
 11M83336.D 8260WTR.M Fri May 04 08:37:20 2012

Data File : C:\MSDCHEM\1\DATA\050312\11M83336.D

Vial: 8

Acq On : 3 May 2012 20:05

Operator: ADC

Sample : WG396851-08 50ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:19 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.03	62	331634	51.0761	ug/L	100
46) Benzene	10.07	78	1014283	50.3944	ug/L	100
47) Trichloroethene	10.78	130	319371	48.3971	ug/L	100
48) Methylcyclohexane	10.87	83	363222	52.5753	ug/L	100
49) 1,2-Dichloropropane	10.98	63	235571	50.8425	ug/L	100
50) 1,4-Dioxane	11.26	88	7073	214.7094	ug/L	100
51) Bromodichloromethane	11.27	83	342196	53.9576	ug/L	100
52) Dibromomethane	11.34	93	151823	48.9761	ug/L	100
53) 2-Chloroethyl Vinyl Ether	11.55	63	106821	54.0469	ug/L	100
54) 4-Methyl-2-Pentanone	11.58	58	56892	52.5575	ug/L	100
55) cis-1,3-Dichloropropene	11.87	75	390095	53.3994	ug/L	100
56) Dimethyl Disulfide	12.11	79	221567	51.4860	ug/L	100
59) Toluene	12.26	91	1166067	50.4748	ug/L	100
60) Ethyl Methacrylate	12.35	69	232413	47.6827	ug/L	100
61) Paraldehyde	12.38	89	5647	102.5004	ug/L	100
62) trans-1,3-Dichloropropene	12.43	75	355211	57.3484	ug/L	100
63) 1,1,2-Trichloroethane	12.62	97	194154	50.8804	ug/L	100
64) 2-Hexanone	12.57	43	97295	50.4241	ug/L	100
65) 1,3-Dichloropropane	12.91	76	325226	50.7390	ug/L	100
66) Tetrachloroethene	13.03	164	244709	51.7009	ug/L	100
67) Dibromochloromethane	13.28	129	274454	50.5581	ug/L	100
68) 1,2-Dibromoethane	13.51	107	203481	51.4935	ug/L	100
69) 1-Chlorohexane	13.60	91	350854	52.9732	ug/L	100
70) Chlorobenzene	13.98	112	824217	53.5976	ug/L	100
71) 1,1,1,2-Tetrachloroethane	14.01	131	320949	50.5991	ug/L	100
72) Ethylbenzene	14.01	106	460199	55.1468	ug/L	100
73) m-,p-Xylene	14.09	106	1137041	110.3408	ug/L	100
74) o-Xylene	14.62	106	516447	51.4479	ug/L	100
75) Styrene	14.65	104	888031	55.5987	ug/L	100
76) Bromoform	15.11	173	166003	52.0664	ug/L	100
77) Isopropylbenzene	15.01	105	1304516	55.1993	ug/L	100
79) 1,1,2,2-Tetrachloroethane	15.21	83	209817	52.8274	ug/L	100
81) 1,2,3-Trichloropropane	15.39	110	61181	50.8934	ug/L	100
82) trans-1,4-Dichloro-2-Butene	15.43	53	53324	46.8112	ug/L	100
83) n-Propylbenzene	15.48	91	1474159	50.7789	ug/L	100
84) Bromobenzene	15.60	156	343197	49.4841	ug/L	100
85) 1,3,5-Trimethylbenzene	15.65	105	1089009	50.5117	ug/L	100
86) 2-Chlorotoluene	15.74	91	977532	50.0679	ug/L	100
87) 4-Chlorotoluene	15.78	91	860249	50.3477	ug/L	100
88) a-Methylstyrene	16.03	118	648787	54.0345	ug/L	100
89) tert-Butylbenzene	16.09	134	238570	50.8454	ug/L	100
90) 1,2,4-Trimethylbenzene	16.13	105	1180981	52.6503	ug/L	100
91) sec-Butylbenzene	16.34	105	1308564	51.9822	ug/L	100
92) p-Isopropyltoluene	16.48	119	1138543	52.7108	ug/L	100
93) 1,3-Dichlorobenzene	16.67	146	688661	50.6276	ug/L	100
94) 1,4-Dichlorobenzene	16.78	146	697020	50.3421	ug/L	100
95) n-Butylbenzene	16.97	91	929872	56.5153	ug/L	100
96) 1,2-Dichlorobenzene	17.25	146	630711	51.1598	ug/L	100
97) 1,2-Dibromo-3-Chloropropan	18.17	75	32882	46.1734	ug/L	100
98) 1,2,4-Trichlorobenzene	19.22	180	388041	55.6565	ug/L	100
99) Hexachlorobutadiene	19.36	225	129587	46.8627	ug/L	100
100) Naphthalene	19.56	128	764777	49.3200	ug/L	100
101) 1,2,3-Trichlorobenzene	19.85	180	339025	52.0337	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M83336.D 8260WTR.M Fri May 04 08:37:20 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\050312\11M83336.D

Vial: 8

Acq On : 3 May 2012 20:05

Operator: ADC

Sample : WG396851-08 50ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 4 8:37 2012

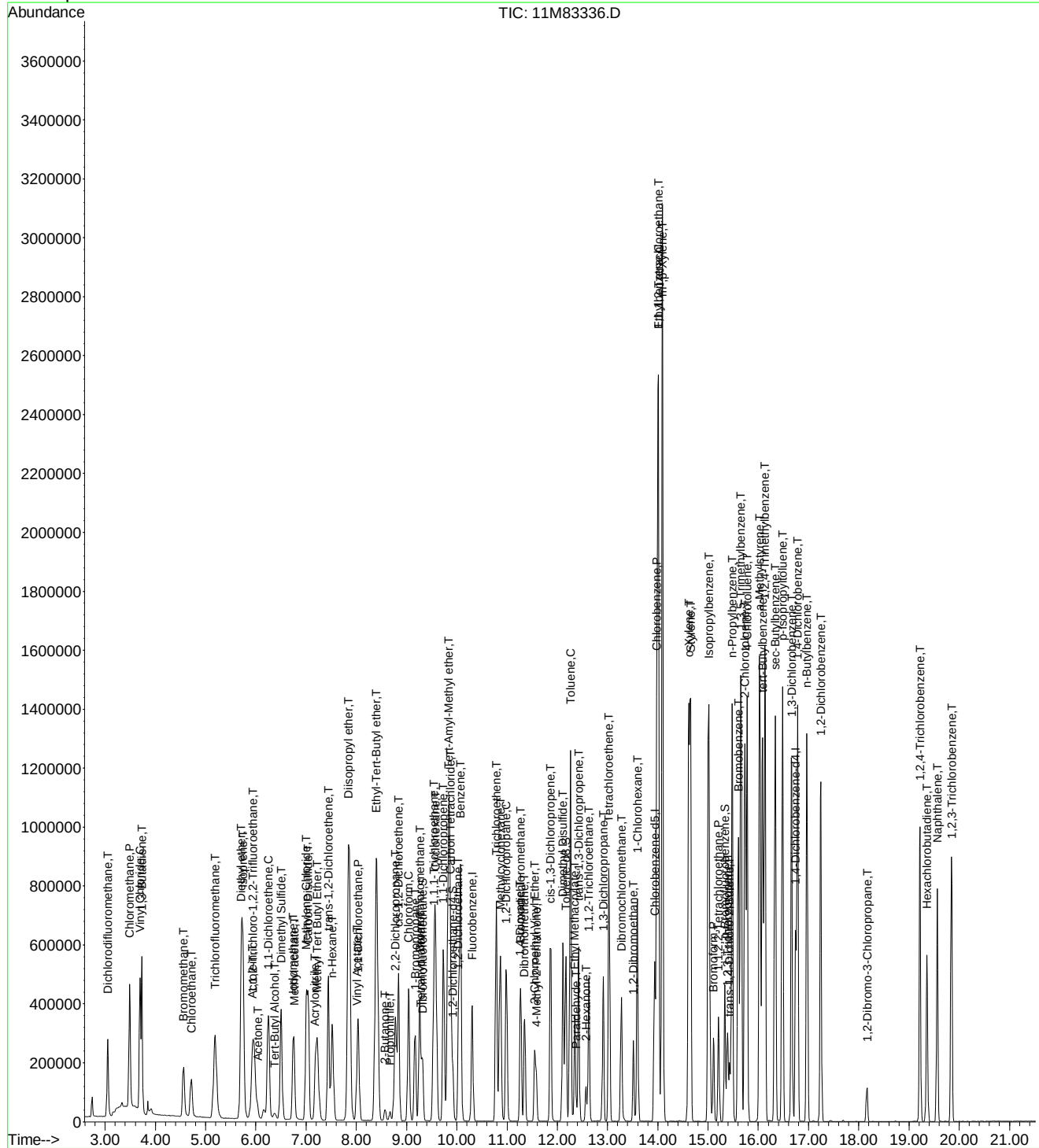
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050312\11M83337.D

Vial: 9

Acq On : 3 May 2012 20:35

Operator: ADC

Sample : WG396851-09 100ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:20 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.31	96	475952	25.00	ug/L	0.00
57) Chlorobenzene-d5	13.94	117	379141	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	16.74	152	222659	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.32	111	289025	49.8337	ug/L	0.00
Spiked Amount	25.000	Range	86 - 118	Recovery	=	199.32%#
43) 1,2-Dichloroethane-d4	9.93	65	271598	48.9382	ug/L	0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	195.76%#
58) Toluene-d8	12.17	98	986309	49.3185	ug/L	0.00
Spiked Amount	25.000	Range	88 - 110	Recovery	=	197.28%#
80) p-Bromofluorobenzene	15.33	95	361298	49.0915	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	196.36%#

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.05	85	613942	99.9640	ug/L	99
3) Chloromethane	3.48	50	1077547	102.1595	ug/L	99
4) Vinyl Chloride	3.69	62	826689	104.6089	ug/L	99
5) 1,3-Butadiene	3.73	54	277444	52.5243	ug/L	97
6) Bromomethane	4.55	94	356356	105.3555	ug/L	100
7) Chloroethane	4.70	64	363245	99.9385	ug/L	98
8) Trichlorofluoromethane	5.18	101	1065466	103.8232	ug/L	99
9) Diethyl ether	5.71	59	777466	214.6189	ug/L	100
10) Isoprene	5.74	67	876027	109.7165	ug/L	100
11) Acrolein	5.94	56	50907	202.3274	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	5.95	101	563837	105.9609	ug/L	99
13) Acetone	6.04	43	84705	97.0603	ug/L	98
14) 1,1-Dichloroethene	6.25	61	751332	103.9931	ug/L	100
15) Tert-Butyl Alcohol	6.38	59	104800	436.6518	ug/L	100
16) Dimethyl Sulfide	6.50	62	604358	102.1341	ug/L	99
17) Iodomethane	6.74	142	731406	99.1627	ug/L	100
18) Methyl acetate	6.76	43	305888	99.5039	ug/L	98
19) Methylene Chloride	7.00	84	511922	99.6953	ug/L	100
20) Carbon Disulfide	7.04	76	1519962	103.1961	ug/L	99
21) Acrylonitrile	7.19	53	112614	107.3822	ug/L	99
22) Methyl Tert Butyl Ether	7.22	73	1213756	101.1733	ug/L	100
23) trans-1,2-Dichloroethene	7.44	96	542125	105.0986	ug/L	100
24) n-Hexane	7.52	57	541585	103.9220	ug/L	99
25) Diisopropyl ether	7.86	45	3186065	210.8870	ug/L	99
26) Vinyl Acetate	8.01	43	313224	100.4704	ug/L	98
27) 1,1-Dichloroethane	8.03	63	899413	104.0508	ug/L	100
28) Ethyl-Tert-Butyl ether	8.40	59	3115064	211.1621	ug/L	100
29) 2-Butanone	8.57	43	121004	98.7956	ug/L	96
30) Propionitrile	8.68	54	75544	208.9997	ug/L	99
31) 2,2-Dichloropropane	8.78	77	762450	109.1300	ug/L	99
32) cis-1,2-Dichloroethene	8.84	96	584814	104.6221	ug/L	99
33) Chloroform	9.04	83	933051	102.0999	ug/L	99
34) 1-Bromopropane	9.17	122	112899	108.0010	ug/L	99
35) Bromochloromethane	9.26	130	376559	106.0407	ug/L	99
36) Tetrahydrofuran	9.29	42	165046	207.6227	ug/L	97
38) 1,1,1-Trichloroethane	9.54	97	925852	107.9956	ug/L	99
39) Cyclohexane	9.57	56	731391	105.8897	ug/L	100
40) 1,1-Dichloropropene	9.73	75	722828	106.0328	ug/L	100
41) Carbon Tetrachloride	9.86	117	934580	102.1537	ug/L	100
42) Tert-Amyl-Methyl ether	9.83	73	2891406	214.3782	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M83337.D 8260WTR.M Fri May 04 08:37:21 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\050312\11M83337.D

Vial: 9

Acq On : 3 May 2012 20:35

Operator: ADC

Sample : WG396851-09 100ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:20 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.03	62	668513	104.0491	ug/L	99
46) Benzene	10.07	78	2075430	104.2082	ug/L	100
47) Trichloroethene	10.78	130	647324	99.1324	ug/L	100
48) Methylcyclohexane	10.87	83	729508	106.7111	ug/L	99
49) 1,2-Dichloropropane	10.98	63	473243	103.2189	ug/L	98
50) 1,4-Dioxane	11.26	88	15350	470.8970	ug/L	97
51) Bromodichloromethane	11.27	83	695861	110.8843	ug/L	100
52) Dibromomethane	11.34	93	299567	97.4334	ug/L	98
53) 2-Chloroethyl Vinyl Ether	11.55	63	209350	107.0428	ug/L	98
54) 4-Methyl-2-Pentanone	11.58	58	110758	103.4019	ug/L	99
55) cis-1,3-Dichloropropene	11.87	75	796754	110.2201	ug/L	100
56) Dimethyl Disulfide	12.11	79	486425	102.2347	ug/L	99
59) Toluene	12.26	91	2422169	106.2143	ug/L	100
60) Ethyl Methacrylate	12.35	69	475262	98.1546	ug/L	99
61) Paraldehyde	12.38	89	13471	215.6210	ug/L	78
62) trans-1,3-Dichloropropene	12.43	75	729910	119.3800	ug/L	100
63) 1,1,2-Trichloroethane	12.62	97	389691	103.4551	ug/L	99
64) 2-Hexanone	12.57	43	193975	101.8406	ug/L	98
65) 1,3-Dichloropropane	12.91	76	653083	103.2174	ug/L	98
66) Tetrachloroethene	13.03	164	504216	107.9176	ug/L	99
67) Dibromochloromethane	13.28	129	572790	101.6235	ug/L	99
68) 1,2-Dibromoethane	13.51	107	406578	104.2317	ug/L	100
69) 1-Chlorohexane	13.60	91	722083	110.4447	ug/L	99
70) Chlorobenzene	13.99	112	1804231	118.8567	ug/L	99
71) 1,1,1,2-Tetrachloroethane	14.01	131	725623	100.8952	ug/L	99
72) Ethylbenzene	14.01	106	1030673	125.1190	ug/L	97
73) m-,p-Xylene	14.09	106	2522393	247.9707	ug/L	98
74) o-Xylene	14.62	106	1097950	110.8031	ug/L	100
75) Styrene	14.65	104	1954186	123.9453	ug/L	99
76) Bromoform	15.11	173	350632	99.2511	ug/L	99
77) Isopropylbenzene	15.01	105	2766231	118.5770	ug/L	100
79) 1,1,2,2-Tetrachloroethane	15.21	83	417762	105.4012	ug/L	99
81) 1,2,3-Trichloropropane	15.39	110	121811	101.5382	ug/L	75
82) trans-1,4-Dichloro-2-Butene	15.43	53	113682	98.2283	ug/L	# 23
83) n-Propylbenzene	15.48	91	3065069	105.7981	ug/L	100
84) Bromobenzene	15.60	156	721041	104.1791	ug/L	98
85) 1,3,5-Trimethylbenzene	15.65	105	2316045	107.6480	ug/L	99
86) 2-Chlorotoluene	15.74	91	2048817	105.1551	ug/L	99
87) 4-Chlorotoluene	15.78	91	1819984	106.7385	ug/L	99
88) a-Methylstyrene	16.03	118	1397503	116.6326	ug/L	100
89) tert-Butylbenzene	16.09	134	510886	109.1084	ug/L	99
90) 1,2,4-Trimethylbenzene	16.13	105	2554897	114.1377	ug/L	99
91) sec-Butylbenzene	16.34	105	2734986	108.8712	ug/L	99
92) p-Isopropyltoluene	16.48	119	2428890	112.6824	ug/L	100
93) 1,3-Dichlorobenzene	16.67	146	1444483	106.4124	ug/L	100
94) 1,4-Dichlorobenzene	16.78	146	1463808	105.9421	ug/L	99
95) n-Butylbenzene	16.97	91	1963774	119.6005	ug/L	100
96) 1,2-Dichlorobenzene	17.25	146	1319263	107.2329	ug/L	100
97) 1,2-Dibromo-3-Chloropropan	18.16	75	73001	102.0549	ug/L	95
98) 1,2,4-Trichlorobenzene	19.22	180	859132	123.4799	ug/L	100
99) Hexachlorobutadiene	19.36	225	269332	97.3363	ug/L	99
100) Naphthalene	19.56	128	1680267	103.9854	ug/L	99
101) 1,2,3-Trichlorobenzene	19.85	180	759572	116.8207	ug/L	99

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

11M83337.D 8260WTR.M Fri May 04 08:37:21 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\050312\11M83337.D

Vial: 9

Acq On : 3 May 2012 20:35

Operator: ADC

Sample : WG396851-09 100ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 4 8:37 2012

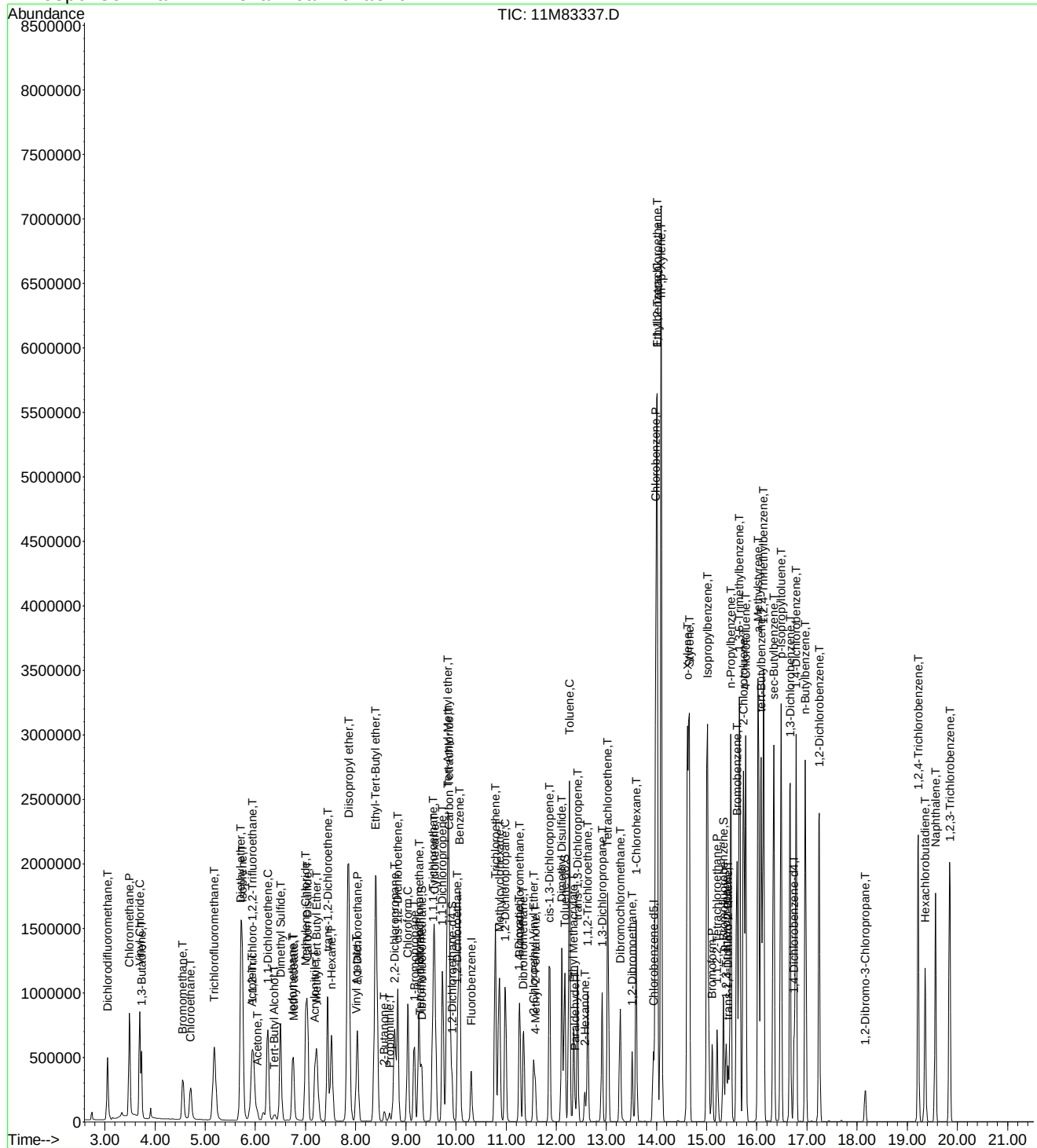
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration



Fri May 04 08:37:22 2012

Page 3

Data File : C:\MSDCHEM\1\DATA\050312\11M83338.D

Vial: 10

Acq On : 3 May 2012 21:06

Operator: ADC

Sample : WG396851-10 200ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:22 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.31	96	507738	25.00	ug/L	0.00
57) Chlorobenzene-d5	13.94	117	407952	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	16.75	152	240834	25.00	ug/L	0.01

System Monitoring Compounds

37) Dibromofluoromethane	9.32	111	636806	102.9244	ug/L	0.00
Spiked Amount	25.000	Range	86 - 118	Recovery	=	411.68%#
43) 1,2-Dichloroethane-d4	9.93	65	593828	100.3012	ug/L	0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	401.20%#
58) Toluene-d8	12.17	98	2241381	104.1608	ug/L	0.00
Spiked Amount	25.000	Range	88 - 110	Recovery	=	416.64%#
80) p-Bromofluorobenzene	15.33	95	818664	102.8417	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	411.36%#

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.05	85	1294453	197.5723	ug/L	100
3) Chloromethane	3.50	50	2239815	199.0574	ug/L	99
4) Vinyl Chloride	3.69	62	1615332	Below Cal		99
5) 1,3-Butadiene	3.73	54	558404	99.0961	ug/L	98
6) Bromomethane	4.55	94	745022	206.4741	ug/L	100
7) Chloroethane	4.70	64	806049	207.8826	ug/L	99
8) Trichlorofluoromethane	5.17	101	2395450	218.8091	ug/L	100
9) Diethyl ether	5.72	59	11977	3.0993	ug/L	# 49
10) Isoprene	5.73	67	1909743	224.2088	ug/L	100
11) Acrolein	5.94	56	114195	425.4492	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	5.95	101	1274910	224.5923	ug/L	99
13) Acetone	6.05	43	195342	210.8152	ug/L	99
14) 1,1-Dichloroethene	6.25	61	1724593	223.7601	ug/L	100
15) Tert-Butyl Alcohol	6.41	59	2252	8.7956	ug/L	# 72
16) Dimethyl Sulfide	6.50	62	1427360	226.1172	ug/L	100
17) Iodomethane	6.74	142	1545241	196.0456	ug/L	99
18) Methyl acetate	6.77	43	703874	214.6329	ug/L	97
19) Methylene Chloride	7.00	84	1192308	217.6621	ug/L	98
20) Carbon Disulfide	7.03	76	3629186	230.9741	ug/L	100
21) Acrylonitrile	7.19	53	255978	228.8053	ug/L	99
22) Methyl Tert Butyl Ether	7.22	73	2744145	214.4198	ug/L	100
23) trans-1,2-Dichloroethene	7.43	96	1260397	229.0489	ug/L	99
24) n-Hexane	7.52	57	1231696	221.5480	ug/L	99
25) Diisopropyl ether	7.88	45	3184	0.1976	ug/L	# 67
26) Vinyl Acetate	8.01	43	640489	190.2072	ug/L	99
27) 1,1-Dichloroethane	8.03	63	2056553	223.0229	ug/L	100
28) Ethyl-Tert-Butyl ether	8.42	59	4179	0.2655	ug/L	81
29) 2-Butanone	8.58	43	253505	194.0206	ug/L	98
31) 2,2-Dichloropropane	8.78	77	1715139	230.1207	ug/L	100
32) cis-1,2-Dichloroethene	8.84	96	1336710	224.1642	ug/L	98
33) Chloroform	9.04	83	2126281	218.1042	ug/L	99
34) 1-Bromopropane	9.17	122	250779	224.8807	ug/L	100
35) Bromochloromethane	9.26	130	849150	224.1545	ug/L	99
36) Tetrahydrofuran	9.31	42	1677	1.9775	ug/L	# 64
38) 1,1,1-Trichloroethane	9.54	97	2179319	238.2917	ug/L	98
39) Cyclohexane	9.57	56	1703984	231.2561	ug/L	100
40) 1,1-Dichloropropene	9.73	75	1658024	227.9920	ug/L	100
41) Carbon Tetrachloride	9.87	117	1988503	203.4255	ug/L	100
42) Tert-Amyl-Methyl ether	9.84	73	6016	0.4181	ug/L	# 99
45) 1,2-Dichloroethane	10.04	62	1535255	223.9920	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M83338.D 8260WTR.M Fri May 04 08:37:23 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\050312\11M83338.D

Vial: 10

Acq On : 3 May 2012 21:06

Operator: ADC

Sample : WG396851-10 200ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:22 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.07	78	4840631	227.8343	ug/L	100
47) Trichloroethene	10.78	130	1509290	216.6657	ug/L	100
48) Methylcyclohexane	10.87	83	1638455	224.6661	ug/L	99
49) 1,2-Dichloropropane	10.98	63	1084498	221.7315	ug/L	99
50) 1,4-Dioxane	11.27	88	2254	64.8179	ug/L	# 24
51) Bromodichloromethane	11.27	83	1586759	237.0184	ug/L	100
52) Dibromomethane	11.35	93	672467	204.7754	ug/L	98
53) 2-Chloroethyl Vinyl Ether	11.55	63	469127	224.8529	ug/L	98
54) 4-Methyl-2-Pentanone	11.58	58	234017	204.7973	ug/L	98
55) cis-1,3-Dichloropropene	11.87	75	1842994	238.9923	ug/L	99
56) Dimethyl Disulfide	12.11	79	1202862	199.0474	ug/L	98
59) Toluene	12.26	91	5731359	233.5759	ug/L	98
60) Ethyl Methacrylate	12.36	69	1080185	206.6852	ug/L	98
62) trans-1,3-Dichloropropene	12.43	75	1693760	257.4577	ug/L	100
63) 1,1,2-Trichloroethane	12.62	97	874491	215.7638	ug/L	100
64) 2-Hexanone	12.57	43	408677	199.4100	ug/L	94
65) 1,3-Dichloropropane	12.91	76	1460267	214.4907	ug/L	99
66) Tetrachloroethene	13.03	164	1197844	238.2691	ug/L	99
67) Dibromochloromethane	13.28	129	1318531	199.2592	ug/L	99
68) 1,2-Dibromoethane	13.51	107	907115	216.1275	ug/L	99
69) 1-Chlorohexane	13.60	91	1705774	242.4773	ug/L	99
70) Chlorobenzene	13.99	112	4591336	281.1010	ug/L	100
71) 1,1,1,2-Tetrachloroethane	14.01	131	1933357	199.6362	ug/L	99
72) Ethylbenzene	14.01	106	2748752	310.1200	ug/L	88
73) m-, p-Xylene	14.09	106	6483932	592.4036	ug/L	80
74) o-Xylene	14.62	106	2786078	261.3089	ug/L	97
75) Styrene	14.65	104	4922555	290.1660	ug/L	99
76) Bromoform	15.11	173	802717	178.7971	ug/L	98
77) Isopropylbenzene	15.01	105	6709825	267.3098	ug/L	98
79) 1,1,2,2-Tetrachloroethane	15.21	83	907844	211.7631	ug/L	99
81) 1,2,3-Trichloropropane	15.39	110	263765	203.2743	ug/L	75
82) trans-1,4-Dichloro-2-Buten	15.43	53	261366	207.0344	ug/L	# 17
83) n-Propylbenzene	15.48	91	7097016	226.4831	ug/L	97
84) Bromobenzene	15.60	156	1699059	226.9611	ug/L	99
85) 1,3,5-Trimethylbenzene	15.65	105	5581330	239.8387	ug/L	100
86) 2-Chlorotoluene	15.74	91	4828379	229.1136	ug/L	100
87) 4-Chlorotoluene	15.78	91	4540425	246.1911	ug/L	100
88) a-Methylstyrene	16.03	118	3566392	275.1812	ug/L	99
89) tert-Butylbenzene	16.09	134	1253642	247.5312	ug/L	99
90) 1,2,4-Trimethylbenzene	16.14	105	6121138	252.8194	ug/L	98
91) sec-Butylbenzene	16.34	105	6509371	239.5628	ug/L	98
92) p-Isopropyltoluene	16.48	119	5894422	252.8203	ug/L	99
93) 1,3-Dichlorobenzene	16.67	146	3525117	240.0910	ug/L	99
94) 1,4-Dichlorobenzene	16.78	146	3582936	239.7431	ug/L	100
95) n-Butylbenzene	16.97	91	4723299	265.9557	ug/L	100
96) 1,2-Dichlorobenzene	17.25	146	3153089	236.9493	ug/L	99
97) 1,2-Dibromo-3-Chloropropan	18.16	75	159706	205.8620	ug/L	96
98) 1,2,4-Trichlorobenzene	19.22	180	2049376	272.3206	ug/L	99
99) Hexachlorobutadiene	19.36	225	621019	207.2219	ug/L	99
100) Naphthalene	19.56	128	3712076	198.4803	ug/L	99
101) 1,2,3-Trichlorobenzene	19.85	180	1742378	247.7512	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M83338.D 8260WTR.M Fri May 04 08:37:23 2012

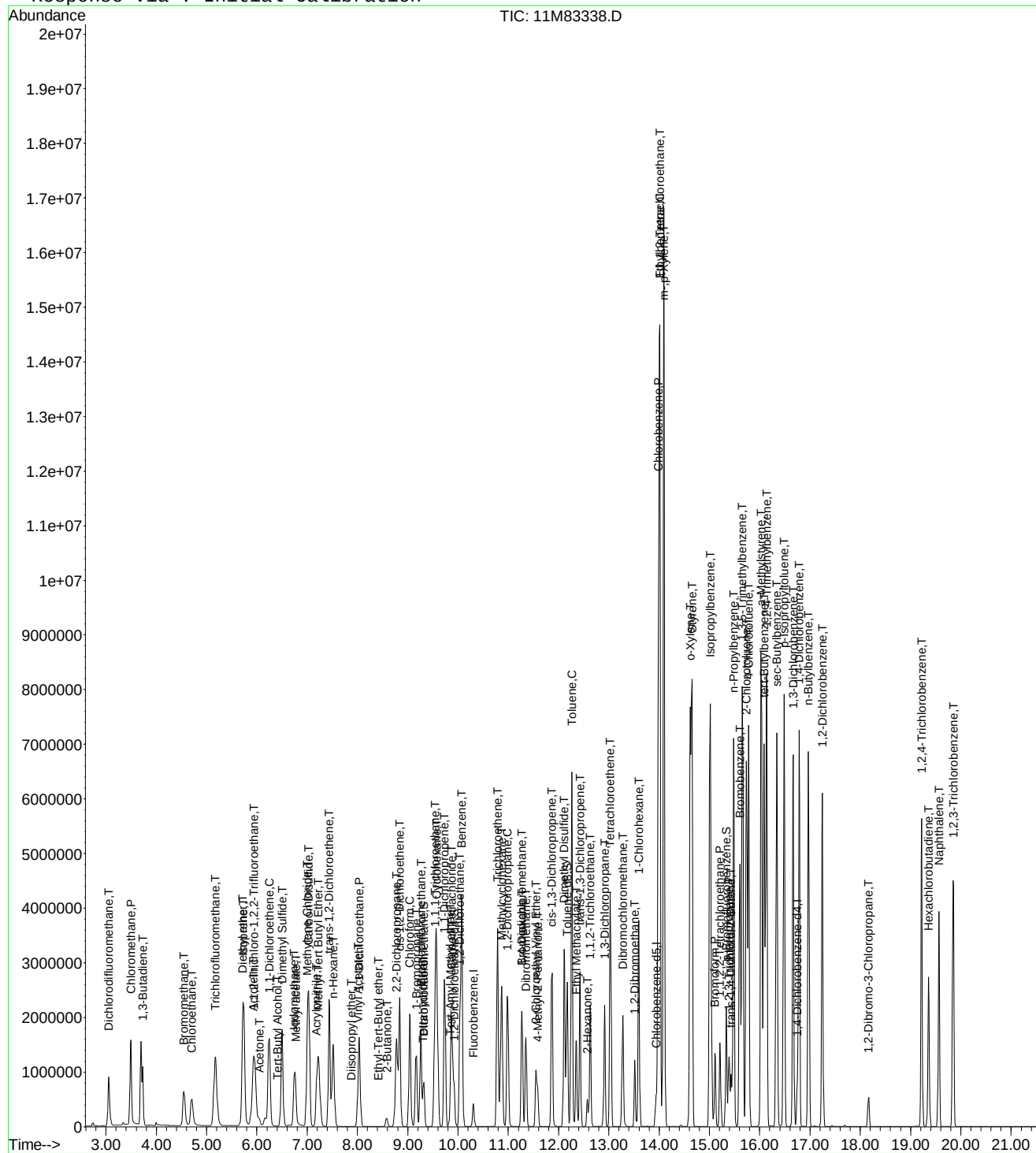
Page 2

Data File : C:\MSDCHEM\1\DATA\050312\11M83338.D
 Acq On : 3 May 2012 21:06
 Sample : WG396851-10 200ug/L STD 8260
 Misc : 1,1 STD51468
 MS Integration Params: rteint.p
 Quant Time: May 4 8:37 2012

Vial: 10
 Operator: ADC
 Inst : HPMS11
 Multiplr: 1.00

Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Fri May 04 08:32:33 2012
 Response via : Initial Calibration



11M83338.D 8260WTR.M Fri May 04 08:37:23 2012

Page 3

Data File : C:\MSDCHEM\1\DATA\050312\11M83339.D

Vial: 11

Acq On : 3 May 2012 21:37

Operator: ADC

Sample : WG396851-11 300ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:23 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.31	96	510742	25.00	ug/L	0.00
57) Chlorobenzene-d5	13.94	117	384633	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	16.75	152	199122	25.00	ug/L	0.01

System Monitoring Compounds

37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount	25.000	Range	86 - 118	Recovery	=	0.00%#
43) 1,2-Dichloroethane-d4	9.93	65	792	0.1330	ug/L	0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	0.52%#
58) Toluene-d8	12.18	98	1096	0.0540	ug/L	0.01
Spiked Amount	25.000	Range	88 - 110	Recovery	=	0.20%#
80) p-Bromofluorobenzene	15.33	95	1679	0.2551	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	1.04%#

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
3) Chloromethane	3.48	50	22076	1.9504	ug/L	85
4) Vinyl Chloride	3.69	62	1948	0.2528	ug/L	# 60
5) 1,3-Butadiene	3.73	54	784122	138.3343	ug/L	97
6) Bromomethane	4.54	94	23963	6.6020	ug/L	99
9) Diethyl ether	5.72	59	1265745	325.6074	ug/L	99
10) Isoprene	5.74	67	1049	0.1224	ug/L	95
11) Acrolein	5.93	56	161361	597.6367	ug/L	96
13) Acetone	6.04	43	268911	288.8197	ug/L	98
15) Tert-Butyl Alcohol	6.40	59	183546	712.6568	ug/L	97
17) Iodomethane	6.74	142	4745	0.9442	ug/L	88
18) Methyl acetate	6.76	43	341640	103.5638	ug/L	99
19) Methylene Chloride	7.01	84	1342	0.2435	ug/L	87
20) Carbon Disulfide	7.04	76	15879	1.0047	ug/L	93
21) Acrylonitrile	7.19	53	325426	289.1704	ug/L	92
22) Methyl Tert Butyl Ether	7.25	73	6173	0.4795	ug/L	88
23) trans-1,2-Dichloroethene	7.43	96	1833	0.3311	ug/L	91
24) n-Hexane	7.52	57	4635	0.8288	ug/L	# 77
25) Diisopropyl ether	7.86	45	5419661	334.2942	ug/L	98
26) Vinyl Acetate	8.01	43	1056178	310.1534	ug/L	98
28) Ethyl-Tert-Butyl ether	8.41	59	5348442	337.8609	ug/L	100
29) 2-Butanone	8.57	43	396559	301.7222	ug/L	98
30) Propionitrile	8.67	54	122723	316.3976	ug/L	100
32) cis-1,2-Dichloroethene	8.85	96	898	0.1497	ug/L	# 1
34) 1-Bromopropane	9.17	122	390914	348.4820	ug/L	100
35) Bromochloromethane	9.26	130	948	0.2488	ug/L	# 63
36) Tetrahydrofuran	9.29	42	259266	303.9324	ug/L	98
39) Cyclohexane	9.57	56	2100	0.2833	ug/L	# 90
40) 1,1-Dichloropropene	9.73	75	1388	0.1897	ug/L	# 37
42) Tert-Amyl-Methyl ether	9.83	73	4841658	334.5240	ug/L	99
45) 1,2-Dichloroethane	10.03	62	2103	0.3050	ug/L	# 74
46) Benzene	10.07	78	3071	0.1437	ug/L	82
47) Trichloroethene	10.78	130	1549	0.2211	ug/L	79
48) Methylcyclohexane	10.87	83	2644	0.3604	ug/L	78
50) 1,4-Dioxane	11.26	88	21410	612.0626	ug/L	94
52) Dibromomethane	11.35	93	1310	0.6227	ug/L	95
53) 2-Chloroethyl Vinyl Ether	11.55	63	739475	352.3462	ug/L	100
54) 4-Methyl-2-Pentanone	11.58	58	365593	318.0627	ug/L	98
55) cis-1,3-Dichloropropene	11.87	75	1775	0.2288	ug/L	# 66
56) Dimethyl Disulfide	12.11	79	816	1.0727	ug/L	54
59) Toluene	12.26	91	3406	0.1472	ug/L	97

(#) = qualifier out of range (m) = manual integration
 11M83339.D 8260WTR.M Fri May 04 08:37:24 2012

Data File : C:\MSDCHEM\1\DATA\050312\11M83339.D

Vial: 11

Acq On : 3 May 2012 21:37

Operator: ADC

Sample : WG396851-11 300ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:23 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
60) Ethyl Methacrylate	12.36	69	2511	1.0901	ug/L #	2
61) Paraldehyde	12.38	89	19030	291.3615	ug/L	15
62) trans-1,3-Dichloropropene	12.43	75	3069	0.4948	ug/L	99
63) 1,1,2-Trichloroethane	12.64	97	1432	0.3747	ug/L	100
64) 2-Hexanone	12.57	43	590330	305.5090	ug/L #	32
65) 1,3-Dichloropropane	12.91	76	2393	0.3728	ug/L	70
66) Tetrachloroethene	13.03	164	853	0.1800	ug/L	85
67) Dibromochloromethane	13.29	129	1617	0.5547	ug/L	97
68) 1,2-Dibromoethane	13.51	107	1821	0.4602	ug/L	74
69) 1-Chlorohexane	13.60	91	1478	0.2228	ug/L	84
70) Chlorobenzene	13.99	112	3122	0.2027	ug/L	86
73) m-,p-Xylene	14.10	106	3136	0.3039	ug/L	96
75) Styrene	14.65	104	4129	0.2581	ug/L	94
76) Bromoform	15.11	173	1373	0.8319	ug/L	74
77) Isopropylbenzene	15.01	105	4540	0.1918	ug/L	92
79) 1,1,2,2-Tetrachloroethane	15.21	83	2338	0.6596	ug/L	85
81) 1,2,3-Trichloropropane	15.40	110	213	0.1985	ug/L #	15
82) trans-1,4-Dichloro-2-Buten	15.43	53	476	2.0151	ug/L #	79
83) n-Propylbenzene	15.49	91	5780	0.2231	ug/L	98
84) Bromobenzene	15.60	156	1846	0.2982	ug/L	94
85) 1,3,5-Trimethylbenzene	15.65	105	3652	0.1898	ug/L	90
86) 2-Chlorotoluene	15.74	91	2629	0.1509	ug/L #	37
87) 4-Chlorotoluene	15.78	91	4411	0.2893	ug/L #	70
88) a-Methylstyrene	16.04	118	2004	0.1870	ug/L	91
90) 1,2,4-Trimethylbenzene	16.14	105	3577	0.1787	ug/L	91
91) sec-Butylbenzene	16.34	105	6008	0.2674	ug/L	93
92) p-Isopropyltoluene	16.48	119	5059	0.2624	ug/L	94
93) 1,3-Dichlorobenzene	16.67	146	4747	0.3910	ug/L	93
94) 1,4-Dichlorobenzene	16.79	146	5312	0.4299	ug/L #	16
95) n-Butylbenzene	16.97	91	7067	0.4813	ug/L #	87
96) 1,2-Dichlorobenzene	17.25	146	4182	0.3801	ug/L	98
97) 1,2-Dibromo-3-Chloropropan	18.17	75	471	1.2765	ug/L	77
98) 1,2,4-Trichlorobenzene	19.22	180	7966	1.2803	ug/L	97
99) Hexachlorobutadiene	19.36	225	5649	2.5212	ug/L	97
100) Naphthalene	19.56	128	20915	1.8038	ug/L #	98
101) 1,2,3-Trichlorobenzene	19.85	180	10057	1.7296	ug/L	91

 (#) = qualifier out of range (m) = manual integration
 11M83339.D 8260WTR.M Fri May 04 08:37:24 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\050312\11M83339.D

Vial: 11

Acq On : 3 May 2012 21:37

Operator: ADC

Sample : WG396851-11 300ug/L STD 8260

Inst : HPMS11

Misc : 1,1 STD51468

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 4 8:37 2012

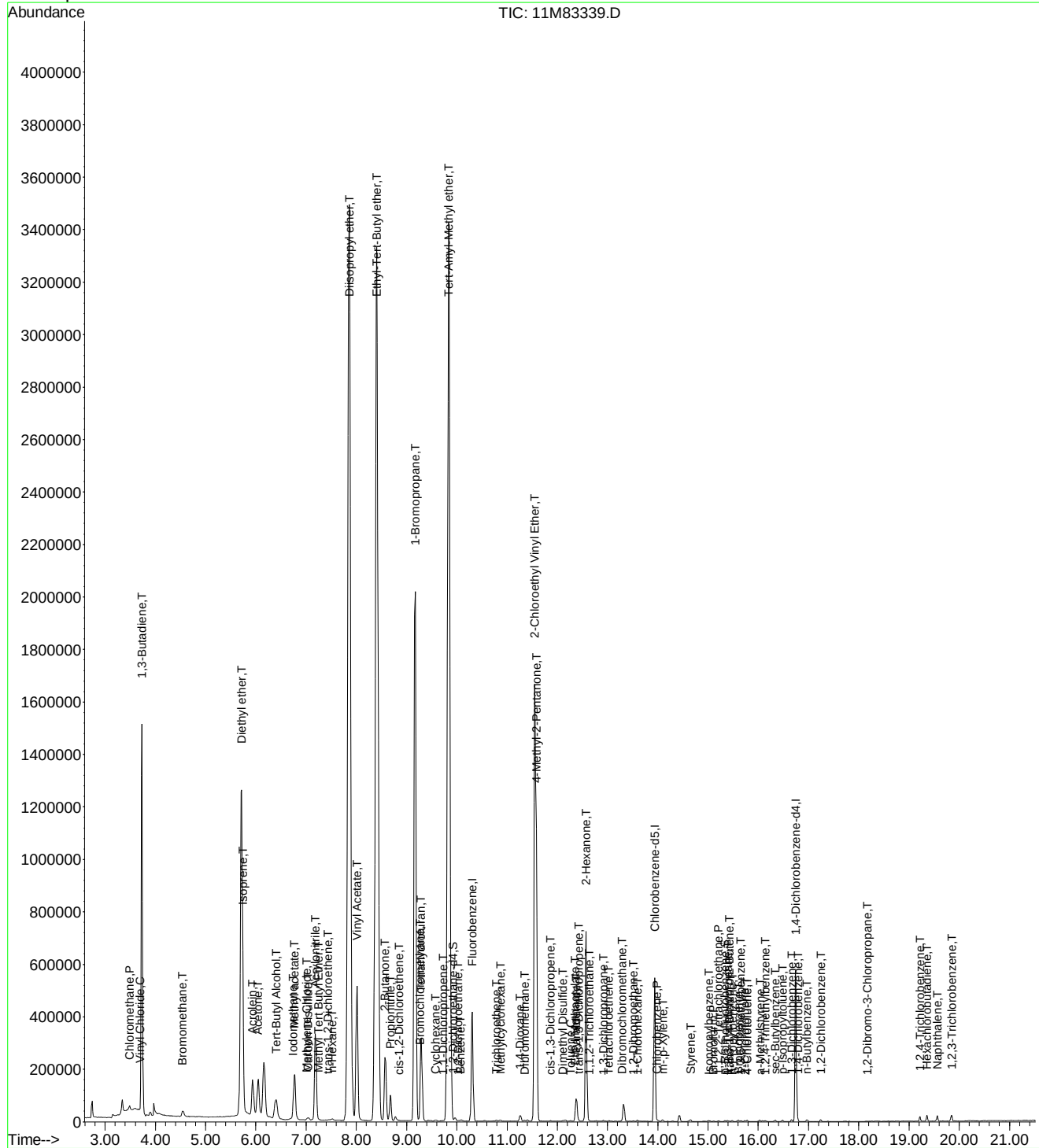
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

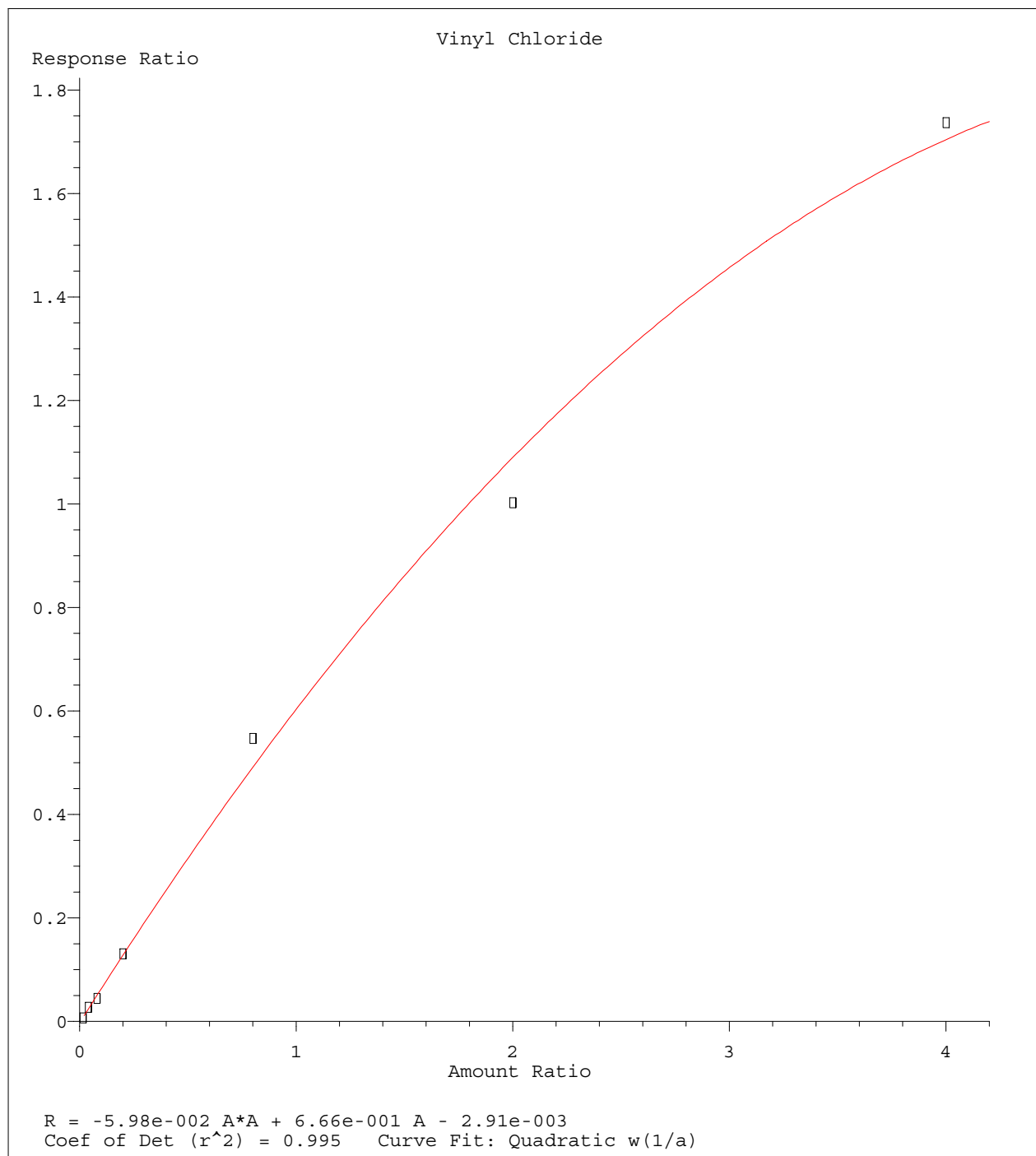
Response via : Initial Calibration



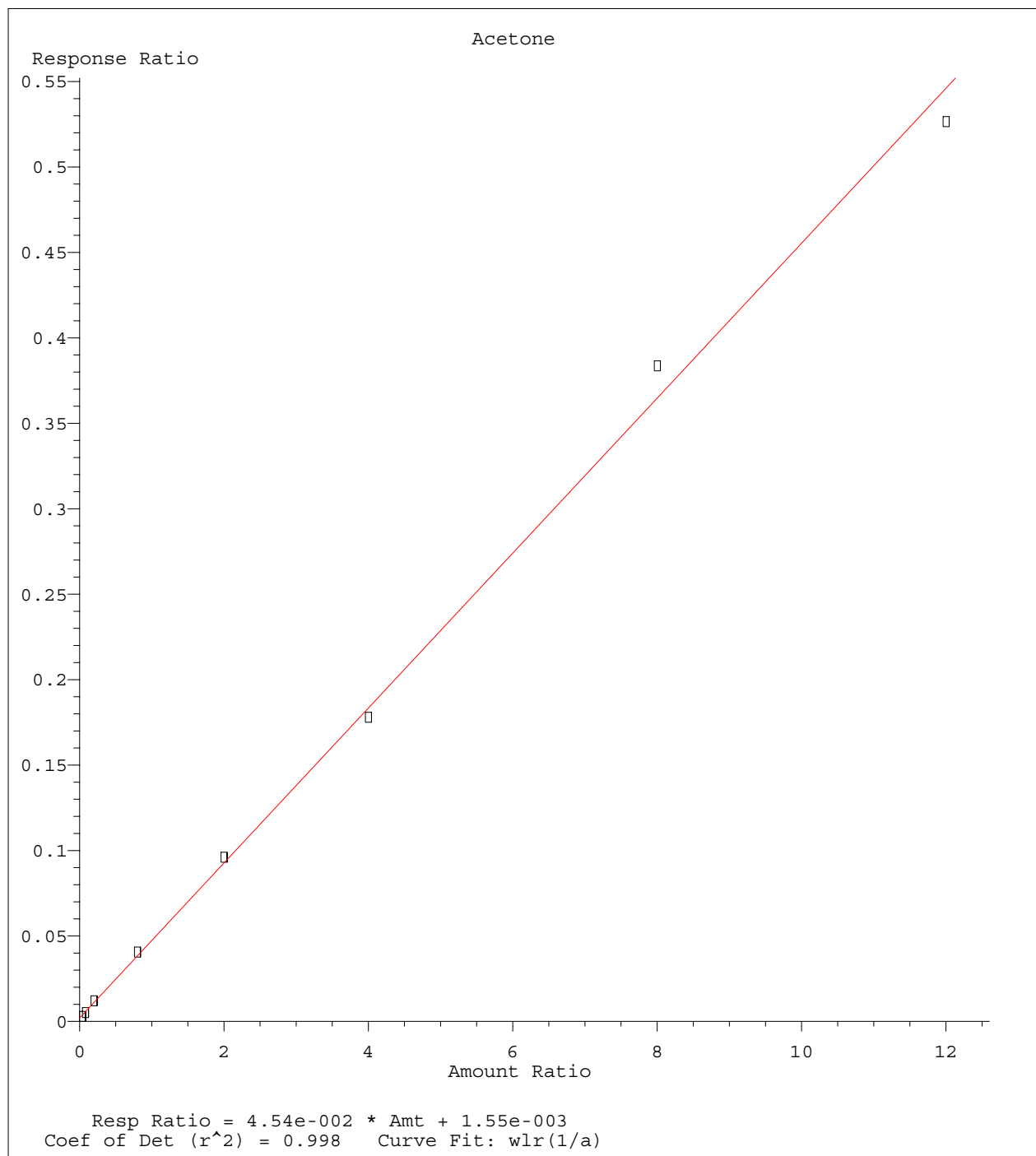
11M83339.D 8260WTR.M

Fri May 04 08:37:24 2012

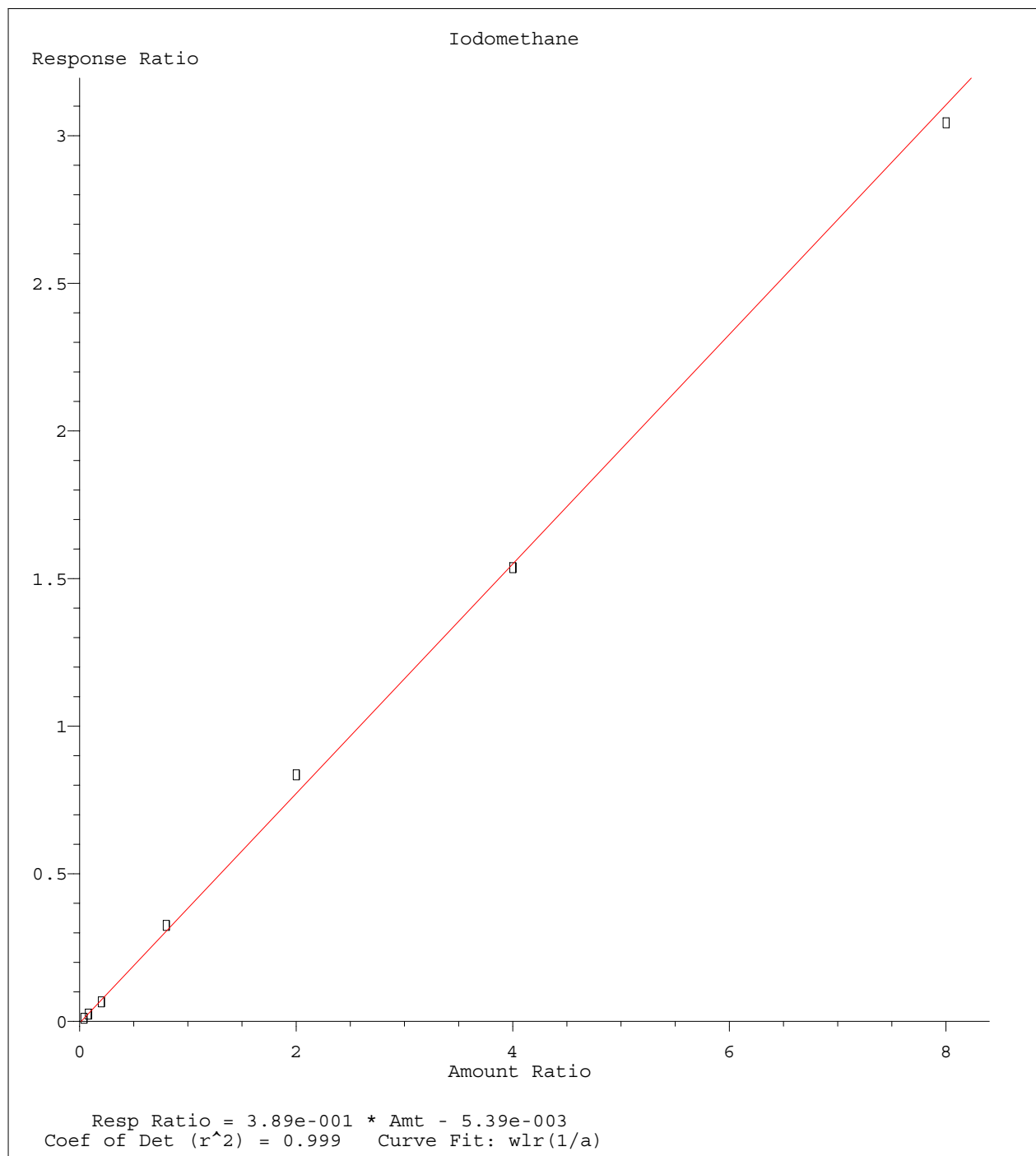
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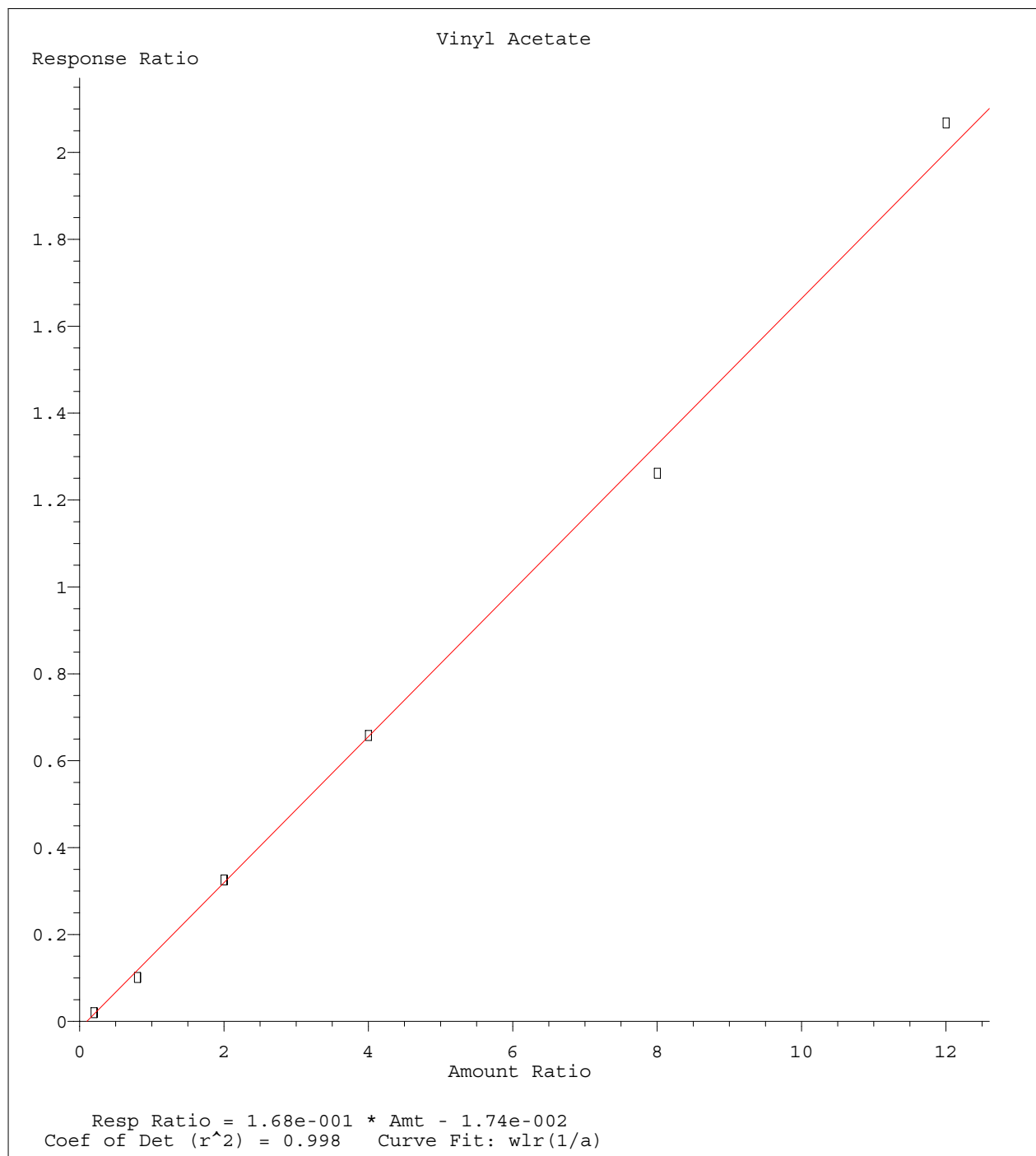
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Calibration Table Last Updated: Fri May 04 08:32:33 2012



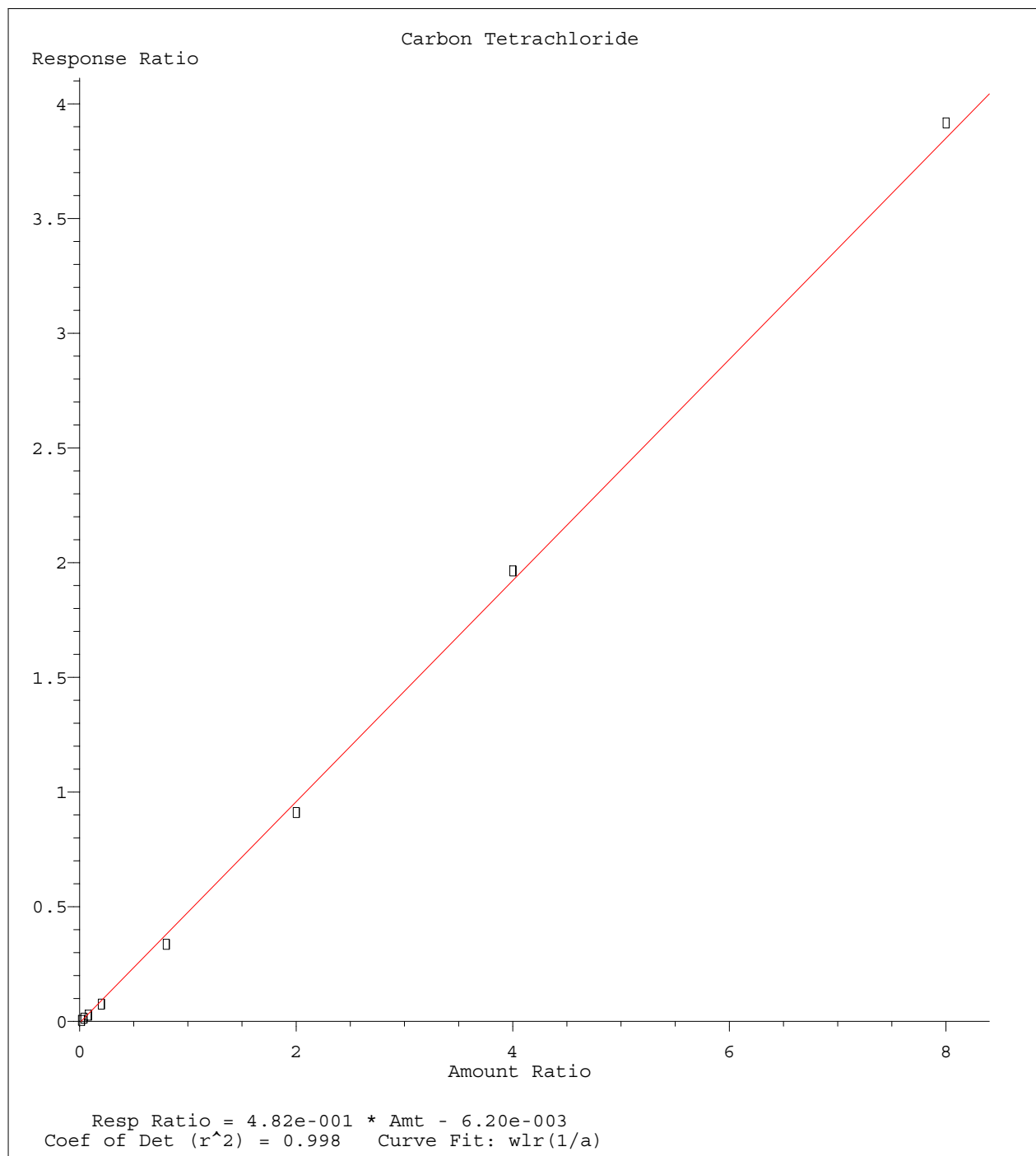
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Calibration Table Last Updated: Fri May 04 08:32:33 2012



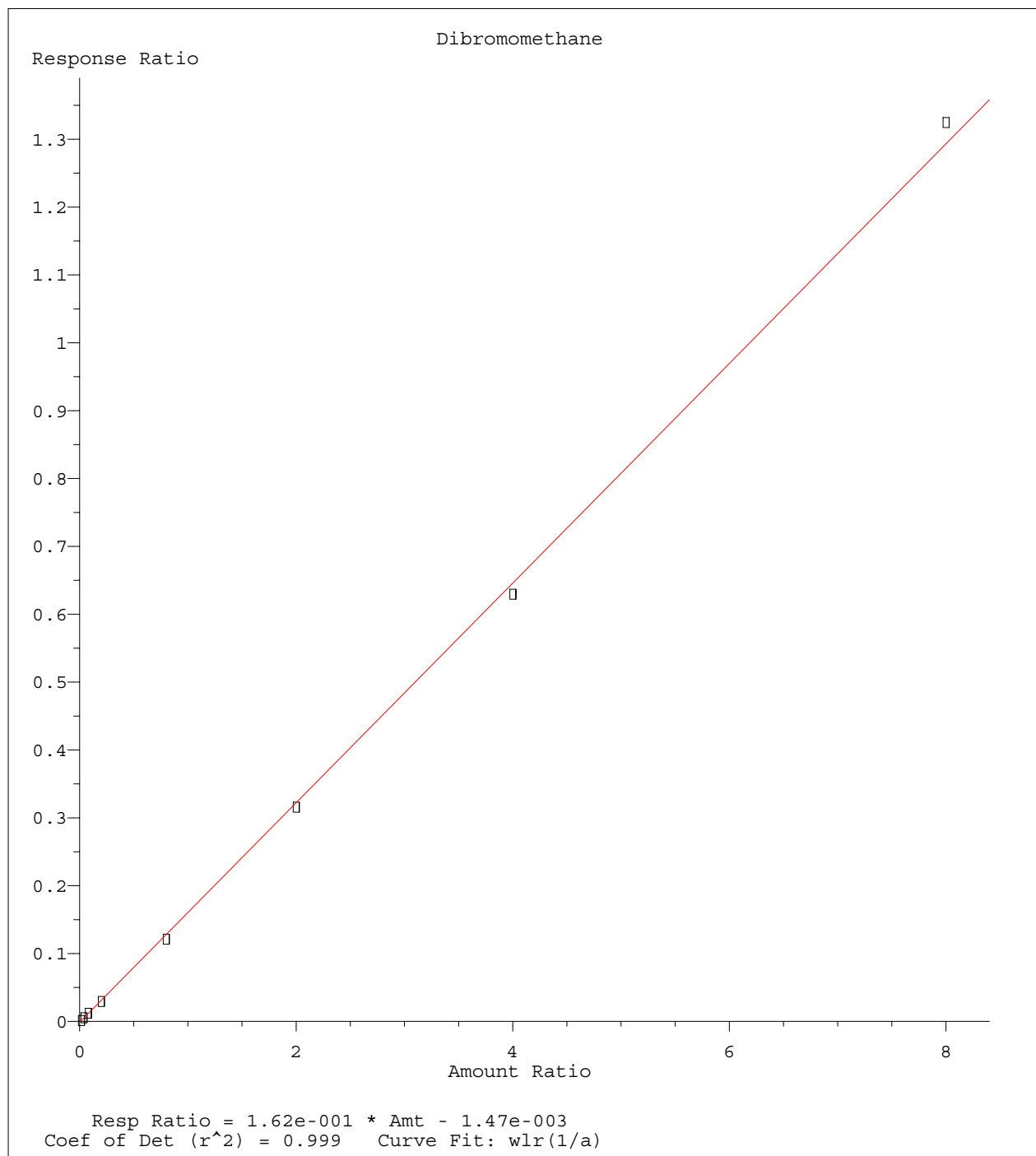
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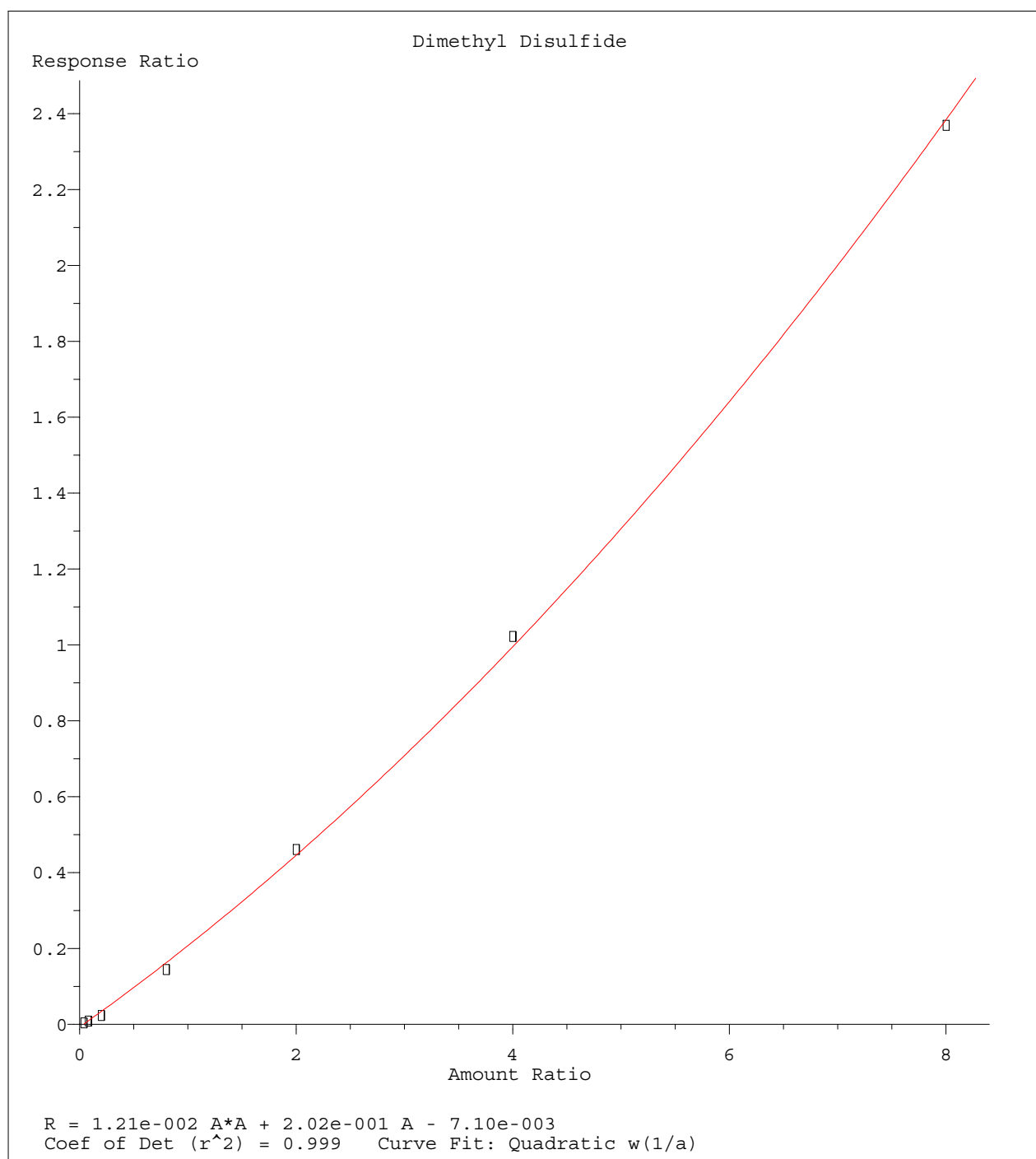
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Calibration Table Last Updated: Fri May 04 08:32:33 2012



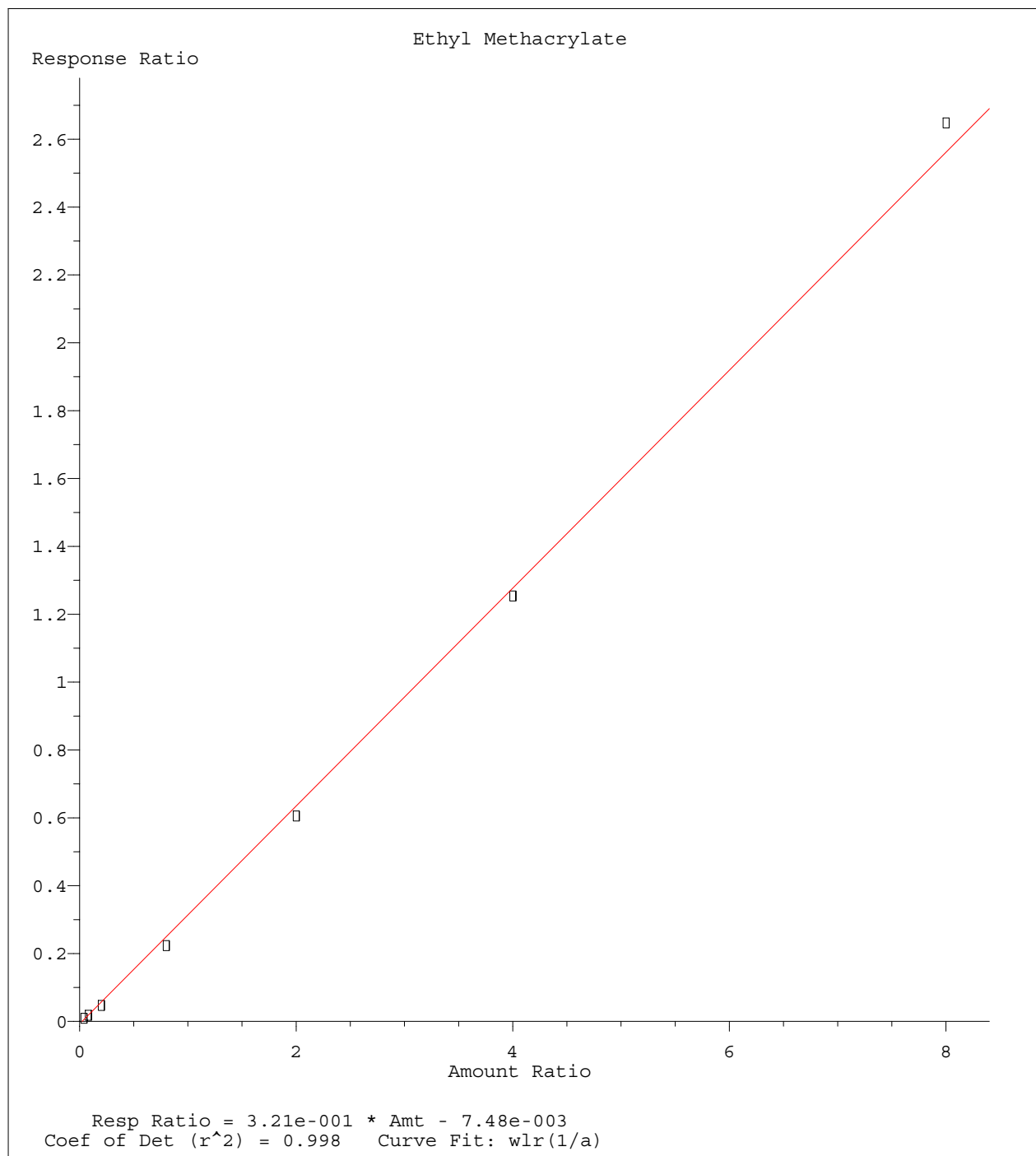
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Calibration Table Last Updated: Fri May 04 08:32:33 2012



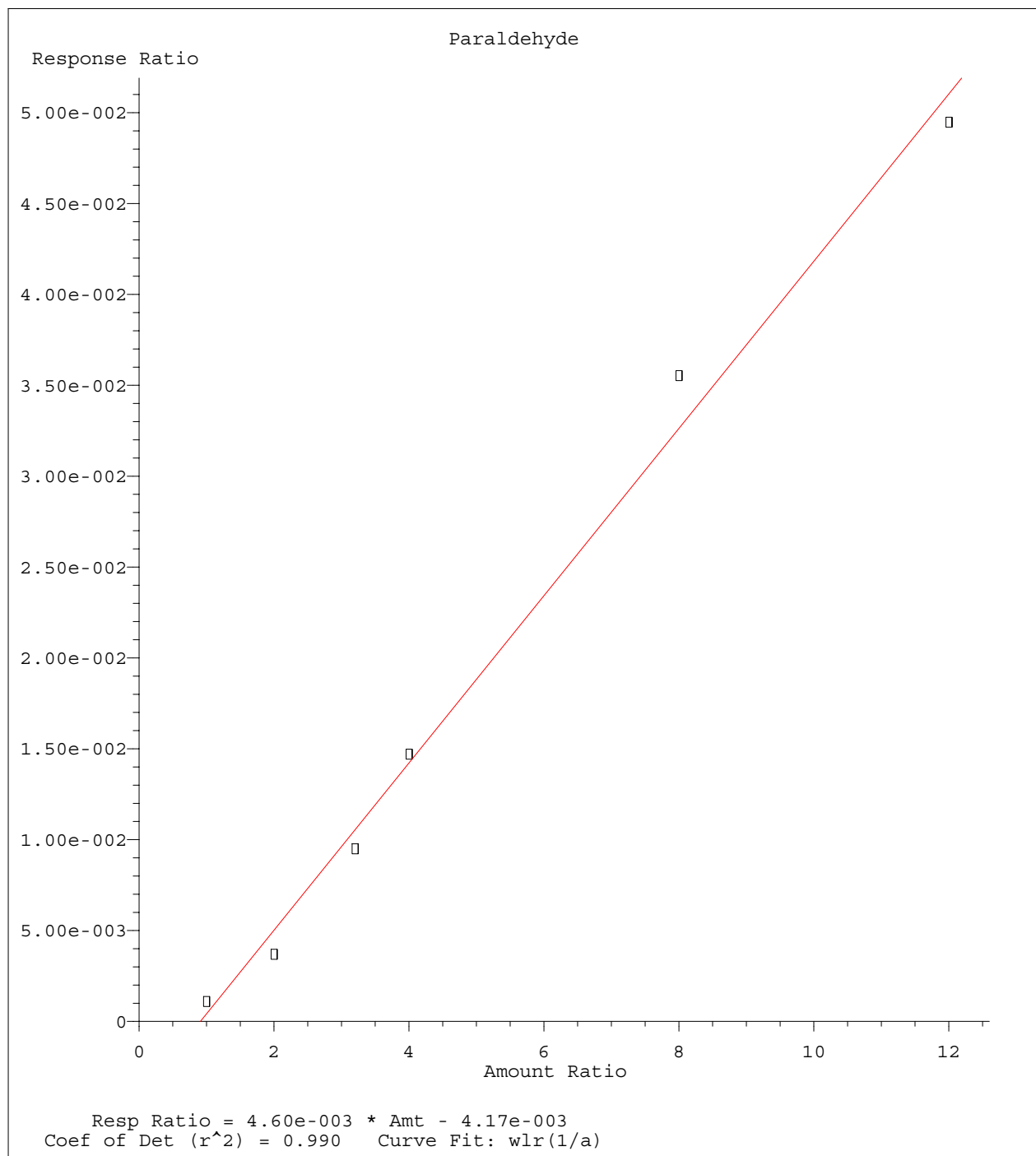
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Calibration Table Last Updated: Fri May 04 08:32:33 2012



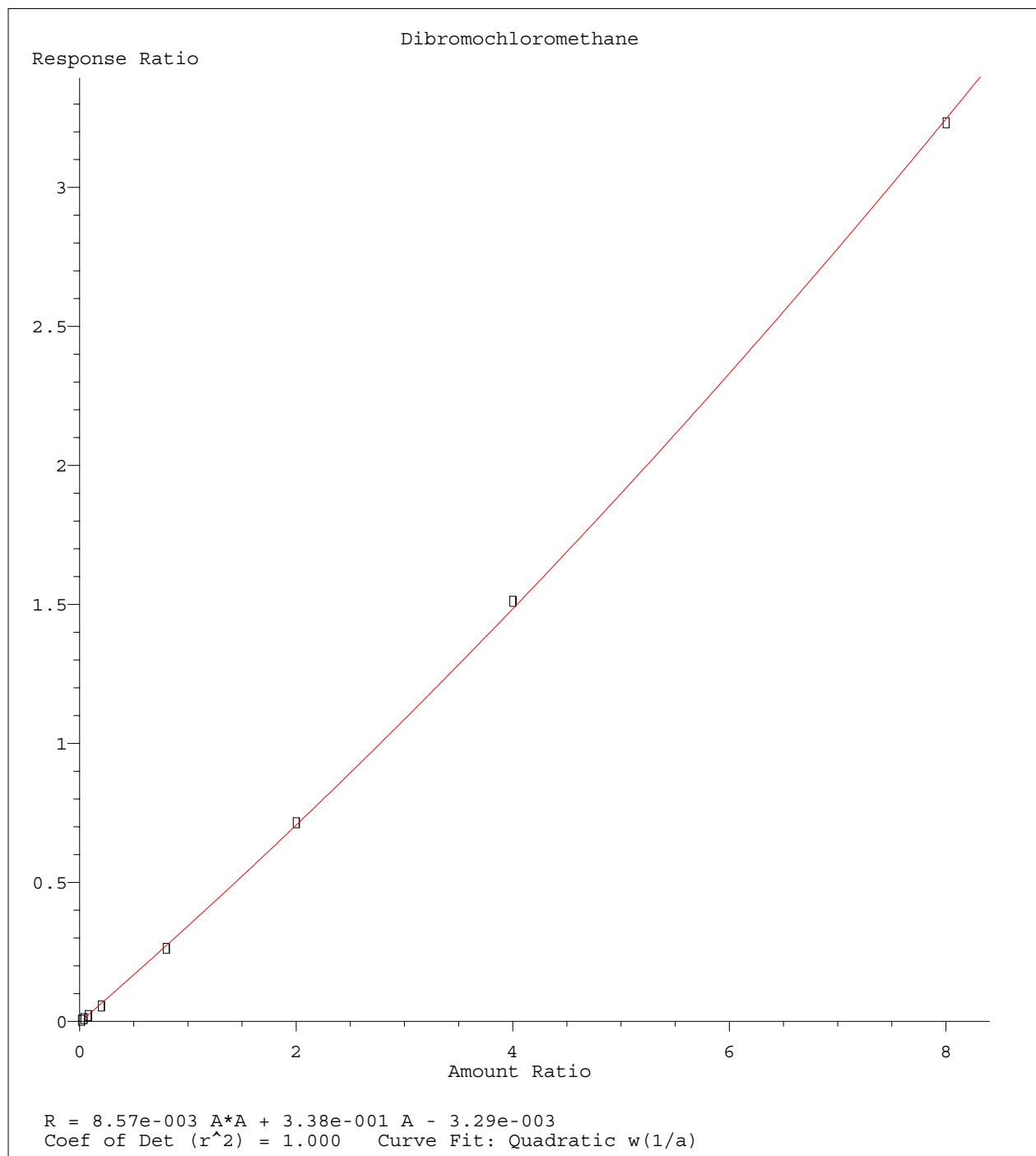
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Calibration Table Last Updated: Fri May 04 08:32:33 2012



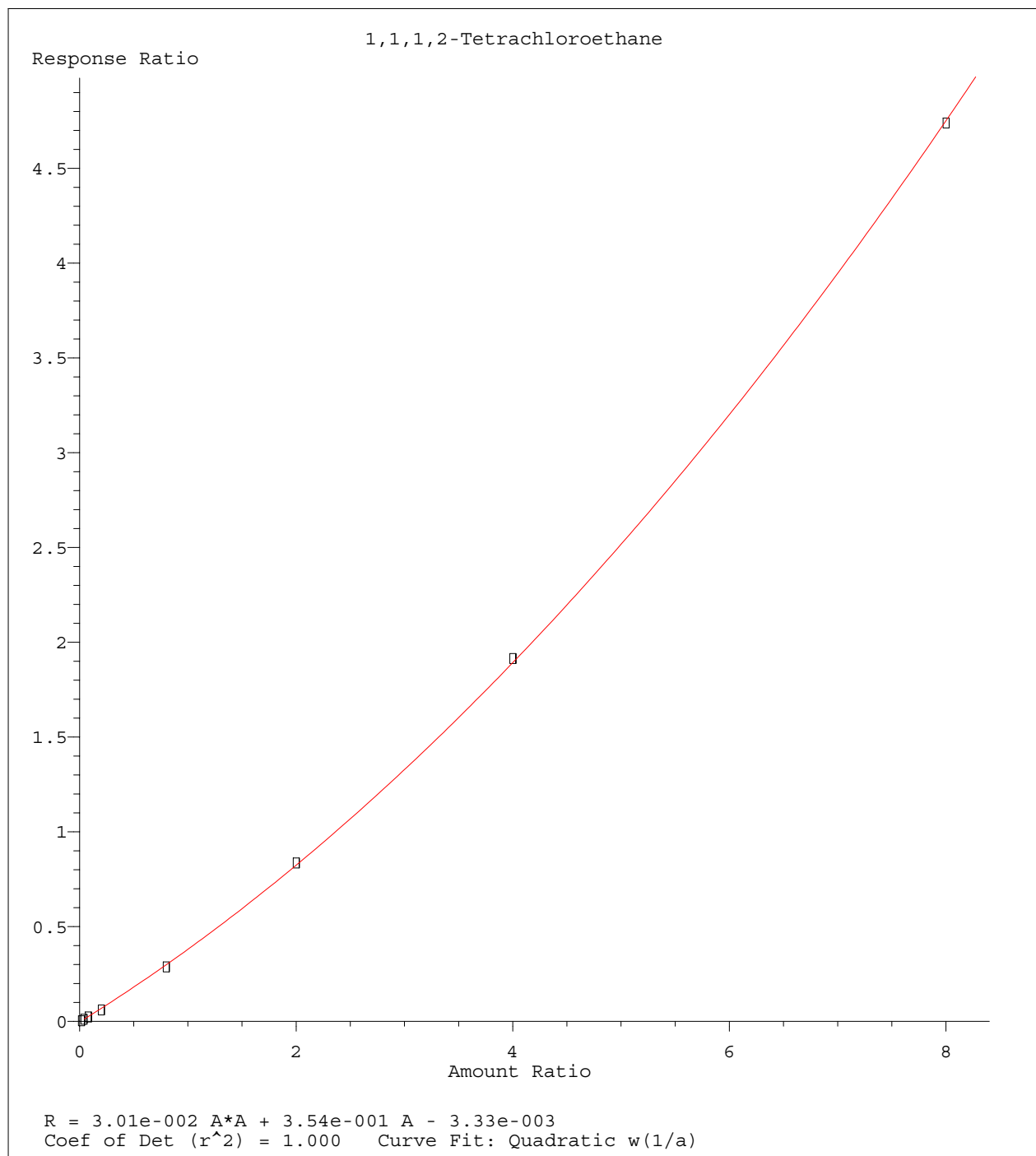
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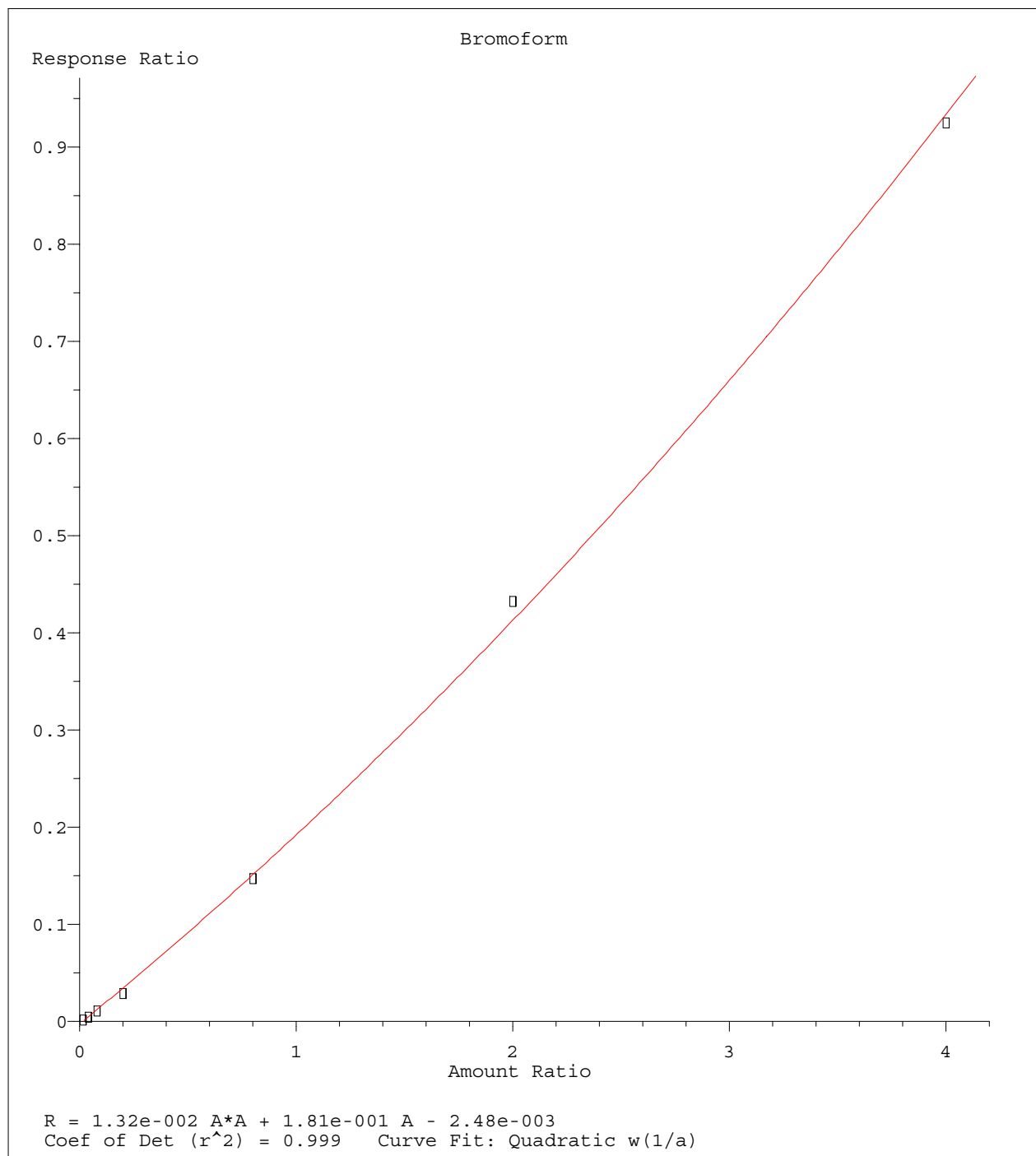
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Calibration Table Last Updated: Fri May 04 08:32:33 2012



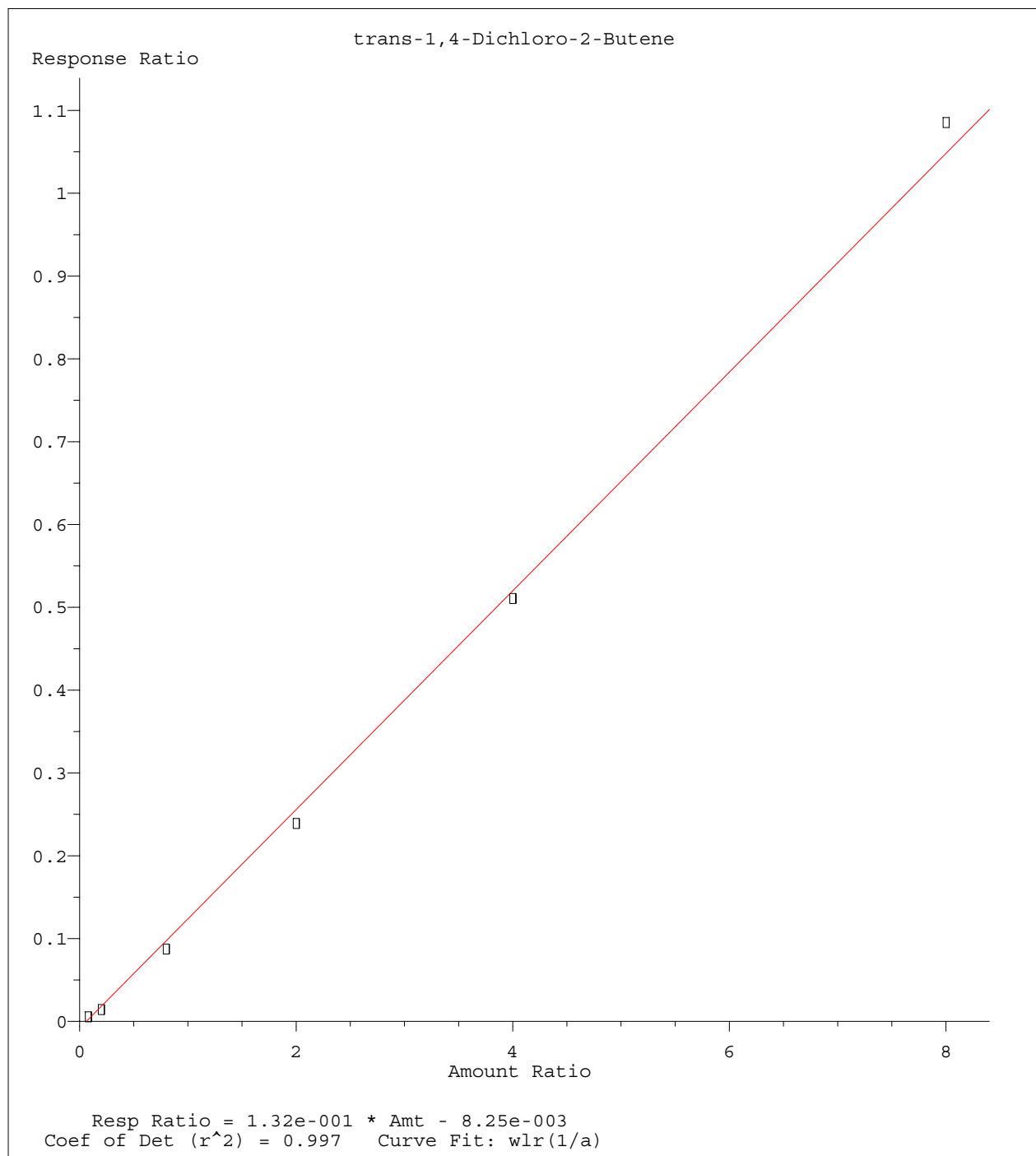
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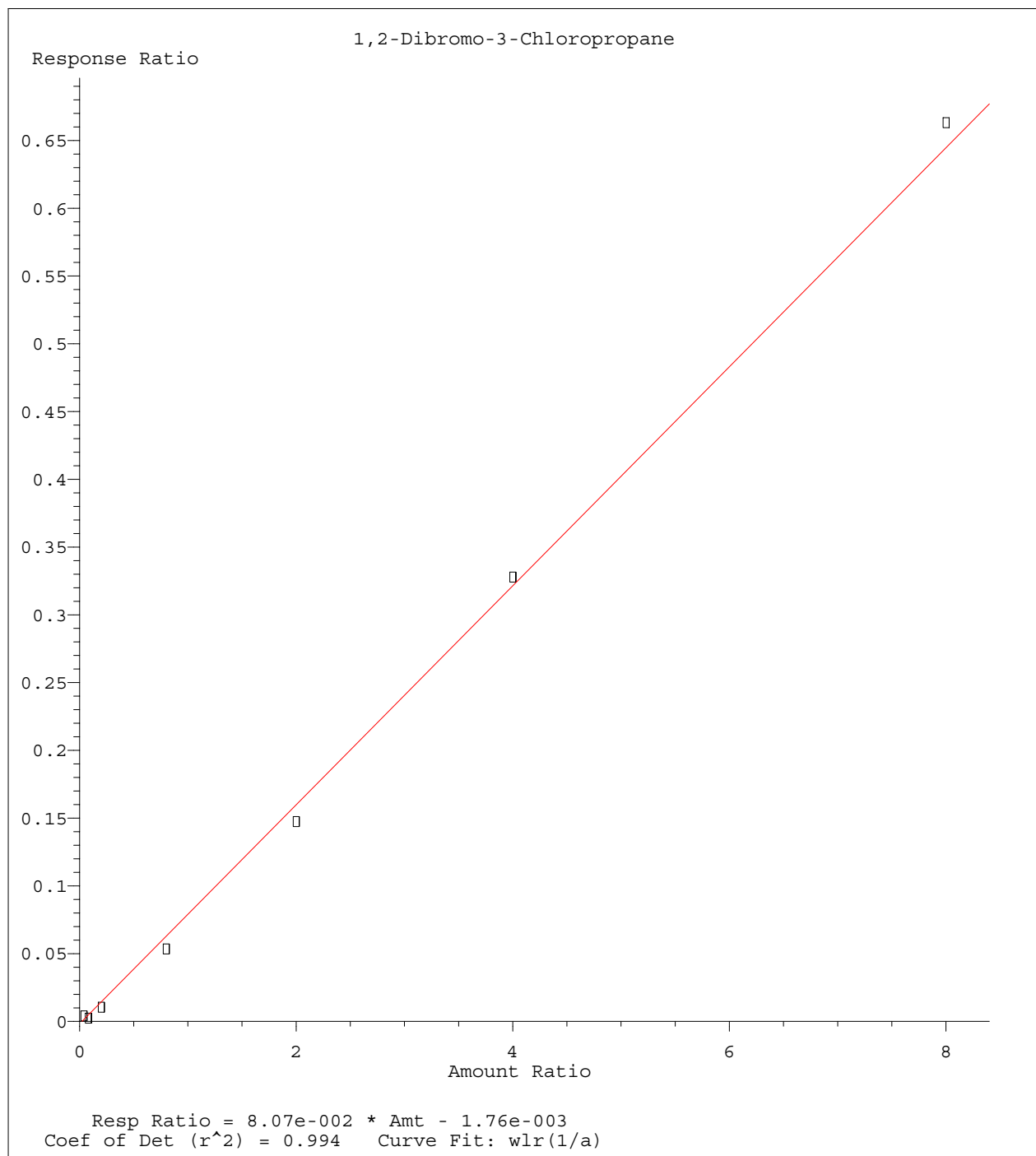
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Calibration Table Last Updated: Fri May 04 08:32:33 2012



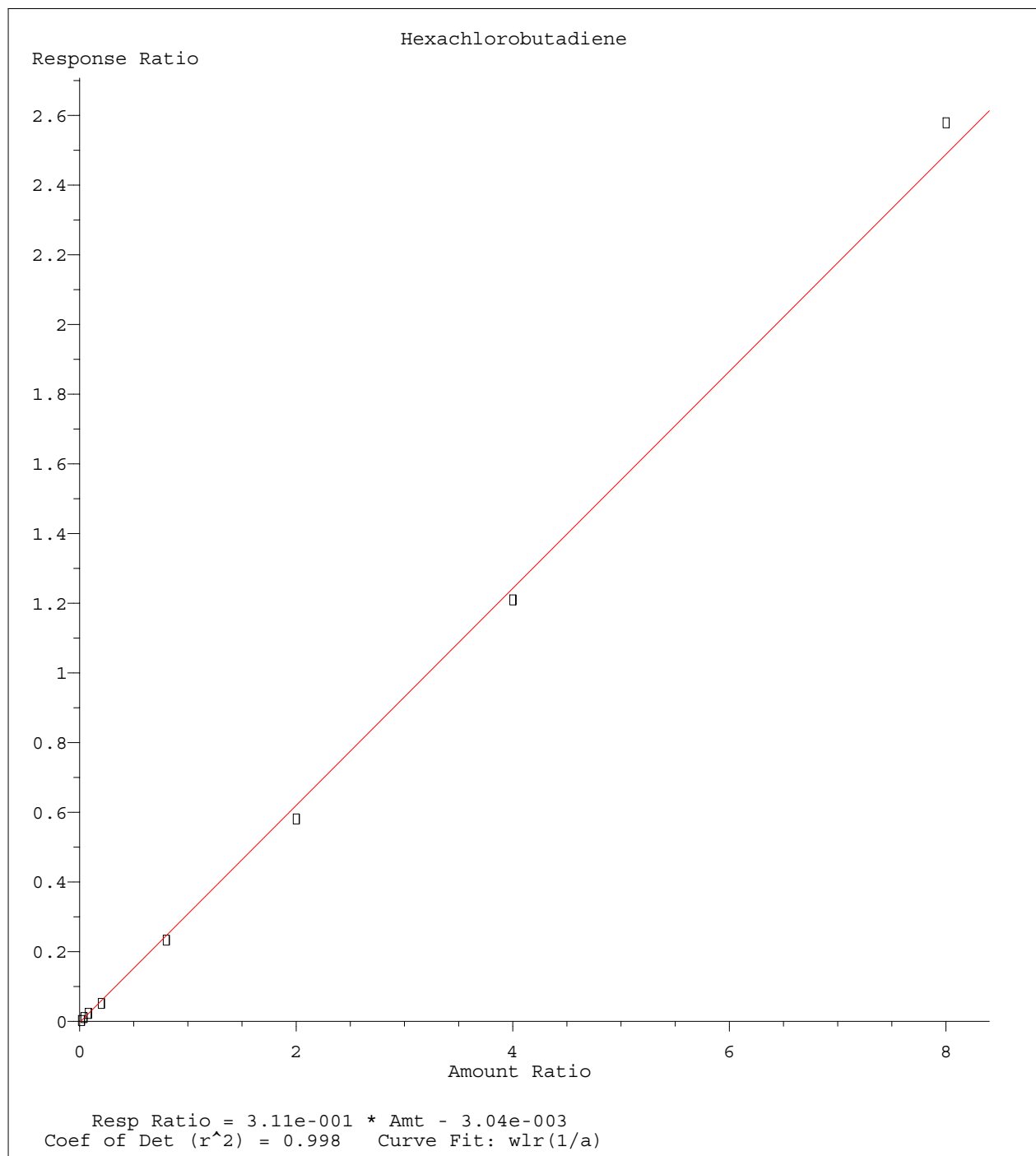
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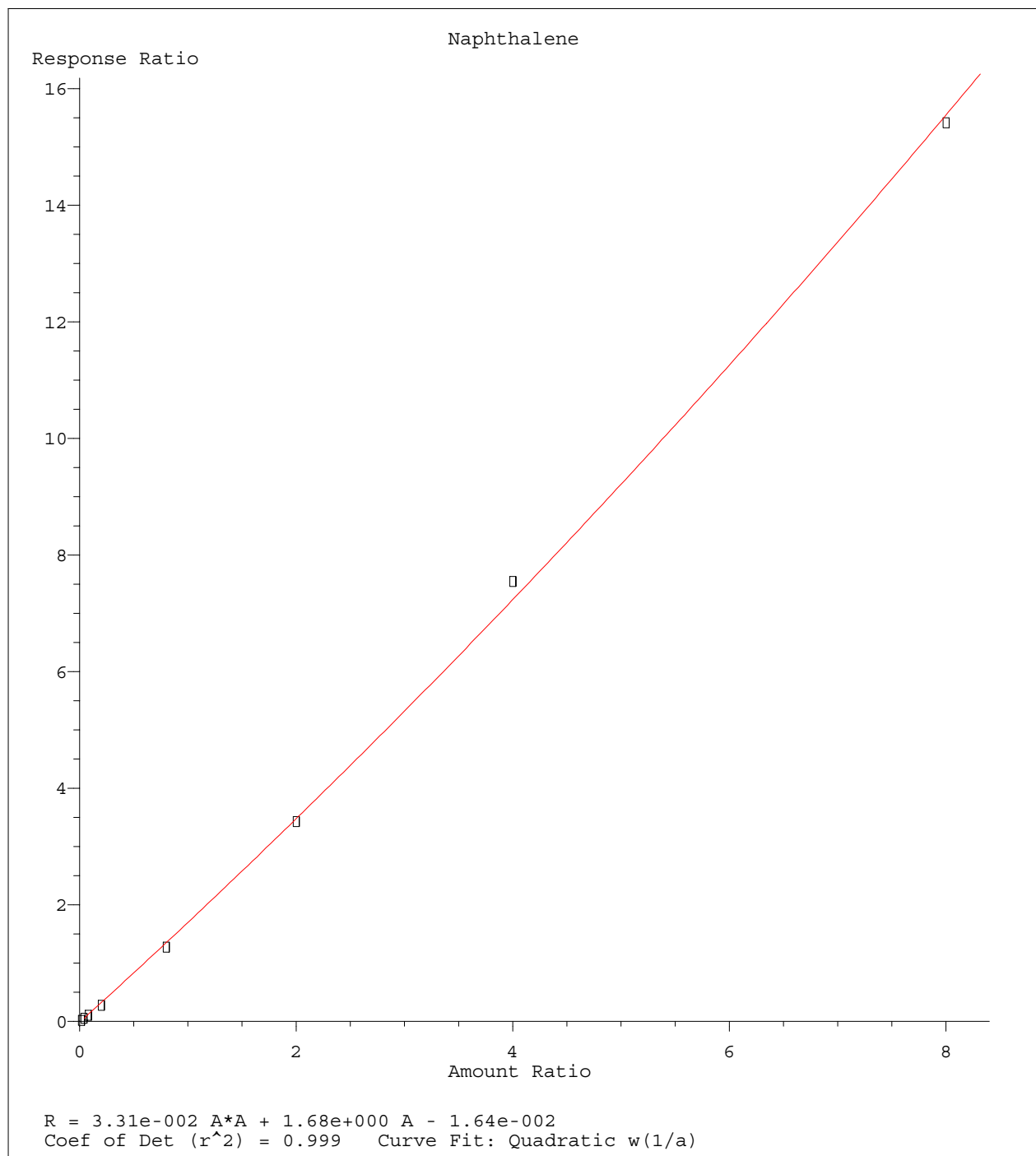
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Calibration Table Last Updated: Fri May 04 08:32:33 2012



Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Fri May 04 08:32:33 2012



Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Fri May 04 08:32:33 2012



Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Fri May 04 08:32:33 2012

Data File : C:\MSDCHEM\1\DATA\050312\11M83341.D Vial: 13
 Acq On : 3 May 2012 22:38 Operator: ADC
 Sample : WG396851-12 50ug/L ALT SRC 8260 Inst : HPMS11
 Misc : 1,1 STD51372 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 08:37:26 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Fri May 04 08:32:33 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.31	96	464031	25.00	ug/L	0.00
57) Chlorobenzene-d5	13.94	117	367547	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	16.74	152	215637	25.00	ug/L	0.00

System Monitoring Compounds						
37) Dibromofluoromethane	9.32	111	139439	24.6597	ug/L	0.00
Spiked Amount	25.000	Range	86 - 118	Recovery	=	98.64%
43) 1,2-Dichloroethane-d4	9.93	65	133290	24.6340	ug/L	0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	98.52%
58) Toluene-d8	12.17	98	461320	23.7951	ug/L	0.00
Spiked Amount	25.000	Range	88 - 110	Recovery	=	95.20%
80) p-Bromofluorobenzene	15.33	95	170237	23.8843	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	95.52%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.05	85	424943	70.9681	ug/L	100
3) Chloromethane	3.48	50	654238	63.6201	ug/L	98
4) Vinyl Chloride	3.69	62	479845	46.7987	ug/L	100
5) 1,3-Butadiene	3.73	54	150886	29.2988	ug/L	96
6) Bromomethane	4.56	94	185501	56.2517	ug/L	98
7) Chloroethane	4.71	64	190220	53.6791	ug/L	98
8) Trichlorofluoromethane	5.19	101	529498	52.9219	ug/L	99
9) Diethyl ether	5.71	59	320684	90.7988	ug/L	100
10) Isoprene	5.74	67	371823	47.7647	ug/L	100
11) Acrolein	5.93	56	44872	182.9232	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	5.96	101	276384	53.2747	ug/L	100
13) Acetone	6.04	43	46020	53.7090	ug/L	97
14) 1,1-Dichloroethene	6.25	61	386603	54.8850	ug/L	100
15) Tert-Butyl Alcohol	6.38	59	53898	230.3365	ug/L	100
16) Dimethyl Sulfide	6.50	62	293443	50.8647	ug/L	100
17) Iodomethane	6.74	142	376292	52.4914	ug/L	97
18) Methyl acetate	6.76	43	127385	42.5023	ug/L	98
19) Methylene Chloride	7.00	84	264382	52.8103	ug/L	98
20) Carbon Disulfide	7.04	76	770955	53.6878	ug/L	100
21) Acrylonitrile	7.18	53	55757	54.5325	ug/L	99
22) Methyl Tert Butyl Ether	7.22	73	621966	53.1762	ug/L	100
23) trans-1,2-Dichloroethene	7.44	96	268638	53.4172	ug/L	100
24) n-Hexane	7.52	57	251960	49.5894	ug/L	99
25) Diisopropyl ether	7.85	45	1470544	99.8365	ug/L	100
26) Vinyl Acetate	8.01	43	242467	80.3061	ug/L	99
27) 1,1-Dichloroethane	8.03	63	455841	54.0898	ug/L	100
28) Ethyl-Tert-Butyl ether	8.41	59	1377415	95.7701	ug/L	100
29) 2-Butanone	8.57	43	62141	52.0394	ug/L	99
30) Propionitrile	8.67	54	37051	105.1385	ug/L	98
31) 2,2-Dichloropropane	8.78	77	351954	51.6696	ug/L	100
32) cis-1,2-Dichloroethene	8.84	96	293819	53.9140	ug/L	99
33) Chloroform	9.04	83	478774	53.7362	ug/L	98
34) 1-Bromopropane	9.17	122	61392	60.2373	ug/L	98
35) Bromochloromethane	9.26	130	191946	55.4415	ug/L	100
36) Tetrahydrofuran	9.29	42	77137	99.5288	ug/L	98
38) 1,1,1-Trichloroethane	9.54	97	454912	54.4262	ug/L	100
39) Cyclohexane	9.57	56	350245	52.0107	ug/L	100
40) 1,1-Dichloropropene	9.73	75	359141	54.0364	ug/L	100
41) Carbon Tetrachloride	9.87	117	459251	51.6473	ug/L	100
42) Tert-Amyl-Methyl ether	9.83	73	1340142	101.9151	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M83341.D 8260WTR.M Fri May 04 08:37:27 2012

Data File : C:\MSDCHEM\1\DATA\050312\11M83341.D

Vial: 13

Acq On : 3 May 2012 22:38

Operator: ADC

Sample : WG396851-12 50ug/L ALT SRC 8260

Inst : HPMS11

Misc : 1,1 STD51372

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 04 08:37:26 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.04	62	338853	54.0949	ug/L	99
46) Benzene	10.07	78	1029190	53.0036	ug/L	100
47) Trichloroethene	10.78	130	325583	51.1413	ug/L	100
48) Methylcyclohexane	10.87	83	355525	53.3416	ug/L	100
49) 1,2-Dichloropropane	10.98	63	240710	53.8500	ug/L	99
50) 1,4-Dioxane	11.26	88	6957	218.9050	ug/L	94
51) Bromodichloromethane	11.27	83	364429	59.5630	ug/L	100
52) Dibromomethane	11.35	93	152949	51.1322	ug/L	98
53) 2-Chloroethyl Vinyl Ether	11.55	63	108395	56.8473	ug/L	98
54) 4-Methyl-2-Pentanone	11.58	58	54734	52.4115	ug/L	98
55) cis-1,3-Dichloropropene	11.87	75	392429	55.6819	ug/L	99
56) Dimethyl Disulfide	12.11	79	225308	53.9440	ug/L	99
59) Toluene	12.26	91	1167329	52.8032	ug/L	100
60) Ethyl Methacrylate	12.35	69	247454	52.9875	ug/L	98
61) Paraldehyde	12.38	89	5188	99.3110	ug/L	94
62) trans-1,3-Dichloropropene	12.43	75	319943	53.9787	ug/L	99
63) 1,1,2-Trichloroethane	12.62	97	196726	53.8742	ug/L	99
64) 2-Hexanone	12.57	43	93834	50.8186	ug/L	96
65) 1,3-Dichloropropane	12.91	76	333197	54.3217	ug/L	99
66) Tetrachloroethene	13.03	164	248208	54.7999	ug/L	99
67) Dibromochloromethane	13.28	129	281762	54.0413	ug/L	100
68) 1,2-Dibromoethane	13.51	107	204884	54.1816	ug/L	99
69) 1-Chlorohexane	13.60	91	346161	54.6165	ug/L	100
70) Chlorobenzene	13.99	112	822105	55.8659	ug/L	99
71) 1,1,1,2-Tetrachloroethane	14.01	131	331694	54.0830	ug/L	100
72) Ethylbenzene	14.01	106	463604	58.0547	ug/L	98
73) m-,p-Xylene	14.09	106	1130395	114.6319	ug/L	100
74) o-Xylene	14.62	106	506555	52.7332	ug/L	99
75) Styrene	14.65	104	902712	59.0611	ug/L	100
76) Bromoform	15.11	173	174136	56.4256	ug/L	97
77) Isopropylbenzene	15.01	105	1124539	49.7250	ug/L	100
79) 1,1,2,2-Tetrachloroethane	15.21	83	206848	53.8871	ug/L	99
81) 1,2,3-Trichloropropane	15.39	110	68906	59.3085	ug/L	96
82) trans-1,4-Dichloro-2-Butene	15.43	53	53926	48.9099	ug/L	87
83) n-Propylbenzene	15.48	91	1469801	52.3857	ug/L	100
84) Bromobenzene	15.60	156	350782	52.3329	ug/L	100
85) 1,3,5-Trimethylbenzene	15.65	105	1108828	53.2158	ug/L	99
86) 2-Chlorotoluene	15.74	91	976263	51.7381	ug/L	100
87) 4-Chlorotoluene	15.78	91	841294	50.9469	ug/L	99
88) a-Methylstyrene	16.03	118	660241	56.8967	ug/L	99
89) tert-Butylbenzene	16.09	134	233269	51.4408	ug/L	98
90) 1,2,4-Trimethylbenzene	16.13	105	1235760	57.0042	ug/L	99
91) sec-Butylbenzene	16.34	105	1276260	52.4583	ug/L	99
92) p-Isopropyltoluene	16.48	119	1151739	55.1721	ug/L	100
93) 1,3-Dichlorobenzene	16.67	146	682589	51.9226	ug/L	99
94) 1,4-Dichlorobenzene	16.78	146	695572	51.9809	ug/L	99
95) n-Butylbenzene	16.97	91	962728	60.5427	ug/L	100
96) 1,2-Dichlorobenzene	17.25	146	631321	52.9863	ug/L	100
97) 1,2-Dibromo-3-Chloropropan	18.16	75	36824	53.4168	ug/L	94
98) 1,2,4-Trichlorobenzene	19.22	180	404280	59.9978	ug/L	99
99) Hexachlorobutadiene	19.36	225	129223	48.3450	ug/L	99
100) Naphthalene	19.56	128	803646	53.4376	ug/L	99
101) 1,2,3-Trichlorobenzene	19.85	180	359414	57.0772	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M83341.D 8260WTR.M Fri May 04 08:37:27 2012

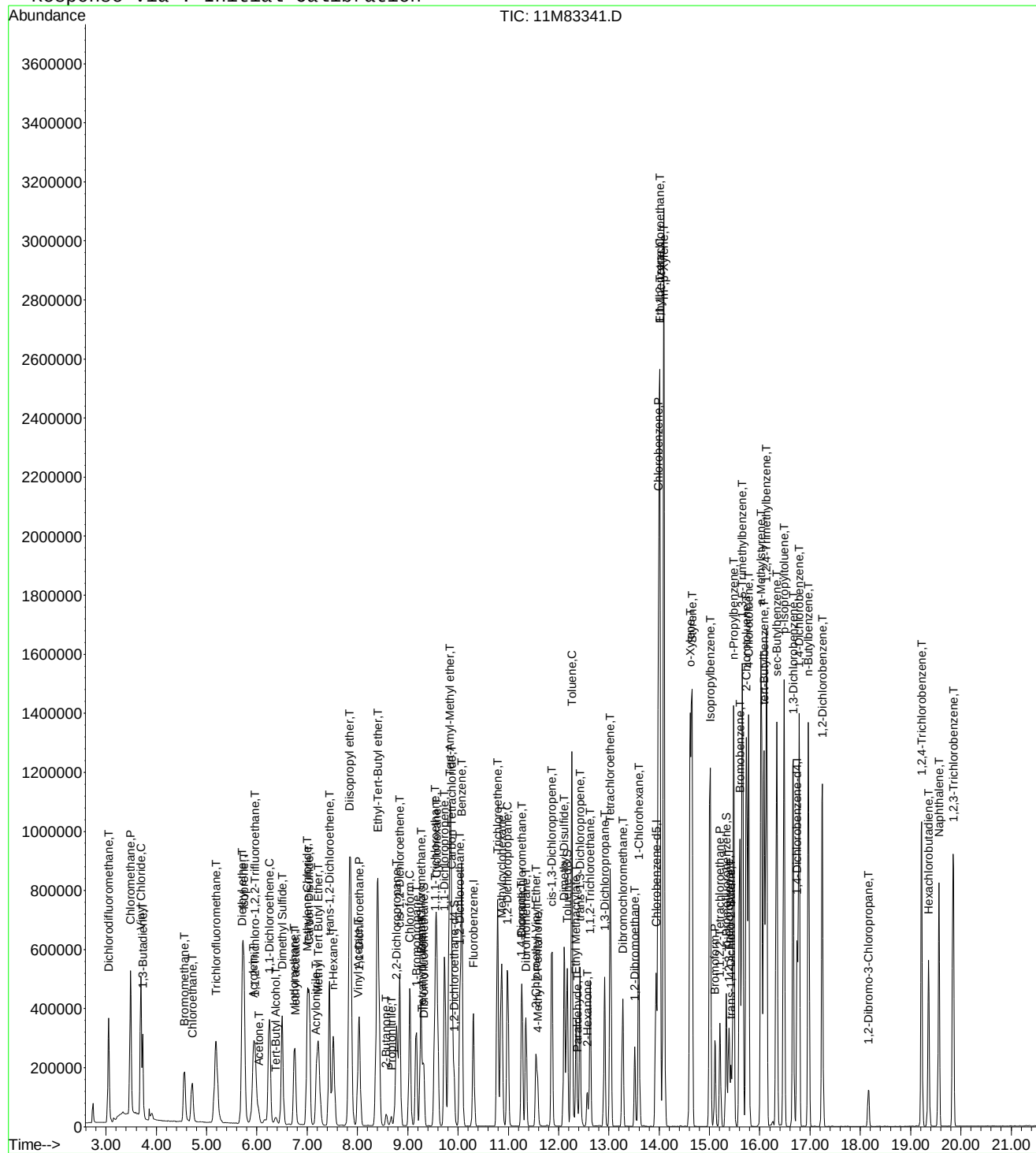
Page 2

Data File : C:\MSDCHEM\1\DATA\050312\11M83341.D
Acq On : 3 May 2012 22:38
Sample : WG396851-12 50ug/L ALT SRC 8260
Misc : 1,1 STD51372
MS Integration Params: rteint.p
Quant Time: May 4 8:37 2012

Vial: 13
Operator: ADC
Inst : HPMS11
Multiplr: 1.00

Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
Last Update : Fri May 04 08:32:33 2012
Response via : Initial Calibration



11M83341.D 8260WTR.M

Fri May 04 08:37:27 2012

Page 3

Data File : C:\MSDCHEM\1\DATA\050312\11M83341.D

Vial: 13

Acq On : 3 May 2012 22:38

Operator: ADC

Sample : WG396851-12 50ug/L ALT SRC 8260

Inst : HPMS11

Misc : 1,1 STD51372

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	25.0000	25.0000	0.0	96	0.00
2 T	Dichlorodifluoromethane	50.0000	70.9681	-41.9#	133	0.00
3 P	Chloromethane	50.0000	63.6202	-27.2#	117	0.00
4 C	Vinyl Chloride	50.0000	46.7987	6.4	100	0.00
5 T	1,3-Butadiene	50.0000	29.2988	41.4#	56	0.00
6 T	Bromomethane	50.0000	56.2517	-12.5	108	0.00
7 T	Chloroethane	50.0000	53.6791	-7.4	101	0.00
8 T	Trichlorofluoromethane	50.0000	52.9219	-5.8	100	0.00
9 T	Diethyl ether	100.0000	90.7988	9.2	88	0.00
10 T	Isoprene	50.0000	47.7647	4.5	88	0.00
11 T	Acrolein	100.0000	182.9232	-82.9#	176	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	53.2747	-6.5	98	0.01
13 T	Acetone	50.0000	53.7090	-7.4	100	0.00
14 C	1,1-Dichloroethene	50.0000	54.8850	-9.8	103	0.00
15 T	Tert-Butyl Alcohol	200.0000	230.3365	-15.2	107	0.00
16 T	Dimethyl Sulfide	50.0000	50.8647	-1.7	97	0.00
17 T	Iodomethane	50.0000	52.4914	-5.0	94	0.00
18 T	Methyl acetate	50.0000	42.5023	15.0	85	0.00
19 T	Methylene Chloride	50.0000	52.8103	-5.6	103	0.00
20 T	Carbon Disulfide	50.0000	53.6878	-7.4	102	0.00
21 T	Acrylonitrile	50.0000	54.5325	-9.1	96	0.00
22 T	Methyl Tert Butyl Ether	50.0000	53.1762	-6.4	102	0.00
23 T	trans-1,2-Dichloroethene	50.0000	53.4172	-6.8	100	0.00
24 T	n-Hexane	50.0000	49.5894	0.8	93	0.00
25 T	Diisopropyl ether	100.0000	99.8365	0.2	98	0.00
26 T	Vinyl Acetate	50.0000	80.3061	-60.6#	155	0.00
27 P	1,1-Dichloroethane	50.0000	54.0898	-8.2	102	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	95.7701	4.2	94	0.01
29 T	2-Butanone	50.0000	52.0394	-4.1	100	0.00
30 T	Propionitrile	100.0000	105.1385	-5.1	99	0.01
31 T	2,2-Dichloropropane	50.0000	51.6696	-3.3	96	0.00
32 T	cis-1,2-Dichloroethene	50.0000	53.9140	-7.8	101	0.00
33 C	Chloroform	50.0000	53.7362	-7.5	104	0.00
34 T	1-Bromopropane	50.0000	60.2373	-20.5	109	0.00
35 T	Bromochloromethane	50.0000	55.4415	-10.9	103	0.00
36 T	Tetrahydrofuran	100.0000	99.5288	0.5	97	0.00
37 S	Dibromofluoromethane	25.0000	24.6597	1.4	96	0.00
38 T	1,1,1-Trichloroethane	50.0000	54.4262	-8.9	101	0.00
39 T	Cyclohexane	50.0000	52.0106	-4.0	97	0.00
40 T	1,1-Dichloropropene	50.0000	54.0364	-8.1	100	0.00
41 T	Carbon Tetrachloride	50.0000	51.6473	-3.3	105	0.00
42 T	Tert-Amyl-Methyl ether	100.0000	101.9151	-1.9	99	0.00
43 S	1,2-Dichloroethane-d4	25.0000	24.6340	1.5	97	0.01
44 T	Heptane	-1.0000	0.0000	0.0	93	0.00
45 T	1,2-Dichloroethane	50.0000	54.0949	-8.2	102	0.01
46 T	Benzene	50.0000	53.0036	-6.0	101	0.00
47 T	Trichloroethene	50.0000	51.1413	-2.3	102	0.00
48 T	Methylcyclohexane	50.0000	53.3416	-6.7	98	0.00
49 C	1,2-Dichloropropane	50.0000	53.8500	-7.7	102	0.00
50 T	1,4-Dioxane	200.0000	218.9050	-9.5	98	0.00
51 T	Bromodichloromethane	50.0000	59.5630	-19.1	106	0.00
52 T	Dibromomethane	50.0000	51.1322	-2.3	101	0.01
53 T	2-Chloroethyl Vinyl Ether	50.0000	56.8473	-13.7	101	0.00
54 T	4-Methyl-2-Pentanone	50.0000	52.4115	-4.8	96	0.00

(#)= Out of Range

11M83341.D 8260WTR.M

Fri May 04 08:36:39 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\050312\11M83341.D

Vial: 13

Acq On : 3 May 2012 22:38

Operator: ADC

Sample : WG396851-12 50ug/L ALT SRC 8260

Inst : HPMS11

Misc : 1,1 STD51372

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Fri May 04 08:32:33 2012

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 T	cis-1,3-Dichloropropene	50.0000	55.6819	-11.4	101	0.00
56 T	Dimethyl Disulfide	50.0000	53.9440	-7.9	102	0.00
57 I	Chlorobenzene-d5	25.0000	25.0000	0.0	96	0.00
58 S	Toluene-d8	25.0000	23.7951	4.8	95	0.00
59 C	Toluene	50.0000	52.8032	-5.6	100	0.00
60 T	Ethyl Methacrylate	50.0000	52.9875	-6.0	106	0.00
61 T	Paraldehyde	100.0000	99.3110	0.7	92	0.00
62 T	trans-1,3-Dichloropropene	50.0000	53.9787	-8.0	90	0.00
63 T	1,1,2-Trichloroethane	50.0000	53.8742	-7.7	101	0.00
64 T	2-Hexanone	50.0000	50.8186	-1.6	96	0.00
65 T	1,3-Dichloropropane	50.0000	54.3217	-8.6	102	0.00
66 T	Tetrachloroethene	50.0000	54.7998	-9.6	101	0.00
67 T	Dibromochloromethane	50.0000	54.0413	-8.1	103	0.00
68 T	1,2-Dibromoethane	50.0000	54.1816	-8.4	101	0.00
69 T	1-Chlorohexane	50.0000	54.6165	-9.2	99	0.00
70 P	Chlorobenzene	50.0000	55.8659	-11.7	100	0.01
71 T	1,1,1,2-Tetrachloroethane	50.0000	54.0830	-8.2	103	0.00
72 C	Ethylbenzene	50.0000	58.0547	-16.1	101	0.00
73 T	m-,p-Xylene	100.0000	114.6320	-14.6	99	0.00
74 T	o-Xylene	50.0000	52.7332	-5.5	98	0.00
75 T	Styrene	50.0000	59.0611	-18.1	102	0.00
76 P	Bromoform	50.0000	56.4256	-12.9	105	0.00
77 T	Isopropylbenzene	50.0000	49.7250	0.6	86	0.00
78 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	97	0.00
79 P	1,1,2,2-Tetrachloroethane	50.0000	53.8871	-7.8	99	0.00
80 S	p-Bromofluorobenzene	25.0000	23.8843	4.5	96	0.00
81 T	1,2,3-Trichloropropane	50.0000	59.3085	-18.6	113	0.00
82 T	trans-1,4-Dichloro-2-Butene	50.0000	48.9099	2.2	101	0.00
83 T	n-Propylbenzene	50.0000	52.3858	-4.8	100	0.00
84 T	Bromobenzene	50.0000	52.3329	-4.7	102	0.00
85 T	1,3,5-Trimethylbenzene	50.0000	53.2158	-6.4	102	0.00
86 T	2-Chlorotoluene	50.0000	51.7381	-3.5	100	0.00
87 T	4-Chlorotoluene	50.0000	50.9469	-1.9	98	0.00
88 T	a-Methylstyrene	50.0000	56.8967	-13.8	102	0.00
89 T	tert-Butylbenzene	50.0000	51.4408	-2.9	98	0.00
90 T	1,2,4-Trimethylbenzene	50.0000	57.0042	-14.0	105	0.00
91 T	sec-Butylbenzene	50.0000	52.4583	-4.9	98	0.00
92 T	p-Isopropyltoluene	50.0000	55.1721	-10.3	101	0.00
93 T	1,3-Dichlorobenzene	50.0000	51.9226	-3.8	99	0.00
94 T	1,4-Dichlorobenzene	50.0000	51.9809	-4.0	100	0.00
95 T	n-Butylbenzene	50.0000	60.5427	-21.1	104	0.00
96 T	1,2-Dichlorobenzene	50.0000	52.9864	-6.0	100	0.00
97 T	1,2-Dibromo-3-Chloropropane	50.0000	53.4168	-6.8	112	0.00
98 T	1,2,4-Trichlorobenzene	50.0000	59.9978	-20.0	104	0.00
99 T	Hexachlorobutadiene	50.0000	48.3450	3.3	100	0.00
100 T	Naphthalene	50.0000	53.4376	-6.9	105	0.00
101 T	1,2,3-Trichlorobenzene	50.0000	57.0772	-14.2	106	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

11M83341.D 8260WTR.M

Fri May 04 08:36:39 2012

Page 2

Data File : C:\MSDCHEM\1\data\062212\11M84698.D

Vial: 2

Acq On : 22 Jun 2012 14:17

Operator: FJB

Sample : WG401428-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 22 14:38:55 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	764735	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	599791	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.73	152	337507	25.00	ug/L	-0.01

System Monitoring Compounds

37) Dibromofluoromethane	9.31	111	226587	24.3150	ug/L	-0.01
Spiked Amount	25.000	Range	86 - 118	Recovery	=	97.28%
43) 1,2-Dichloroethane-d4	9.91	65	205056	22.9957	ug/L	-0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	92.00%
58) Toluene-d8	12.15	98	792247	25.0414	ug/L	-0.02
Spiked Amount	25.000	Range	88 - 110	Recovery	=	100.16%
80) p-Bromofluorobenzene	15.31	95	284563	25.5080	ug/L	-0.02
Spiked Amount	25.000	Range	86 - 115	Recovery	=	102.04%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.04	85	481547	48.7986	ug/L	99
3) Chloromethane	3.47	50	865118	51.0470	ug/L	94
4) Vinyl Chloride	3.69	62	839533	50.4755	ug/L	98
5) 1,3-Butadiene	3.73	54	547584	64.5190	ug/L	97
6) Bromomethane	4.55	94	261710	48.1555	ug/L	100
7) Chloroethane	4.70	64	295227	50.5524	ug/L	98
8) Trichlorofluoromethane	5.18	101	730549	44.3054	ug/L	100
9) Diethyl ether	5.70	59	552356	94.8981	ug/L	94
10) Isoprene	5.73	67	539899	42.0842	ug/L	97
11) Acrolein	5.91	56	66497	164.4869	ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	5.95	101	426271	49.8574	ug/L	96
13) Acetone	6.01	43	85429	60.6061	ug/L	# 21
14) 1,1-Dichloroethene	6.23	61	626765	53.9920	ug/L	96
15) Tert-Butyl Alcohol	6.34	59	72697	188.5136	ug/L	97
16) Dimethyl Sulfide	6.49	62	362076	38.0828	ug/L	98
17) Iodomethane	6.73	142	539451	45.7067	ug/L	97
18) Methyl acetate	6.74	43	181047	36.6540	ug/L	97
19) Methylene Chloride	6.99	84	409626	49.6490	ug/L	92
20) Carbon Disulfide	7.03	76	942591	39.8296	ug/L	100
21) Acrylonitrile	7.17	53	84834	50.3457	ug/L	97
22) Methyl Tert Butyl Ether	7.20	73	788571	40.9098	ug/L	96
23) trans-1,2-Dichloroethene	7.42	96	430878	51.9881	ug/L	92
24) n-Hexane	7.51	57	416255	49.7110	ug/L	95
25) Diisopropyl ether	7.84	45	2622943	108.0528	ug/L	94
26) Vinyl Acetate	7.99	43	352369	71.1220	ug/L	96
27) 1,1-Dichloroethane	8.02	63	794243	57.1863	ug/L	99
28) Ethyl-Tert-Butyl ether	8.39	59	2352630	99.2556	ug/L	95
29) 2-Butanone	8.55	43	94409	47.9737	ug/L	98
30) Propionitrile	8.65	54	56357	97.0389	ug/L	95
31) 2,2-Dichloropropane	8.77	77	685682	61.0812	ug/L	99
32) cis-1,2-Dichloroethene	8.83	96	478547	53.2822	ug/L	90
33) Chloroform	9.03	83	754409	51.3782	ug/L	97
34) 1-Bromopropane	9.16	122	74207	44.1809	ug/L	98
35) Bromochloromethane	9.24	130	267726	46.9226	ug/L	89
36) Tetrahydrofuran	9.26	42	114155	89.3752	ug/L	95
38) 1,1,1-Trichloroethane	9.53	97	706635	51.2994	ug/L	99
39) Cyclohexane	9.56	56	541141	48.7604	ug/L	90
40) 1,1-Dichloropropene	9.72	75	608891	55.5900	ug/L	96
41) Carbon Tetrachloride	9.85	117	685857	46.8324	ug/L	99
42) Tert-Amyl-Methyl ether	9.82	73	1970930	90.9484	ug/L	97

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

11M84698.D 8260WTR.M Fri Jun 22 14:38:56 2012

Page 1

Data File : C:\MSDchem\1\data\062212\11M84698.D

Vial: 2

Acq On : 22 Jun 2012 14:17

Operator: FJB

Sample : WG401428-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 22 14:38:55 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.02	62	503802	48.8023	ug/L	97
46) Benzene	10.06	78	1737859	54.3076	ug/L	100
47) Trichloroethene	10.76	130	479826	45.7330	ug/L	97
48) Methylcyclohexane	10.85	83	506303	46.0938	ug/L	92
49) 1,2-Dichloropropane	10.97	63	422847	57.3998	ug/L	93
50) 1,4-Dioxane	11.24	88	9580	182.9091	ug/L	84
51) Bromodichloromethane	11.25	83	562741	55.8095	ug/L	98
52) Dibromomethane	11.33	93	225193	45.7055	ug/L	98
53) 2-Chloroethyl Vinyl Ether	11.53	63	167138	53.1878	ug/L	94
54) 4-Methyl-2-Pentanone	11.56	58	78165	45.4169	ug/L	92
55) cis-1,3-Dichloropropene	11.85	75	631086	54.3347	ug/L	99
56) Dimethyl Disulfide	12.10	79	325420	47.9786	ug/L	99
59) Toluene	12.24	91	1911681	52.9901	ug/L	100
60) Ethyl Methacrylate	12.34	69	337850	44.4269	ug/L	98
61) Paraldehyde	12.36	89	9544	109.0709	ug/L	79
62) trans-1,3-Dichloropropene	12.41	75	559718	57.8672	ug/L	97
63) 1,1,2-Trichloroethane	12.61	97	290134	48.6890	ug/L	98
64) 2-Hexanone	12.55	43	132683	44.0343	ug/L	93
65) 1,3-Dichloropropane	12.89	76	505231	50.4749	ug/L	97
66) Tetrachloroethene	13.01	164	369154	49.9441	ug/L	99
67) Dibromochloromethane	13.26	129	395292	46.8173	ug/L	100
68) 1,2-Dibromoethane	13.49	107	285680	46.2953	ug/L	100
69) 1-Chlorohexane	13.58	91	560784	54.2193	ug/L	97
70) Chlorobenzene	13.97	112	1307165	54.4331	ug/L	100
71) 1,1,1,2-Tetrachloroethane	13.99	131	499723	50.4700	ug/L	99
72) Ethylbenzene	13.99	106	711119	54.5689	ug/L	93
73) m-,p-Xylene	14.07	106	1748415	108.6508	ug/L	95
74) o-Xylene	14.60	106	806902	51.4744	ug/L	95
75) Styrene	14.63	104	1398883	56.0850	ug/L	97
76) Bromoform	15.10	173	247962	50.0684	ug/L	98
77) Isopropylbenzene	14.99	105	1988705	53.8869	ug/L	100
79) 1,1,2,2-Tetrachloroethane	15.19	83	309396	51.4978	ug/L	98
81) 1,2,3-Trichloropropane	15.38	110	88973	48.9281	ug/L	80
82) trans-1,4-Dichloro-2-Butene	15.41	53	91240	52.7453	ug/L	# 18
83) n-Propylbenzene	15.46	91	2403690	54.7361	ug/L	97
84) Bromobenzene	15.58	156	535448	51.0382	ug/L	96
85) 1,3,5-Trimethylbenzene	15.63	105	1643186	50.3852	ug/L	99
86) 2-Chlorotoluene	15.76	91	1420357	48.0930	ug/L	99
87) 4-Chlorotoluene	15.76	91	1420357	54.9551	ug/L	97
88) a-Methylstyrene	16.01	118	870214	47.9127	ug/L	97
89) tert-Butylbenzene	16.07	134	347451	48.9536	ug/L	97
90) 1,2,4-Trimethylbenzene	16.12	105	1771017	52.1959	ug/L	99
91) sec-Butylbenzene	16.32	105	1917418	50.3538	ug/L	100
92) p-Isopropyltoluene	16.46	119	1731612	52.9976	ug/L	100
93) 1,3-Dichlorobenzene	16.65	146	1007129	48.9466	ug/L	97
94) 1,4-Dichlorobenzene	16.76	146	1001526	47.8194	ug/L	98
95) n-Butylbenzene	16.95	91	1469882	59.0584	ug/L	97
96) 1,2-Dichlorobenzene	17.23	146	878031	47.0830	ug/L	97
97) 1,2-Dibromo-3-Chloropropan	18.14	75	45997	42.7401	ug/L	95
98) 1,2,4-Trichlorobenzene	19.20	180	561409	53.2321	ug/L	97
99) Hexachlorobutadiene	19.34	225	207266	49.5367	ug/L	96
100) Naphthalene	19.54	128	968592	41.5764	ug/L	99
101) 1,2,3-Trichlorobenzene	19.82	180	457624	46.4320	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M84698.D 8260WTR.M Fri Jun 22 14:38:56 2012

Page 2

Data File : C:\MSDchem\1\data\062212\11M84698.D

Vial: 2

Acq On : 22 Jun 2012 14:17

Operator: FJB

Sample : WG401428-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 22 14:38 2012

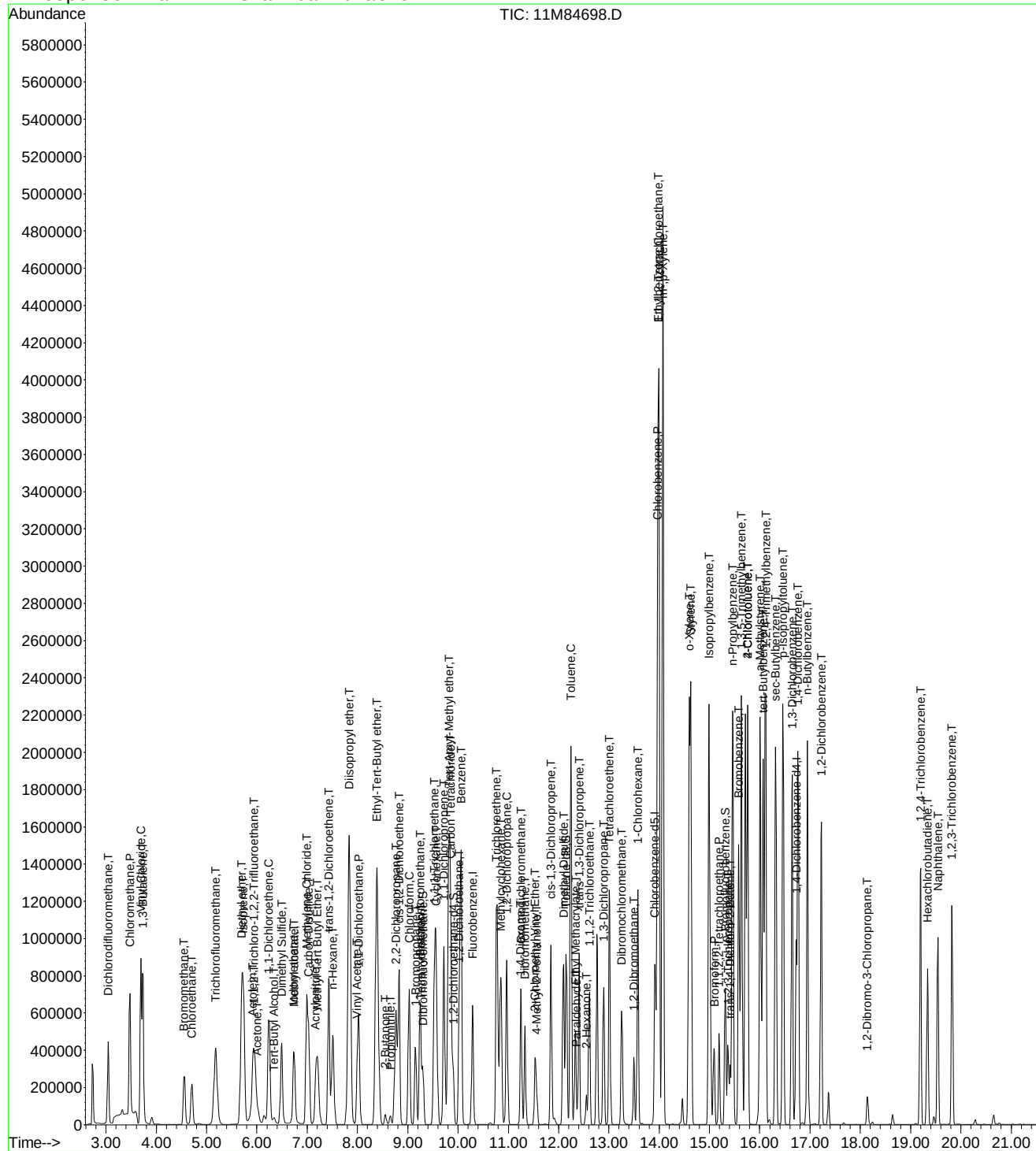
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration



11M84698.D 8260WTR.M

Fri Jun 22 14:38:56 2012

Page 3

Continuing Calibration Area and RT check

Instrument: hpms11
Initial cal date: 3 May 2012 20:05
CCV date: 22 Jun 2012 14:17
CCV Filename: 11M84698.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	480987	10.31	384086	13.94	223120	16.74
CCV	764735	10.29	599791	13.92	337507	16.73

Data File : C:\MSDCHEM\1\DATA\062212\11M84698.D

Vial: 2

Acq On : 22 Jun 2012 14:17

Operator: FJB

Sample : WG401428-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	1.0000	1.0000	0.0	159#	-0.02
2 T	Dichlorodifluoromethane	0.3226	0.3149	2.4	151#	-0.01
3 P	Chloromethane	0.5540	0.5656	-2.1	154#	-0.01
4 C	Vinyl Chloride	0.5604	0.5489	2.1	174#	-0.01
5 T	1,3-Butadiene	0.2774	0.3580	-29.0#	204#	0.00
6 T	Bromomethane	0.1777	0.1711	3.7	153#	-0.01
7 T	Chloroethane	0.1909	0.1930	-1.1	157#	-0.01
8 T	Trichlorofluoromethane	0.5390	0.4777	11.4	138	-0.01
9 T	Diethyl ether	0.1903	0.1806	5.1	152#	-0.01
10 T	Isoprene	0.4194	0.3530	15.8	128	-0.01
11 T	Acrolein	0.0132	0.0217	-64.4#	261#	-0.02
12 T	1,1,2-Trichloro-1,2,2-Trifl	0.2795	0.2787	0.3	152#	0.00
13 T	Acetone	0.0541	0.0559	-3.2	185#	-0.03
14 C	1,1-Dichloroethene	0.3795	0.4098	-8.0	166#	-0.01
15 T	Tert-Butyl Alcohol	0.0126	0.0119	5.8	144	-0.04
16 T	Dimethyl Sulfide	0.3108	0.2367	23.8	120	-0.01
17 T	Iodomethane	0.3544	0.3527	0.5	134	0.00
18 T	Methyl acetate	0.1615	0.1184	26.7#	121	-0.02
19 T	Methylene Chloride	0.2697	0.2678	0.7	160#	-0.01
20 T	Carbon Disulfide	0.7736	0.6163	20.3	125	-0.01
21 T	Acrylonitrile	0.0551	0.0555	-0.7	147	-0.01
22 T	Methyl Tert Butyl Ether	0.6301	0.5156	18.2	130	-0.02
23 T	trans-1,2-Dichloroethene	0.2709	0.2817	-4.0	161#	-0.02
24 T	n-Hexane	0.2737	0.2722	0.6	153#	-0.01
25 T	Diisopropyl ether	0.7936	0.8575	-8.1	175#	-0.01
26 T	Vinyl Acetate	0.1472	0.2304	-56.6#	225#	-0.02
27 P	1,1-Dichloroethane	0.4540	0.5193	-14.4	177#	-0.01
28 T	Ethyl-Tert-Butyl ether	0.7749	0.7691	0.7	161#	-0.01
29 T	2-Butanone	0.0643	0.0617	4.0	152#	-0.02
30 T	Propionitrile	0.0190	0.0184	3.0	151#	-0.01
31 T	2,2-Dichloropropane	0.3670	0.4483	-22.2	188#	-0.01
32 T	cis-1,2-Dichloroethene	0.2936	0.3129	-6.6	165#	-0.01
33 C	Chloroform	0.4800	0.4933	-2.8	164#	-0.01
34 T	1-Bromopropane	0.0549	0.0485	11.6	132	-0.01
35 T	Bromochloromethane	0.1865	0.1750	6.2	144	-0.02
36 T	Tetrahydrofuran	0.0418	0.0373	10.6	144	-0.02
37 S	Dibromofluoromethane	0.3046	0.2963	2.7	156#	-0.01
38 T	1,1,1-Trichloroethane	0.4503	0.4620	-2.6	158#	-0.01
39 T	Cyclohexane	0.3628	0.3538	2.5	150	-0.01
40 T	1,1-Dichloropropene	0.3581	0.3981	-11.2	170#	-0.01
41 T	Carbon Tetrachloride	0.3990	0.4484	-12.4	157#	-0.02
42 T	Tert-Amyl-Methyl ether	0.7084	0.6443	9.1	146	-0.01
43 S	1,2-Dichloroethane-d4	0.2915	0.2681	8.0	149	-0.01
44 T	Heptane	0.0000	0.0000	0.0	163#	-0.01
45 T	1,2-Dichloroethane	0.3375	0.3294	2.4	152#	-0.01
46 T	Benzene	1.0461	1.1363	-8.6	171#	-0.01
47 T	Trichloroethene	0.3430	0.3137	8.5	150#	-0.02
48 T	Methylcyclohexane	0.3591	0.3310	7.8	139	-0.02
49 C	1,2-Dichloropropane	0.2408	0.2765	-14.8	179#	-0.01
50 T	1,4-Dioxane	0.0017	0.0016	8.2	135	-0.02
51 T	Bromodichloromethane	0.3296	0.3679	-11.6	164#	-0.02
52 T	Dibromomethane	0.1422	0.1472	-3.5	148	0.00
53 T	2-Chloroethyl Vinyl Ether	0.1027	0.1093	-6.4	156#	-0.02
54 T	4-Methyl-2-Pentanone	0.0563	0.0511	9.2	137	-0.02

(#) = Out of Range

11M84698.D 8260WTR.M

Fri Jun 22 15:13:35 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062212\11M84698.D

Vial: 2

Acq On : 22 Jun 2012 14:17

Operator: FJB

Sample : WG401428-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55 T	cis-1,3-Dichloropropene	0.3797	0.4126	-8.7	162#	-0.02
56 T	Dimethyl Disulfide	0.1831	0.2128	-16.2	147	0.00
57 I	Chlorobenzene-d5	1.0000	1.0000	0.0	156#	-0.02
58 S	Toluene-d8	1.3187	1.3209	-0.2	164#	-0.02
59 C	Toluene	1.5037	1.5936	-6.0	164#	-0.02
60 T	Ethyl Methacrylate	0.2735	0.2816	-3.0	145	0.00
61 T	Paraldehyde	0.0030	0.0040	-31.8#	169#	-0.02
62 T	trans-1,3-Dichloropropene	0.4032	0.4666	-15.7	158#	-0.02
63 T	1,1,2-Trichloroethane	0.2484	0.2419	2.6	149	-0.01
64 T	2-Hexanone	0.1256	0.1106	11.9	136	-0.02
65 T	1,3-Dichloropropane	0.4172	0.4212	-0.9	155#	-0.02
66 T	Tetrachloroethene	0.3081	0.3077	0.1	151#	-0.02
67 T	Dibromochloromethane	0.3098	0.3295	-6.4	144	-0.02
68 T	1,2-Dibromoethane	0.2572	0.2382	7.4	140	-0.02
69 T	1-Chlorohexane	0.4311	0.4675	-8.4	160#	-0.02
70 P	Chlorobenzene	1.0009	1.0897	-8.9	159#	-0.01
71 T	1,1,1,2-Tetrachloroethane	0.3660	0.4166	-13.8	156#	-0.02
72 C	Ethylbenzene	0.5432	0.5928	-9.1	155#	-0.02
73 T	m-,p-Xylene	0.6707	0.7288	-8.7	154#	-0.02
74 T	o-Xylene	0.6534	0.6726	-2.9	156#	-0.02
75 T	Styrene	1.0396	1.1661	-12.2	158#	-0.02
76 P	Bromoform	0.1568	0.2067	-31.8#	149	-0.01
77 T	Isopropylbenzene	1.5382	1.6578	-7.8	152#	-0.02
78 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	151#	-0.01
79 P	1,1,2,2-Tetrachloroethane	0.4450	0.4583	-3.0	147	-0.02
80 S	p-Bromofluorobenzene	0.8263	0.8431	-2.0	161#	-0.02
81 T	1,2,3-Trichloropropane	0.1347	0.1318	2.1	145	-0.01
82 T	trans-1,4-Dichloro-2-Butene	0.1051	0.1352	-28.7#	171#	-0.02
83 T	n-Propylbenzene	3.2528	3.5610	-9.5	163#	-0.02
84 T	Bromobenzene	0.7771	0.7932	-2.1	156#	-0.02
85 T	1,3,5-Trimethylbenzene	2.4157	2.4343	-0.8	151#	-0.02
86 T	2-Chlorotoluene	2.1876	2.1042	3.8	145	0.02
87 T	4-Chlorotoluene	1.9145	2.1042	-9.9	165#	-0.02
88 T	a-Methylstyrene	1.3453	1.2892	4.2	134	-0.02
89 T	tert-Butylbenzene	0.5257	0.5147	2.1	146	-0.02
90 T	1,2,4-Trimethylbenzene	2.5133	2.6237	-4.4	150	-0.01
91 T	sec-Butylbenzene	2.8206	2.8406	-0.7	147	-0.02
92 T	p-Isopropyltoluene	2.4202	2.5653	-6.0	152#	-0.02
93 T	1,3-Dichlorobenzene	1.5241	1.4920	2.1	146	-0.02
94 T	1,4-Dichlorobenzene	1.5514	1.4837	4.4	144	-0.02
95 T	n-Butylbenzene	1.8436	2.1776	-18.1	158#	-0.02
96 T	1,2-Dichlorobenzene	1.3814	1.3008	5.8	139	-0.02
97 T	1,2-Dibromo-3-Chloropropane	0.0695	0.0681	2.0	140	-0.03
98 T	1,2,4-Trichlorobenzene	0.7812	0.8317	-6.5	145	-0.02
99 T	Hexachlorobutadiene	0.2707	0.3070	-13.4	160#	-0.02
100 T	Naphthalene	1.5237	1.4349	5.8	127	-0.02
101 T	1,2,3-Trichlorobenzene	0.7300	0.6780	7.1	135	-0.03

(#)= Out of Range

SPCC's out = 0 CCC's out = 0

11M84698.D 8260WTR.M

Fri Jun 22 15:13:35 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\062212\11M84698.D

Vial: 2

Acq On : 22 Jun 2012 14:17

Operator: FJB

Sample : WG401428-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	25.0000	25.0000	0.0	159	-0.02
2 T	Dichlorodifluoromethane	50.0000	48.7986	2.4	151	-0.01
3 P	Chloromethane	50.0000	51.0470	-2.1	154	-0.01
4 C	Vinyl Chloride	50.0000	50.4755	-1.0	174	0.00
5 T	1,3-Butadiene	50.0000	64.5190	-29.0#	204	0.00
6 T	Bromomethane	50.0000	48.1555	3.7	153	-0.01
7 T	Chloroethane	50.0000	50.5524	-1.1	157	-0.01
8 T	Trichlorofluoromethane	50.0000	44.3054	11.4	138	-0.01
9 T	Diethyl ether	100.0000	94.8982	5.1	152	-0.01
10 T	Isoprene	50.0000	42.0842	15.8	128	-0.01
11 T	Acrolein	100.0000	164.4869	-64.5#	261	-0.02
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	49.8574	0.3	152	0.00
13 T	Acetone	50.0000	60.6061	-21.2	185	-0.03
14 C	1,1-Dichloroethene	50.0000	53.9920	-8.0	166	-0.01
15 T	Tert-Butyl Alcohol	200.0000	188.5136	5.7	144	-0.04
16 T	Dimethyl Sulfide	50.0000	38.0828	23.8	120	-0.01
17 T	Iodomethane	50.0000	45.7067	8.6	134	0.00
18 T	Methyl acetate	50.0000	36.6540	26.7#	121	-0.02
19 T	Methylene Chloride	50.0000	49.6490	0.7	160	-0.01
20 T	Carbon Disulfide	50.0000	39.8296	20.3	125	-0.01
21 T	Acrylonitrile	50.0000	50.3457	-0.7	147	-0.01
22 T	Methyl Tert Butyl Ether	50.0000	40.9098	18.2	130	-0.02
23 T	trans-1,2-Dichloroethene	50.0000	51.9881	-4.0	161	-0.02
24 T	n-Hexane	50.0000	49.7110	0.6	153	-0.01
25 T	Diisopropyl ether	100.0000	108.0529	-8.1	175	-0.01
26 T	Vinyl Acetate	50.0000	71.1220	-42.2#	225	-0.02
27 P	1,1-Dichloroethane	50.0000	57.1863	-14.4	177	-0.01
28 T	Ethyl-Tert-Butyl ether	100.0000	99.2556	0.7	161	-0.01
29 T	2-Butanone	50.0000	47.9737	4.1	152	-0.02
30 T	Propionitrile	100.0000	97.0389	3.0	151	-0.01
31 T	2,2-Dichloropropane	50.0000	61.0812	-22.2	188	-0.01
32 T	cis-1,2-Dichloroethene	50.0000	53.2822	-6.6	165	-0.01
33 C	Chloroform	50.0000	51.3782	-2.8	164	-0.01
34 T	1-Bromopropane	50.0000	44.1809	11.6	132	-0.01
35 T	Bromochloromethane	50.0000	46.9226	6.2	144	-0.02
36 T	Tetrahydrofuran	100.0000	89.3752	10.6	144	-0.02
37 S	Dibromofluoromethane	25.0000	24.3150	2.7	156	-0.01
38 T	1,1,1-Trichloroethane	50.0000	51.2994	-2.6	158	-0.01
39 T	Cyclohexane	50.0000	48.7604	2.5	150	-0.01
40 T	1,1-Dichloropropene	50.0000	55.5900	-11.2	170	-0.01
41 T	Carbon Tetrachloride	50.0000	46.8324	6.3	157	-0.02
42 T	Tert-Amyl-Methyl ether	100.0000	90.9484	9.1	146	-0.01
43 S	1,2-Dichloroethane-d4	25.0000	22.9957	8.0	149	-0.01
44 T	Heptane	-1.0000	0.0000	0.0	163	-0.01
45 T	1,2-Dichloroethane	50.0000	48.8023	2.4	152	-0.01
46 T	Benzene	50.0000	54.3076	-8.6	171	-0.01
47 T	Trichloroethene	50.0000	45.7330	8.5	150	-0.02
48 T	Methylcyclohexane	50.0000	46.0938	7.8	139	-0.02
49 C	1,2-Dichloropropane	50.0000	57.3998	-14.8	179	-0.01
50 T	1,4-Dioxane	200.0000	182.9091	8.5	135	-0.02
51 T	Bromodichloromethane	50.0000	55.8095	-11.6	164	-0.02
52 T	Dibromomethane	50.0000	45.7055	8.6	148	0.00
53 T	2-Chloroethyl Vinyl Ether	50.0000	53.1878	-6.4	156	-0.02
54 T	4-Methyl-2-Pentanone	50.0000	45.4169	9.2	137	-0.02

(#)= Out of Range

11M84698.D 8260WTR.M

Fri Jun 22 15:13:36 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062212\11M84698.D

Vial: 2

Acq On : 22 Jun 2012 14:17

Operator: FJB

Sample : WG401428-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 T	cis-1,3-Dichloropropene	50.0000	54.3347	-8.7	162	-0.02
56 T	Dimethyl Disulfide	50.0000	47.9786	4.0	147	0.00
57 I	Chlorobenzene-d5	25.0000	25.0000	0.0	156	-0.02
58 S	Toluene-d8	25.0000	25.0414	-0.2	164	-0.02
59 C	Toluene	50.0000	52.9901	-6.0	164	-0.02
60 T	Ethyl Methacrylate	50.0000	44.4269	11.1	145	0.00
61 T	Paraldehyde	100.0000	109.0709	-9.1	169	-0.02
62 T	trans-1,3-Dichloropropene	50.0000	57.8672	-15.7	158	-0.02
63 T	1,1,2-Trichloroethane	50.0000	48.6890	2.6	149	-0.01
64 T	2-Hexanone	50.0000	44.0343	11.9	136	-0.02
65 T	1,3-Dichloropropane	50.0000	50.4749	-0.9	155	-0.02
66 T	Tetrachloroethene	50.0000	49.9441	0.1	151	-0.02
67 T	Dibromochloromethane	50.0000	46.8173	6.4	144	-0.02
68 T	1,2-Dibromoethane	50.0000	46.2953	7.4	140	-0.02
69 T	1-Chlorohexane	50.0000	54.2193	-8.4	160	-0.02
70 P	Chlorobenzene	50.0000	54.4331	-8.9	159	-0.01
71 T	1,1,1,2-Tetrachloroethane	50.0000	50.4699	-0.9	156	-0.02
72 C	Ethylbenzene	50.0000	54.5690	-9.1	155	-0.02
73 T	m-,p-Xylene	100.0000	108.6508	-8.7	154	-0.02
74 T	o-Xylene	50.0000	51.4744	-2.9	156	-0.02
75 T	Styrene	50.0000	56.0850	-12.2	158	-0.02
76 P	Bromoform	50.0000	50.0684	-0.1	149	-0.01
77 T	Isopropylbenzene	50.0000	53.8869	-7.8	152	-0.02
78 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	151	-0.01
79 P	1,1,2,2-Tetrachloroethane	50.0000	51.4978	-3.0	147	-0.02
80 S	p-Bromofluorobenzene	25.0000	25.5080	-2.0	161	-0.02
81 T	1,2,3-Trichloropropane	50.0000	48.9281	2.1	145	-0.01
82 T	trans-1,4-Dichloro-2-Butene	50.0000	52.7453	-5.5	171	-0.02
83 T	n-Propylbenzene	50.0000	54.7361	-9.5	163	-0.02
84 T	Bromobenzene	50.0000	51.0382	-2.1	156	-0.02
85 T	1,3,5-Trimethylbenzene	50.0000	50.3852	-0.8	151	-0.02
86 T	2-Chlorotoluene	50.0000	48.0930	3.8	145	0.02
87 T	4-Chlorotoluene	50.0000	54.9551	-9.9	165	-0.02
88 T	a-Methylstyrene	50.0000	47.9127	4.2	134	-0.02
89 T	tert-Butylbenzene	50.0000	48.9537	2.1	146	-0.02
90 T	1,2,4-Trimethylbenzene	50.0000	52.1959	-4.4	150	-0.01
91 T	sec-Butylbenzene	50.0000	50.3538	-0.7	147	-0.02
92 T	p-Isopropyltoluene	50.0000	52.9976	-6.0	152	-0.02
93 T	1,3-Dichlorobenzene	50.0000	48.9466	2.1	146	-0.02
94 T	1,4-Dichlorobenzene	50.0000	47.8194	4.4	144	-0.02
95 T	n-Butylbenzene	50.0000	59.0583	-18.1	158	-0.02
96 T	1,2-Dichlorobenzene	50.0000	47.0830	5.8	139	-0.02
97 T	1,2-Dibromo-3-Chloropropane	50.0000	42.7401	14.5	140	-0.03
98 T	1,2,4-Trichlorobenzene	50.0000	53.2321	-6.5	145	-0.02
99 T	Hexachlorobutadiene	50.0000	49.5367	0.9	160	-0.02
100 T	Naphthalene	50.0000	41.5765	16.8	127	-0.02
101 T	1,2,3-Trichlorobenzene	50.0000	46.4320	7.1	135	-0.03

(#) = Out of Range
 11M84698.D 8260WTR.M

SPCC's out = 0 CCC's out = 0
 Fri Jun 22 15:13:36 2012

Page 2

Data File : C:\MSDCHEM\1\data\062312\11M84730.D

Vial: 2

Acq On : 23 Jun 2012 9:34

Operator: MES

Sample : WG401455-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 23 09:56:08 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	651510	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	511767	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.73	152	283993	25.00	ug/L	-0.01

System Monitoring Compounds

37) Dibromofluoromethane	9.31	111	193148	24.3288	ug/L	-0.01
Spiked Amount	25.000	Range	86 - 118	Recovery	=	97.32%
43) 1,2-Dichloroethane-d4	9.91	65	172423	22.6965	ug/L	-0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	90.80%
58) Toluene-d8	12.15	98	703180	26.0490	ug/L	-0.02
Spiked Amount	25.000	Range	88 - 110	Recovery	=	104.20%
80) p-Bromofluorobenzene	15.31	95	251850	26.8297	ug/L	-0.02
Spiked Amount	25.000	Range	86 - 115	Recovery	=	107.32%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.04	85	393142	46.7636	ug/L	98
3) Chloromethane	3.47	50	760385	52.6645	ug/L	96
4) Vinyl Chloride	3.69	62	737625	52.5230	ug/L	99
5) 1,3-Butadiene	3.72	54	396267	54.8043	ug/L	99
6) Bromomethane	4.55	94	222699	48.0987	ug/L	99
7) Chloroethane	4.70	64	253399	50.9308	ug/L	98
8) Trichlorofluoromethane	5.18	101	620299	44.1568	ug/L	99
9) Diethyl ether	5.70	59	477340	96.2623	ug/L	95
10) Isoprene	5.73	67	455717	41.6957	ug/L	98
11) Acrolein	5.91	56	70901	205.8598	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	5.95	101	359370	49.3373	ug/L	96
13) Acetone	6.02	43	64121	53.2934	ug/L	94
14) 1,1-Dichloroethene	6.23	61	542465	54.8512	ug/L	96
15) Tert-Butyl Alcohol	6.35	59	65754	200.1420	ug/L	# 89
16) Dimethyl Sulfide	6.49	62	312337	38.5604	ug/L	100
17) Iodomethane	6.73	142	451007	44.8605	ug/L	97
18) Methyl acetate	6.75	43	161580	38.3979	ug/L	98
19) Methylene Chloride	6.99	84	361867	51.4828	ug/L	92
20) Carbon Disulfide	7.03	76	800984	39.7280	ug/L	99
21) Acrylonitrile	7.17	53	77625	54.0734	ug/L	99
22) Methyl Tert Butyl Ether	7.20	73	702337	42.7683	ug/L	96
23) trans-1,2-Dichloroethene	7.43	96	373200	52.8544	ug/L	93
24) n-Hexane	7.51	57	332885	46.6635	ug/L	95
25) Diisopropyl ether	7.84	45	2265387	109.5417	ug/L	94
26) Vinyl Acetate	7.99	43	286836	68.0717	ug/L	96
27) 1,1-Dichloroethane	8.02	63	698608	59.0421	ug/L	99
28) Ethyl-Tert-Butyl ether	8.39	59	2048650	101.4516	ug/L	95
29) 2-Butanone	8.55	43	81189	48.4258	ug/L	100
30) Propionitrile	8.65	54	49197	99.4320	ug/L	96
31) 2,2-Dichloropropane	8.77	77	572744	59.8874	ug/L	99
32) cis-1,2-Dichloroethene	8.83	96	418134	54.6466	ug/L	90
33) Chloroform	9.03	83	672171	53.7331	ug/L	96
34) 1-Bromopropane	9.16	122	66574	46.5248	ug/L	97
35) Bromochloromethane	9.24	130	237421	48.8428	ug/L	88
36) Tetrahydrofuran	9.27	42	102093	93.8227	ug/L	94
38) 1,1,1-Trichloroethane	9.53	97	614679	52.3787	ug/L	99
39) Cyclohexane	9.56	56	461815	48.8443	ug/L	90
40) 1,1-Dichloropropene	9.72	75	524594	56.2174	ug/L	97
41) Carbon Tetrachloride	9.85	117	598856	47.9902	ug/L	99
42) Tert-Amyl-Methyl ether	9.82	73	1733888	93.9149	ug/L	97

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

11M84730.D 8260WTR.M Sat Jun 23 09:56:09 2012

Page 1

Data File : C:\MSDchem\1\data\062312\11M84730.D

Vial: 2

Acq On : 23 Jun 2012 9:34

Operator: MES

Sample : WG401455-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 23 09:56:08 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.02	62	455380	51.7779	ug/L	97
46) Benzene	10.06	78	1535930	56.3387	ug/L	99
47) Trichloroethene	10.77	130	422094	47.2221	ug/L	97
48) Methylcyclohexane	10.85	83	425836	45.5055	ug/L	94
49) 1,2-Dichloropropane	10.97	63	375074	59.7632	ug/L	92
50) 1,4-Dioxane	11.24	88	7361	164.9668	ug/L	98
51) Bromodichloromethane	11.25	83	505861	58.8872	ug/L	97
52) Dibromomethane	11.33	93	206561	49.1924	ug/L	96
53) 2-Chloroethyl Vinyl Ether	11.53	63	144589	54.0085	ug/L	93
54) 4-Methyl-2-Pentanone	11.56	58	72220	49.2553	ug/L	91
55) cis-1,3-Dichloropropene	11.85	75	566329	57.2331	ug/L	100
56) Dimethyl Disulfide	12.10	79	288470	49.7062	ug/L	100
59) Toluene	12.24	91	1709025	55.5208	ug/L	100
60) Ethyl Methacrylate	12.34	69	313210	48.2205	ug/L	97
61) Paraldehyde	12.36	89	6091	87.2901	ug/L	87
62) trans-1,3-Dichloropropene	12.41	75	498923	60.4539	ug/L	97
63) 1,1,2-Trichloroethane	12.61	97	263554	51.8358	ug/L	98
64) 2-Hexanone	12.55	43	120738	46.9621	ug/L	92
65) 1,3-Dichloropropane	12.89	76	451850	52.9063	ug/L	97
66) Tetrachloroethene	13.02	164	317499	50.3439	ug/L	99
67) Dibromochloromethane	13.26	129	351634	48.7106	ug/L	99
68) 1,2-Dibromoethane	13.49	107	253907	48.2235	ug/L	100
69) 1-Chlorohexane	13.58	91	472378	53.5274	ug/L	95
70) Chlorobenzene	13.97	112	1172524	57.2245	ug/L	100
71) 1,1,1,2-Tetrachloroethane	13.99	131	452916	53.1793	ug/L	98
72) Ethylbenzene	13.99	106	630740	56.7259	ug/L	92
73) m-,p-Xylene	14.07	106	1559458	113.5768	ug/L	94
74) o-Xylene	14.60	106	716626	53.5785	ug/L	95
75) Styrene	14.63	104	1253207	58.8865	ug/L	98
76) Bromoform	15.10	173	223968	52.6409	ug/L	99
77) Isopropylbenzene	14.99	105	1784279	56.6635	ug/L	99
79) 1,1,2,2-Tetrachloroethane	15.19	83	279798	55.3470	ug/L	98
81) 1,2,3-Trichloropropane	15.38	110	79949	52.2503	ug/L	89
82) trans-1,4-Dichloro-2-Butene	15.41	53	77919	53.5091	ug/L	96
83) n-Propylbenzene	15.46	91	2119074	57.3477	ug/L	98
84) Bromobenzene	15.58	156	483226	54.7398	ug/L	97
85) 1,3,5-Trimethylbenzene	15.63	105	1491219	54.3417	ug/L	98
86) 2-Chlorotoluene	15.72	91	1386737	55.8025	ug/L	96
87) 4-Chlorotoluene	15.76	91	1303301	59.9281	ug/L	96
88) a-Methylstyrene	16.01	118	781866	51.1602	ug/L	96
89) tert-Butylbenzene	16.07	134	312908	52.3942	ug/L	98
90) 1,2,4-Trimethylbenzene	16.12	105	1605300	56.2270	ug/L	100
91) sec-Butylbenzene	16.32	105	1691989	52.8066	ug/L	100
92) p-Isopropyltoluene	16.46	119	1523170	55.4025	ug/L	100
93) 1,3-Dichlorobenzene	16.65	146	912967	52.7312	ug/L	98
94) 1,4-Dichlorobenzene	16.76	146	903390	51.2616	ug/L	98
95) n-Butylbenzene	16.95	91	1278557	61.0512	ug/L	96
96) 1,2-Dichlorobenzene	17.23	146	791514	50.4415	ug/L	96
97) 1,2-Dibromo-3-Chloropropan	18.15	75	40247	44.4224	ug/L	91
98) 1,2,4-Trichlorobenzene	19.20	180	489521	55.1620	ug/L	97
99) Hexachlorobutadiene	19.34	225	164104	46.6260	ug/L	98
100) Naphthalene	19.54	128	825346	42.0841	ug/L	99
101) 1,2,3-Trichlorobenzene	19.83	180	391750	47.2381	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M84730.D 8260WTR.M Sat Jun 23 09:56:09 2012

Page 2

Data File : C:\MSDCHEM\1\data\062312\11M84730.D

Vial: 2

Acq On : 23 Jun 2012 9:34

Operator: MES

Sample : WG401455-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 23 9:56 2012

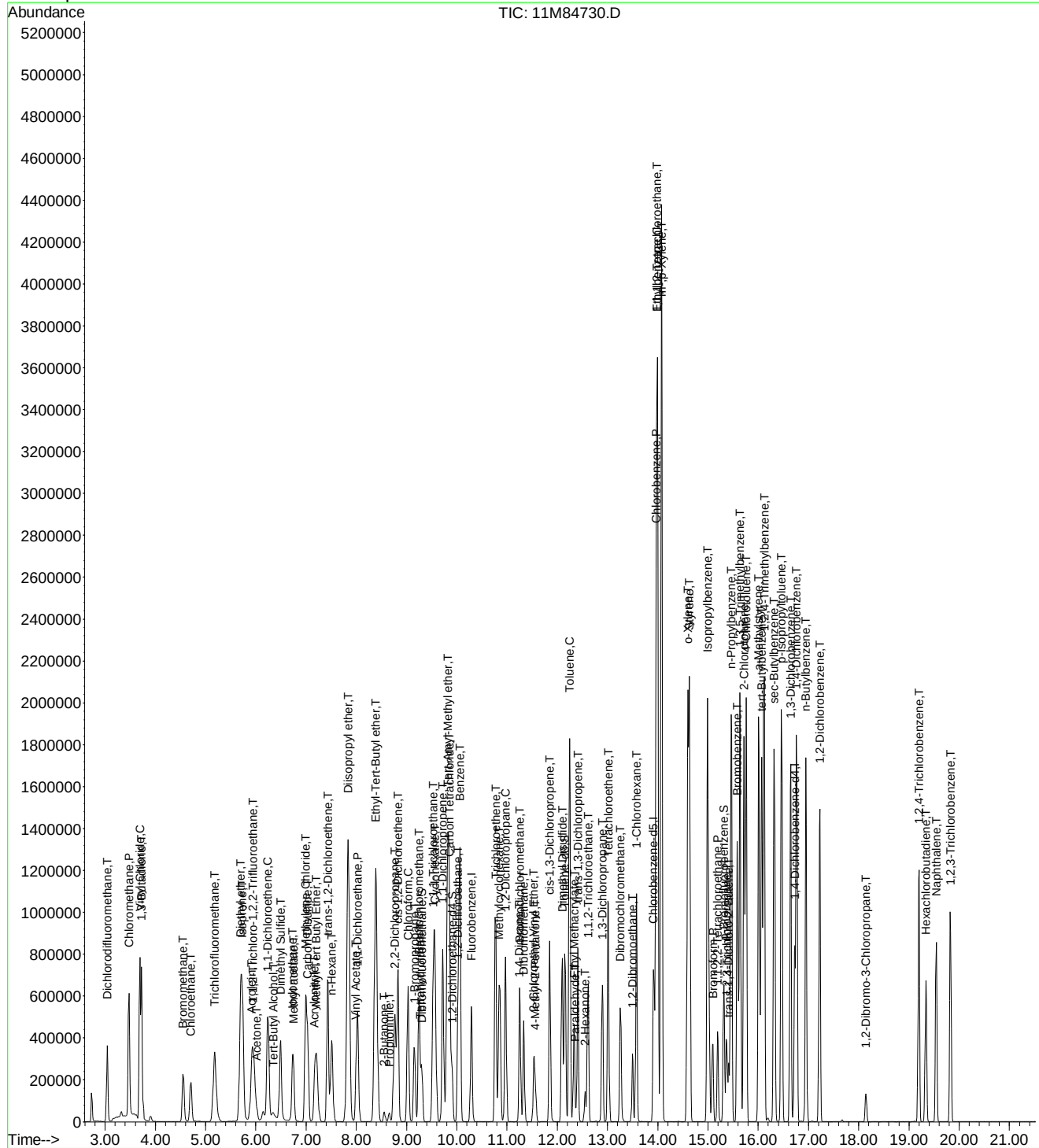
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration



Continuing Calibration Area and RT check

Instrument: hpms11
Initial cal date: 3 May 2012 20:05
CCV date: 23 Jun 2012 9:34
CCV Filename: 11M84730.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	480987	10.31	384086	13.94	223120	16.74
CCV	651510	10.29	511767	13.92	283993	16.73

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\062312\11M84730.D

Vial: 2

Acq On : 23 Jun 2012 9:34

Operator: MES

Sample : WG401455-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	1.0000	1.0000	0.0	135	-0.02
2 T	Dichlorodifluoromethane	0.3226	0.3017	6.5	123	-0.01
3 P	Chloromethane	0.5540	0.5836	-5.3	135	-0.01
4 C	Vinyl Chloride	0.5604	0.5661	-1.0	153#	-0.01
5 T	1,3-Butadiene	0.2774	0.3041	-9.6	147	0.00
6 T	Bromomethane	0.1777	0.1709	3.8	130	-0.01
7 T	Chloroethane	0.1909	0.1945	-1.9	134	-0.01
8 T	Trichlorofluoromethane	0.5390	0.4760	11.7	117	-0.01
9 T	Diethyl ether	0.1903	0.1832	3.7	131	-0.01
10 T	Isoprene	0.4194	0.3497	16.6	108	-0.01
11 T	Acrolein	0.0132	0.0272	-105.8#	278#	-0.02
12 T	1,1,2-Trichloro-1,2,2-Trifl	0.2795	0.2758	1.3	128	0.00
13 T	Acetone	0.0541	0.0492	9.1	139	-0.02
14 C	1,1-Dichloroethene	0.3795	0.4163	-9.7	144	-0.01
15 T	Tert-Butyl Alcohol	0.0126	0.0126	-0.1	130	-0.03
16 T	Dimethyl Sulfide	0.3108	0.2397	22.9	104	-0.01
17 T	Iodomethane	0.3544	0.3461	2.3	112	0.00
18 T	Methyl acetate	0.1615	0.1240	23.2	108	-0.01
19 T	Methylene Chloride	0.2697	0.2777	-3.0	141	-0.01
20 T	Carbon Disulfide	0.7736	0.6147	20.5	106	-0.01
21 T	Acrylonitrile	0.0551	0.0596	-8.1	134	-0.01
22 T	Methyl Tert Butyl Ether	0.6301	0.5390	14.5	116	-0.02
23 T	trans-1,2-Dichloroethene	0.2709	0.2864	-5.7	139	-0.01
24 T	n-Hexane	0.2737	0.2555	6.7	123	-0.01
25 T	Diisopropyl ether	0.7936	0.8693	-9.5	151#	-0.01
26 T	Vinyl Acetate	0.1472	0.2201	-49.6#	183#	-0.02
27 P	1,1-Dichloroethane	0.4540	0.5362	-18.1	156#	-0.01
28 T	Ethyl-Tert-Butyl ether	0.7749	0.7861	-1.5	140	-0.01
29 T	2-Butanone	0.0643	0.0623	3.1	131	-0.02
30 T	Propionitrile	0.0190	0.0189	0.6	131	-0.01
31 T	2,2-Dichloropropane	0.3670	0.4396	-19.8	157#	-0.01
32 T	cis-1,2-Dichloroethene	0.2936	0.3209	-9.3	144	-0.01
33 C	Chloroform	0.4800	0.5159	-7.5	146	-0.01
34 T	1-Bromopropane	0.0549	0.0511	7.0	118	-0.01
35 T	Bromochloromethane	0.1865	0.1822	2.3	127	-0.02
36 T	Tetrahydrofuran	0.0418	0.0392	6.2	129	-0.01
37 S	Dibromofluoromethane	0.3046	0.2965	2.7	133	-0.01
38 T	1,1,1-Trichloroethane	0.4503	0.4717	-4.8	137	-0.01
39 T	Cyclohexane	0.3628	0.3544	2.3	128	-0.01
40 T	1,1-Dichloropropene	0.3581	0.4026	-12.4	146	-0.01
41 T	Carbon Tetrachloride	0.3990	0.4596	-15.2	137	-0.02
42 T	Tert-Amyl-Methyl ether	0.7084	0.6653	6.1	128	-0.01
43 S	1,2-Dichloroethane-d4	0.2915	0.2647	9.2	125	-0.01
44 T	Heptane	0.0000	0.0000	0.0	144	-0.01
45 T	1,2-Dichloroethane	0.3375	0.3495	-3.6	137	-0.01
46 T	Benzene	1.0461	1.1788	-12.7	151#	-0.01
47 T	Trichloroethene	0.3430	0.3239	5.6	132	-0.01
48 T	Methylcyclohexane	0.3591	0.3268	9.0	117	-0.02
49 C	1,2-Dichloropropane	0.2408	0.2878	-19.5	159#	-0.01
50 T	1,4-Dioxane	0.0017	0.0014	17.5	104	-0.02
51 T	Bromodichloromethane	0.3296	0.3882	-17.8	148	-0.02
52 T	Dibromomethane	0.1422	0.1585	-11.5	136	0.00
53 T	2-Chloroethyl Vinyl Ether	0.1027	0.1110	-8.0	135	-0.02
54 T	4-Methyl-2-Pentanone	0.0563	0.0554	1.5	127	-0.02

(#) = Out of Range

11M84730.D 8260WTR.M

Sat Jun 23 10:09:01 2012

Page 1

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\062312\11M84730.D

Vial: 2

Acq On : 23 Jun 2012 9:34

Operator: MES

Sample : WG401455-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55 T	cis-1,3-Dichloropropene	0.3797	0.4346	-14.5	145	-0.02
56 T	Dimethyl Disulfide	0.1831	0.2214	-20.9	130	0.00
57 I	Chlorobenzene-d5	1.0000	1.0000	0.0	133	-0.02
58 S	Toluene-d8	1.3187	1.3740	-4.2	145	-0.02
59 C	Toluene	1.5037	1.6697	-11.0	147	-0.02
60 T	Ethyl Methacrylate	0.2735	0.3060	-11.9	135	0.00
61 T	Paraldehyde	0.0030	0.0030	1.3	108	-0.02
62 T	trans-1,3-Dichloropropene	0.4032	0.4874	-20.9	140	-0.02
63 T	1,1,2-Trichloroethane	0.2484	0.2575	-3.7	136	-0.01
64 T	2-Hexanone	0.1256	0.1180	6.1	124	-0.02
65 T	1,3-Dichloropropane	0.4172	0.4415	-5.8	139	-0.02
66 T	Tetrachloroethene	0.3081	0.3102	-0.7	130	-0.01
67 T	Dibromochloromethane	0.3098	0.3436	-10.9	128	-0.02
68 T	1,2-Dibromoethane	0.2572	0.2481	3.6	125	-0.02
69 T	1-Chlorohexane	0.4311	0.4615	-7.1	135	-0.02
70 P	Chlorobenzene	1.0009	1.1456	-14.4	142	-0.01
71 T	1,1,1,2-Tetrachloroethane	0.3660	0.4425	-20.9	141	-0.02
72 C	Ethylbenzene	0.5432	0.6162	-13.5	137	-0.02
73 T	m-,p-Xylene	0.6707	0.7618	-13.6	137	-0.02
74 T	o-Xylene	0.6534	0.7002	-7.2	139	-0.02
75 T	Styrene	1.0396	1.2244	-17.8	141	-0.02
76 P	Bromoform	0.1568	0.2188	-39.5#	135	-0.01
77 T	Isopropylbenzene	1.5382	1.7433	-13.3	137	-0.02
78 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	127	-0.01
79 P	1,1,2,2-Tetrachloroethane	0.4450	0.4926	-10.7	133	-0.02
80 S	p-Bromofluorobenzene	0.8263	0.8868	-7.3	143	-0.02
81 T	1,2,3-Trichloropropane	0.1347	0.1408	-4.5	131	-0.01
82 T	trans-1,4-Dichloro-2-Butene	0.1051	0.1372	-30.6#	146	-0.02
83 T	n-Propylbenzene	3.2528	3.7309	-14.7	144	-0.02
84 T	Bromobenzene	0.7771	0.8508	-9.5	141	-0.02
85 T	1,3,5-Trimethylbenzene	2.4157	2.6254	-8.7	137	-0.02
86 T	2-Chlorotoluene	2.1876	2.4415	-11.6	142	-0.02
87 T	4-Chlorotoluene	1.9145	2.2946	-19.9	152#	-0.02
88 T	a-Methylstyrene	1.3453	1.3766	-2.3	121	-0.02
89 T	tert-Butylbenzene	0.5257	0.5509	-4.8	131	-0.02
90 T	1,2,4-Trimethylbenzene	2.5133	2.8263	-12.5	136	-0.01
91 T	sec-Butylbenzene	2.8206	2.9789	-5.6	129	-0.02
92 T	p-Isopropyltoluene	2.4202	2.6817	-10.8	134	-0.02
93 T	1,3-Dichlorobenzene	1.5241	1.6074	-5.5	133	-0.02
94 T	1,4-Dichlorobenzene	1.5514	1.5905	-2.5	130	-0.02
95 T	n-Butylbenzene	1.8436	2.2510	-22.1	137	-0.02
96 T	1,2-Dichlorobenzene	1.3814	1.3935	-0.9	125	-0.02
97 T	1,2-Dibromo-3-Chloropropane	0.0695	0.0709	-1.9	122	-0.02
98 T	1,2,4-Trichlorobenzene	0.7812	0.8619	-10.3	126	-0.02
99 T	Hexachlorobutadiene	0.2707	0.2889	-6.7	127	-0.02
100 T	Naphthalene	1.5237	1.4531	4.6	108	-0.02
101 T	1,2,3-Trichlorobenzene	0.7300	0.6897	5.5	116	-0.02

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

11M84730.D 8260WTR.M

Sat Jun 23 10:09:02 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\062312\11M84730.D

Vial: 2

Acq On : 23 Jun 2012 9:34

Operator: MES

Sample : WG401455-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	25.0000	25.0000	0.0	135	-0.02
2 T	Dichlorodifluoromethane	50.0000	46.7636	6.5	123	-0.01
3 P	Chloromethane	50.0000	52.6645	-5.3	135	-0.01
4 C	Vinyl Chloride	50.0000	52.5230	-5.0	153	0.00
5 T	1,3-Butadiene	50.0000	54.8043	-9.6	147	0.00
6 T	Bromomethane	50.0000	48.0987	3.8	130	-0.01
7 T	Chloroethane	50.0000	50.9308	-1.9	134	-0.01
8 T	Trichlorofluoromethane	50.0000	44.1568	11.7	117	-0.01
9 T	Diethyl ether	100.0000	96.2623	3.7	131	-0.01
10 T	Isoprene	50.0000	41.6957	16.6	108	-0.01
11 T	Acrolein	100.0000	205.8598	-105.9#	278	-0.02
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	49.3373	1.3	128	0.00
13 T	Acetone	50.0000	53.2934	-6.6	139	-0.02
14 C	1,1-Dichloroethene	50.0000	54.8512	-9.7	144	-0.01
15 T	Tert-Butyl Alcohol	200.0000	200.1420	-0.1	130	-0.03
16 T	Dimethyl Sulfide	50.0000	38.5604	22.9	104	-0.01
17 T	Iodomethane	50.0000	44.8605	10.3	112	0.00
18 T	Methyl acetate	50.0000	38.3979	23.2	108	-0.01
19 T	Methylene Chloride	50.0000	51.4828	-3.0	141	-0.01
20 T	Carbon Disulfide	50.0000	39.7280	20.5	106	-0.01
21 T	Acrylonitrile	50.0000	54.0734	-8.1	134	-0.01
22 T	Methyl Tert Butyl Ether	50.0000	42.7683	14.5	116	-0.02
23 T	trans-1,2-Dichloroethene	50.0000	52.8544	-5.7	139	-0.01
24 T	n-Hexane	50.0000	46.6635	6.7	123	-0.01
25 T	Diisopropyl ether	100.0000	109.5417	-9.5	151	-0.01
26 T	Vinyl Acetate	50.0000	68.0717	-36.1#	183	-0.02
27 P	1,1-Dichloroethane	50.0000	59.0421	-18.1	156	-0.01
28 T	Ethyl-Tert-Butyl ether	100.0000	101.4516	-1.5	140	-0.01
29 T	2-Butanone	50.0000	48.4258	3.1	131	-0.02
30 T	Propionitrile	100.0000	99.4320	0.6	131	-0.01
31 T	2,2-Dichloropropane	50.0000	59.8874	-19.8	157	-0.01
32 T	cis-1,2-Dichloroethene	50.0000	54.6466	-9.3	144	-0.01
33 C	Chloroform	50.0000	53.7331	-7.5	146	-0.01
34 T	1-Bromopropane	50.0000	46.5248	7.0	118	-0.01
35 T	Bromochloromethane	50.0000	48.8428	2.3	127	-0.02
36 T	Tetrahydrofuran	100.0000	93.8227	6.2	129	-0.01
37 S	Dibromofluoromethane	25.0000	24.3287	2.7	133	-0.01
38 T	1,1,1-Trichloroethane	50.0000	52.3787	-4.8	137	-0.01
39 T	Cyclohexane	50.0000	48.8443	2.3	128	-0.01
40 T	1,1-Dichloropropene	50.0000	56.2174	-12.4	146	-0.01
41 T	Carbon Tetrachloride	50.0000	47.9902	4.0	137	-0.02
42 T	Tert-Amyl-Methyl ether	100.0000	93.9149	6.1	128	-0.01
43 S	1,2-Dichloroethane-d4	25.0000	22.6965	9.2	125	-0.01
44 T	Heptane	-1.0000	0.0000	0.0	144	-0.01
45 T	1,2-Dichloroethane	50.0000	51.7779	-3.6	137	-0.01
46 T	Benzene	50.0000	56.3387	-12.7	151	-0.01
47 T	Trichloroethene	50.0000	47.2221	5.6	132	-0.01
48 T	Methylcyclohexane	50.0000	45.5055	9.0	117	-0.02
49 C	1,2-Dichloropropane	50.0000	59.7632	-19.5	159	-0.01
50 T	1,4-Dioxane	200.0000	164.9668	17.5	104	-0.02
51 T	Bromodichloromethane	50.0000	58.8872	-17.8	148	-0.02
52 T	Dibromomethane	50.0000	49.1924	1.6	136	0.00
53 T	2-Chloroethyl Vinyl Ether	50.0000	54.0085	-8.0	135	-0.02
54 T	4-Methyl-2-Pentanone	50.0000	49.2553	1.5	127	-0.02

(#)= Out of Range

11M84730.D 8260WTR.M

Sat Jun 23 10:08:59 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062312\11M84730.D

Vial: 2

Acq On : 23 Jun 2012 9:34

Operator: MES

Sample : WG401455-02 50ug/L CCV 8260

Inst : hpms11

Misc : 1,1 STD52233

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 T	cis-1,3-Dichloropropene	50.0000	57.2331	-14.5	145	-0.02
56 T	Dimethyl Disulfide	50.0000	49.7062	0.6	130	0.00
57 I	Chlorobenzene-d5	25.0000	25.0000	0.0	133	-0.02
58 S	Toluene-d8	25.0000	26.0490	-4.2	145	-0.02
59 C	Toluene	50.0000	55.5208	-11.0	147	-0.02
60 T	Ethyl Methacrylate	50.0000	48.2205	3.6	135	0.00
61 T	Paraldehyde	100.0000	87.2901	12.7	108	-0.02
62 T	trans-1,3-Dichloropropene	50.0000	60.4539	-20.9	140	-0.02
63 T	1,1,2-Trichloroethane	50.0000	51.8358	-3.7	136	-0.01
64 T	2-Hexanone	50.0000	46.9621	6.1	124	-0.02
65 T	1,3-Dichloropropane	50.0000	52.9063	-5.8	139	-0.02
66 T	Tetrachloroethene	50.0000	50.3439	-0.7	130	-0.01
67 T	Dibromochloromethane	50.0000	48.7106	2.6	128	-0.02
68 T	1,2-Dibromoethane	50.0000	48.2236	3.6	125	-0.02
69 T	1-Chlorohexane	50.0000	53.5274	-7.1	135	-0.02
70 P	Chlorobenzene	50.0000	57.2245	-14.4	142	-0.01
71 T	1,1,1,2-Tetrachloroethane	50.0000	53.1793	-6.4	141	-0.02
72 C	Ethylbenzene	50.0000	56.7259	-13.5	137	-0.02
73 T	m-,p-Xylene	100.0000	113.5768	-13.6	137	-0.02
74 T	o-Xylene	50.0000	53.5785	-7.2	139	-0.02
75 T	Styrene	50.0000	58.8865	-17.8	141	-0.02
76 P	Bromoform	50.0000	52.6409	-5.3	135	-0.01
77 T	Isopropylbenzene	50.0000	56.6635	-13.3	137	-0.02
78 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	127	-0.01
79 P	1,1,2,2-Tetrachloroethane	50.0000	55.3470	-10.7	133	-0.02
80 S	p-Bromofluorobenzene	25.0000	26.8297	-7.3	143	-0.02
81 T	1,2,3-Trichloropropane	50.0000	52.2503	-4.5	131	-0.01
82 T	trans-1,4-Dichloro-2-Butene	50.0000	53.5091	-7.0	146	-0.02
83 T	n-Propylbenzene	50.0000	57.3477	-14.7	144	-0.02
84 T	Bromobenzene	50.0000	54.7398	-9.5	141	-0.02
85 T	1,3,5-Trimethylbenzene	50.0000	54.3417	-8.7	137	-0.02
86 T	2-Chlorotoluene	50.0000	55.8025	-11.6	142	-0.02
87 T	4-Chlorotoluene	50.0000	59.9281	-19.9	152	-0.02
88 T	a-Methylstyrene	50.0000	51.1602	-2.3	121	-0.02
89 T	tert-Butylbenzene	50.0000	52.3942	-4.8	131	-0.02
90 T	1,2,4-Trimethylbenzene	50.0000	56.2270	-12.5	136	-0.01
91 T	sec-Butylbenzene	50.0000	52.8066	-5.6	129	-0.02
92 T	p-Isopropyltoluene	50.0000	55.4025	-10.8	134	-0.02
93 T	1,3-Dichlorobenzene	50.0000	52.7312	-5.5	133	-0.02
94 T	1,4-Dichlorobenzene	50.0000	51.2616	-2.5	130	-0.02
95 T	n-Butylbenzene	50.0000	61.0512	-22.1	137	-0.02
96 T	1,2-Dichlorobenzene	50.0000	50.4415	-0.9	125	-0.02
97 T	1,2-Dibromo-3-Chloropropane	50.0000	44.4224	11.2	122	-0.02
98 T	1,2,4-Trichlorobenzene	50.0000	55.1620	-10.3	126	-0.02
99 T	Hexachlorobutadiene	50.0000	46.6260	6.7	127	-0.02
100 T	Naphthalene	50.0000	42.0841	15.8	108	-0.02
101 T	1,2,3-Trichlorobenzene	50.0000	47.2381	5.5	116	-0.02

(#)= Out of Range

SPCC's out = 0 CCC's out = 0

11M84730.D 8260WTR.M

Sat Jun 23 10:08:59 2012

Page 2

2.1.1.5 Raw QC Data

Data File : C:\MSDCHEM\1\DATA\050312\11M83329.D

Vial: 3

Acq On : 3 May 2012 16:30

Operator: ADC

Sample : WG396851-01 BFB 50ng 8260

Inst : HPMS11

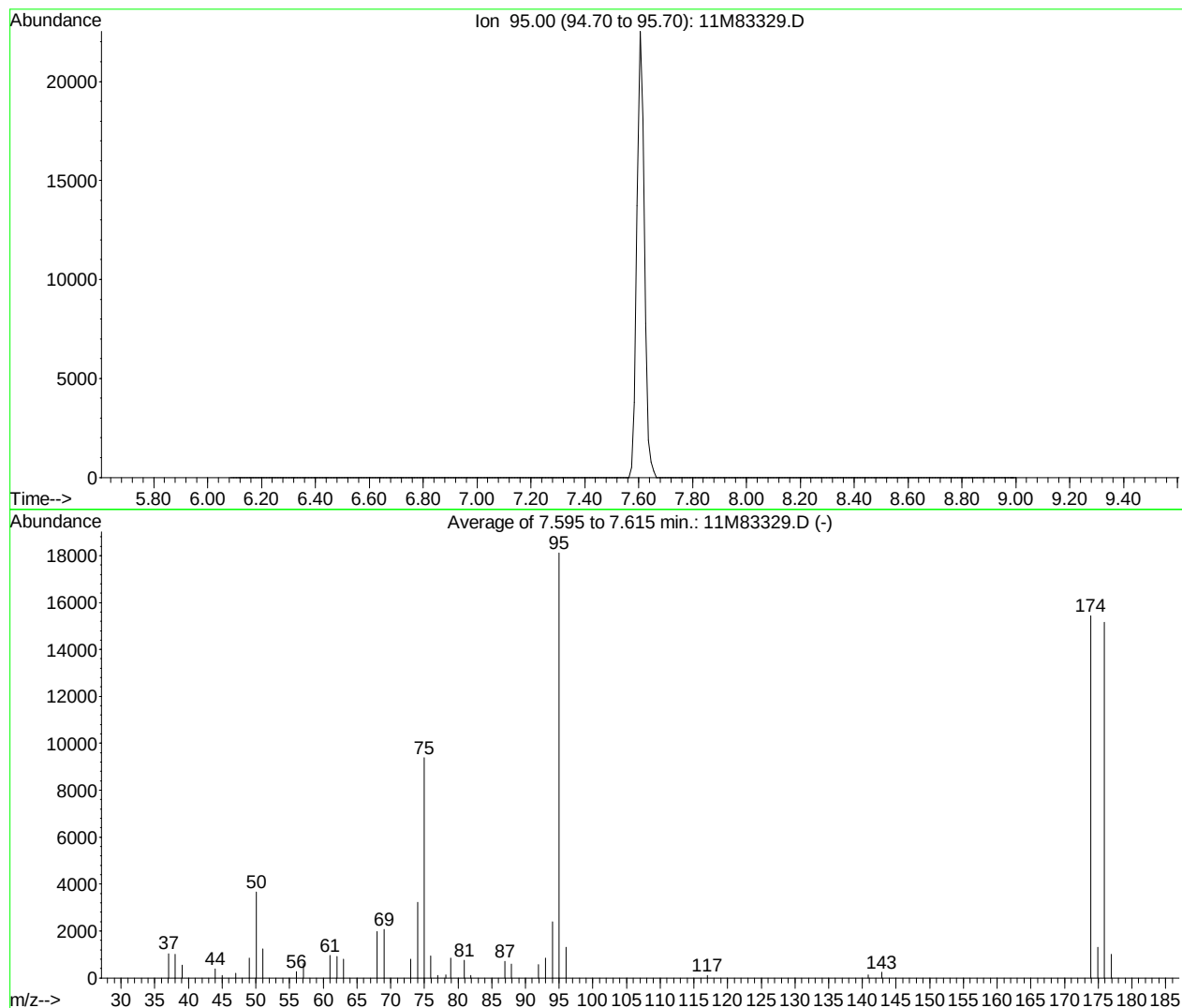
Misc : 1,1 STD51241

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11



AutoFind: Scans 147, 148, 149; Background Corrected with Scan 142

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.3	3670	PASS
75	95	30	60	51.8	9391	PASS
95	95	100	100	100.0	18119	PASS
96	95	5	9	7.2	1313	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	85.2	15443	PASS
175	174	5	9	8.5	1311	PASS
176	174	95	101	98.2	15168	PASS
177	176	5	9	6.6	1006	PASS

11M83329.D 8260WTR.M Fri May 04 12:18:18 2012

BFB

Data File : C:\MSDCHEM\1\DATA\062212\11M84697.D

Vial: 1

Acq On : 22 Jun 2012 13:52

Operator: FJB

Sample : WG401428-01 BFB 50ng 8260

Inst : hpms11

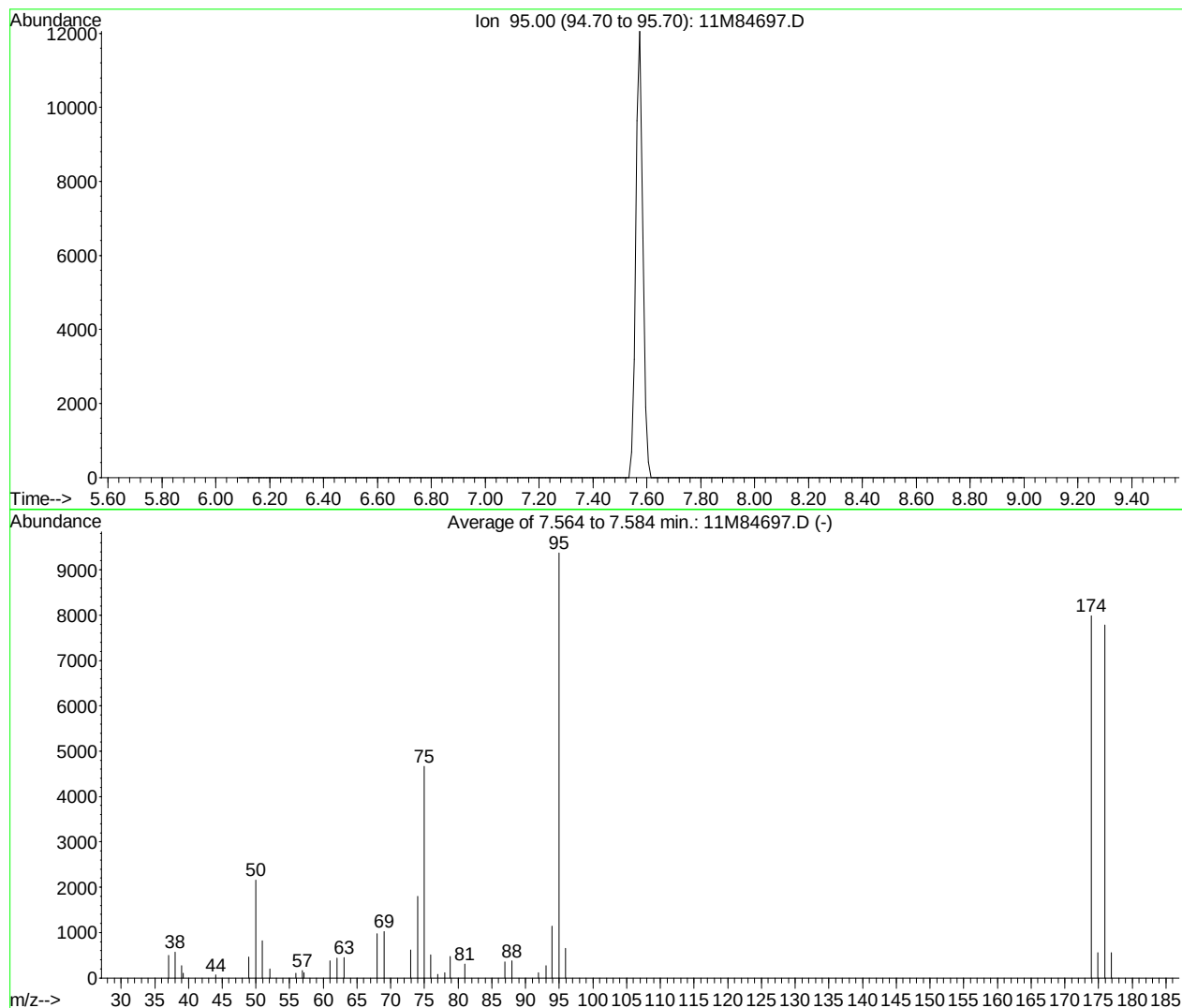
Misc : 1,1 STD52401

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\BFB.M (RTE Integrator)

Title : SOP: OVL MSV01



AutoFind: Scans 144, 145, 146; Background Corrected with Scan 139

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.0	2158	PASS
75	95	30	60	49.8	4671	PASS
95	95	100	100	100.0	9375	PASS
96	95	5	9	6.9	650	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	85.2	7988	PASS
175	174	5	9	7.0	561	PASS
176	174	95	101	97.4	7781	PASS
177	176	5	9	7.1	551	PASS

11M84697.D BFB.M

Fri Jun 22 15:14:02 2012

BFB

Data File : C:\MSDCHEM\1\DATA\062312\11M84729.D

Vial: 3

Acq On : 23 Jun 2012 9:03

Operator: MES

Sample : WG401455-01 BFB 50ng 8260

Inst : hpms11

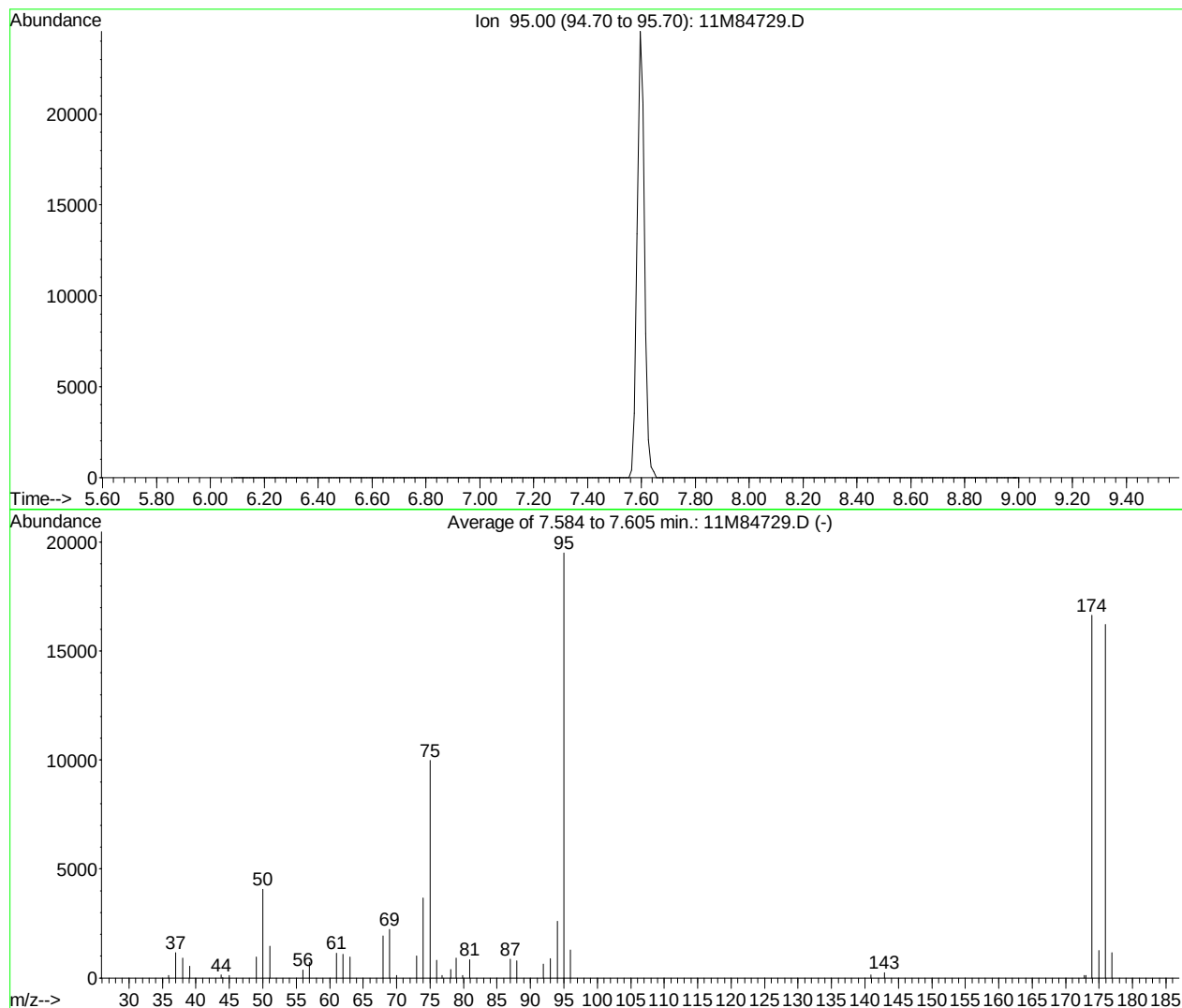
Misc : 1,1 STD52401

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\BFB.M (RTE Integrator)

Title : SOP: OVL MSV01



AutoFind: Scans 146, 147, 148; Background Corrected with Scan 141

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.8	4063	PASS
75	95	30	60	51.2	9992	PASS
95	95	100	100	100.0	19512	PASS
96	95	5	9	6.5	1278	PASS
173	174	0.00	2	0.7	112	PASS
174	95	50	100	85.3	16652	PASS
175	174	5	9	7.6	1265	PASS
176	174	95	101	97.4	16221	PASS
177	176	5	9	7.1	1145	PASS

11M84729.D BFB.M

Sat Jun 23 09:46:27 2012

Data File : C:\MSDCHEM\1\DATA\062212\11M84700.D Vial: 4
 Acq On : 22 Jun 2012 15:18 Operator: FJB
 Sample : WG401429-01 VBLK0622 BLANK 8260 Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 25 10:16:53 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Wed May 23 13:06:58 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	616940	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	470173	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.73	152	236243	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.30	111	181850	24.1892	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.76%			
43) 1,2-Dichloroethane-d4	9.91	65	180727	25.1226	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.48%			
58) Toluene-d8	12.15	98	651771	26.2806	ug/L	-0.02
Spiked Amount 25.000	Range 88 - 110		Recovery = 105.12%			
80) p-Bromofluorobenzene	15.31	95	219981	28.1713	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.68%			
Target Compounds						
4) Vinyl Chloride	3.63	62	236	0.1237	ug/L # 41	Qvalue
13) Acetone	6.02	43	406	Below Cal	# 45	
100) Naphthalene	19.55	128	203	0.2564	ug/L # 72	

(#) = qualifier out of range (m) = manual integration
 11M84700.D 8260WTR.M Mon Jun 25 10:16:54 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062212\11M84700.D

Vial: 4

Acq On : 22 Jun 2012 15:18

Operator: FJB

Sample : WG401429-01 VBLK0622 BLANK 8260

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 25 10:16 2012

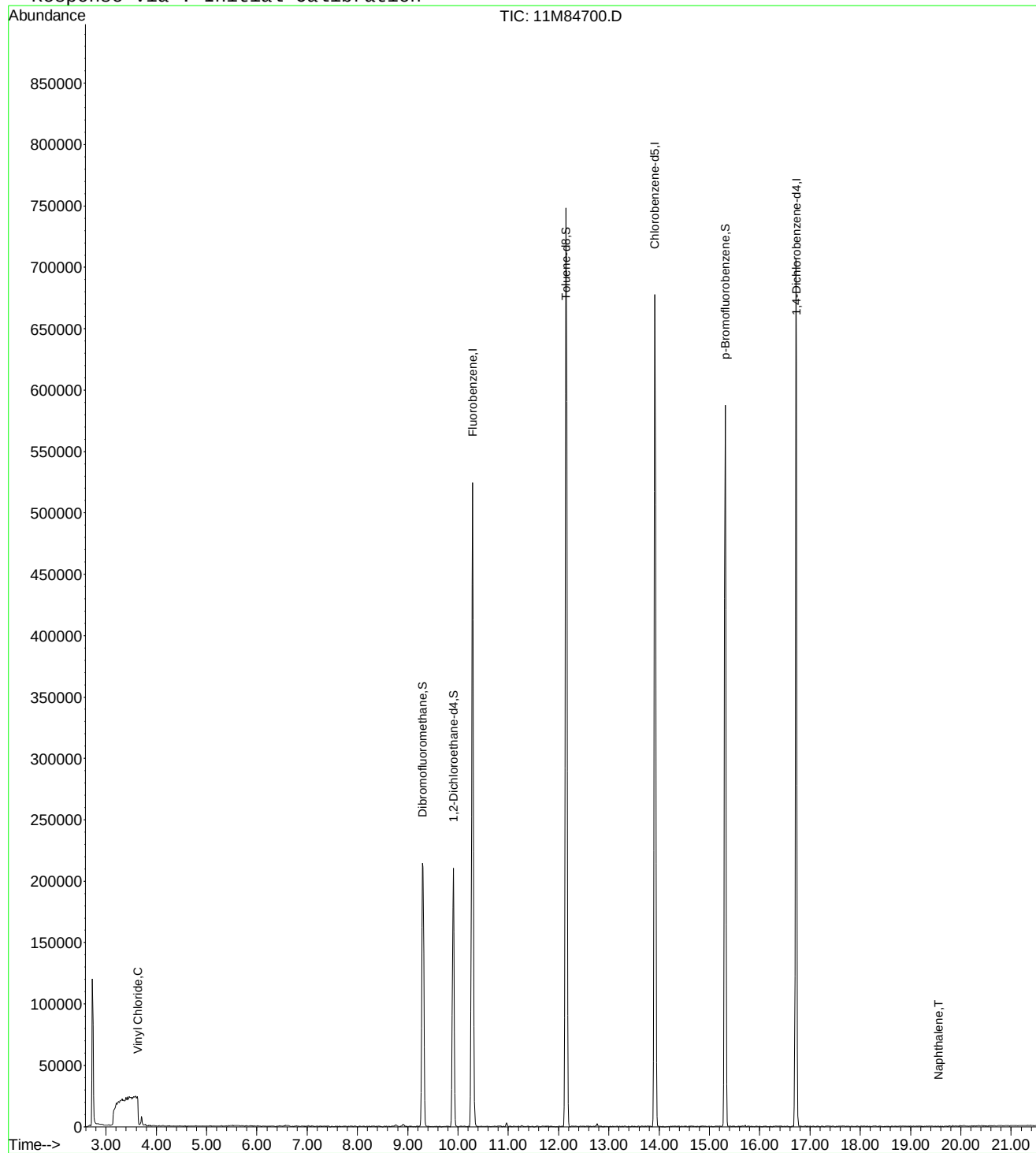
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

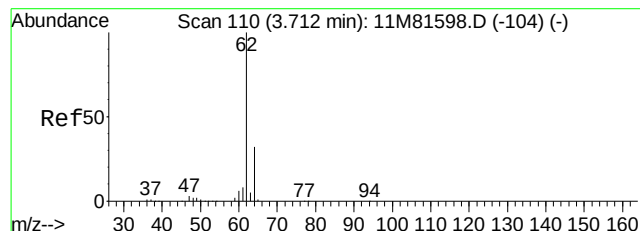
Response via : Initial Calibration



11M84700.D 8260WTR.M

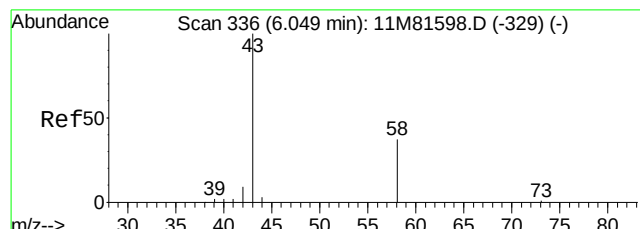
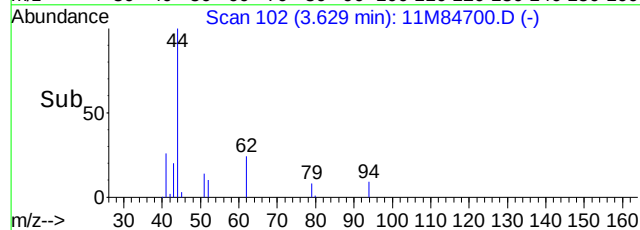
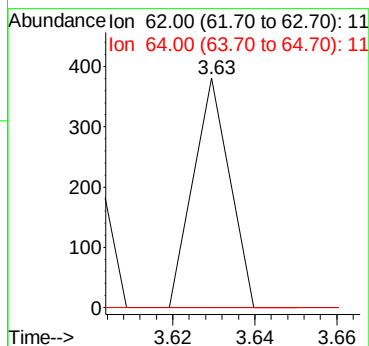
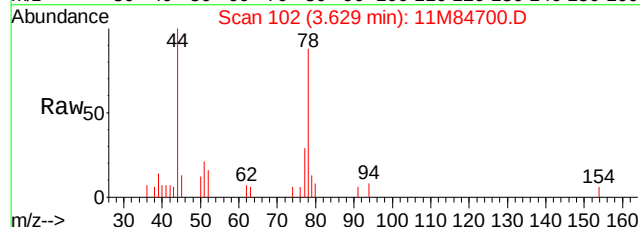
Mon Jun 25 10:16:54 2012

Page 2



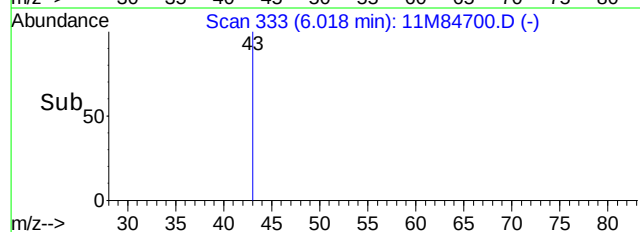
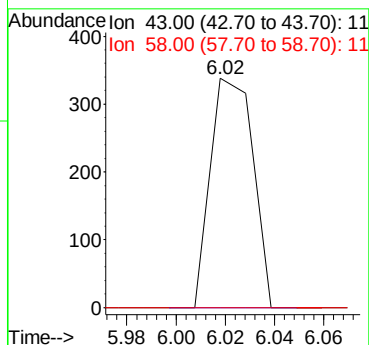
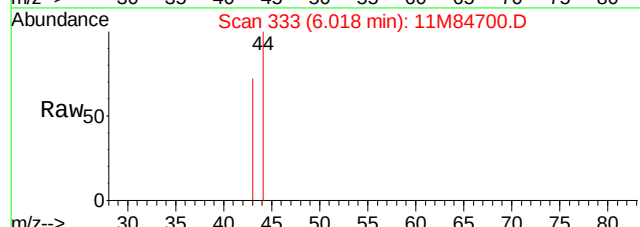
#4
 Vinyl Chloride
 Concen: 0.12 ug/L
 RT: 3.63 min Scan# 102
 Delta R.T. -0.07 min
 Lab File: 11M84700.D
 Acq: 22 Jun 2012 15:18

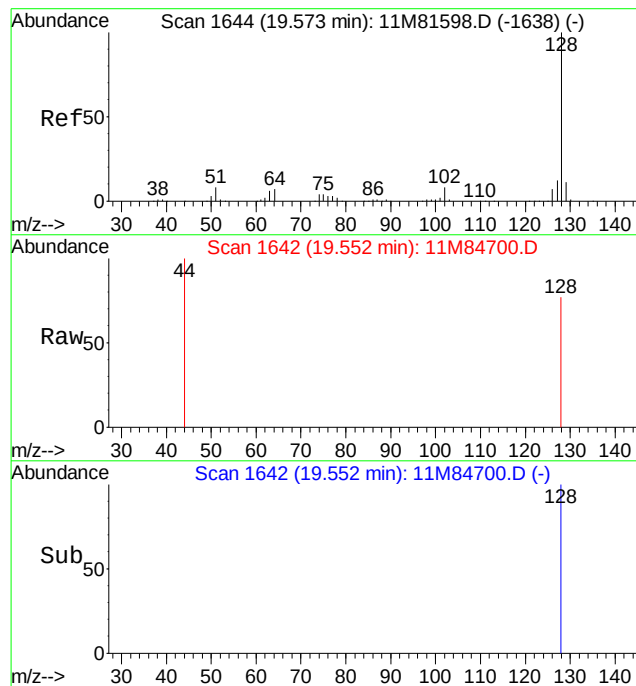
Tgt Ion: 62 Resp: 236
 Ion Ratio Lower Upper
 62 100
 64 0.0 19.9 46.5#



#13
 Acetone
 Concen: Below Cal
 RT: 6.02 min Scan# 333
 Delta R.T. -0.02 min
 Lab File: 11M84700.D
 Acq: 22 Jun 2012 15:18

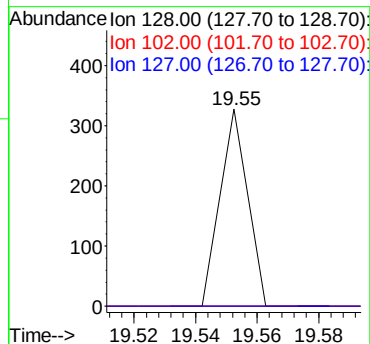
Tgt Ion: 43 Resp: 406
 Ion Ratio Lower Upper
 43 100
 58 0.0 17.6 41.2#





#100
 Naphthalene
 Concen: 0.26 ug/L
 RT: 19.55 min Scan# 1642
 Delta R.T. -0.01 min
 Lab File: 11M84700.D
 Acq: 22 Jun 2012 15:18

Tgt Ion:	128	Resp:	203
Ion Ratio	Lower	Upper	
128	100		
102	0.0	7.2	8.8#
127	0.0	11.4	14.0#



Data File : C:\MSDCHEM\1\DATA\062312\11M84732.D Vial: 4
 Acq On : 23 Jun 2012 10:35 Operator: MES
 Sample : WG401456-01 BLANK 6/23 Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 26 12:27:45 2012 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Wed May 23 13:06:58 2012
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	571271	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	432468	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.72	152	208800	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.30	111	163327	23.4621	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 118		Recovery =	93.84%		
43) 1,2-Dichloroethane-d4	9.91	65	154878	23.2505	ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	93.00%		
58) Toluene-d8	12.15	98	603412	26.4519	ug/L	-0.02
Spiked Amount 25.000	Range 88 - 110		Recovery =	105.80%		
80) p-Bromofluorobenzene	15.31	95	195710	28.3572	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery =	113.44%		
Target Compounds						
4) Vinyl Chloride	3.69	62	205	0.1228	ug/L	Qvalue # 41

(#) = qualifier out of range (m) = manual integration
 11M84732.D 8260WTR.M Tue Jun 26 12:27:45 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062312\11M84732.D

Vial: 4

Acq On : 23 Jun 2012 10:35

Operator: MES

Sample : WG401456-01 BLANK 6/23

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 26 12:27 2012

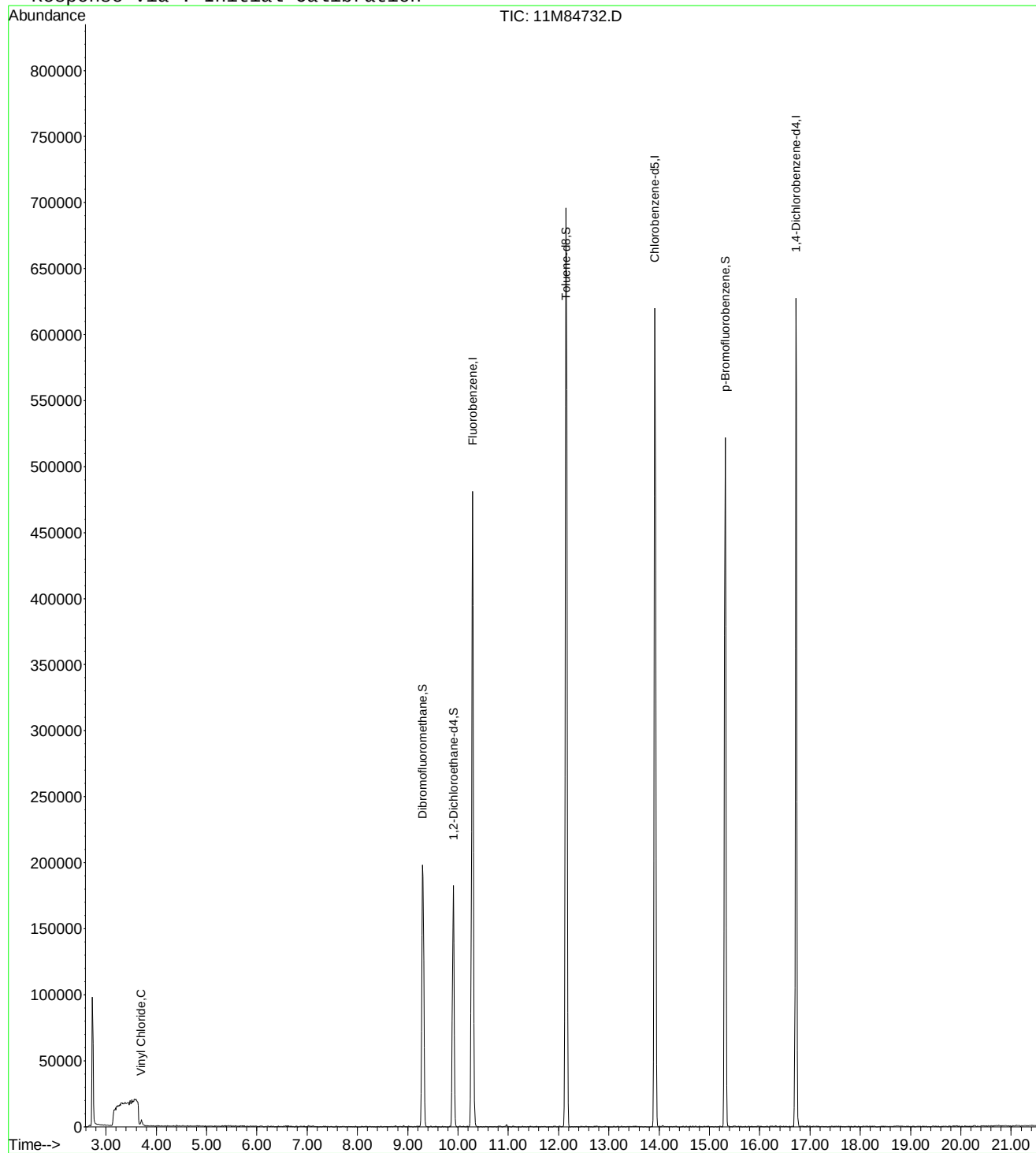
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

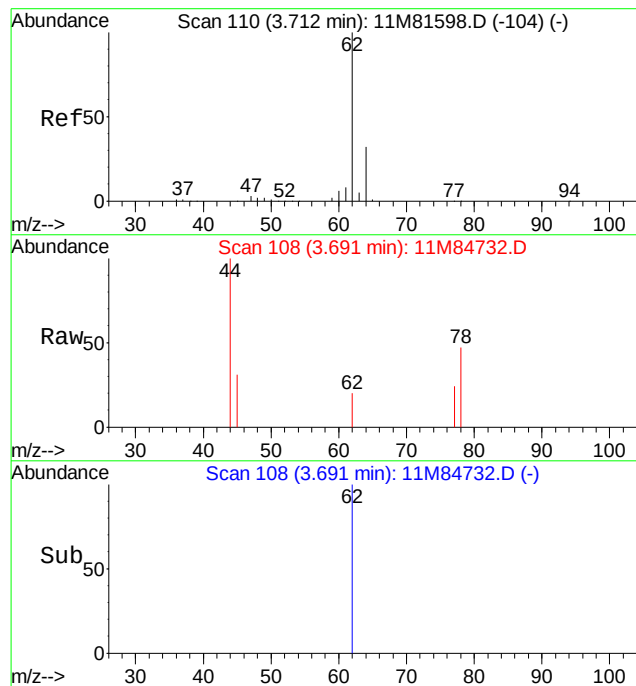
Response via : Initial Calibration



11M84732.D 8260WTR.M

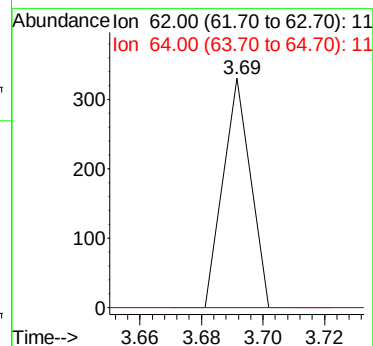
Tue Jun 26 12:27:45 2012

Page 2



#4
 Vinyl Chloride
 Concen: 0.12 ug/L
 RT: 3.69 min Scan# 108
 Delta R.T. -0.01 min
 Lab File: 11M84732.D
 Acq: 23 Jun 2012 10:35

Tgt Ion	Ratio	Lower	Upper
62	100		
64	0.0	19.9	46.5#



Data File : C:\MSDCHEM\1\DATA\062212\11M84701.D

Vial: 5

Acq On : 22 Jun 2012 15:54

Operator: FJB

Sample : WG401429-02 20ug/L LCS 8260

Inst : hpms11

Misc : 1,1 STD52408

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 22 16:16:10 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	668133	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	518685	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.73	152	286008	25.00	ug/L	-0.01

System Monitoring Compounds

37) Dibromofluoromethane	9.30	111	196390	24.1217	ug/L	-0.02
Spiked Amount	25.000	Range	86 - 118	Recovery	=	96.48%
43) 1,2-Dichloroethane-d4	9.91	65	187229	24.0323	ug/L	-0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	96.12%
58) Toluene-d8	12.15	98	704152	25.7371	ug/L	-0.02
Spiked Amount	25.000	Range	88 - 110	Recovery	=	102.96%
80) p-Bromofluorobenzene	15.31	95	248011	26.2346	ug/L	-0.02
Spiked Amount	25.000	Range	86 - 115	Recovery	=	104.92%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.04	85	240245	27.8658	ug/L	99
3) Chloromethane	3.47	50	395026	26.6789	ug/L	95
4) Vinyl Chloride	3.69	62	388637	24.0214	ug/L	98
5) 1,3-Butadiene	3.72	54	133323	17.9800	ug/L	98
6) Bromomethane	4.55	94	87743	18.4793	ug/L	100
7) Chloroethane	4.70	64	112355	22.0204	ug/L	98
8) Trichlorofluoromethane	5.17	101	266583	18.5049	ug/L	100
9) Diethyl ether	5.69	59	524848	103.2096	ug/L	95
10) Isoprene	5.73	67	225514	20.1200	ug/L	98
11) Acrolein	5.91	56	65420	185.2200	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	5.93	101	163655	21.9089	ug/L	97
13) Acetone	6.02	43	35404	28.2990	ug/L	91
14) 1,1-Dichloroethene	6.23	61	236977	23.3657	ug/L	97
15) Tert-Butyl Alcohol	6.34	59	70201	208.3615	ug/L	98
16) Dimethyl Sulfide	6.49	62	177846	21.4102	ug/L	99
17) Iodomethane	6.73	142	170076	16.7154	ug/L	98
18) Methyl acetate	6.75	43	70428	16.3201	ug/L	99
19) Methylene Chloride	6.99	84	155860	21.6225	ug/L	95
20) Carbon Disulfide	7.03	76	476644	23.0529	ug/L	98
21) Acrylonitrile	7.17	53	34590	23.4958	ug/L	97
22) Methyl Tert Butyl Ether	7.20	73	348875	20.7159	ug/L	96
23) trans-1,2-Dichloroethene	7.42	96	154917	21.3942	ug/L	91
24) n-Hexane	7.51	57	176526	24.1296	ug/L	96
25) Diisopropyl ether	7.84	45	2312372	109.0318	ug/L	95
26) Vinyl Acetate	7.99	43	181711	43.0412	ug/L	97
27) 1,1-Dichloroethane	8.02	63	285189	23.5028	ug/L	99
28) Ethyl-Tert-Butyl ether	8.39	59	2084857	100.6759	ug/L	96
29) 2-Butanone	8.56	43	38211	22.2242	ug/L	98
30) Propionitrile	8.65	54	54073	106.5679	ug/L	100
31) 2,2-Dichloropropane	8.77	77	253427	25.8396	ug/L	99
32) cis-1,2-Dichloroethene	8.83	96	176309	22.4688	ug/L	91
33) Chloroform	9.03	83	285597	22.2625	ug/L	97
34) 1-Bromopropane	9.15	122	37912	25.8354	ug/L	98
35) Bromochloromethane	9.24	130	105969	21.2578	ug/L	90
36) Tetrahydrofuran	9.27	42	117437	105.2386	ug/L	96
38) 1,1,1-Trichloroethane	9.53	97	260965	21.6844	ug/L	99
39) Cyclohexane	9.56	56	247683	25.5447	ug/L	90
40) 1,1-Dichloropropene	9.72	75	223830	23.3897	ug/L	96
41) Carbon Tetrachloride	9.85	117	259269	20.4458	ug/L	99
42) Tert-Amyl-Methyl ether	9.82	73	1906145	100.6764	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M84701.D 8260WTR.M Wed Jun 27 14:54:42 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062212\11M84701.D

Vial: 5

Acq On : 22 Jun 2012 15:54

Operator: FJB

Sample : WG401429-02 20ug/L LCS 8260

Inst : hpms11

Misc : 1,1 STD52408

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 22 16:16:10 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.02	62	197138	21.8574	ug/L	97
46) Benzene	10.06	78	643118	23.0030	ug/L	100
47) Trichloroethene	10.76	130	183759	20.0467	ug/L	98
48) Methylcyclohexane	10.85	83	222332	23.1676	ug/L	96
49) 1,2-Dichloropropane	10.97	63	158272	24.5912	ug/L	95
50) 1,4-Dioxane	11.24	88	7515	164.2278	ug/L	98
51) Bromodichloromethane	11.25	83	207660	23.5722	ug/L	98
52) Dibromomethane	11.33	93	88612	20.7097	ug/L	98
53) 2-Chloroethyl Vinyl Ether	11.53	63	60695	22.1074	ug/L	94
54) 4-Methyl-2-Pentanone	11.56	58	33131	22.0337	ug/L	95
55) cis-1,3-Dichloropropene	11.85	75	235335	23.1912	ug/L	98
56) Dimethyl Disulfide	12.10	79	126679	23.0460	ug/L	96
59) Toluene	12.24	91	689830	22.1115	ug/L	100
60) Ethyl Methacrylate	12.34	69	145818	22.4647	ug/L	96
61) Paraldehyde	12.36	89	6128	86.8154	ug/L	53
62) trans-1,3-Dichloropropene	12.41	75	193125	23.0886	ug/L	96
63) 1,1,2-Trichloroethane	12.61	97	114997	22.3159	ug/L	99
64) 2-Hexanone	12.55	43	54762	21.0161	ug/L	96
65) 1,3-Dichloropropane	12.89	76	199181	23.0107	ug/L	97
66) Tetrachloroethene	13.01	164	138017	21.5926	ug/L	97
67) Dibromochloromethane	13.26	129	146215	20.6821	ug/L	99
68) 1,2-Dibromoethane	13.49	107	112594	21.0993	ug/L	99
69) 1-Chlorohexane	13.58	91	213634	23.8850	ug/L	98
70) Chlorobenzene	13.97	112	457833	22.0463	ug/L	100
71) 1,1,1,2-Tetrachloroethane	13.99	131	173918	22.2557	ug/L	100
72) Ethylbenzene	13.99	106	246598	21.8821	ug/L	93
73) m-,p-Xylene	14.07	106	599834	43.1038	ug/L	95
74) o-Xylene	14.60	106	272278	20.0853	ug/L	94
75) Styrene	14.63	104	460135	21.3327	ug/L	98
76) Bromoform	15.10	173	90574	22.8989	ug/L	99
77) Isopropylbenzene	14.99	105	605333	18.9672	ug/L	100
79) 1,1,2,2-Tetrachloroethane	15.19	83	123239	24.2062	ug/L	96
81) 1,2,3-Trichloropropane	15.36	110	36165	23.4689	ug/L	94
82) trans-1,4-Dichloro-2-Butene	15.41	53	29945	21.3855	ug/L	90
83) n-Propylbenzene	15.46	91	831366	22.3405	ug/L	98
84) Bromobenzene	15.58	156	194066	21.8289	ug/L	96
85) 1,3,5-Trimethylbenzene	15.63	105	578536	20.9340	ug/L	99
86) 2-Chlorotoluene	15.72	91	554851m	22.1700	ug/L	
87) 4-Chlorotoluene	15.76	91	480844	21.9543	ug/L	97
88) a-Methylstyrene	16.01	118	324063	21.0552	ug/L	97
89) tert-Butylbenzene	16.07	134	121313	20.1699	ug/L	97
90) 1,2,4-Trimethylbenzene	16.11	105	640215	22.2661	ug/L	99
91) sec-Butylbenzene	16.32	105	672320	20.8351	ug/L	100
92) p-Isopropyltoluene	16.46	119	583129	21.0608	ug/L	100
93) 1,3-Dichlorobenzene	16.65	146	356076	20.4214	ug/L	98
94) 1,4-Dichlorobenzene	16.76	146	360203	20.2952	ug/L	97
95) n-Butylbenzene	16.95	91	516280	24.4787	ug/L	97
96) 1,2-Dichlorobenzene	17.23	146	323339	20.4605	ug/L	97
97) 1,2-Dibromo-3-Chloropropan	18.15	75	17305	19.2776	ug/L	96
98) 1,2,4-Trichlorobenzene	19.20	180	196921	22.0339	ug/L	96
99) Hexachlorobutadiene	19.34	225	70951	20.1562	ug/L	96
100) Naphthalene	19.54	128	358582	18.6229	ug/L	99
101) 1,2,3-Trichlorobenzene	19.83	180	169048	20.2406	ug/L	97

(#) = qualifier out of range (m) = manual integration
 11M84701.D 8260WTR.M Wed Jun 27 14:54:42 2012

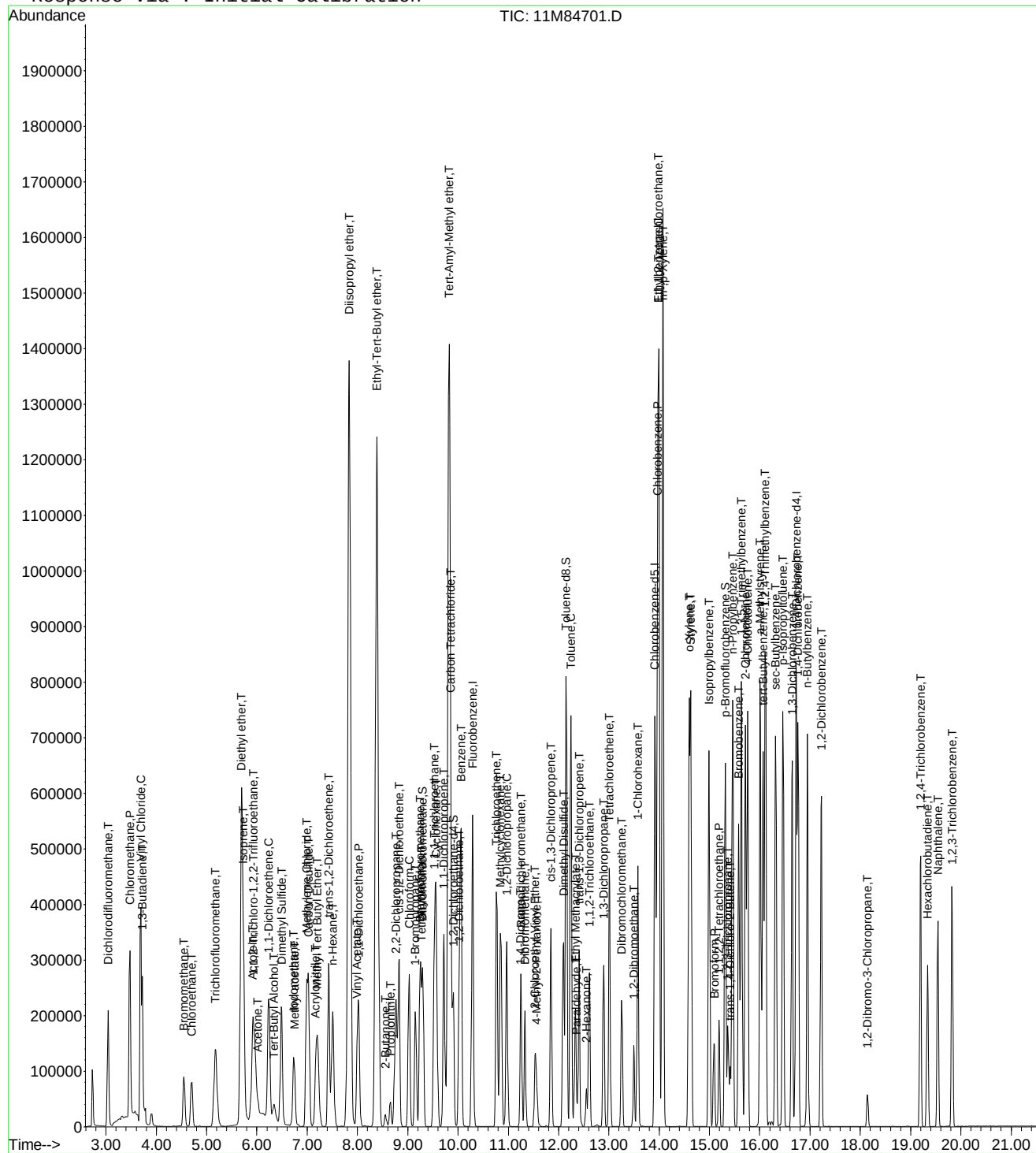
Page 2

Data File : C:\MSDCHEM\1\DATA\062212\11M84701.D
Acq On : 22 Jun 2012 15:54
Sample : WG401429-02 20ug/L LCS 8260
Misc : 1,1 STD52408
MS Integration Params: rteint.p
Quant Time: Jun 27 14:54 2012

Vial: 5
Operator: FJB
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
Last Update : Wed May 23 13:06:58 2012
Response via : Initial Calibration



11M84701.D 8260WTR.M

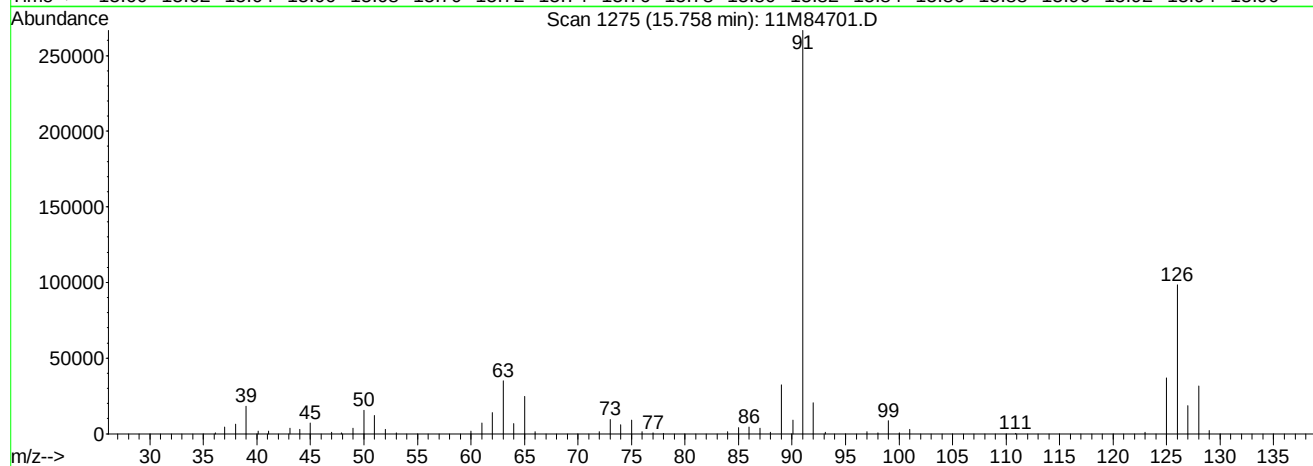
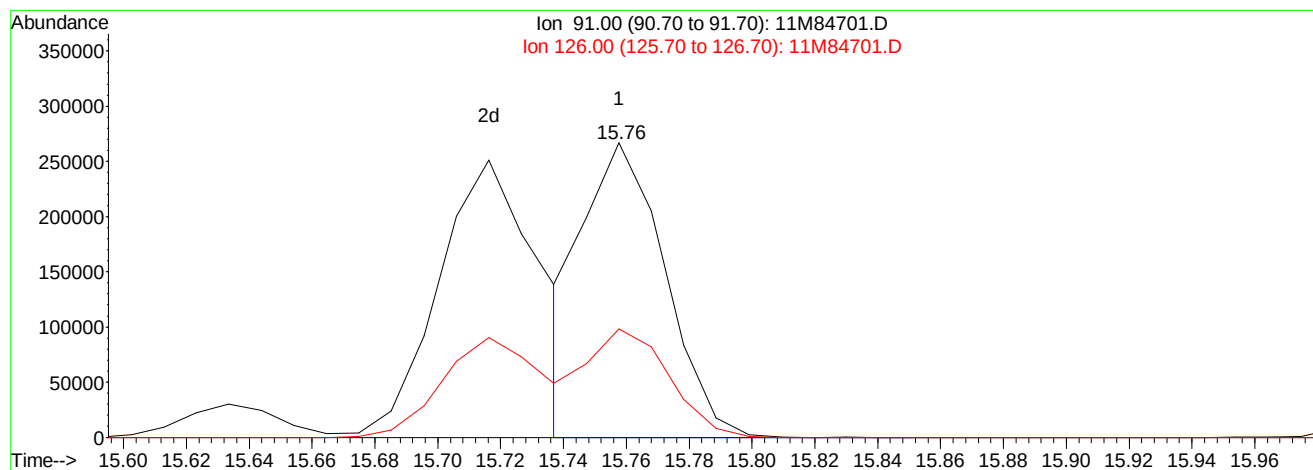
Wed Jun 27 14:54:42 2012

Page 3

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062212\11M84701.D Vial: 5
 Acq On : 22 Jun 2012 15:54 Operator: FJB
 Sample : WG401429-02 20ug/L LCS 8260 Inst : hpms11
 Misc : 1,1 STD52408 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 22 16:16 2012 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
 Last Update : Wed May 23 13:06:58 2012
 Response via : Multiple Level Calibration



TIC: 11M84701.D

(86) 2-Chlorotoluene (T)

15.76min 19.21ug/L

response 480844

Ion	Exp%	Act%
91.00	100	100
126.00	37.70	37.46
0.00	0.00	0.00
0.00	0.00	0.00

11M84701.D 8260WTR.M Wed Jun 27 14:54:24 2012

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062212\11M84701.D

Vial: 5

Acq On : 22 Jun 2012 15:54

Operator: FJB

Sample : WG401429-02 20ug/L LCS 8260

Inst : hpms11

Misc : 1,1 STD52408

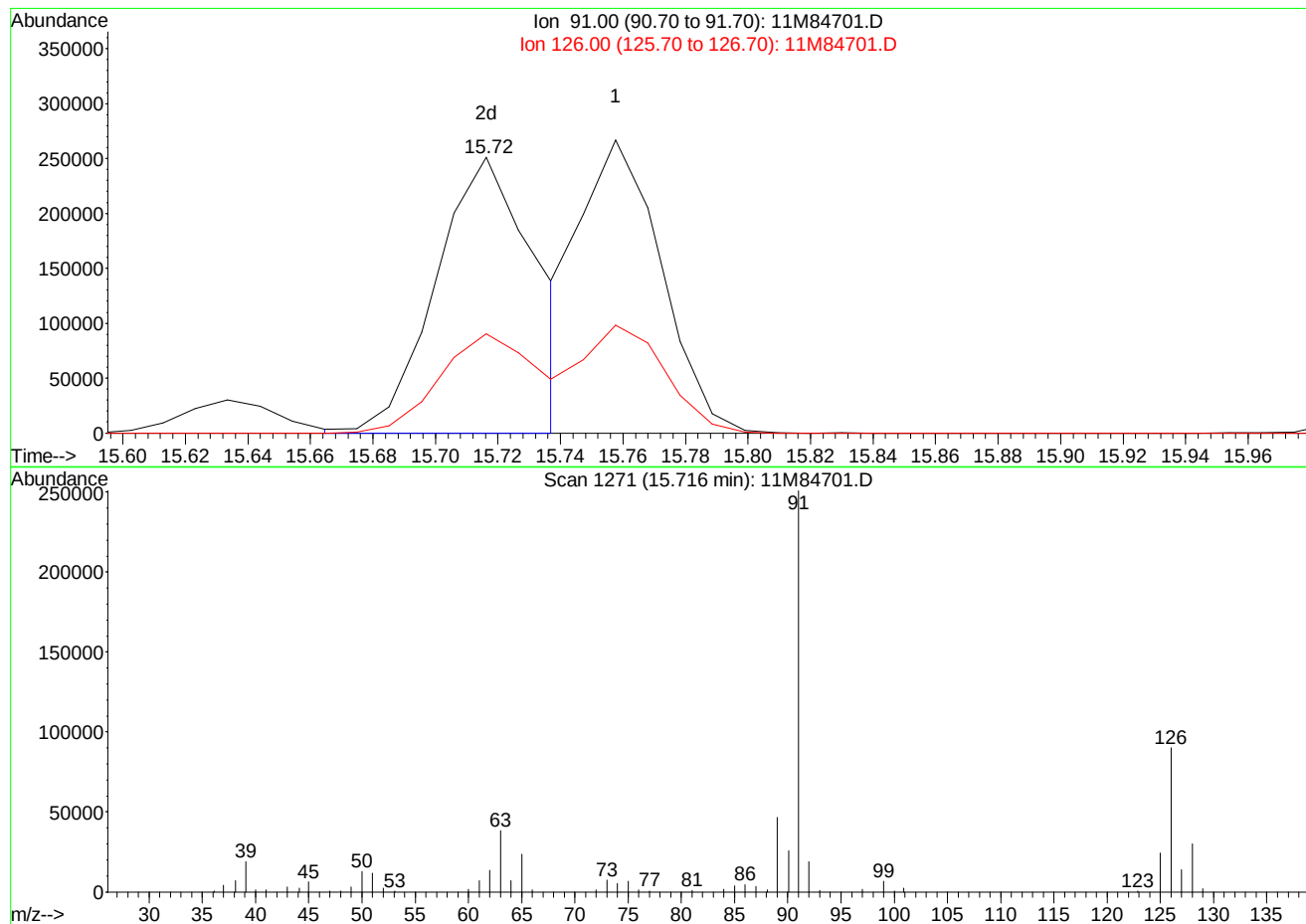
Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 27 14:54 2012

Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11
Last Update : Wed May 23 13:06:58 2012
Response via : Multiple Level Calibration



TIC: 11M84701.D

(86) 2-Chlorotoluene (T)

15.72min 22.17ug/L mint

response 554851

Ion	Exp%	Act%
91.00	100	100
126.00	37.70	32.46
0.00	0.00	0.00
0.00	0.00	0.00

11M84701.D 8260WTR.M

Wed Jun 27 12

Analyst: 06/27/2012 15:04

Supervisor: 06/27/2012 15:27

#3 - Improperly integrated isomers and/or coeluting compounds

Data File : C:\MSDCHEM\1\data\062312\11M84733.D

Vial: 5

Acq On : 23 Jun 2012 11:06

Operator: MES

Sample : WG401456-02 20ug/L LCS 8260

Inst : hpms11

Misc : 1,1 STD52408

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 23 11:28:11 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.29	96	622654	25.00	ug/L	-0.02
57) Chlorobenzene-d5	13.92	117	480084	25.00	ug/L	-0.02
78) 1,4-Dichlorobenzene-d4	16.72	152	265094	25.00	ug/L	-0.02

System Monitoring Compounds

37) Dibromofluoromethane	9.30	111	181506	23.9219	ug/L	-0.02
Spiked Amount	25.000	Range	86 - 118	Recovery	=	95.68%
43) 1,2-Dichloroethane-d4	9.91	65	168093	23.1520	ug/L	-0.01
Spiked Amount	25.000	Range	80 - 120	Recovery	=	92.60%
58) Toluene-d8	12.15	98	660581	26.0859	ug/L	-0.02
Spiked Amount	25.000	Range	88 - 110	Recovery	=	104.36%
80) p-Bromofluorobenzene	15.31	95	232282	26.5092	ug/L	-0.02
Spiked Amount	25.000	Range	86 - 115	Recovery	=	106.04%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.04	85	205408	25.5652	ug/L	100
3) Chloromethane	3.47	50	381810	27.6698	ug/L	98
4) Vinyl Chloride	3.68	62	380707	25.3793	ug/L	97
5) 1,3-Butadiene	3.72	54	123483	17.8693	ug/L	99
6) Bromomethane	4.55	94	82750	18.7007	ug/L	98
7) Chloroethane	4.69	64	99830	20.9947	ug/L	100
8) Trichlorofluoromethane	5.17	101	234144	17.4403	ug/L	98
9) Diethyl ether	5.69	59	450659	95.0935	ug/L	96
10) Isoprene	5.73	67	196624	18.8238	ug/L	98
11) Acrolein	5.91	56	54548	165.7190	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	5.95	101	137545	19.7585	ug/L	98
13) Acetone	6.02	43	41135	35.4924	ug/L	90
14) 1,1-Dichloroethene	6.24	61	210067	22.2253	ug/L	96
15) Tert-Butyl Alcohol	6.35	59	62144	197.9199	ug/L	98
16) Dimethyl Sulfide	6.48	62	162316	20.9679	ug/L	100
17) Iodomethane	6.73	142	148065	15.6378	ug/L	98
18) Methyl acetate	6.74	43	60947	15.1547	ug/L	99
19) Methylene Chloride	6.99	84	141393	21.0482	ug/L	93
20) Carbon Disulfide	7.03	76	422557	21.9297	ug/L	99
21) Acrylonitrile	7.17	53	29779	21.7053	ug/L	95
22) Methyl Tert Butyl Ether	7.20	73	304092	19.3756	ug/L	95
23) trans-1,2-Dichloroethene	7.42	96	140555	20.8286	ug/L	93
24) n-Hexane	7.51	57	157699	23.1306	ug/L	95
25) Diisopropyl ether	7.84	45	2068532	104.6583	ug/L	95
26) Vinyl Acetate	7.99	43	157024	40.0989	ug/L	96
27) 1,1-Dichloroethane	8.02	63	261281	23.1052	ug/L	99
28) Ethyl-Tert-Butyl ether	8.39	59	1814079	93.9987	ug/L	95
29) 2-Butanone	8.55	43	33327	20.7994	ug/L	98
30) Propionitrile	8.65	54	46349	98.0172	ug/L	99
31) 2,2-Dichloropropane	8.77	77	220028	24.0728	ug/L	100
32) cis-1,2-Dichloroethene	8.83	96	161354	22.0649	ug/L	92
33) Chloroform	9.03	83	261992	21.9141	ug/L	97
34) 1-Bromopropane	9.15	122	33215	24.2878	ug/L	99
35) Bromochloromethane	9.24	130	94309	20.3006	ug/L	89
36) Tetrahydrofuran	9.26	42	101312	97.4198	ug/L	92
38) 1,1,1-Trichloroethane	9.53	97	230964	20.5933	ug/L	98
39) Cyclohexane	9.56	56	215618	23.8619	ug/L	90
40) 1,1-Dichloropropene	9.72	75	194903	21.8545	ug/L	97
41) Carbon Tetrachloride	9.85	117	226334	19.1726	ug/L	99
42) Tert-Amyl-Methyl ether	9.81	73	1646774	93.3301	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M84733.D 8260WTR.M Sat Jun 23 11:28:11 2012

Page 1

Data File : C:\MSDCHEM\1\data\062312\11M84733.D

Vial: 5

Acq On : 23 Jun 2012 11:06

Operator: MES

Sample : WG401456-02 20ug/L LCS 8260

Inst : hpms11

Misc : 1,1 STD52408

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 23 11:28:11 2012

Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration

DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.02	62	179541	21.3604	ug/L	97
46) Benzene	10.06	78	591759	22.7120	ug/L	100
47) Trichloroethene	10.76	130	161041	18.8515	ug/L	97
48) Methylcyclohexane	10.85	83	194343	21.7303	ug/L	96
49) 1,2-Dichloropropane	10.97	63	145577	24.2708	ug/L	90
50) 1,4-Dioxane	11.24	88	6461	151.5073	ug/L	86
51) Bromodichloromethane	11.25	83	190223	23.1701	ug/L	97
52) Dibromomethane	11.33	93	77152	19.3633	ug/L	96
53) 2-Chloroethyl Vinyl Ether	11.53	63	53678	20.9796	ug/L	93
54) 4-Methyl-2-Pentanone	11.56	58	28684	20.4696	ug/L	93
55) cis-1,3-Dichloropropene	11.85	75	215566	22.7947	ug/L	99
56) Dimethyl Disulfide	12.09	79	110478	21.6869	ug/L	92
59) Toluene	12.24	91	636155	22.0305	ug/L	100
60) Ethyl Methacrylate	12.33	69	126073	21.0228	ug/L	98
61) Paraldehyde	12.37	89	5177	81.2160	ug/L	62
62) trans-1,3-Dichloropropene	12.41	75	168676	21.7871	ug/L	98
63) 1,1,2-Trichloroethane	12.61	97	102405	21.4702	ug/L	98
64) 2-Hexanone	12.55	43	49719	20.6149	ug/L	98
65) 1,3-Dichloropropane	12.89	76	176461	22.0250	ug/L	98
66) Tetrachloroethene	13.01	164	120900	20.4355	ug/L	99
67) Dibromochloromethane	13.26	129	130620	19.9839	ug/L	100
68) 1,2-Dibromoethane	13.49	107	97838	19.8083	ug/L	99
69) 1-Chlorohexane	13.58	91	187786	22.6832	ug/L	95
70) Chlorobenzene	13.96	112	419088	21.8032	ug/L	99
71) 1,1,1,2-Tetrachloroethane	13.99	131	156384	21.6675	ug/L	99
72) Ethylbenzene	13.99	106	223075	21.3864	ug/L	92
73) m-,p-Xylene	14.07	106	542529	42.1206	ug/L	94
74) o-Xylene	14.60	106	250865	19.9937	ug/L	94
75) Styrene	14.63	104	424467	21.2614	ug/L	99
76) Bromoform	15.09	173	77767	21.3549	ug/L	99
77) Isopropylbenzene	14.99	105	556669	18.8448	ug/L	99
79) 1,1,2,2-Tetrachloroethane	15.19	83	106908	22.6552	ug/L	99
81) 1,2,3-Trichloropropane	15.36	110	31201	21.8450	ug/L	91
82) trans-1,4-Dichloro-2-Butene	15.41	53	26581	20.5468	ug/L	94
83) n-Propylbenzene	15.46	91	756473	21.9317	ug/L	97
84) Bromobenzene	15.58	156	173874	21.1006	ug/L	94
85) 1,3,5-Trimethylbenzene	15.63	105	527884	20.6081	ug/L	99
86) 2-Chlorotoluene	15.72	91	511544	22.0521	ug/L	97
87) 4-Chlorotoluene	15.76	91	432217	21.2910	ug/L	97
88) a-Methylstyrene	16.01	118	295853	20.7388	ug/L	96
89) tert-Butylbenzene	16.07	134	107390	19.2636	ug/L	94
90) 1,2,4-Trimethylbenzene	16.11	105	583124	21.8805	ug/L	98
91) sec-Butylbenzene	16.32	105	602727	20.1520	ug/L	100
92) p-Isopropyltoluene	16.46	119	523903	20.4145	ug/L	100
93) 1,3-Dichlorobenzene	16.65	146	327345	20.2547	ug/L	98
94) 1,4-Dichlorobenzene	16.76	146	325437	19.7830	ug/L	96
95) n-Butylbenzene	16.95	91	465340	23.8041	ug/L	97
96) 1,2-Dichlorobenzene	17.23	146	293856	20.0619	ug/L	98
97) 1,2-Dibromo-3-Chloropropan	18.14	75	14815	17.8473	ug/L	94
98) 1,2,4-Trichlorobenzene	19.20	180	176356	21.2896	ug/L	96
99) Hexachlorobutadiene	19.34	225	62273	19.0995	ug/L	96
100) Naphthalene	19.54	128	296074	16.6415	ug/L	99
101) 1,2,3-Trichlorobenzene	19.82	180	147580	19.0642	ug/L	97

(#) = qualifier out of range (m) = manual integration
 11M84733.D 8260WTR.M Sat Jun 23 11:28:12 2012

Page 2

Data File : C:\MSDchem\1\data\062312\11M84733.D

Vial: 5

Acq On : 23 Jun 2012 11:06

Operator: MES

Sample : WG401456-02 20ug/L LCS 8260

Inst : hpms11

Misc : 1,1 STD52408

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 23 11:28 2012

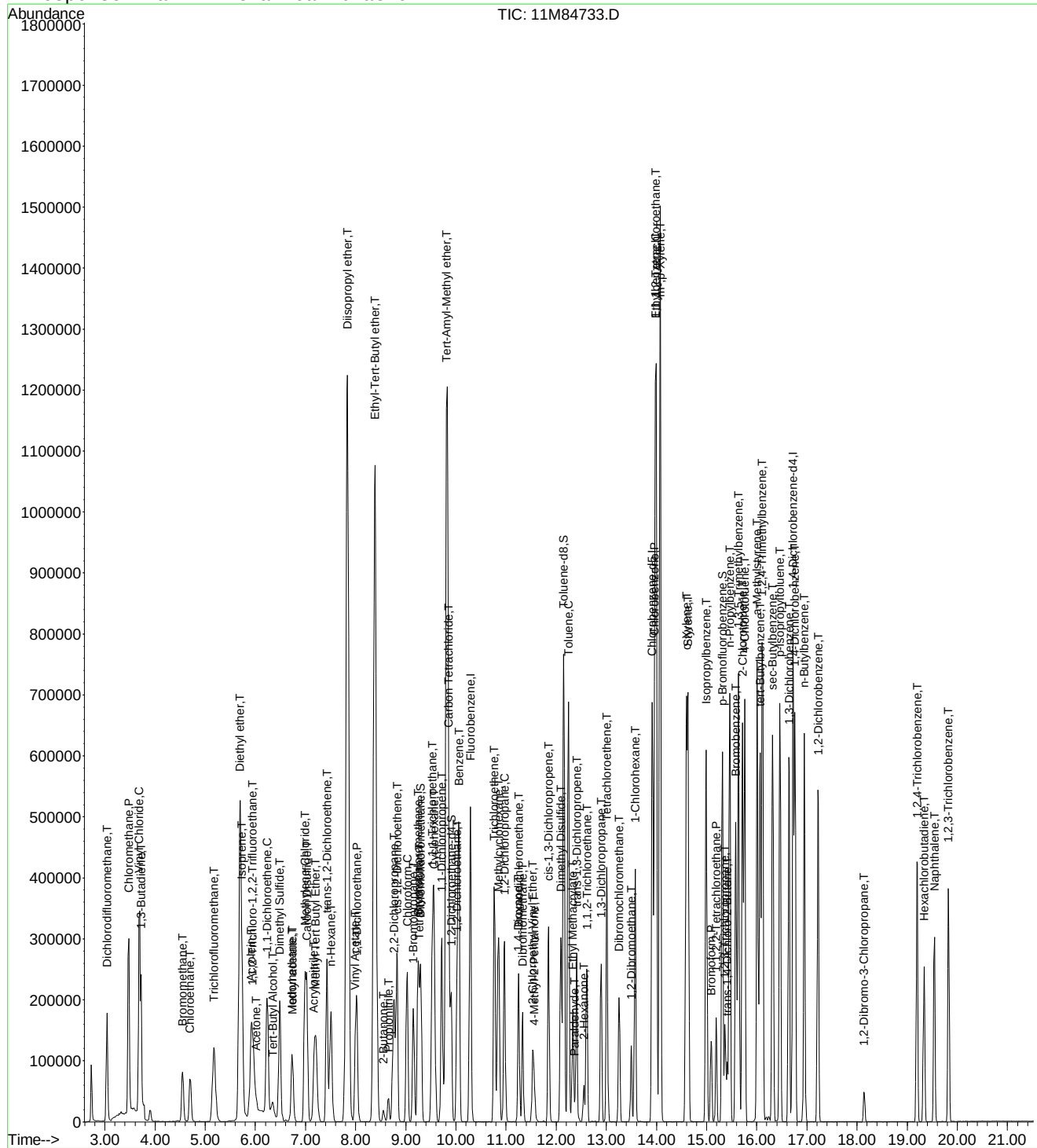
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 05/03/12 HPMS11

Last Update : Wed May 23 13:06:58 2012

Response via : Initial Calibration



11M84733.D 8260WTR.M

Sat Jun 23 11:28:12 2012

Page 3

2.2 Semivolatiles Data

2.2.1 Semivolatiles GC/MS Data (8270)

2.2.1.1 Summary Data



Login Number: L12060445
Department: Semivolatiles
Analyst: Mike Cochran

METHOD

Preparation 3520C

Analysis SW-846 8270C/40 CFR 264 App. IX

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analytes: 2,4-Dinitrophenol, 4,6-Dinitro-2-Methylphenol, Benzoic Acid. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: 2-Nitroaniline, bis(2-Chloroisopropyl)ether, n-Nitrosodipropylamine. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: 3,3'-Dichlorobenzidine, 4-Nitroaniline, 4-Nitrophenol, Benzo[ghi]perylene, Butyl Benzyl Phthalate, Chrysene, Pentachlorophenol, Phenol. Please see the applicable QC report for a detailed presentation of the failures.

With the exception of Phenol all hits in the LCS were biased high; there were no hits found in the samples associated with the LCS.

Matrix Spikes: Recoveries out of range were observed for 23 analytes. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: Recoveries out of range were observed for the following surrogates: 2,4,6-Tribromophenol, p-Terphenyl-d14. Please see the applicable QC report for a detailed presentation of the failures.

Sample 01 was not re-extracted due to insufficient hold time. No analytes were detected in the samples with high surrogate recoveries.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak

completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 48612

Approved By: Mike Cochran



Certificate of Analysis

Sample #: L12060445-01

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40MW7GW601212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 16:19

Collect Date: 06/12/2012 10:25

Dilution: 1

File ID: 12M40149

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4		U	5.00	2.50
bis(2-Chloroisopropyl)ether	108-60-1		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	126	40	125	*
2-Fluorobiphenyl	97.9	50	110	
2-Fluorophenol	91.5	20	110	
Nitrobenzene-d5	105	40	110	
p-Terphenyl-d14	137	50	135	*
Phenol-d5	99.4	10	115	

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
---	--

Certificate of Analysis

Sample #: L12060445-03

PrePrep Method: N/A

Instrument: HPMS12

Client ID: LFMW01GW061212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 16:51

Collect Date: 06/12/2012 12:59

Dilution: 1

File ID: 12M40150

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4		U	5.00	2.50
bis(2-Chloroisopropyl)ether	108-60-1		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	98.7	40	125		
2-Fluorobiphenyl	82.1	50	110		
2-Fluorophenol	75.2	20	110		
Nitrobenzene-d5	88.8	40	110		
p-Terphenyl-d14	106	50	135		

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	81.5	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12060445-05

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40MW6GW061212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 17:22

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 12M40151

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4		U	5.00	2.50
bis(2-Chloroisopropyl)ether	108-60-1		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	94.2	40	125		
2-Fluorobiphenyl	77.9	50	110		
2-Fluorophenol	73.9	20	110		
Nitrobenzene-d5	84.4	40	110		
p-Terphenyl-d14	104	50	135		

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	79.5	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12060445-06

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40MW6MSGW061212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 17:53

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 12M40152

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1	32.5		5.10	2.55
1,2-Dichlorobenzene	95-50-1	38.0		5.10	2.55
1,3-Dichlorobenzene	541-73-1	36.9		5.10	2.55
1,4-Dichlorobenzene	106-46-7	37.9		5.10	2.55
2,4,5-Trichlorophenol	95-95-4	57.3		5.10	2.55
2,4,6-Trichlorophenol	88-06-2	54.1		5.10	2.55
2,4-Dichlorophenol	120-83-2	43.6		5.10	2.55
2,4-Dimethylphenol	105-67-9	38.9		5.10	2.55
2,4-Dinitrophenol	51-28-5	57.0		25.5	12.8
2,4-Dinitrotoluene	121-14-2	60.7		5.10	2.55
2,6-Dinitrotoluene	606-20-2	57.2		5.10	2.55
2-Chloronaphthalene	91-58-7	50.2		5.10	2.55
2-Chlorophenol	95-57-8	48.8		5.10	2.55
2-Methylnaphthalene	91-57-6	39.6		5.10	2.55
2-Methylphenol	95-48-7	52.3		5.10	2.55
2-Nitroaniline	88-74-4	68.0		25.5	12.8
2-Nitrophenol	88-75-5	43.8		5.10	2.55
3,3'-Dichlorobenzidine	91-94-1	56.4		10.2	2.55
3-,4-Methylphenol	106-44-5	53.2		5.10	2.55
3-Nitroaniline	99-09-2	68.9		25.5	12.8
4,6-Dinitro-2-methylphenol	534-52-1	67.7		25.5	12.8
4-Bromophenyl-phenylether	101-55-3	51.2		5.10	2.55
4-Chloro-3-methylphenol	59-50-7	50.6		5.10	2.55
4-Chloroaniline	106-47-8	43.5		5.10	2.55
4-Chlorophenyl-phenyl ether	7005-72-3	52.9		5.10	2.55
4-Nitroaniline	100-01-6	64.8		25.5	12.8
4-Nitrophenol	100-02-7	72.4		25.5	12.8
Acenaphthene	83-32-9	53.6		5.10	2.55
Acenaphthylene	208-96-8	53.8		5.10	2.55
Anthracene	120-12-7	55.7		5.10	2.55
Benzo(a)anthracene	56-55-3	57.4		5.10	2.55
Benzo(a)pyrene	50-32-8	55.5		5.10	2.55

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2	53.7		5.10	2.55
Benzo(g,h,i)Perylene	191-24-2	65.2		5.10	2.55
Benzo(k)fluoranthene	207-08-9	57.1		5.10	2.55
Benzoic acid	65-85-0	30.0		25.5	12.8
Benzyl alcohol	100-51-6	55.3		5.10	2.55
Bis(2-Chloroethoxy)Methane	111-91-1	37.6		5.10	2.55
Bis(2-Chloroethyl)ether	111-44-4	53.9		5.10	2.55
bis(2-Chloroisopropyl)ether	108-60-1	65.2		5.10	2.55
bis(2-Ethylhexyl)phthalate	117-81-7	65.1		10.2	3.06
Butylbenzylphthalate	85-68-7	66.2		5.10	2.55
Chrysene	218-01-9	59.8		5.10	2.55
Di-N-Butylphthalate	84-74-2	59.0		5.10	2.55
Di-n-octylphthalate	117-84-0	65.3		5.10	2.55
Dibenzo(a,h)Anthracene	53-70-3	49.7		5.10	2.55
Dibenzofuran	132-64-9	53.4		5.10	2.55
Diethylphthalate	84-66-2	57.9		5.10	2.55
Dimethylphthalate	131-11-3	52.7		5.10	2.55
Fluoranthene	206-44-0	57.8		5.10	2.55
Fluorene	86-73-7	55.1		5.10	2.55
Hexachlorobenzene	118-74-1	54.6		5.10	2.55
Hexachlorobutadiene	87-68-3	33.7		5.10	2.55
Hexachlorocyclopentadiene	77-47-4	17.4		5.10	2.55
Hexachloroethane	67-72-1	37.6		5.10	2.55
Indeno(1,2,3-cd)pyrene	193-39-5	61.0		5.10	2.55
Isophorone	78-59-1	50.1		5.10	2.55
N-Nitrosodiphenylamine	86-30-6	54.7		5.10	2.55
N-Nitrosodipropylamine	621-64-7	64.5		5.10	2.55
Naphthalene	91-20-3	43.6		5.10	2.55
Nitrobenzene	98-95-3	48.9		5.10	2.55
Pentachlorophenol	87-86-5	61.8		25.5	12.8
Phenanthrene	85-01-8	57.8		5.10	2.55
Phenol	108-95-2	50.8		5.10	2.55
Pyrene	129-00-0	58.3		5.10	2.55
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	105	40	125		
2-Fluorobiphenyl	91.6	50	110		
2-Fluorophenol	82.7	20	110		
Nitrobenzene-d5	89.1	40	110		
p-Terphenyl-d14	99.8	50	135		

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	90.9	10	115	

Sample #: L12060445-07

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40MW6MSDGW061212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 18:24

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 12M40153

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1	31.8		5.00	2.50
1,2-Dichlorobenzene	95-50-1	36.6		5.00	2.50
1,3-Dichlorobenzene	541-73-1	35.0		5.00	2.50
1,4-Dichlorobenzene	106-46-7	35.5		5.00	2.50
2,4,5-Trichlorophenol	95-95-4	58.4		5.00	2.50
2,4,6-Trichlorophenol	88-06-2	54.3		5.00	2.50
2,4-Dichlorophenol	120-83-2	42.4		5.00	2.50
2,4-Dimethylphenol	105-67-9	38.6		5.00	2.50
2,4-Dinitrophenol	51-28-5	56.9		25.0	12.5
2,4-Dinitrotoluene	121-14-2	60.1		5.00	2.50
2,6-Dinitrotoluene	606-20-2	55.7		5.00	2.50
2-Chloronaphthalene	91-58-7	49.2		5.00	2.50
2-Chlorophenol	95-57-8	46.9		5.00	2.50
2-Methylnaphthalene	91-57-6	38.8		5.00	2.50
2-Methylphenol	95-48-7	50.6		5.00	2.50
2-Nitroaniline	88-74-4	64.0		25.0	12.5
2-Nitrophenol	88-75-5	43.2		5.00	2.50
3,3'-Dichlorobenzidine	91-94-1	54.3		10.0	2.50
3-,4-Methylphenol	106-44-5	51.6		5.00	2.50
3-Nitroaniline	99-09-2	66.9		25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1	68.2		25.0	12.5
4-Bromophenyl-phenylether	101-55-3	51.7		5.00	2.50
4-Chloro-3-methylphenol	59-50-7	48.9		5.00	2.50
4-Chloroaniline	106-47-8	42.7		5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3	53.7		5.00	2.50
4-Nitroaniline	100-01-6	64.6		25.0	12.5
4-Nitrophenol	100-02-7	68.2		25.0	12.5
Acenaphthene	83-32-9	53.5		5.00	2.50
Acenaphthylene	208-96-8	52.9		5.00	2.50
Anthracene	120-12-7	55.3		5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(a)anthracene	56-55-3	60.2		5.00	2.50
Benzo(a)pyrene	50-32-8	58.6		5.00	2.50
Benzo(b)fluoranthene	205-99-2	61.0		5.00	2.50
Benzo(g,h,i)Perylene	191-24-2	69.7		5.00	2.50
Benzo(k)fluoranthene	207-08-9	62.1		5.00	2.50
Benzoic acid	65-85-0	24.1	J	25.0	12.5
Benzyl alcohol	100-51-6	53.6		5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1	35.0		5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4	50.4		5.00	2.50
bis(2-Chloroisopropyl)ether	108-60-1	58.3		5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7	65.1		10.0	3.00
Butylbenzylphthalate	85-68-7	65.2		5.00	2.50
Chrysene	218-01-9	62.1		5.00	2.50
Di-N-Butylphthalate	84-74-2	58.3		5.00	2.50
Di-n-octylphthalate	117-84-0	65.7		5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3	53.2		5.00	2.50
Dibenzofuran	132-64-9	53.7		5.00	2.50
Diethylphthalate	84-66-2	57.3		5.00	2.50
Dimethylphthalate	131-11-3	52.3		5.00	2.50
Fluoranthene	206-44-0	58.8		5.00	2.50
Fluorene	86-73-7	55.5		5.00	2.50
Hexachlorobenzene	118-74-1	56.1		5.00	2.50
Hexachlorobutadiene	87-68-3	33.5		5.00	2.50
Hexachlorocyclopentadiene	77-47-4	18.2		5.00	2.50
Hexachloroethane	67-72-1	35.3		5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5	65.0		5.00	2.50
Isophorone	78-59-1	46.5		5.00	2.50
N-Nitrosodiphenylamine	86-30-6	53.0		5.00	2.50
N-Nitrosodipropylamine	621-64-7	59.7		5.00	2.50
Naphthalene	91-20-3	42.3		5.00	2.50
Nitrobenzene	98-95-3	45.1		5.00	2.50
Pentachlorophenol	87-86-5	64.6		25.0	12.5
Phenanthrene	85-01-8	57.3		5.00	2.50
Phenol	108-95-2	48.7		5.00	2.50
Pyrene	129-00-0	58.2		5.00	2.50
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	114	40	125		
2-Fluorobiphenyl	94.1	50	110		
2-Fluorophenol	79.0	20	110		

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Nitrobenzene-d5	83.8	40	110	
p-Terphenyl-d14	107	50	135	
Phenol-d5	89.0	10	115	

J	Estimated value ; the analyte concentration was less than the LOQ.
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Certificate of Analysis

Sample #: L12060445-08

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40DUPGW061212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 18:55

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 12M40154

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.21	2.60
1,2-Dichlorobenzene	95-50-1		U	5.21	2.60
1,3-Dichlorobenzene	541-73-1		U	5.21	2.60
1,4-Dichlorobenzene	106-46-7		U	5.21	2.60
2,4,5-Trichlorophenol	95-95-4		U	5.21	2.60
2,4,6-Trichlorophenol	88-06-2		U	5.21	2.60
2,4-Dichlorophenol	120-83-2		U	5.21	2.60
2,4-Dimethylphenol	105-67-9		U	5.21	2.60
2,4-Dinitrophenol	51-28-5		U	26.0	13.0
2,4-Dinitrotoluene	121-14-2		U	5.21	2.60
2,6-Dinitrotoluene	606-20-2		U	5.21	2.60
2-Chloronaphthalene	91-58-7		U	5.21	2.60
2-Chlorophenol	95-57-8		U	5.21	2.60
2-Methylnaphthalene	91-57-6		U	5.21	2.60
2-Methylphenol	95-48-7		U	5.21	2.60
2-Nitroaniline	88-74-4		U	26.0	13.0
2-Nitrophenol	88-75-5		U	5.21	2.60
3,3'-Dichlorobenzidine	91-94-1		U	10.4	2.60
3-,4-Methylphenol	106-44-5		U	5.21	2.60
3-Nitroaniline	99-09-2		U	26.0	13.0
4,6-Dinitro-2-methylphenol	534-52-1		U	26.0	13.0
4-Bromophenyl-phenylether	101-55-3		U	5.21	2.60
4-Chloro-3-methylphenol	59-50-7		U	5.21	2.60
4-Chloroaniline	106-47-8		U	5.21	2.60
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.21	2.60
4-Nitroaniline	100-01-6		U	26.0	13.0
4-Nitrophenol	100-02-7		U	26.0	13.0
Acenaphthene	83-32-9		U	5.21	2.60
Acenaphthylene	208-96-8		U	5.21	2.60
Anthracene	120-12-7		U	5.21	2.60
Benzo(a)anthracene	56-55-3		U	5.21	2.60
Benzo(a)pyrene	50-32-8		U	5.21	2.60

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.21	2.60
Benzo(g,h,i)Perylene	191-24-2		U	5.21	2.60
Benzo(k)fluoranthene	207-08-9		U	5.21	2.60
Benzoic acid	65-85-0		U	26.0	13.0
Benzyl alcohol	100-51-6		U	5.21	2.60
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.21	2.60
Bis(2-Chloroethyl)ether	111-44-4		U	5.21	2.60
bis(2-Chloroisopropyl)ether	108-60-1		U	5.21	2.60
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.4	3.13
Butylbenzylphthalate	85-68-7		U	5.21	2.60
Chrysene	218-01-9		U	5.21	2.60
Di-N-Butylphthalate	84-74-2		U	5.21	2.60
Di-n-octylphthalate	117-84-0		U	5.21	2.60
Dibenzo(a,h)Anthracene	53-70-3		U	5.21	2.60
Dibenzofuran	132-64-9		U	5.21	2.60
Diethylphthalate	84-66-2		U	5.21	2.60
Dimethylphthalate	131-11-3		U	5.21	2.60
Fluoranthene	206-44-0		U	5.21	2.60
Fluorene	86-73-7		U	5.21	2.60
Hexachlorobenzene	118-74-1		U	5.21	2.60
Hexachlorobutadiene	87-68-3		U	5.21	2.60
Hexachlorocyclopentadiene	77-47-4		U	5.21	2.60
Hexachloroethane	67-72-1		U	5.21	2.60
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.21	2.60
Isophorone	78-59-1		U	5.21	2.60
N-Nitrosodiphenylamine	86-30-6		U	5.21	2.60
N-Nitrosodipropylamine	621-64-7		U	5.21	2.60
Naphthalene	91-20-3		U	5.21	2.60
Nitrobenzene	98-95-3		U	5.21	2.60
Pentachlorophenol	87-86-5		U	26.0	13.0
Phenanthrene	85-01-8		U	5.21	2.60
Phenol	108-95-2		U	5.21	2.60
Pyrene	129-00-0		U	5.21	2.60

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	96.8	40	125	
2-Fluorobiphenyl	81.9	50	110	
2-Fluorophenol	69.4	20	110	
Nitrobenzene-d5	89.1	40	110	
p-Terphenyl-d14	107	50	135	

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	77.4	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: HPMS12
Client ID: 40FB061212	Prep Method: 3520C	Prep Date: 06/18/2012 12:02
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/07/2012 15:27
Workgroup #: WG401264	Analyst: MDC	Run Date: 06/24/2012 19:26
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: 12M40155
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.56	2.78
1,2-Dichlorobenzene	95-50-1		U	5.56	2.78
1,3-Dichlorobenzene	541-73-1		U	5.56	2.78
1,4-Dichlorobenzene	106-46-7		U	5.56	2.78
2,4,5-Trichlorophenol	95-95-4		U	5.56	2.78
2,4,6-Trichlorophenol	88-06-2		U	5.56	2.78
2,4-Dichlorophenol	120-83-2		U	5.56	2.78
2,4-Dimethylphenol	105-67-9		U	5.56	2.78
2,4-Dinitrophenol	51-28-5		U	27.8	13.9
2,4-Dinitrotoluene	121-14-2		U	5.56	2.78
2,6-Dinitrotoluene	606-20-2		U	5.56	2.78
2-Chloronaphthalene	91-58-7		U	5.56	2.78
2-Chlorophenol	95-57-8		U	5.56	2.78
2-Methylnaphthalene	91-57-6		U	5.56	2.78
2-Methylphenol	95-48-7		U	5.56	2.78
2-Nitroaniline	88-74-4		U	27.8	13.9
2-Nitrophenol	88-75-5		U	5.56	2.78
3,3'-Dichlorobenzidine	91-94-1		U	11.1	2.78
3-,4-Methylphenol	106-44-5		U	5.56	2.78
3-Nitroaniline	99-09-2		U	27.8	13.9
4,6-Dinitro-2-methylphenol	534-52-1		U	27.8	13.9
4-Bromophenyl-phenylether	101-55-3		U	5.56	2.78
4-Chloro-3-methylphenol	59-50-7		U	5.56	2.78
4-Chloroaniline	106-47-8		U	5.56	2.78
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.56	2.78
4-Nitroaniline	100-01-6		U	27.8	13.9
4-Nitrophenol	100-02-7		U	27.8	13.9
Acenaphthene	83-32-9		U	5.56	2.78
Acenaphthylene	208-96-8		U	5.56	2.78
Anthracene	120-12-7		U	5.56	2.78
Benzo(a)anthracene	56-55-3		U	5.56	2.78
Benzo(a)pyrene	50-32-8		U	5.56	2.78

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.56	2.78
Benzo(g,h,i)Perylene	191-24-2		U	5.56	2.78
Benzo(k)fluoranthene	207-08-9		U	5.56	2.78
Benzoic acid	65-85-0		U	27.8	13.9
Benzyl alcohol	100-51-6		U	5.56	2.78
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.56	2.78
Bis(2-Chloroethyl)ether	111-44-4		U	5.56	2.78
bis(2-Chloroisopropyl)ether	108-60-1		U	5.56	2.78
bis(2-Ethylhexyl)phthalate	117-81-7		U	11.1	3.33
Butylbenzylphthalate	85-68-7		U	5.56	2.78
Chrysene	218-01-9		U	5.56	2.78
Di-N-Butylphthalate	84-74-2		U	5.56	2.78
Di-n-octylphthalate	117-84-0		U	5.56	2.78
Dibenzo(a,h)Anthracene	53-70-3		U	5.56	2.78
Dibenzofuran	132-64-9		U	5.56	2.78
Diethylphthalate	84-66-2		U	5.56	2.78
Dimethylphthalate	131-11-3		U	5.56	2.78
Fluoranthene	206-44-0		U	5.56	2.78
Fluorene	86-73-7		U	5.56	2.78
Hexachlorobenzene	118-74-1		U	5.56	2.78
Hexachlorobutadiene	87-68-3		U	5.56	2.78
Hexachlorocyclopentadiene	77-47-4		U	5.56	2.78
Hexachloroethane	67-72-1		U	5.56	2.78
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.56	2.78
Isophorone	78-59-1		U	5.56	2.78
N-Nitrosodiphenylamine	86-30-6		U	5.56	2.78
N-Nitrosodipropylamine	621-64-7		U	5.56	2.78
Naphthalene	91-20-3		U	5.56	2.78
Nitrobenzene	98-95-3		U	5.56	2.78
Pentachlorophenol	87-86-5		U	27.8	13.9
Phenanthrene	85-01-8		U	5.56	2.78
Phenol	108-95-2		U	5.56	2.78
Pyrene	129-00-0		U	5.56	2.78

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	102	40	125	
2-Fluorobiphenyl	83.8	50	110	
2-Fluorophenol	78.5	20	110	
Nitrobenzene-d5	88.8	40	110	
p-Terphenyl-d14	107	50	135	

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	84.7	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12060445-10

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40EQR061212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 19:58

Collect Date: 06/12/2012 16:30

Dilution: 1

File ID: 12M40156

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.56	2.78
1,2-Dichlorobenzene	95-50-1		U	5.56	2.78
1,3-Dichlorobenzene	541-73-1		U	5.56	2.78
1,4-Dichlorobenzene	106-46-7		U	5.56	2.78
2,4,5-Trichlorophenol	95-95-4		U	5.56	2.78
2,4,6-Trichlorophenol	88-06-2		U	5.56	2.78
2,4-Dichlorophenol	120-83-2		U	5.56	2.78
2,4-Dimethylphenol	105-67-9		U	5.56	2.78
2,4-Dinitrophenol	51-28-5		U	27.8	13.9
2,4-Dinitrotoluene	121-14-2		U	5.56	2.78
2,6-Dinitrotoluene	606-20-2		U	5.56	2.78
2-Chloronaphthalene	91-58-7		U	5.56	2.78
2-Chlorophenol	95-57-8		U	5.56	2.78
2-Methylnaphthalene	91-57-6		U	5.56	2.78
2-Methylphenol	95-48-7		U	5.56	2.78
2-Nitroaniline	88-74-4		U	27.8	13.9
2-Nitrophenol	88-75-5		U	5.56	2.78
3,3'-Dichlorobenzidine	91-94-1		U	11.1	2.78
3-,4-Methylphenol	106-44-5		U	5.56	2.78
3-Nitroaniline	99-09-2		U	27.8	13.9
4,6-Dinitro-2-methylphenol	534-52-1		U	27.8	13.9
4-Bromophenyl-phenylether	101-55-3		U	5.56	2.78
4-Chloro-3-methylphenol	59-50-7		U	5.56	2.78
4-Chloroaniline	106-47-8		U	5.56	2.78
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.56	2.78
4-Nitroaniline	100-01-6		U	27.8	13.9
4-Nitrophenol	100-02-7		U	27.8	13.9
Acenaphthene	83-32-9		U	5.56	2.78
Acenaphthylene	208-96-8		U	5.56	2.78
Anthracene	120-12-7		U	5.56	2.78
Benzo(a)anthracene	56-55-3		U	5.56	2.78
Benzo(a)pyrene	50-32-8		U	5.56	2.78

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.56	2.78
Benzo(g,h,i)Perylene	191-24-2		U	5.56	2.78
Benzo(k)fluoranthene	207-08-9		U	5.56	2.78
Benzoic acid	65-85-0		U	27.8	13.9
Benzyl alcohol	100-51-6		U	5.56	2.78
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.56	2.78
Bis(2-Chloroethyl)ether	111-44-4		U	5.56	2.78
bis(2-Chloroisopropyl)ether	108-60-1		U	5.56	2.78
bis(2-Ethylhexyl)phthalate	117-81-7		U	11.1	3.33
Butylbenzylphthalate	85-68-7		U	5.56	2.78
Chrysene	218-01-9		U	5.56	2.78
Di-N-Butylphthalate	84-74-2		U	5.56	2.78
Di-n-octylphthalate	117-84-0		U	5.56	2.78
Dibenzo(a,h)Anthracene	53-70-3		U	5.56	2.78
Dibenzofuran	132-64-9		U	5.56	2.78
Diethylphthalate	84-66-2		U	5.56	2.78
Dimethylphthalate	131-11-3		U	5.56	2.78
Fluoranthene	206-44-0		U	5.56	2.78
Fluorene	86-73-7		U	5.56	2.78
Hexachlorobenzene	118-74-1		U	5.56	2.78
Hexachlorobutadiene	87-68-3		U	5.56	2.78
Hexachlorocyclopentadiene	77-47-4		U	5.56	2.78
Hexachloroethane	67-72-1		U	5.56	2.78
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.56	2.78
Isophorone	78-59-1		U	5.56	2.78
N-Nitrosodiphenylamine	86-30-6		U	5.56	2.78
N-Nitrosodipropylamine	621-64-7		U	5.56	2.78
Naphthalene	91-20-3		U	5.56	2.78
Nitrobenzene	98-95-3		U	5.56	2.78
Pentachlorophenol	87-86-5		U	27.8	13.9
Phenanthrene	85-01-8		U	5.56	2.78
Phenol	108-95-2		U	5.56	2.78
Pyrene	129-00-0		U	5.56	2.78
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	101	40	125		
2-Fluorobiphenyl	86.6	50	110		
2-Fluorophenol	75.5	20	110		
Nitrobenzene-d5	94.5	40	110		
p-Terphenyl-d14	111	50	135		

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	85.6	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12060445-11

PrePrep Method: N/A

Instrument: HPMS12

Client ID: 40MW5GW061212

Prep Method: 3520C

Prep Date: 06/18/2012 12:02

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/07/2012 15:27

Workgroup #: WG401264

Analyst: MDC

Run Date: 06/24/2012 20:29

Collect Date: 06/12/2012 17:51

Dilution: 1

File ID: 12M40157

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.10	2.55
1,2-Dichlorobenzene	95-50-1		U	5.10	2.55
1,3-Dichlorobenzene	541-73-1		U	5.10	2.55
1,4-Dichlorobenzene	106-46-7		U	5.10	2.55
2,4,5-Trichlorophenol	95-95-4		U	5.10	2.55
2,4,6-Trichlorophenol	88-06-2		U	5.10	2.55
2,4-Dichlorophenol	120-83-2		U	5.10	2.55
2,4-Dimethylphenol	105-67-9		U	5.10	2.55
2,4-Dinitrophenol	51-28-5		U	25.5	12.8
2,4-Dinitrotoluene	121-14-2		U	5.10	2.55
2,6-Dinitrotoluene	606-20-2		U	5.10	2.55
2-Chloronaphthalene	91-58-7		U	5.10	2.55
2-Chlorophenol	95-57-8		U	5.10	2.55
2-Methylnaphthalene	91-57-6		U	5.10	2.55
2-Methylphenol	95-48-7		U	5.10	2.55
2-Nitroaniline	88-74-4		U	25.5	12.8
2-Nitrophenol	88-75-5		U	5.10	2.55
3,3'-Dichlorobenzidine	91-94-1		U	10.2	2.55
3-,4-Methylphenol	106-44-5		U	5.10	2.55
3-Nitroaniline	99-09-2		U	25.5	12.8
4,6-Dinitro-2-methylphenol	534-52-1		U	25.5	12.8
4-Bromophenyl-phenylether	101-55-3		U	5.10	2.55
4-Chloro-3-methylphenol	59-50-7		U	5.10	2.55
4-Chloroaniline	106-47-8		U	5.10	2.55
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.10	2.55
4-Nitroaniline	100-01-6		U	25.5	12.8
4-Nitrophenol	100-02-7		U	25.5	12.8
Acenaphthene	83-32-9		U	5.10	2.55
Acenaphthylene	208-96-8		U	5.10	2.55
Anthracene	120-12-7		U	5.10	2.55
Benzo(a)anthracene	56-55-3		U	5.10	2.55
Benzo(a)pyrene	50-32-8		U	5.10	2.55

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.10	2.55
Benzo(g,h,i)Perylene	191-24-2		U	5.10	2.55
Benzo(k)fluoranthene	207-08-9		U	5.10	2.55
Benzoic acid	65-85-0		U	25.5	12.8
Benzyl alcohol	100-51-6		U	5.10	2.55
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.10	2.55
Bis(2-Chloroethyl)ether	111-44-4		U	5.10	2.55
bis(2-Chloroisopropyl)ether	108-60-1		U	5.10	2.55
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.2	3.06
Butylbenzylphthalate	85-68-7		U	5.10	2.55
Chrysene	218-01-9		U	5.10	2.55
Di-N-Butylphthalate	84-74-2		U	5.10	2.55
Di-n-octylphthalate	117-84-0		U	5.10	2.55
Dibenzo(a,h)Anthracene	53-70-3		U	5.10	2.55
Dibenzofuran	132-64-9		U	5.10	2.55
Diethylphthalate	84-66-2		U	5.10	2.55
Dimethylphthalate	131-11-3		U	5.10	2.55
Fluoranthene	206-44-0		U	5.10	2.55
Fluorene	86-73-7		U	5.10	2.55
Hexachlorobenzene	118-74-1		U	5.10	2.55
Hexachlorobutadiene	87-68-3		U	5.10	2.55
Hexachlorocyclopentadiene	77-47-4		U	5.10	2.55
Hexachloroethane	67-72-1		U	5.10	2.55
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.10	2.55
Isophorone	78-59-1		U	5.10	2.55
N-Nitrosodiphenylamine	86-30-6		U	5.10	2.55
N-Nitrosodipropylamine	621-64-7		U	5.10	2.55
Naphthalene	91-20-3		U	5.10	2.55
Nitrobenzene	98-95-3		U	5.10	2.55
Pentachlorophenol	87-86-5		U	25.5	12.8
Phenanthrene	85-01-8		U	5.10	2.55
Phenol	108-95-2		U	5.10	2.55
Pyrene	129-00-0		U	5.10	2.55

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	101	40	125	
2-Fluorobiphenyl	86.0	50	110	
2-Fluorophenol	76.0	20	110	
Nitrobenzene-d5	90.6	40	110	
p-Terphenyl-d14	109	50	135	

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	83.4	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

2.2.1.2 QC Summary Data

Example 8270 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

$$RF = [(Ax) (Cis)] / [(Ais) (Cx)]$$

where:

Ax = Area of the characteristic ion for the compound being measured:	1261197
Cis = Concentration of the specific internal standard (ug/mL)	40
Ais = Area of the characteristic ion of the specific internal standard	608044
Cx = Concentration of the compound in the standard being measured (ug/mL)	50
RF = Calculated Response Factor	1.65935

Example

2.0 Calculating the concentration (C) of a compound in water using the data from the prep log and quantitation report: *

$$Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Vi)]$$

where:

Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Vi = Initial volume of sample extracted from prep log (mL)	1021
Cx = Concentration of the compound in the sample being measured (ug/mL)	0.016947
Cx = Concentration of the compound in the sample being measured (ug/L)	16.947

Example

3.0 Calculating the concentration (C) of a compound in soil using the data from the prep log and quantitation report: *

$$Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Wi)]$$

where:

Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Wi = Initial weight of sample extracted (g) from prep log	30
Cx = Concentration of the compound in the sample being measured (ug/g)	0.576763
Cx = Concentration of the compound in the sample being measured (ug/kg)	576.7627

Example

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	1153.525 ug/kg

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, $y = mx + b$

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve plot

b = intercept from curve plot

Step 2: Calculate y from Quantitation Report

y = 16790/784838 = 0.02139

Step 3: Solve for x

$$x = (y - b)/m = [(0.02139 - (-0.0435))/0.0783] = 0.829$$

Step 4: Solve for analyte concentration Cx

$$Cx = Cis (x) = (25.0)(0.829) = 20.72 \text{ ug/L}$$

Example Spreadsheet Calculation:

Slope from curve, m:	0.0783
Intercept from curve, b:	-0.0435
Area of analyte, Ax:	16790
Area of Internal Standard, Ais:	784484
Concentration of IS, Cis	25.00 ug/L
Response Ratio (y) :	0.021403
Amount Ratio:	0.828897
Concentration (Cx):	20.72241 ug/L

5.0 Concentration from Quadratic Regression**Step 1 - Retrieve Curve Data from Plot, $y = Ax^2 + Bx + C$**

Where:

$$Ax^2 + Bx + (C - y) = 0$$

A, B, C = constants from the ICAL quadratic regression

y = Response ratio = Area of analyte/Area of internal standard (IS)

x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

$$Ax^2 + Bx + C - y = 0$$

$$x = \frac{b \pm \sqrt{b^2 - 4a(c - y)}}{2a} \quad (\text{Two possible solutions})$$

Step 4: Solve for analyte concentration Cx

$$Cx = (Cis)(\text{Amount ratio})$$

Example Spreadsheet Calculation:

Value of A from plot:	0.0259
Value of B from plot:	0.0596
Value of C from plot:	-0.0165
Area of analyte from quantitation report:	203233
Area of IS from quantitation report:	1425653
Response ratio, y:	0.142554
C - y:	-0.15905
Root 1 - Computed amount ratio, X1:	-3.88278
Root 2 - Computed amount ratio, X2:	1.581623 use this solution
Concentration of IS, Cis:	40.00
Concentration of analyte, Cx:	63.26 ug/L

Microbac Laboratories Inc.
Continuous Sample Extract Log

Workgroup: <u>WG400920</u>	TIME ON: <u>16:00</u>	OFF: <u>10:00</u>	ON: <u>14:30</u>	OFF: <u>08:30</u>
Analyst: <u>CSH</u>	Methylene Chloride Lot #: <u>COA16205</u>			
Spike Analyst: <u>CSH</u>	Sodium Sulfate, Anhydrous, Granular (Lot # <u>COA16124</u>			
Method: <u>3520C</u>	1:1 H2SO4 Lot #: <u>RGT17479</u>			
Run Date: <u>06/18/2012 12:02</u>	10N NaOH Lot #: <u>RGT17464</u>			
SOP: <u>EXB01 Revision 16</u>				
Spike Witness: <u>RAH</u>				
Surr Solution: <u>STD51128</u>				

	SAMPLE #	Type	Reference	Prod	pH	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L12060445-01	SAMP		827-SPE	<2>12	1000 mL	.5 mL			1 mL	Transparent
2	L12060445-03	SAMP		827-SPE	<2>12	1000 mL	.5 mL			1 mL	Transparent
3	L12060445-05	RS01		827-SPE	<2>12	1000 mL	.5 mL			1 mL	Transparent
4	L12060445-06	MS01	L12060445-05	827-SPE	<2>12	980 mL	.5 mL	.5 mL	STD51792	1 mL	Colored
5	L12060445-07	SD01	L12060445-05	827-SPE	<2>12	1000 mL	.5 mL	.5 mL	STD51792	1 mL	Colored
6	L12060445-08	SAMP		827-SPE	<2>12	960 mL	.5 mL			1 mL	Transparent
7	L12060445-09	SAMP		827-SPE	<2>12	900 mL	.5 mL			1 mL	Transparent
8	L12060445-10	SAMP		827-SPE	<2>12	900 mL	.5 mL			1 mL	Transparent
9	L12060445-11	SAMP		827-SPE	<2>12	980 mL	.5 mL			1 mL	Transparent
10	WG400920-01	REF	L12060445-05	827-SPE	<2>12	1000 mL	.5 mL			1 mL	Transparent
11	WG400920-02	BLANK		827-SPE	<2>12	1000 mL	.5 mL			1 mL	Transparent
12	WG400920-03	LCS		827-SPE	<2>12	1000 mL	.5 mL	.5 mL	STD51792	1 mL	Colored
13	WG400920-04	MS	L12060445-05	827-SPE	<2>12	980 mL	.5 mL	.5 mL	STD51792	1 mL	Colored
14	WG400920-05	MSD	L12060445-05	827-SPE	<2>12	1000 mL	.5 mL	.5 mL	STD51792	1 mL	Colored

Analyst: Chris Hill

Reviewer: R. K. Hill

EXTRACT - Modified 01/23/2009
PDF ID: 2460963
Report generated: 06/25/2012 11:55



Microbac Laboratories Inc. Instrument Run Log

Instrument: HPMS12 Dataset: 060712
 Analyst1: CAA Analyst2: NA
 Method: 8270C SOP: MSS01 Rev: 19

Maintenance Log ID: 42046 Syringe Filter Lot#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA
 Workgroups: WG400093, WG399168, WG399624, WG399494
 Internal STD: COA16157 Surrogate STD: NA Calibration STD: _____
 CCV STD: _____ LCS STD: _____ MS/MSD STD: _____

Comments: ICAL: Benzidine fails.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	12M39925	WG400053-01 50ppm DFTPP STD	1	1	STD50659	06/07/12 08:20
2	12M39926	WG400053-02 50ppm Megamix STD	1	1	STD50886	06/07/12 08:39
3	12M39927	WG400053-01 50ppm DFTPP STD	1	1	STD50659	06/07/12 09:44
4	12M39928	WG400053-02 50ppm Megamix STD	1	1	STD50886	06/07/12 10:04
5	12M39929	WG400054-01 50ppm TCL STD	1	1	STD51428	06/07/12 10:35
6	12M39930	WG400053-01 50ppm DFTPP STD	1	1	STD50659	06/07/12 11:04
7	12M39931	WG400053-01 50ppm DFTPP STD	1	1	STD50659	06/07/12 11:26
8	12M39932	WG400053-02 50ppm Megamix STD	1	1	STD52044	06/07/12 11:46
9	12M39933	WG400053-03 3ppm Megamix STD	1	1	STD52044	06/07/12 12:18
10	12M39934	WG400053-04 10ppm Megamix STD	1	1	STD52044	06/07/12 12:49
11	12M39935	WG400053-05 15ppm Megamix STD	1	1	STD52044	06/07/12 13:21
12	12M39936	WG400053-06 25ppm Megamix STD	1	1	STD52044	06/07/12 13:53
13	12M39937	WG400053-07 80ppm Megamix STD	1	1	STD52044	06/07/12 14:24
14	12M39938	WG400053-08 100ppm Megamix STD	1	1	STD52044	06/07/12 14:56
15	12M39939	WG400053-09 120ppm Megamix STD	1	1	STD52044	06/07/12 15:27
16	12M39940	WG400053-10 50ppm Megamix Alt Src STD	1	1	STD50596	06/07/12 15:59
17	12M39941	WG400053-11 50ppm 1,4-Dioxane Alt Src ST	1	1	STD50848	06/07/12 16:30
18	12M39942	WG400054-01 50ppm TCL STD	1	1	STD51428	06/07/12 17:02
19	12M39943	500ppm Hex/Kepone STD	1	1	STD49512	06/07/12 17:33
20	12M39944	WG399387-02 BLK 05/31	1	1		06/07/12 18:04
21	12M39945	WG399387-03 LCS 05/31	1	1		06/07/12 18:35
22	12M39946	L12050780-11	1	1		06/07/12 19:06
23	12M39947	L12050885-01	1	1		06/07/12 19:37
31	12M39948	L12050756-06 10X	1	10		06/07/12 20:08
25	12M39949	L12050756-14 10X	1	10		06/07/12 20:39
26	12M39950	L12050867-02 50X	11	50		06/07/12 21:10
27	12M39951	L12050726-01 100X	7	100	SOIL	06/07/12 21:41
28	12M39952	L12050726-03 100X	7	100	SOIL	06/07/12 22:12
29	12M39953	L12050726-07 5X	7	5	SOIL	06/07/12 22:43
30	12M39954	L12050726-08 5X	7	5	SOIL	06/07/12 23:14

Comments

Seq.	Rerun	Dil.	Reason	Analytes
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Page: 1

Approved: 08-JUN-12

Eiv C. Zuma



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS12 Dataset: 060712
 Analyst1: CAA Analyst2: NA
 Method: 8270C SOP: MSS01 Rev: 19

Maintenance Log ID: 42046 Syringe Filter Lot#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA
 Workgroups: WG400093, WG399168, WG399624, WG399494
 Internal STD: COA16157 Surrogate STD: NA
 CCV STD: _____ LCS STD: _____

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
			WG400053-02 50ppm Megamix STD - C compound fails high, clip column and replace gold seal.	
4	X			
			WG400053-02 50ppm Megamix STD - Last internal standard retention time fails vs ICAL, run ICAL.	
5	X			
			WG400054-01 50ppm TCL STD	
6	X			
			WG400053-01 50ppm DFTPP STD - Tune failed.	
21				
			WG399387-03 LCS 05/31 - 1 analyte high, 1 low.	
22				
			L12050780-11 - Istd 6 low - SMI.	
23				
			L12050885-01 - Istd 6 low - SMI; SS TPH low.	
29	X	1	Analyzed too dilute	
			L12050726-07 5X	
30	X	1	Analyzed too dilute	
			L12050726-08 5X	

Page: 2

Approved: 08-JUN-12




Microbac Laboratories Inc. Instrument Run Log

Instrument: HPMS12 Dataset: 062412
 Analyst1: CAA Analyst2: MDC
 Method: 8270C SOP: MSS01 Rev: 19

Maintenance Log ID: 42237 Syringe Filter Lot#: _____

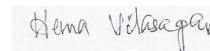
Column 1 ID: RXI-5MS Column 2 ID: NA
 Workgroups: WG401264, WG401438, WG401368
 Internal STD: COA16157 Surrogate STD: NA Calibration STD: _____
 CCV STD: _____ LCS STD: _____ MS/MSD STD: _____

Comments: Samples were analyzed at a dilution due to extract appearance.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	12M40136	WG401464-01 50ppm DFTPP STD	1	1	STD50659	06/24/12 09:46
2	12M40137	WG401464-02 50ppm BNA STD	1	1	STD52044	06/24/12 10:04
3	12M40138	WG401464-02 50ppm BNA STD	1	1	STD52044	06/24/12 10:35
4	12M40139	WG401431-01 50ppm TCL STD	1	1	STD51428	06/24/12 11:06
5	12M40140	500ppm Hex/Kepone STD	1	1	STD49512	06/24/12 11:37
6	12M40141	WG401440-01 50ppm Benzidine STD	1	1	STD51066	06/24/12 12:08
7	12M40142	WG401114-02 BLK 06/20	1	1		06/24/12 12:39
8	12M40143	WG401114-03 LCS 06/20	1	1		06/24/12 13:11
9	12M40144	WG400920-02 BLK 06/18	1	1		06/24/12 13:42
10	12M40145	WG400920-03 LCS 06/18	1	1		06/24/12 14:13
11	12M40146	WG401245-02 BLK 06/21	1	1		06/24/12 14:45
12	12M40147	WG401245-03 LCS 06/21	1	1		06/24/12 15:16
13	12M40148	L12060598-01	1	1		06/24/12 15:48
14	12M40149	L12060445-01	1	1		06/24/12 16:19
15	12M40150	L12060445-03	1	1		06/24/12 16:51
35	12M40151	L12060445-05 REF	1	1		06/24/12 17:22
36	12M40152	L12060445-06 MS	1	1		06/24/12 17:53
37	12M40153	L12060445-07 MSD	1	1		06/24/12 18:24
19	12M40154	L12060445-08	1	1		06/24/12 18:55
20	12M40155	L12060445-09	1	1		06/24/12 19:26
21	12M40156	L12060445-10	1	1		06/24/12 19:58
22	12M40157	L12060445-11	1	1		06/24/12 20:29
23	12M40158	L12060307-01 RE	1	1		06/24/12 21:01
24	12M40159	L12060618-01	1	1		06/24/12 21:32
25	12M40160	L12060618-03	1	1		06/24/12 22:03
26	12M40161	L12060619-01	2	1		06/24/12 22:34
27	12M40162	L12060620-04	2	1		06/24/12 23:05
28	12M40163	L12060625-01	2	1		06/24/12 23:36
29	12M40164	L12060623-01 2x	2	2		06/25/12 00:07
30	12M40165	L12060620-05 2X	2	2		06/25/12 00:38
31	12M40166	L12060620-03 5X	2	5		06/25/12 01:09
32	12M40167	L12060624-01 5X	2	5		06/25/12 01:40
33	12M40168	L12060620-02 5X	2	5		06/25/12 02:10

Page: 1

Approved: 25-JUN-12




Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS12 Dataset: 062412
 Analyst1: CAA Analyst2: MDC
 Method: 8270C SOP: MSS01 Rev: 19

Maintenance Log ID: 42237 Syringe Filter Lot#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA
 Workgroups: WG401264, WG401438, WG401368
 Internal STD: COA16157 Surrogate STD: NA
 CCV STD: _____ LCS STD: _____

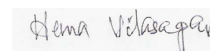
Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	12M40169	L12060620-01 10x	2	10		06/25/12 02:41

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2				
			WG401464-02 50ppm BNA STD - CCV passes but several compounds >20% (biased high).	
8				
			WG401114-03 LCS 06/20 - 5 analytes high.	
10				
			WG400920-03 LCS 06/18 - 7 analytes high, 1 low.	
11				
			WG401245-02 BLK 06/21 - B(2eh)p >MDL but <RL.	
12				
			WG401245-03 LCS 06/21 - 2 analytes high.	
14				
			L12060445-01 - SS TBP, TPH high (DoD4). No RE - sample is clean, out of hold for RE.	
23				
			L12060307-01 RE - SS TPH low.	
25	X	1	Missed Tune	
			L12060618-03	
26	X	5	Over Calibration Range	#19, 124
			L12060619-01	
29		1	Analyzed too dilute	
			L12060623-01 2x	

Page: 2

Approved: 25-JUN-12




Microbac Laboratories Inc.

Data Checklist

Date: 07-JUN-2012

Analyst: CAA

Analyst: NA

Method: 8270

Instrument: HPMS12

Curve Workgroup: NA

Runlog ID: 47198

Analytical Workgroups: L12050780, L12050885, L12050756, L12050867, L12050726

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	X
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	X
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
08-JUN-2012

Cassio D. Augenstein

Secondary Reviewer:
08-JUN-2012

Eric C. Zimm

CHECKLIST1 - Modified 03/05/2008

Generated: JUN-08-2012 14:45:07



Microbac Laboratories Inc.

Data Checklist

Date: 24-JUN-2012
 Analyst: CAA
 Analyst: MDC
 Method: 8270
 Instrument: HPMS12
 Curve Workgroup: NA
 Runlog ID: 47477
 Analytical Workgroups: L12060598, 060445, 060307, 060618, 060619, 060620, 060625, 06062

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	X
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	X
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	HAV

Primary Reviewer:
25-JUN-2012

Cassio D. Augustin

Secondary Reviewer:
25-JUN-2012

Hema Velasquez



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8270C

AAB#: WG401264

Login Number: L12060445

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
40MW7GW061212	01	06/12/12					06/18/12	6.1	7		06/24/12	6.2	40	
LFMW01GW061212	03	06/12/12					06/18/12	6	7		06/24/12	6.2	40	
40MW6GW061212	05	06/12/12					06/18/12	5.9	7		06/24/12	6.2	40	
40MW6MSGW061212	06	06/12/12					06/18/12	5.9	7		06/24/12	6.2	40	
40MW6MSDGW061212	07	06/12/12					06/18/12	5.9	7		06/24/12	6.3	40	
40DUPGW061212	08	06/12/12					06/18/12	5.9	7		06/24/12	6.3	40	
40FB061212	09	06/12/12					06/18/12	5.8	7		06/24/12	6.3	40	
40EQR061212	10	06/12/12					06/18/12	5.8	7		06/24/12	6.3	40	
40MW5GW061212	11	06/12/12					06/18/12	5.8	7		06/24/12	6.4	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2466549
Report generated 06/25/2012 16:52



**Microbac Laboratories Inc.
SURROGATE STANDARDS**

Login Number: L12060445
Instrument Id: HPMS12
Workgroup (AAB#): WG401264

Method: 8270
CAL ID: HPMS12 - 07-JUN-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4	5	6
L12060445-01	1.00	01	<u>126</u>	97.9	91.5	105	<u>137</u>	99.4
L12060445-03	1.00	01	98.7	82.1	75.2	88.8	106	81.5
L12060445-05	1.00	01	94.2	77.9	73.9	84.4	104	79.5
L12060445-06	1.00	01	105	91.6	82.7	89.1	99.8	90.9
L12060445-07	1.00	01	114	94.1	79.0	83.8	107	89.0
L12060445-08	1.00	01	96.8	81.9	69.4	89.1	107	77.4
L12060445-09	1.00	01	102	83.8	78.5	88.8	107	84.7
L12060445-10	1.00	01	101	86.6	75.5	94.5	111	85.6
L12060445-11	1.00	01	101	86.0	76.0	90.6	109	83.4
WG400920-02	1.00	01	94.0	75.9	75.3	88.1	104	82.2
WG400920-03	1.00	01	101	75.5	64.2	69.2	101	70.3

Surrogates	Surrogate Limits		
1 - 2,4,6-Tribromophenol	40	-	125
2 - 2-Fluorobiphenyl	50	-	110
3 - 2-Fluorophenol	20	-	110
4 - Nitrobenzene-d5	40	-	110
5 - p-Terphenyl-d14	50	-	135
6 - Phenol-d5	10	-	115

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected



METHOD BLANK SUMMARY

Login Number: <u>L12060445</u>	Work Group: <u>WG401264</u>
Blank File ID: <u>12M40144</u>	Blank Sample ID: <u>WG400920-02</u>
Prep Date: <u>06/18/12 12:02</u>	Instrument ID: <u>HPMS12</u>
Analyzed Date: <u>06/24/12 13:42</u>	Method: <u>8270C</u>
Analyst: <u>MDC</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG400920-03	12M40145	06/24/12 14:13	01
40MW7GW061212	L12060445-01	12M40149	06/24/12 16:19	01
LFMW01GW061212	L12060445-03	12M40150	06/24/12 16:51	01
40MW6GW061212	L12060445-05	12M40151	06/24/12 17:22	01
40MW6MSGW061212	L12060445-06	12M40152	06/24/12 17:53	01
40MW6MSDGW061212	L12060445-07	12M40153	06/24/12 18:24	01
40DUPGW061212	L12060445-08	12M40154	06/24/12 18:55	01
40FB061212	L12060445-09	12M40155	06/24/12 19:26	01
40EQR061212	L12060445-10	12M40156	06/24/12 19:58	01
40MW5GW061212	L12060445-11	12M40157	06/24/12 20:29	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2466550
 Report generated 06/25/2012 16:52



METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/18/12 12:02 Sample ID: WG400920-02
 Instrument ID: HPMS12 Run Date: 06/24/12 13:42 Prep Method: 3520C
 File ID: 12M40144 Analyst: MDC Method: 8270C
 Workgroup (AAB#): WG401264 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS12 - 07-JUN-12

Analytes	L0D	L0Q	Concentration	Dilution	Qualifier
1,2,4-Trichlorobenzene	2.50	5.00	2.50	1	U
1,2-Dichlorobenzene	2.50	5.00	2.50	1	U
1,3-Dichlorobenzene	2.50	5.00	2.50	1	U
1,4-Dichlorobenzene	2.50	5.00	2.50	1	U
2,4,5-Trichlorophenol	2.50	5.00	2.50	1	U
2,4,6-Trichlorophenol	2.50	5.00	2.50	1	U
2,4-Dichlorophenol	2.50	5.00	2.50	1	U
2,4-Dimethylphenol	2.50	5.00	2.50	1	U
2,4-Dinitrophenol	12.5	25.0	12.5	1	U
2,4-Dinitrotoluene	2.50	5.00	2.50	1	U
2,6-Dinitrotoluene	2.50	5.00	2.50	1	U
2-Chloronaphthalene	2.50	5.00	2.50	1	U
2-Chlorophenol	2.50	5.00	2.50	1	U
2-Methylnaphthalene	2.50	5.00	2.50	1	U
2-Methylphenol	2.50	5.00	2.50	1	U
2-Nitroaniline	12.5	25.0	12.5	1	U
2-Nitrophenol	2.50	5.00	2.50	1	U
3,3'-Dichlorobenzidine	2.50	10.0	2.50	1	U
3-,4-Methylphenol	2.50	5.00	2.50	1	U
3-Nitroaniline	12.5	25.0	12.5	1	U
4,6-Dinitro-2-methylphenol	12.5	25.0	12.5	1	U
4-Bromophenyl-phenylether	2.50	5.00	2.50	1	U
4-Chloro-3-methylphenol	2.50	5.00	2.50	1	U
4-Chloroaniline	2.50	5.00	2.50	1	U
4-Chlorophenyl-phenyl ether	2.50	5.00	2.50	1	U
4-Nitroaniline	12.5	25.0	12.5	1	U
4-Nitrophenol	12.5	25.0	12.5	1	U
Acenaphthene	2.50	5.00	2.50	1	U
Acenaphthylene	2.50	5.00	2.50	1	U
Anthracene	2.50	5.00	2.50	1	U
Benzo(a)anthracene	2.50	5.00	2.50	1	U
Benzo(a)pyrene	2.50	5.00	2.50	1	U
Benzo(b)fluoranthene	2.50	5.00	2.50	1	U
Benzo(g,h,i)Perylene	2.50	5.00	2.50	1	U
Benzo(k)fluoranthene	2.50	5.00	2.50	1	U
Benzoic acid	12.5	25.0	12.5	1	U
Benzyl alcohol	2.50	5.00	2.50	1	U
Bis(2-Chloroethoxy)Methane	2.50	5.00	2.50	1	U
Bis(2-Chloroethyl)ether	2.50	5.00	2.50	1	U
bis(2-Chloroisopropyl)ether	2.50	5.00	2.50	1	U
bis(2-Ethylhexyl)phthalate	3.00	10.0	3.00	1	U
Butylbenzylphthalate	2.50	5.00	2.50	1	U

Report Name: BLANK

PDF ID: 2466551

25-JUN-2012 16:52



METHOD BLANK REPORT

Login Number: **L12060445** Prep Date: **06/18/12 12:02** Sample ID: **WG400920-02**
 Instrument ID: **HPMS12** Run Date: **06/24/12 13:42** Prep Method: **3520C**
 File ID: **12M40144** Analyst: **MDC** Method: **8270C**
 Workgroup (AAB#): **WG401264** Matrix: **Water** Units: **ug/L**
 Contract #: _____ Cal ID: **HPMS12 - 07-JUN-12**

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Chrysene	2.50	5.00	2.50	1	U
Di-N-Butylphthalate	2.50	5.00	2.50	1	U
Di-n-octylphthalate	2.50	5.00	2.50	1	U
Dibenzo(a,h)Anthracene	2.50	5.00	2.50	1	U
Dibenzofuran	2.50	5.00	2.50	1	U
Diethylphthalate	2.50	5.00	2.50	1	U
Dimethylphthalate	2.50	5.00	2.50	1	U
Fluoranthene	2.50	5.00	2.50	1	U
Fluorene	2.50	5.00	2.50	1	U
Hexachlorobenzene	2.50	5.00	2.50	1	U
Hexachlorobutadiene	2.50	5.00	2.50	1	U
Hexachlorocyclopentadiene	2.50	5.00	2.50	1	U
Hexachloroethane	2.50	5.00	2.50	1	U
Indeno(1,2,3-cd)pyrene	2.50	5.00	2.50	1	U
Isophorone	2.50	5.00	2.50	1	U
N-Nitrosodiphenylamine	2.50	5.00	2.50	1	U
N-Nitrosodipropylamine	2.50	5.00	2.50	1	U
Naphthalene	2.50	5.00	2.50	1	U
Nitrobenzene	2.50	5.00	2.50	1	U
Pentachlorophenol	12.5	25.0	12.5	1	U
Phenanthrene	2.50	5.00	2.50	1	U
Phenol	2.50	5.00	2.50	1	U
Pyrene	2.50	5.00	2.50	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,6-Tribromophenol	94.0	40 - 125	PASS
2-Fluorobiphenyl	75.9	50 - 110	PASS
2-Fluorophenol	75.3	20 - 110	PASS
Nitrobenzene-d5	88.1	40 - 110	PASS
p-Terphenyl-d14	104	50 - 135	PASS
Phenol-d5	82.2	10 - 115	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2466551

25-JUN-2012 16:52



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445	Run Date: 06/24/2012	Sample ID: WG400920-03
Instrument ID: HPMS12	Run Time: 14:13	Prep Method: 3520C
File ID: 12M40145	Analyst: MDC	Method: 8270C
Workgroup (AAB#): WG401264	Matrix: Water	Units: ug/L
QC Key: D0D4	Lot#: STD51792	Cal ID: HPMS12 - 07-JUN-12

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,2,4-Trichlorobenzene	50.0	24.1	48.1	35	-	105	
1,2-Dichlorobenzene	50.0	25.2	50.3	35	-	100	
1,3-Dichlorobenzene	50.0	23.6	47.2	30	-	100	
1,4-Dichlorobenzene	50.0	24.6	49.3	30	-	100	
2,4,5-Trichlorophenol	50.0	48.7	97.3	50	-	110	
2,4,6-Trichlorophenol	50.0	44.3	88.7	50	-	115	
2,4-Dichlorophenol	50.0	34.6	69.3	50	-	105	
2,4-Dimethylphenol	50.0	33.8	67.6	30	-	110	
2,4-Dinitrophenol	50.0	54.7	109	15	-	140	
2,4-Dinitrotoluene	50.0	53.9	108	50	-	120	
2,6-Dinitrotoluene	50.0	47.7	95.3	50	-	115	
2-Chloronaphthalene	50.0	39.3	78.6	50	-	105	
2-Chlorophenol	50.0	37.3	74.5	35	-	105	
2-Methylnaphthalene	50.0	31.1	62.2	45	-	105	
2-Methylphenol	50.0	39.9	79.9	40	-	110	
2-Nitroaniline	50.0	55.0	110	50	-	115	
2-Nitrophenol	50.0	34.5	69.0	40	-	115	
3,3'-Dichlorobenzidine	50.0	61.1	122	20	-	110	*
3-,4-Methylphenol	50.0	41.2	82.3	30	-	110	
3-Nitroaniline	50.0	60.6	121	20	-	125	
4,6-Dinitro-2-methylphenol	50.0	62.1	124	40	-	130	
4-Bromophenyl-phenylether	50.0	44.9	89.8	50	-	115	
4-Chloro-3-methylphenol	50.0	41.7	83.3	45	-	110	
4-Chloroaniline	50.0	34.6	69.3	15	-	110	
4-Chlorophenyl-phenyl ether	50.0	45.1	90.2	50	-	110	
4-Nitroaniline	50.0	60.8	122	35	-	120	*
4-Nitrophenol	50.0	62.9	126	0	-	125	*
Acenaphthene	50.0	43.9	87.9	45	-	110	
Acenaphthylene	50.0	43.4	86.8	50	-	105	
Anthracene	50.0	50.2	100	55	-	110	
Benzo(a)anthracene	50.0	54.9	110	55	-	110	
Benzo(a)pyrene	50.0	54.1	108	55	-	110	
Benzo(b)fluoranthene	50.0	54.2	108	45	-	120	
Benzo(g,h,i)Perylene	50.0	63.3	127	40	-	125	*
Benzo(k)fluoranthene	50.0	55.7	111	45	-	125	
Benzoic acid	50.0	30.3	60.7	0	-	125	
Benzyl alcohol	50.0	41.9	83.8	30	-	110	
Bis(2-Chloroethoxy)Methane	50.0	28.2	56.5	45	-	105	
Bis(2-Chloroethyl)ether	50.0	40.0	80.1	35	-	110	
bis(2-Chloroisopropyl)ether	50.0	45.5	91.1	25	-	130	
bis(2-Ethylhexyl)phthalate	50.0	58.7	117	40	-	125	

LCS - Modified 03/06/2008
PDF File ID: 2466552
Report generated: 06/25/2012 16:52



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445	Run Date: 06/24/2012	Sample ID: WG400920-03
Instrument ID: HPMS12	Run Time: 14:13	Prep Method: 3520C
File ID: 12M40145	Analyst: MDC	Method: 8270C
Workgroup (AAB#): WG401264	Matrix: Water	Units: ug/L
QC Key: D0D4	Lot#: STD51792	Cal ID: HPMS12 - 07-JUN-12

Analytes	Expected	Found	% Rec	LCS Limits		Q
Butylbenzylphthalate	50.0	59.0	118	45	- 115	*
Chrysene	50.0	56.4	113	55	- 110	*
Di-N-Butylphthalate	50.0	52.6	105	55	- 115	
Di-n-octylphthalate	50.0	58.2	116	35	- 135	
Dibenzo(a,h)Anthracene	50.0	48.2	96.4	40	- 125	
Dibenzofuran	50.0	44.3	88.6	55	- 105	
Diethylphthalate	50.0	50.5	101	40	- 120	
Dimethylphthalate	50.0	44.7	89.4	25	- 125	
Fluoranthene	50.0	54.2	108	55	- 115	
Fluorene	50.0	46.7	93.4	50	- 110	
Hexachlorobenzene	50.0	49.6	99.2	50	- 110	
Hexachlorobutadiene	50.0	24.8	49.5	25	- 105	
Hexachlorocyclopentadiene	50.0	16.6	33.1	20	- 143	
Hexachloroethane	50.0	23.6	47.2	30	- 100	
Indeno(1,2,3-cd)pyrene	50.0	59.2	118	45	- 125	
Isophorone	50.0	38.5	77.1	50	- 110	
N-Nitrosodiphenylamine	50.0	49.1	98.2	50	- 110	
N-Nitrosodipropylamine	50.0	47.1	94.1	35	- 130	
Naphthalene	50.0	32.3	64.5	40	- 100	
Nitrobenzene	50.0	36.4	72.9	45	- 110	
Pentachlorophenol	50.0	60.9	122	40	- 115	*
Phenanthrene	50.0	51.8	104	50	- 115	
Phenol	50.0	38.6	77.2	85	- 115	*
Pyrene	50.0	53.2	106	50	- 130	

Surrogates	% Recovery	Surrogate Limits		Qualifier
2,4,6-Tribromophenol	101	40	- 125	PASS
2-Fluorobiphenyl	75.5	50	- 110	PASS
2-Fluorophenol	64.2	20	- 110	PASS
Nitrobenzene-d5	69.2	40	- 110	PASS
p-Terphenyl-d14	101	50	- 135	PASS
Phenol-d5	70.3	10	- 115	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2466552
Report generated: 06/25/2012 16:52



MS/MSD REPORT

Loginnum: L12060445Cal ID: HPMS12- 07-JUN-12Worknum: WG401264Instrument ID: HPMS12

Contract #:

Prep Method: 3520CParent ID: L12060445-05File ID: 12M40151Dil: 1Method: 8270CSample ID: L12060445-06 MSFile ID: 12M40152Dil: 1Matrix: WaterSample ID: L12060445-07 MSDFile ID: 12M40153Dil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,2,4-Trichlorobenzene	U	51.0	32.5	63.6	50.0	31.8	63.7	1.89	35 - 105	30	
1,2-Dichlorobenzene	U	51.0	38.0	74.4	50.0	36.6	73.1	3.74	35 - 100	30	
1,3-Dichlorobenzene	U	51.0	36.9	72.3	50.0	35.0	70.1	5.15	30 - 100	30	
1,4-Dichlorobenzene	U	51.0	37.9	74.4	50.0	35.5	71.1	6.55	30 - 100	30	
2,4,5-Trichlorophenol	U	51.0	57.3	112	50.0	58.4	117	2.05	50 - 110	30	*
2,4,6-Trichlorophenol	U	51.0	54.1	106	50.0	54.3	109	0.372	50 - 115	30	
2,4-Dichlorophenol	U	51.0	43.6	85.5	50.0	42.4	84.8	2.79	50 - 105	30	
2,4-Dimethylphenol	U	51.0	38.9	76.2	50.0	38.6	77.2	0.695	30 - 110	30	
2,4-Dinitrophenol	U	51.0	57.0	112	50.0	56.9	114	0.0954	15 - 140	30	
2,4-Dinitrotoluene	U	51.0	60.7	119	50.0	60.1	120	1.01	50 - 120	30	
2,6-Dinitrotoluene	U	51.0	57.2	112	50.0	55.7	111	2.51	50 - 115	30	
2-Chloronaphthalene	U	51.0	50.2	98.3	50.0	49.2	98.3	2.02	50 - 105	30	
2-Chlorophenol	U	51.0	48.8	95.7	50.0	46.9	93.8	4.01	35 - 105	30	
2-Methylnaphthalene	U	51.0	39.6	77.6	50.0	38.8	77.7	1.93	45 - 105	30	
2-Methylphenol	U	51.0	52.3	103	50.0	50.6	101	3.39	40 - 110	30	
2-Nitroaniline	U	51.0	68.0	133	50.0	64.0	128	6.04	50 - 115	30	*
2-Nitrophenol	U	51.0	43.8	85.8	50.0	43.2	86.3	1.48	40 - 115	30	
3,3'-Dichlorobenzidine	U	51.0	56.4	111	50.0	54.3	109	3.76	20 - 110	30	*
3-,4-Methylphenol	U	51.0	53.2	104	50.0	51.6	103	3.09	30 - 110	30	
3-Nitroaniline	U	51.0	68.9	135	50.0	66.9	134	2.97	20 - 125	30	*
4,6-Dinitro-2-methylphenol	U	51.0	67.7	133	50.0	68.2	136	0.649	40 - 130	30	*
4-Bromophenyl-phenylether	U	51.0	51.2	100	50.0	51.7	103	1.12	50 - 115	30	
4-Chloro-3-methylphenol	U	51.0	50.6	99.2	50.0	48.9	97.8	3.37	45 - 110	30	
4-Chloroaniline	U	51.0	43.5	85.2	50.0	42.7	85.4	1.74	15 - 110	30	
4-Chlorophenyl-phenyl ether	U	51.0	52.9	104	50.0	53.7	107	1.47	50 - 110	30	
4-Nitroaniline	U	51.0	64.8	127	50.0	64.6	129	0.320	35 - 120	30	*
4-Nitrophenol	U	51.0	72.4	142	50.0	68.2	136	5.94	0 - 125	30	*
Acenaphthene	U	51.0	53.6	105	50.0	53.5	107	0.0115	45 - 110	30	
Acenaphthylene	U	51.0	53.8	105	50.0	52.9	106	1.66	50 - 105	30	*
Anthracene	U	51.0	55.7	109	50.0	55.3	111	0.714	55 - 110	30	*
Benzo(a)anthracene	U	51.0	57.4	113	50.0	60.2	120	4.82	55 - 110	30	*
Benzo(a)pyrene	U	51.0	55.5	109	50.0	58.6	117	5.40	55 - 110	30	*
Benzo(b)fluoranthene	U	51.0	53.7	105	50.0	61.0	122	12.6	45 - 120	30	*
Benzo(g,h,i)Perylene	U	51.0	65.2	128	50.0	69.7	139	6.67	40 - 125	30	*
Benzo(k)fluoranthene	U	51.0	57.1	112	50.0	62.1	124	8.41	45 - 125	30	
Benzoic acid	U	51.0	30.0	58.8	50.0	24.1	48.1	22.0	0 - 125	30	
Benzyl alcohol	U	51.0	55.3	108	50.0	53.6	107	3.02	30 - 110	30	
Bis(2-Chloroethoxy)Methane	U	51.0	37.6	73.7	50.0	35.0	70.1	7.06	45 - 105	30	
Bis(2-Chloroethyl)ether	U	51.0	53.9	106	50.0	50.4	101	6.79	35 - 110	30	
bis(2-Chloroisopropyl)ether	U	51.0	65.2	128	50.0	58.3	117	11.1	25 - 130	30	
bis(2-Ethylhexyl)phthalate	U	51.0	65.1	128	50.0	65.1	130	0.0706	40 - 125	30	*

MS_MSD - Modified 03/06/2008

PDF File ID: 2466553

Report generated 06/25/2012 16:52



MS/MSD REPORT

Loginnum: L12060445Cal ID: HPMS12 07-JUN-12Worknum: WG401264Instrument ID: HPMS12

Contract #:

Prep Method: 3520CParent ID: L12060445-05File ID: 12M40151Dil: 1Method: 8270CSample ID: L12060445-06 MSFile ID: 12M40152Dil: 1Matrix: WaterSample ID: L12060445-07 MSDFile ID: 12M40153Dil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Butylbenzylphthalate	U	51.0	66.2	130	50.0	65.2	130	1.58	45 - 115	30	*
Chrysene	U	51.0	59.8	117	50.0	62.1	124	3.74	55 - 110	30	*
Di-N-Butylphthalate	U	51.0	59.0	116	50.0	58.3	117	1.16	55 - 115	30	*
Di-n-octylphthalate	U	51.0	65.3	128	50.0	65.7	131	0.638	35 - 135	30	
Dibenzo(a,h)Anthracene	U	51.0	49.7	97.4	50.0	53.2	106	6.86	40 - 125	30	
Dibenzofuran	U	51.0	53.4	105	50.0	53.7	107	0.577	55 - 105	30	*
Diethylphthalate	U	51.0	57.9	114	50.0	57.3	115	1.04	40 - 120	30	
Dimethylphthalate	U	51.0	52.7	103	50.0	52.3	105	0.600	25 - 125	30	
Fluoranthene	U	51.0	57.8	113	50.0	58.8	118	1.69	55 - 115	30	*
Fluorene	U	51.0	55.1	108	50.0	55.5	111	0.809	50 - 110	30	*
Hexachlorobenzene	U	51.0	54.6	107	50.0	56.1	112	2.79	50 - 110	30	*
Hexachlorobutadiene	U	51.0	33.7	66.1	50.0	33.5	67	0.641	25 - 105	30	
Hexachlorocyclopentadiene	U	51.0	17.4	34.1	50.0	18.2	36.5	4.56	20 - 143	30	
Hexachloroethane	U	51.0	37.6	73.8	50.0	35.3	70.5	6.52	30 - 100	30	
Indeno(1,2,3-cd)pyrene	U	51.0	61.0	120	50.0	65.0	130	6.26	45 - 125	30	*
Isophorone	U	51.0	50.1	98.3	50.0	46.5	93.1	7.45	50 - 110	30	
N-Nitrosodiphenylamine	U	51.0	54.7	107	50.0	53.0	106	3.14	50 - 110	30	
N-Nitrosodipropylamine	U	51.0	64.5	126	50.0	59.7	119	7.79	35 - 130	30	
Naphthalene	U	51.0	43.6	85.5	50.0	42.3	84.6	3.03	40 - 100	30	
Nitrobenzene	U	51.0	48.9	95.8	50.0	45.1	90.2	8.05	45 - 110	30	
Pentachlorophenol	U	51.0	61.8	121	50.0	64.6	129	4.40	40 - 115	30	*
Phenanthrene	U	51.0	57.8	113	50.0	57.3	115	0.812	50 - 115	30	
Phenol	U	51.0	50.8	99.5	50.0	48.7	97.4	4.22	85 - 115	30	
Pyrene	U	51.0	58.3	114	50.0	58.2	116	0.259	50 - 130	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 2466553

Report generated 06/25/2012 16:52



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12060445

Instrument: HPMS12

Analyst: CAA

Workgroup: WG400053

Tune ID: WG400053-01

Run Date: 06/07/2012

Run Time: 11:26

File ID: 12M39931

Cal ID: HPMS12 - 07-JUN-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	40.6	173760	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	36.7	156992	PASS
70.0	69.0	0	2.00	0.306	480	PASS
127	198	40.0	60.0	48.4	207168	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	428309	PASS
199	198	5.00	9.00	6.75	28893	PASS
275	198	10.0	30.0	23.0	98309	PASS
365	198	1.00	100	2.46	10527	PASS
441	443	0.0100	100	75.1	53240	PASS
442	198	40.0	100	84.2	360554	PASS
443	442	17.0	23.0	19.7	70885	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG400053-02	STD-CCV	01	06/07/2012 11:46	
WG400053-03	STD	01	06/07/2012 12:18	
WG400053-04	STD	01	06/07/2012 12:49	
WG400053-05	STD	01	06/07/2012 13:21	
WG400053-06	STD	01	06/07/2012 13:53	
WG400053-07	STD	01	06/07/2012 14:24	
WG400053-08	STD	01	06/07/2012 14:56	
WG400053-09	STD	01	06/07/2012 15:27	
WG400053-10	SSCV	01	06/07/2012 15:59	
WG400053-11	SSCV	01	06/07/2012 16:30	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2466558
Report generated 06/25/2012 16:53



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12060445
Instrument: HPMS12
Analyst: MDC
Workgroup: WG401464

Tune ID: WG401464-01
Run Date: 06/24/2012
Run Time: 09:46
File ID: 12M40136

Cal ID: HPMS12 - 07-JUN-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	57.5	304118	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	50.0	264130	PASS
70.0	69.0	0	2.00	0.318	840	PASS
127	198	40.0	60.0	53.8	284458	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	528554	PASS
199	198	5.00	9.00	7.23	38210	PASS
275	198	10.0	30.0	19.8	104808	PASS
365	198	1.00	100	2.25	11914	PASS
441	443	0.0100	100	78.5	53488	PASS
442	198	40.0	100	66.6	352192	PASS
443	442	17.0	23.0	19.3	68133	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG401464-02	CCV	01	06/24/2012 10:35	
WG400920-02	BLANK	01	06/24/2012 13:42	
WG400920-03	LCS	01	06/24/2012 14:13	
L12060445-01	40MW7GW061212	01	06/24/2012 16:19	
L12060445-03	LFMW01GW061212	01	06/24/2012 16:51	
L12060445-05	40MW6GW061212	01	06/24/2012 17:22	
L12060445-06	40MW6MSGW061212	01	06/24/2012 17:53	
L12060445-07	40MW6MSDGW061212	01	06/24/2012 18:24	
L12060445-08	40DUPGW061212	01	06/24/2012 18:55	
L12060445-09	40FB061212	01	06/24/2012 19:26	
L12060445-10	40EQR061212	01	06/24/2012 19:58	
L12060445-11	40MW5GW061212	01	06/24/2012 20:29	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2466558
Report generated 06/25/2012 16:53



Login Number: L12060445
Analytical Method: 8270C
ICAL Workgroup: WG400053

Instrument ID: HPMS12
Initial Calibration Date: 07-JUN-12 15:27
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
1,4-Dichlorobenzene	CCC	1.551	4.64		
2,4,6-Trichlorophenol	CCC	0.3655	1.94		
2,4-Dichlorophenol	CCC	0.2938	2.22		
2-Nitrophenol	CCC	0.1996	3.20		
4-Chloro-3-Methylphenol	CCC	0.2894	4.43		
Acenaphthene	CCC	1.149	6.58		
Benzo[a]pyrene	CCC	1.050	3.35		
Di-n-Octyl Phthalate	CCC	1.291	2.60		
Fluoranthene	CCC	1.108	7.79		
Hexachlorobutadiene	CCC	0.1743	6.05		
Pentachlorophenol	CCC	0.1071	24.1	0.99800	
Phenol	CCC	1.595	5.01		
2,4-Dinitrophenol	SPCC	0.1050	41.2	0.99700	
4-Nitrophenol	SPCC	0.2209	3.35		
Hexachlorocyclopentadiene	SPCC	0.1766	38.3	0.99800	
n-Nitrosodipropylamine	SPCC	0.8123	13.4		
1,2,4-Trichlorobenzene		0.3399	6.31		
1,2-Dichlorobenzene		1.461	4.68		
1,3-Dichlorobenzene		1.535	4.96		
2,4,5-Trichlorophenol		0.3743	1.95		
2,4-Dimethylphenol		0.3235	5.06		
2,4-Dinitrotoluene		0.3854	3.39		
2,6-Dinitrotoluene		0.3151	1.83		
2-Chloronaphthalene		1.147	5.90		
2-Chlorophenol		1.346	3.16		
2-Methylnaphthalene		0.7036	7.01		
2-Methylphenol		1.051	2.74		
2-Nitroaniline		0.3153	4.54		
3,3'-Dichlorobenzidine		0.3214	14.3		
3-Nitroaniline		0.2832	10.1		
4,6-Dinitro-2-Methylphenol		0.09967	23.7	0.99900	
4-Bromophenyl Phenyl Ether		0.2063	5.47		
4-Chloroaniline		0.4274	3.51		
4-Chlorophenyl Phenyl Ether		0.6325	7.48		
4-Nitroaniline		0.3133	4.90		
Acenaphthylene		1.853	7.23		
Anthracene		1.079	7.33		
Benzo[a]anthracene		1.082	5.84		
Benzo[b]fluoranthene		1.169	6.17		
Benzo[ghi]perylene		0.8904	7.91		
Benzo[k]fluoranthene		1.023	5.61		
Benzoic Acid		0.1154	60.6		0.99600
Benzyl Alcohol		0.8413	1.85		
Butyl Benzyl Phthalate		0.5359	6.13		
Chrysene		1.005	6.18		

INT_CAL - Modified 03/06/2008
PDF File ID: 2466555
Report generated 06/25/2012 16:53



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12060445
Analytical Method: 8270C
ICAL Workgroup: WG400053

Instrument ID: HPMS12
Initial Calibration Date: 07-JUN-12 15:27
Column ID: F

Analyte	AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Di-n-Butyl Phthalate	1.167	6.65		
Dibenz[ah]anthracene	0.9026	6.03		
Dibenzofuran	1.565	9.21		
Diethylphthalate	1.249	6.27		
Dimethylphthalate	1.296	6.53		
Fluorene	1.321	7.40		
Hexachlorobenzene	0.2115	7.24		
Hexachloroethane	0.5442	2.18		
Indeno[1,2,3-cd]pyrene	1.073	6.31		
Isophorone	0.6364	6.74		
Naphthalene	1.042	7.81		
Nitrobenzene	0.3409	5.27		
Phenanthrene	1.044	7.59		
Pyrene	1.218	6.27		
bis(2-Chloroethoxy)methane	0.4887	9.77		
bis(2-Chloroethyl)ether	0.9008	7.40		
bis(2-Chloroisopropyl)ether	1.740	8.00		
bis(2-Ethylhexyl)phthalate	0.7465	4.92		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
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Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12060445
Analytical Method: 8270C

Instrument ID: HPMS12
Initial Calibration Date: 07-JUN-12 15:27
Column ID: F

Analyte	WG400053-02			WG400053-03			WG400053-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,4-Dichlorobenzene	50.0	493617.000	1.544	3.00	34639.0000	1.705	10.0	99060.0000	1.573
2,4,6-Trichlorophenol	50.0	252798.000	0.3698	3.00	14854.0000	0.3529	10.0	47837.0000	0.3689
2,4-Dichlorophenol	50.0	350922.000	0.2924	3.00	22421.0000	0.3025	10.0	68228.0000	0.2976
2-Nitrophenol	50.0	241395.000	0.2011	3.00	14233.0000	0.1921	10.0	45308.0000	0.1976
4-Chloro-3-Methylphenol	50.0	349918.000	0.2916	3.00	22915.0000	0.3092	10.0	68179.0000	0.2974
Acenaphthene	50.0	781393.000	1.143	3.00	54152.0000	1.286	10.0	155944.000	1.203
Benzo[a]pyrene	50.0	1130067.00	1.051	3.00	77287.0000	1.115	10.0	222032.000	1.067
Di-n-Octyl Phthalate	50.0	1419529.00	1.320	3.00	91460.0000	1.319	10.0	266425.000	1.281
Fluoranthene	50.0	1312782.00	1.076	3.00	91763.0000	1.259	10.0	266089.000	1.177
Hexachlorobutadiene	50.0	203209.000	0.1693	3.00	14413.0000	0.1945	10.0	41382.0000	0.1805
Pentachlorophenol	50.0	144731.000	0.1186	NA	NA	NA	10.0	14624.0000	0.06470
Phenol	50.0	516996.000	1.617	3.00	34868.0000	1.717	10.0	104566.000	1.661
2,4-Dinitrophenol	50.0	71973.0000	0.1053	NA	NA	NA	NA	NA	NA
4-Nitrophenol	50.0	156046.000	0.2283	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50.0	150008.000	0.2195	3.00	1994.00000	0.04740	10.0	15574.0000	0.1201
n-Nitrosodipropylamine	50.0	259606.000	0.8119	3.00	19377.0000	0.9540	10.0	57581.0000	0.9144
1,2,4-Trichlorobenzene	50.0	398231.000	0.3318	3.00	28227.0000	0.3809	10.0	81155.0000	0.3540
1,2-Dichlorobenzene	50.0	463502.000	1.450	3.00	32737.0000	1.612	10.0	93764.0000	1.489
1,3-Dichlorobenzene	50.0	484712.000	1.516	3.00	34534.0000	1.700	10.0	98543.0000	1.565
2,4,5-Trichlorophenol	50.0	262116.000	0.3835	3.00	15690.0000	0.3727	10.0	48356.0000	0.3729
2,4-Dimethylphenol	50.0	387954.000	0.3233	3.00	26081.0000	0.3519	10.0	76787.0000	0.3350
2,4-Dinitrotoluene	50.0	270770.000	0.3961	3.00	16060.0000	0.3815	10.0	50644.0000	0.3906
2,6-Dinitrotoluene	50.0	220561.000	0.3227	3.00	13264.0000	0.3151	10.0	41235.0000	0.3180
2-Chloronaphthalene	50.0	770928.000	1.128	3.00	53927.0000	1.281	10.0	153783.000	1.186
2-Chlorophenol	50.0	431656.000	1.350	3.00	29204.0000	1.438	10.0	84990.0000	1.350
2-Methylnaphthalene	50.0	831789.000	0.6931	3.00	58663.0000	0.7916	10.0	168688.000	0.7359
2-Methylphenol	50.0	336149.000	1.051	3.00	22639.0000	1.115	10.0	66410.0000	1.055
2-Nitroaniline	50.0	223906.000	0.3276	3.00	13392.0000	0.3181	10.0	41755.0000	0.3220
3,3'-Dichlorobenzidine	50.0	338585.000	0.3090	3.00	28589.0000	0.4113	10.0	75420.0000	0.3611
3-Nitroaniline	50.0	204211.000	0.2988	NA	NA	NA	10.0	35284.0000	0.2721
4,6-Dinitro-2-Methylphenol	50.0	129511.000	0.1061	NA	NA	NA	10.0	14205.0000	0.06280
4-Bromophenyl Phenyl Ether	50.0	243561.000	0.1996	3.00	16688.0000	0.2290	10.0	48254.0000	0.2134
4-Chloroaniline	50.0	521470.000	0.4345	3.00	33888.0000	0.4573	10.0	98964.0000	0.4317
4-Chlorophenyl Phenyl Ether	50.0	428670.000	0.6272	3.00	30017.0000	0.7131	10.0	86027.0000	0.6634
4-Nitroaniline	50.0	229085.000	0.3352	NA	NA	NA	10.0	41370.0000	0.3190
Acenaphthylene	50.0	1259472.00	1.843	3.00	87257.0000	2.073	10.0	255020.000	1.967
Anthracene	50.0	1295599.00	1.062	3.00	88236.0000	1.211	10.0	257163.000	1.137
Benzo[a]anthracene	50.0	1170818.00	1.069	3.00	83705.0000	1.204	10.0	234325.000	1.122
Benzo[b]fluoranthene	50.0	1244079.00	1.157	3.00	89619.0000	1.293	10.0	249701.000	1.201
Benzo[ghi]perylene	50.0	996122.000	0.9263	3.00	67392.0000	0.9720	10.0	191703.000	0.9216
Benzo[k]fluoranthene	50.0	1084064.00	1.008	3.00	79278.0000	1.143	10.0	202627.000	0.9742
Benzoic Acid	50.0	108216.000	0.09020	NA	NA	NA	NA	NA	NA

INT_CAL - Modified 03/06/2008
PDF File ID: 2466555
Report generated 06/25/2012 16:53



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12060445
Analytical Method:8270C

Instrument ID:HPMS12
Initial Calibration Date:07-JUN-12 15:27
Column ID:F

Analyte	WG400053-02			WG400053-03			WG400053-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	50.0	278640.000	0.8714	3.00	17051.0000	0.8395	10.0	51479.0000	0.8175
Butyl Benzyl Phthalate	50.0	594798.000	0.5428	3.00	39015.0000	0.5613	10.0	118314.000	0.5664
Chrysene	50.0	1093331.00	0.9978	3.00	77506.0000	1.115	10.0	218923.000	1.048
Di-n-Butyl Phthalate	50.0	1414253.00	1.159	3.00	92008.0000	1.263	10.0	279079.000	1.234
Dibenz[ah]anthracene	50.0	1000770.00	0.9306	3.00	65428.0000	0.9436	10.0	194770.000	0.9364
Dibenzofuran	50.0	1060447.00	1.552	3.00	75925.0000	1.804	10.0	215760.000	1.664
Diethylphthalate	50.0	857486.000	1.255	3.00	57988.0000	1.378	10.0	168821.000	1.302
Dimethylphthalate	50.0	876380.000	1.282	3.00	60825.0000	1.445	10.0	177172.000	1.366
Fluorene	50.0	895542.000	1.310	3.00	63090.0000	1.499	10.0	178782.000	1.379
Hexachlorobenzene	50.0	246921.000	0.2023	3.00	17578.0000	0.2412	10.0	50424.0000	0.2230
Hexachloroethane	50.0	177285.000	0.5544	3.00	11377.0000	0.5601	10.0	34388.0000	0.5461
Indeno[1,2,3-cd]pyrene	50.0	1185876.00	1.103	3.00	77811.0000	1.122	10.0	233754.000	1.124
Isophorone	50.0	767170.000	0.6392	3.00	52031.0000	0.7021	10.0	152825.000	0.6667
Naphthalene	50.0	1228173.00	1.023	3.00	88202.0000	1.190	10.0	249404.000	1.088
Nitrobenzene	50.0	413317.000	0.3444	3.00	27160.0000	0.3665	10.0	80798.0000	0.3525
Phenanthrene	50.0	1251016.00	1.025	3.00	85962.0000	1.180	10.0	249697.000	1.104
Pyrene	50.0	1329660.00	1.214	3.00	93577.0000	1.346	10.0	265174.000	1.270
bis(2-Chloroethoxy)methane	50.0	580344.000	0.4836	3.00	41223.0000	0.5562	10.0	121484.000	0.5300
bis(2-Chloroethyl)ether	50.0	309059.000	0.9665	3.00	20200.0000	0.9945	10.0	58964.0000	0.9364
bis(2-Chloroisopropyl)ether	50.0	567539.000	1.775	3.00	38887.0000	1.915	10.0	115420.000	1.833
bis(2-Ethylhexyl)phthalate	50.0	839363.000	0.7660	3.00	52566.0000	0.7563	10.0	161950.000	0.7753

INT_CAL - Modified 03/06/2008
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Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12060445
Analytical Method: 8270C

Instrument ID: HPMS12
Initial Calibration Date: 07-JUN-12 15:27
Column ID: F

Analyte	WG400053-05			WG400053-06			WG400053-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,4-Dichlorobenzene	15.0	133860.000	1.546	25.0	265182.000	1.551	80.0	763969.000	1.517
2,4,6-Trichlorophenol	15.0	65517.0000	0.3628	25.0	134856.000	0.3693	80.0	400773.000	0.3664
2,4-Dichlorophenol	15.0	92919.0000	0.2921	25.0	188362.000	0.3006	80.0	549097.000	0.2900
2-Nitrophenol	15.0	65971.0000	0.2074	25.0	130853.000	0.2088	80.0	379679.000	0.2005
4-Chloro-3-Methylphenol	15.0	93953.0000	0.2954	25.0	182908.000	0.2919	80.0	539335.000	0.2848
Acenaphthene	15.0	209703.000	1.161	25.0	426082.000	1.167	80.0	1202529.00	1.099
Benzo[a]pyrene	15.0	296421.000	1.057	25.0	631014.000	1.059	80.0	1700712.00	1.030
Di-n-Octyl Phthalate	15.0	373272.000	1.331	25.0	763417.000	1.281	80.0	2157913.00	1.307
Fluoranthene	15.0	353874.000	1.134	25.0	733905.000	1.133	80.0	2025666.00	1.046
Hexachlorobutadiene	15.0	54977.0000	0.1728	25.0	112494.000	0.1795	80.0	317457.000	0.1677
Pentachlorophenol	15.0	25592.0000	0.08200	25.0	64695.0000	0.09990	80.0	242894.000	0.1255
Phenol	15.0	141859.000	1.639	25.0	271065.000	1.585	80.0	782231.000	1.553
2,4-Dinitrophenol	15.0	7192.00000	0.03980	25.0	24380.0000	0.06680	80.0	142895.000	0.1306
4-Nitrophenol	15.0	39307.0000	0.2177	25.0	76088.0000	0.2084	80.0	243402.000	0.2225
Hexachlorocyclopentadiene	15.0	26114.0000	0.1446	25.0	67996.0000	0.1862	80.0	256279.000	0.2343
n-Nitrosodipropylamine	15.0	78058.0000	0.9017	25.0	142098.000	0.8311	80.0	372491.000	0.7396
1,2,4-Trichlorobenzene	15.0	108213.000	0.3402	25.0	217104.000	0.3465	80.0	623852.000	0.3295
1,2-Dichlorobenzene	15.0	126876.000	1.466	25.0	246157.000	1.440	80.0	719546.000	1.429
1,3-Dichlorobenzene	15.0	132435.000	1.530	25.0	263014.000	1.538	80.0	751946.000	1.493
2,4,5-Trichlorophenol	15.0	66297.0000	0.3671	25.0	138290.000	0.3787	80.0	413142.000	0.3777
2,4-Dimethylphenol	15.0	104374.000	0.3281	25.0	204755.000	0.3268	80.0	596869.000	0.3152
2,4-Dinitrotoluene	15.0	71109.0000	0.3938	25.0	146649.000	0.4016	80.0	419833.000	0.3838
2,6-Dinitrotoluene	15.0	57335.0000	0.3175	25.0	115926.000	0.3175	80.0	343162.000	0.3137
2-Chloronaphthalene	15.0	209861.000	1.162	25.0	420040.000	1.150	80.0	1211165.00	1.107
2-Chlorophenol	15.0	117753.000	1.360	25.0	228432.000	1.336	80.0	665173.000	1.321
2-Methylnaphthalene	15.0	226914.000	0.7133	25.0	453590.000	0.7240	80.0	1284169.00	0.6782
2-Methylphenol	15.0	91594.0000	1.058	25.0	177753.000	1.040	80.0	523523.000	1.040
2-Nitroaniline	15.0	60839.0000	0.3369	25.0	113574.000	0.3110	80.0	344593.000	0.3150
3,3'-Dichlorobenzidine	15.0	94320.0000	0.3317	25.0	185066.000	0.3095	80.0	509254.000	0.2930
3-Nitroaniline	15.0	45055.0000	0.2495	25.0	88133.0000	0.2413	80.0	335061.000	0.3063
4,6-Dinitro-2-Methylphenol	15.0	23588.0000	0.07560	25.0	59437.0000	0.09180	80.0	231062.000	0.1193
4-Bromophenyl Phenyl Ether	15.0	63826.0000	0.2045	25.0	134584.000	0.2078	80.0	386601.000	0.1997
4-Chloroaniline	15.0	132493.000	0.4165	25.0	263226.000	0.4201	80.0	806046.000	0.4257
4-Chlorophenyl Phenyl Ether	15.0	116478.000	0.6450	25.0	239018.000	0.6545	80.0	658473.000	0.6019
4-Nitroaniline	15.0	57766.0000	0.3199	25.0	117613.000	0.3221	80.0	335894.000	0.3071
Acenaphthylene	15.0	341990.000	1.894	25.0	690810.000	1.892	80.0	1945257.00	1.778
Anthracene	15.0	347400.000	1.113	25.0	710539.000	1.097	80.0	1995995.00	1.031
Benzo[a]anthracene	15.0	312460.000	1.099	25.0	651662.000	1.090	80.0	1801417.00	1.037
Benzo[b]fluoranthene	15.0	344817.000	1.230	25.0	699527.000	1.174	80.0	1852213.00	1.122
Benzo[ghi]perylene	15.0	258988.000	0.9237	25.0	561647.000	0.9424	80.0	1379537.00	0.8358
Benzo[k]fluoranthene	15.0	284395.000	1.014	25.0	637617.000	1.070	80.0	1652394.00	1.001
Benzoic Acid	15.0	9920.00000	0.03120	25.0	28536.0000	0.04550	80.0	282156.000	0.1490

INT_CAL - Modified 03/06/2008
PDF File ID: 2466555
Report generated 06/25/2012 16:53



Login Number:L12060445
Analytical Method:8270C

Instrument ID:HPMS12
Initial Calibration Date:07-JUN-12 15:27
Column ID:F

Analyte	WG400053-05			WG400053-06			WG400053-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	15.0	73070.0000	0.8441	25.0	142825.000	0.8353	80.0	426847.000	0.8475
Butyl Benzyl Phthalate	15.0	162936.000	0.5731	25.0	324192.000	0.5422	80.0	908073.000	0.5225
Chrysene	15.0	291727.000	1.026	25.0	612664.000	1.025	80.0	1674579.00	0.9635
Di-n-Butyl Phthalate	15.0	383712.000	1.230	25.0	770557.000	1.190	80.0	2182446.00	1.127
Dibenz[ah]anthracene	15.0	262941.000	0.9378	25.0	566879.000	0.9512	80.0	1412696.00	0.8558
Dibenzofuran	15.0	293937.000	1.628	25.0	590893.000	1.618	80.0	1615732.00	1.477
Diethylphthalate	15.0	232341.000	1.287	25.0	462057.000	1.265	80.0	1322266.00	1.209
Dimethylphthalate	15.0	236441.000	1.309	25.0	480781.000	1.317	80.0	1365420.00	1.248
Fluorene	15.0	243267.000	1.347	25.0	496120.000	1.359	80.0	1374012.00	1.256
Hexachlorobenzene	15.0	65854.0000	0.2110	25.0	139780.000	0.2158	80.0	388396.000	0.2006
Hexachloroethane	15.0	48007.0000	0.5545	25.0	91821.0000	0.5370	80.0	273470.000	0.5430
Indeno[1,2,3-cd]pyrene	15.0	313124.000	1.117	25.0	673934.000	1.131	80.0	1681644.00	1.019
Isophorone	15.0	211799.000	0.6658	25.0	399639.000	0.6378	80.0	1172467.00	0.6192
Naphthalene	15.0	340042.000	1.069	25.0	670099.000	1.070	80.0	1897429.00	1.002
Nitrobenzene	15.0	112655.000	0.3541	25.0	214724.000	0.3427	80.0	633344.000	0.3345
Phenanthrene	15.0	335983.000	1.077	25.0	687786.000	1.062	80.0	1924953.00	0.9942
Pyrene	15.0	356554.000	1.254	25.0	739154.000	1.236	80.0	2046953.00	1.178
bis(2-Chloroethoxy)methane	15.0	166189.000	0.5224	25.0	313091.000	0.4997	80.0	878403.000	0.4639
bis(2-Chloroethyl)ether	15.0	81274.0000	0.9388	25.0	147728.000	0.8640	80.0	407978.000	0.8101
bis(2-Chloroisopropyl)ether	15.0	163669.000	1.891	25.0	291711.000	1.706	80.0	853459.000	1.695
bis(2-Ethylhexyl)phthalate	15.0	224537.000	0.7897	25.0	452856.000	0.7574	80.0	1295774.00	0.7455

INT_CAL - Modified 03/06/2008
PDF File ID: 2466555
Report generated 06/25/2012 16:53



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12060445
Analytical Method: 8270C

Instrument ID: HPMS12
Initial Calibration Date: 07-JUN-12 15:27
Column ID: F

Analyte	WG400053-08			WG400053-09		
	CONC	RESP	RF	CONC	RESP	RF
1,4-Dichlorobenzene	100	1079357.00	1.515	120	1175795.00	1.454
2,4,6-Trichlorophenol	100	589305.000	0.3750	120	638589.000	0.3586
2,4-Dichlorophenol	100	793674.000	0.2934	120	874618.000	0.2820
2-Nitrophenol	100	535343.000	0.1979	120	592803.000	0.1911
4-Chloro-3-Methylphenol	100	751314.000	0.2778	120	828733.000	0.2672
Acenaphthene	100	1711543.00	1.089	120	1854095.00	1.041
Benzo[a]pyrene	100	2511879.00	1.027	120	2633555.00	0.9941
Di-n-Octyl Phthalate	100	3032743.00	1.240	120	3316708.00	1.252
Fluoranthene	100	2906623.00	1.055	120	3116798.00	0.9829
Hexachlorobutadiene	100	460754.000	0.1704	120	494872.000	0.1596
Pentachlorophenol	100	366001.000	0.1329	120	400841.000	0.1264
Phenol	100	1072174.00	1.505	120	1197006.00	1.480
2,4-Dinitrophenol	100	224647.000	0.1429	120	257624.000	0.1447
4-Nitrophenol	100	358054.000	0.2278	120	392579.000	0.2204
Hexachlorocyclopentadiene	100	370898.000	0.2360	120	400499.000	0.2249
n-Nitrosodipropylamine	100	485967.000	0.6820	120	536634.000	0.6637
1,2,4-Trichlorobenzene	100	886476.000	0.3277	120	957309.000	0.3087
1,2-Dichlorobenzene	100	1014642.00	1.424	120	1117625.00	1.382
1,3-Dichlorobenzene	100	1067159.00	1.498	120	1165529.00	1.442
2,4,5-Trichlorophenol	100	598072.000	0.3806	120	643739.000	0.3615
2,4-Dimethylphenol	100	835571.000	0.3089	120	925981.000	0.2986
2,4-Dinitrotoluene	100	589144.000	0.3749	120	643064.000	0.3611
2,6-Dinitrotoluene	100	492673.000	0.3135	120	539259.000	0.3028
2-Chloronaphthalene	100	1736174.00	1.105	120	1877246.00	1.054
2-Chlorophenol	100	943775.000	1.325	120	1045359.00	1.293
2-Methylnaphthalene	100	1788951.00	0.6614	120	1958825.00	0.6316
2-Methylphenol	100	737812.000	1.036	120	822032.000	1.017
2-Nitroaniline	100	465684.000	0.2963	120	526539.000	0.2957
3,3'-Dichlorobenzidine	100	731732.000	0.2830	120	772977.000	0.2727
3-Nitroaniline	100	484024.000	0.3080	120	546032.000	0.3066
4,6-Dinitro-2-Methylphenol	100	337882.000	0.1227	120	378675.000	0.1194
4-Bromophenyl Phenyl Ether	100	565055.000	0.2052	120	606176.000	0.1912
4-Chloroaniline	100	1153788.00	0.4266	120	1260606.00	0.4065
4-Chlorophenyl Phenyl Ether	100	934685.000	0.5947	120	997957.000	0.5604
4-Nitroaniline	100	471968.000	0.3003	120	515177.000	0.2893
Acenaphthylene	100	2716211.00	1.728	120	2942913.00	1.653
Anthracene	100	2821351.00	1.024	120	3022204.00	0.9531
Benzo[a]anthracene	100	2650297.00	1.025	120	2856178.00	1.008
Benzo[b]fluoranthene	100	2616500.00	1.070	120	2924671.00	1.104
Benzo[ghi]perylene	100	2049716.00	0.8380	120	2021459.00	0.7630
Benzo[k]fluoranthene	100	2461238.00	1.006	120	2566233.00	0.9686
Benzoic Acid	100	492721.000	0.1822	120	602645.000	0.1943

INT_CAL - Modified 03/06/2008
PDF File ID: 2466555
Report generated 06/25/2012 16:53



Login Number:L12060445
Analytical Method:8270C

Instrument ID:HPMS12
Initial Calibration Date:07-JUN-12 15:27
Column ID:F

Analyte	WG400053-08			WG400053-09		
	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	100	602160.000	0.8451	120	671078.000	0.8300
Butyl Benzyl Phthalate	100	1270968.00	0.4915	120	1381318.00	0.4873
Chrysene	100	2448055.00	0.9467	120	2610383.00	0.9209
Di-n-Butyl Phthalate	100	3026716.00	1.099	120	3277201.00	1.034
Dibenz[ah]anthracene	100	2104075.00	0.8602	120	2132483.00	0.8049
Dibenzofuran	100	2251838.00	1.433	120	2402012.00	1.349
Diethylphthalate	100	1836615.00	1.169	120	2015027.00	1.132
Dimethylphthalate	100	1930251.00	1.228	120	2087097.00	1.172
Fluorene	100	1940094.00	1.235	120	2113433.00	1.187
Hexachlorobenzene	100	566711.000	0.2058	120	609658.000	0.1923
Hexachloroethane	100	379472.000	0.5326	120	425422.000	0.5261
Indeno[1,2,3-cd]pyrene	100	2496053.00	1.021	120	2515288.00	0.9494
Isophorone	100	1592018.00	0.5886	120	1772931.00	0.5716
Naphthalene	100	2630243.00	0.9725	120	2864675.00	0.9237
Nitrobenzene	100	860866.000	0.3183	120	973593.000	0.3139
Phenanthrene	100	2716398.00	0.9862	120	2931024.00	0.9244
Pyrene	100	2928742.00	1.133	120	3153372.00	1.112
bis(2-Chloroethoxy)methane	100	1182601.00	0.4372	120	1293104.00	0.4169
bis(2-Chloroethyl)ether	100	608192.000	0.8536	120	680984.000	0.8422
bis(2-Chloroisopropyl)ether	100	1105291.00	1.551	120	1258012.00	1.556
bis(2-Ethylhexyl)phthalate	100	1790098.00	0.6922	120	1955194.00	0.6897

INT_CAL - Modified 03/06/2008
PDF File ID: 2466555
Report generated 06/25/2012 16:53



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L12060445</u>	Run Date: <u>06/07/2012</u>	Sample ID: <u>WG400053-10</u>
Instrument ID: <u>HPMS12</u>	Run Time: <u>15:59</u>	Method: <u>8270C</u>
File ID: <u>12M39940</u>	Analyst: <u>CAA</u>	QC Key: <u>D0D4</u>
ICal Workgroup: <u>WG400053</u>	Cal ID: <u>HPMS12 - 07-JUN-12</u>	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,4-Dichlorobenzene	CCC	50000	51200	ug/L	1.59	2.40	20	
2,4,6-Trichlorophenol	CCC	50000	54200	ug/L	0.396	8.40	20	
2,4-Dichlorophenol	CCC	50000	51700	ug/L	0.304	3.30	20	
2-Nitrophenol	CCC	50000	52400	ug/L	0.209	4.80	20	
4-Chloro-3-Methylphenol	CCC	50000	51100	ug/L	0.296	2.10	20	
Acenaphthene	CCC	50000	50900	ug/L	1.17	1.90	20	
Benzo[a]pyrene	CCC	50000	52200	ug/L	1.10	4.30	20	
Di-n-Octyl Phthalate	CCC	50000	51400	ug/L	1.33	2.70	20	
Fluoranthene	CCC	50000	52000	ug/L	1.15	4.00	20	
Hexachlorobutadiene	CCC	50000	54400	ug/L	0.190	8.80	20	
n-Nitrosodiphenylamine	CCC	50000	52600	ug/L	0.673	5.30	20	
Pentachlorophenol	CCC	50000	59100	ug/L	0.145	18.2	20	
Phenol	CCC	50000	51000	ug/L	1.63	2.10	20	
2,4-Dinitrophenol	SPCC	50000	67800	ug/L	0.175	35.7	20	*
4-Nitrophenol	SPCC	50000	51100	ug/L	0.226	2.20	20	
Hexachlorocyclopentadiene	SPCC	50000	41300	ug/L	0.178	17.4	20	
n-Nitrosodipropylamine	SPCC	50000	52000	ug/L	0.845	4.10	20	
1,2,4-Trichlorobenzene		50000	50300	ug/L	0.342	0.600	20	
1,2-Dichlorobenzene		50000	51400	ug/L	1.50	2.70	20	
1,3-Dichlorobenzene		50000	50400	ug/L	1.55	0.900	20	
2,4,5-Trichlorophenol		50000	55900	ug/L	0.419	11.9	20	
2,4-Dimethylphenol		50000	51800	ug/L	0.335	3.50	20	
2,4-Dinitrotoluene		50000	53400	ug/L	0.412	6.80	20	
2,6-Dinitrotoluene		50000	52600	ug/L	0.331	5.20	20	
2-Chloronaphthalene		50000	58400	ug/L	1.34	16.8	20	
2-Chlorophenol		50000	52200	ug/L	1.40	4.30	20	
2-Methylnaphthalene		50000	51200	ug/L	0.720	2.30	20	
2-Methylphenol		50000	51200	ug/L	1.08	2.50	20	
2-Nitroaniline		50000	53200	ug/L	0.336	6.40	20	
3,3'-Dichlorobenzidine		50000	45900	ug/L	0.295	8.10	20	
3-,4-Methylphenol		50000	50900	ug/L	1.37	1.80	20	
3-Nitroaniline		50000	47100	ug/L	0.267	5.70	20	
4,6-Dinitro-2-Methylphenol		50000	61200	ug/L	0.140	22.3	20	*
4-Bromophenyl Phenyl Ether		50000	52000	ug/L	0.214	3.90	20	
4-Chloroaniline		50000	52500	ug/L	0.449	5.00	20	
4-Chlorophenyl Phenyl Ether		50000	51400	ug/L	0.650	2.70	20	
4-Nitroaniline		50000	53100	ug/L	0.333	6.20	20	
Acenaphthylene		50000	51300	ug/L	1.90	2.50	20	
Anthracene		50000	52400	ug/L	1.13	4.80	20	
Benzo[a]anthracene		50000	51100	ug/L	1.11	2.30	20	
Benzo[b]fluoranthene		50000	51200	ug/L	1.20	2.30	20	
Benzo[ghi]perylene		50000	52400	ug/L	0.934	4.90	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2466557
Report generated 06/25/2012 16:52



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12060445	Run Date: 06/07/2012	Sample ID: WG400053-10
Instrument ID: HPMS12	Run Time: 15:59	Method: 8270C
File ID: 12M39940	Analyst: CAA	QC Key: D0D4
ICal Workgroup: WG400053	Cal ID: HPMS12 - 07-JUN-12	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Benzo[k]fluoranthene	50000	51600	ug/L	1.06	3.20	20	
Benzoic Acid	50000	60200	ug/L	0.144	20.4	20	*
Benzyl Alcohol	50000	55700	ug/L	0.938	11.4	20	
bis(2-Chloroethoxy)methane	50000	53000	ug/L	0.518	6.00	20	
bis(2-Chloroethyl)ether	50000	47300	ug/L	0.853	5.30	20	
bis(2-Chloroisopropyl)ether	50000	47900	ug/L	1.67	4.20	20	
bis(2-Ethylhexyl)phthalate	50000	51200	ug/L	0.764	2.30	20	
Butyl Benzyl Phthalate	50000	53000	ug/L	0.568	6.00	20	
Chrysene	50000	53000	ug/L	1.07	6.10	20	
Di-n-Butyl Phthalate	50000	50900	ug/L	1.19	1.80	20	
Dibenz[ah]anthracene	50000	52200	ug/L	0.943	4.50	20	
Dibenzofuran	50000	52600	ug/L	1.65	5.20	20	
Diethylphthalate	50000	50800	ug/L	1.27	1.60	20	
Dimethylphthalate	50000	50500	ug/L	1.31	1.10	20	
Fluorene	50000	51800	ug/L	1.37	3.60	20	
Hexachlorobenzene	50000	51400	ug/L	0.217	2.70	20	
Hexachloroethane	50000	51500	ug/L	0.560	2.90	20	
Indeno[1,2,3-cd]pyrene	50000	52500	ug/L	1.13	5.00	20	
Isophorone	50000	48700	ug/L	0.620	2.60	20	
Naphthalene	50000	51900	ug/L	1.08	3.70	20	
Nitrobenzene	50000	50000	ug/L	0.341	0	20	
Phenanthrene	50000	52700	ug/L	1.10	5.50	20	
Pyrene	50000	52200	ug/L	1.27	4.50	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2466557
Report generated 06/25/2012 16:52



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/24/2012 Sample ID: WG401464-02
 Instrument ID: HPMS12 Run Time: 10:35 Method: 8270C
 File ID: 12M40138 Analyst: MDC QC Key: D0D4
 Workgroup (AAB#): WG401264 Cal ID: HPMS12 - 07-JUN-12
 Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,4-Dichlorobenzene	CCC	50000	49500	ug/L	1.53	1.10	20	
2,4,6-Trichlorophenol	CCC	50000	50700	ug/L	0.370	1.33	20	
2,4-Dichlorophenol	CCC	50000	48300	ug/L	0.284	3.44	20	
2-Nitrophenol	CCC	50000	50200	ug/L	0.201	0.478	20	
4-Chloro-3-Methylphenol	CCC	50000	52800	ug/L	0.306	5.62	20	
Acenaphthene	CCC	50000	51200	ug/L	1.18	2.42	20	
Benzo[a]pyrene	CCC	50000	50800	ug/L	1.07	1.57	20	
Di-n-Octyl Phthalate	CCC	50000	56500	ug/L	1.46	13.0	20	
Fluoranthene	CCC	50000	49000	ug/L	1.09	1.95	20	
Hexachlorobutadiene	CCC	50000	45400	ug/L	0.158	9.14	20	
n-Nitrosodiphenylamine	CCC	50000	50700	ug/L	0.648	1.45	20	
Pentachlorophenol	CCC	50000	49200	ug/L	0.118	1.54	20	
Phenol	CCC	50000	53100	ug/L	1.69	6.23	20	
2,4-Dinitrophenol	SPCC	50000	54600	ug/L	0.132	9.20	20	
4-Nitrophenol	SPCC	50000	60000	ug/L	0.265	20.0	20	
Hexachlorocyclopentadiene	SPCC	50000	42300	ug/L	0.182	15.5	20	
n-Nitrosodipropylamine	SPCC	50000	63000	ug/L	1.02	26.0	20	*
1,2,4-Trichlorobenzene		50000	47400	ug/L	0.322	5.21	20	
1,2-Dichlorobenzene		50000	48800	ug/L	1.43	2.34	20	
1,3-Dichlorobenzene		50000	49000	ug/L	1.50	2.06	20	
2,4,5-Trichlorophenol		50000	51200	ug/L	0.383	2.36	20	
2,4-Dimethylphenol		50000	50600	ug/L	0.327	1.14	20	
2,4-Dinitrotoluene		50000	52700	ug/L	0.406	5.40	20	
2,6-Dinitrotoluene		50000	50200	ug/L	0.316	0.324	20	
2-Chloronaphthalene		50000	49600	ug/L	1.14	0.818	20	
2-Chlorophenol		50000	51500	ug/L	1.39	3.09	20	
2-Methylnaphthalene		50000	48800	ug/L	0.686	2.47	20	
2-Methylphenol		50000	53700	ug/L	1.13	7.38	20	
2-Nitroaniline		50000	61200	ug/L	0.386	22.4	20	*
3,3'-Dichlorobenzidine		50000	49400	ug/L	0.318	1.12	20	
3-,4-Methylphenol		50000	53500	ug/L	1.44	6.93	20	
3-Nitroaniline		50000	53800	ug/L	0.305	7.63	20	
4,6-Dinitro-2-Methylphenol		50000	57100	ug/L	0.130	14.2	20	
4-Bromophenyl Phenyl Ether		50000	46100	ug/L	0.190	7.73	20	
4-Chloroaniline		50000	51700	ug/L	0.442	3.41	20	
4-Chlorophenyl Phenyl Ether		50000	48700	ug/L	0.616	2.65	20	
4-Nitroaniline		50000	56100	ug/L	0.351	12.2	20	
Acenaphthylene		50000	49800	ug/L	1.85	0.344	20	
Anthracene		50000	49700	ug/L	1.07	0.583	20	
Benzo[a]anthracene		50000	49800	ug/L	1.08	0.355	20	
Benzo[b]fluoranthene		50000	46900	ug/L	1.10	6.14	20	
Benzo[ghi]perylene		50000	55200	ug/L	0.983	10.4	20	

CCV - Modified 03/05/2008
 PDF File ID: 2466559
 Report generated 06/25/2012 16:53



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/24/2012 Sample ID: WG401464-02
 Instrument ID: HPMS12 Run Time: 10:35 Method: 8270C
 File ID: 12M40138 Analyst: MDC QC Key: D0D4
 Workgroup (AAB#): WG401264 Cal ID: HPMS12 - 07-JUN-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Benzo[k]fluoranthene	50000	48400	ug/L	0.991	3.15	20	
Benzoic Acid	50000	56700	ug/L	0.129	13.3	20	
Benzyl Alcohol	50000	54900	ug/L	0.924	9.77	20	
bis(2-Chloroethoxy)methane	50000	53100	ug/L	0.519	6.25	20	
bis(2-Chloroethyl)ether	50000	57600	ug/L	1.04	15.3	20	
bis(2-Chloroisopropyl)ether	50000	70600	ug/L	2.46	41.3	20	*
bis(2-Ethylhexyl)phthalate	50000	55100	ug/L	0.823	10.2	20	
Butyl Benzyl Phthalate	50000	55500	ug/L	0.595	11.0	20	
Chrysene	50000	49700	ug/L	1.00	0.556	20	
Di-n-Butyl Phthalate	50000	52800	ug/L	1.23	5.58	20	
Dibenz[ah]anthracene	50000	54600	ug/L	0.986	9.22	20	
Dibenzofuran	50000	49000	ug/L	1.53	2.09	20	
Diethylphthalate	50000	51200	ug/L	1.28	2.37	20	
Dimethylphthalate	50000	49400	ug/L	1.28	1.13	20	
Fluorene	50000	49100	ug/L	1.30	1.80	20	
Hexachlorobenzene	50000	48700	ug/L	0.206	2.61	20	
Hexachloroethane	50000	53600	ug/L	0.583	7.11	20	
Indeno[1,2,3-cd]pyrene	50000	54600	ug/L	1.17	9.11	20	
Isophorone	50000	55900	ug/L	0.711	11.7	20	
Naphthalene	50000	49000	ug/L	1.02	1.93	20	
Nitrobenzene	50000	57100	ug/L	0.390	14.3	20	
Phenanthrene	50000	49200	ug/L	1.03	1.66	20	
Pyrene	50000	50800	ug/L	1.24	1.63	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

CCV - Modified 03/05/2008

PDF File ID: 2466559

Report generated 06/25/2012 16:53



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12060445
Instrument ID: HPMS12
Workgroup (AAB#): WG401264

ICAL CCV Number: WG400053-02
CAL ID: HPMS12 - 07-JUN-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5	IS-6
WG400053-02	NA	NA	255816	546815	876598	960132	860290	976264
Upper Limit	NA	NA	511632	1093630	1753196	1920264	1720580	1952528
Lower Limit	NA	NA	127908	273408	438299	480066	430145	488132
L12060445-01	1.00	01	174317	354556	597158	657751	582620	640585
L12060445-03	1.00	01	212122	431280	732601	803541	711683	776799
L12060445-05	1.00	01	198100	409939	680664	758332	655631	726693
L12060445-06	1.00	01	173480	356064	583799	751271	562130	627765
L12060445-07	1.00	01	198727	412648	704076	866737	676140	737918
L12060445-08	1.00	01	183992	380435	630588	703455	601095	678686
L12060445-09	1.00	01	210028	441251	740288	804121	721420	783701
L12060445-10	1.00	01	176235	361566	600348	678995	581363	638642
L12060445-11	1.00	01	199420	411810	703925	770351	691096	742969
WG400920-02	1.00	01	216437	437586	698461	817549	668850	763581
WG400920-03	1.00	01	237548	498412	846742	1010584	833014	889934

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Acenaphthene-d10
IS-3 - Chrysene-d12
IS-4 - Naphthalene-D8
IS-5 - Perylene-d12
IS-6 - Phenanthrene-d10

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12060445
Instrument ID: HPMS12
Workgroup (AAB#): WG401264

ICAL CCV Number: WG400053-02
CAL ID: HPMS12 - 07-JUN-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5	IS-6
WG400053-02	NA	NA	7.37	10.45	15.55	8.65	17.93	11.99
Upper Limit	NA	NA	7.87	10.95	16.05	9.15	18.43	12.49
Lower Limit	NA	NA	6.87	9.95	15.05	8.15	17.43	11.49
L12060445-01	1.00	01	7.331	10.419	15.51	8.619	17.872	11.958
L12060445-03	1.00	01	7.337	10.419	15.51	8.619	17.872	11.958
L12060445-05	1.00	01	7.332	10.419	15.51	8.619	17.872	11.958
L12060445-06	1.00	01	7.337	10.419	15.511	8.619	17.877	11.958
L12060445-07	1.00	01	7.337	10.419	15.516	8.619	17.877	11.958
L12060445-08	1.00	01	7.332	10.419	15.511	8.619	17.877	11.958
L12060445-09	1.00	01	7.332	10.419	15.511	8.619	17.877	11.958
L12060445-10	1.00	01	7.337	10.419	15.51	8.619	17.877	11.958
L12060445-11	1.00	01	7.337	10.419	15.51	8.619	17.877	11.958
WG400920-02	1.00	01	7.337	10.419	15.51	8.619	17.877	11.958
WG400920-03	1.00	01	7.337	10.419	15.516	8.619	17.877	11.958

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Acenaphthene-d10
IS-3 - Chrysene-d12
IS-4 - Naphthalene-D8
IS-5 - Perylene-d12
IS-6 - Phenanthrene-d10

Underline = Response outside limits



2.2.1.3 Sample Data

Data File : I:\MSDCHEM\1\DATA\062412\12M40149.D Vial: 13
 Acq On : 24 Jun 2012 4:19 pm Operator: MDC
 Sample : L12060445-01 Inst : MSD12
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 25 11:23:37 2012 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Mon Jun 25 11:23:21 2012
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.331	152	174317	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	657751	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	354556	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.958	188	640585	40.0000	ug/ml	0.000
113) Chrysene-d12	15.510	240	597158	40.0000	ug/ml	0.000
128) Perylene-d12	17.872	264	582620	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.087	112	509400	91.4788375	ug/ml	-0.01
Spiked Amount 100.000	Range 21 - 100		Recovery =	91.48%		
12) Phenol-d5	6.957	99	668655	99.3726501	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	99.37%#		
31) Nitrobenzene-d5	7.898	82	293321	52.6455667	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	105.29%		
59) 2-Fluorobiphenyl	9.693	172	582345	48.9660954	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	97.93%		
86) 2,4,6-Tribromophenol	11.226	330	190600	126.0125120	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	126.01%#		
117) p-Terphenyl-d14	13.918	244	757639	68.4910875	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	136.98%		

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M40149.D MEGAMIX.M Mon Jun 25 11:31:43 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40149.D

Acq On : 24 Jun 2012 4:19 pm

Sample : L12060445-01

Misc : 1,1

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

Vial: 13

Operator: MDC

Inst : MSD12

Multiplr: 1.00

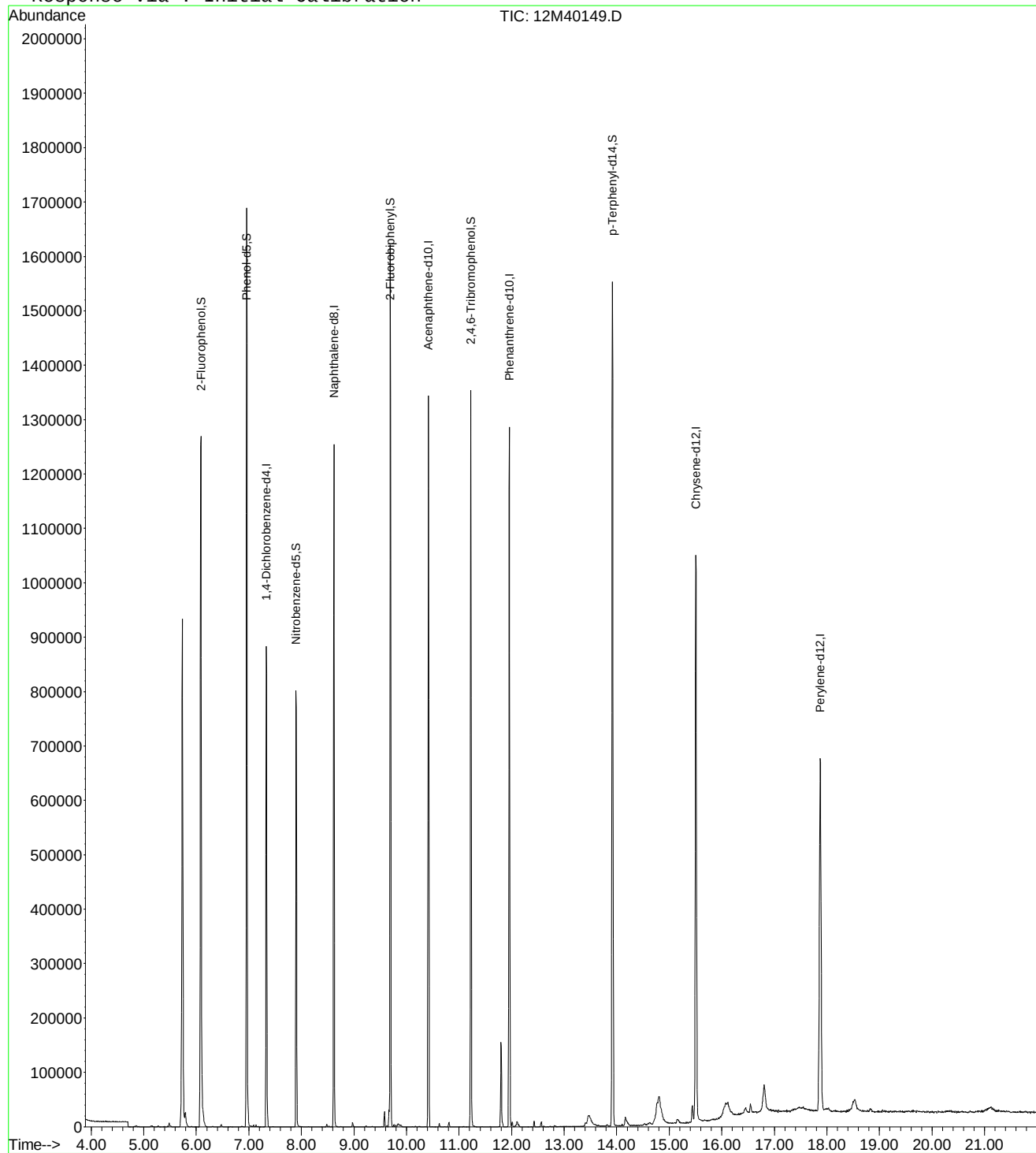
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration



12M40149.D MEGAMIX.M

Mon Jun 25 11:31:43 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\062412\12M40150.D

Vial: 14

Acq On : 24 Jun 2012 4:51 pm

Operator: MDC

Sample : L12060445-03

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23:37 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.337	152	212122	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	803541	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	431280	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.958	188	776799	40.0000	ug/ml	0.000
113) Chrysene-d12	15.510	240	732601	40.0000	ug/ml	0.000
128) Perylene-d12	17.872	264	711683	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.087	112	509408	75.1763935	ug/ml	-0.01
Spiked Amount 100.000	Range 21 - 100		Recovery =	75.18%		
12) Phenol-d5	6.957	99	667321	81.4992472	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	81.50%		
31) Nitrobenzene-d5	7.898	82	302304	44.4136041	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	88.83%		
59) 2-Fluorobiphenyl	9.693	172	594117	41.0688577	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	82.14%		
86) 2,4,6-Tribromophenol	11.226	330	181678	98.7458002	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	98.75%		
117) p-Terphenyl-d14	13.918	244	717369	52.8610875	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	105.72%		

Target Compounds

Qvalue

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M40150.D MEGAMIX.M Mon Jun 25 11:31:43 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40150.D

Vial: 14

Acq On : 24 Jun 2012 4:51 pm

Operator: MDC

Sample : L12060445-03

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

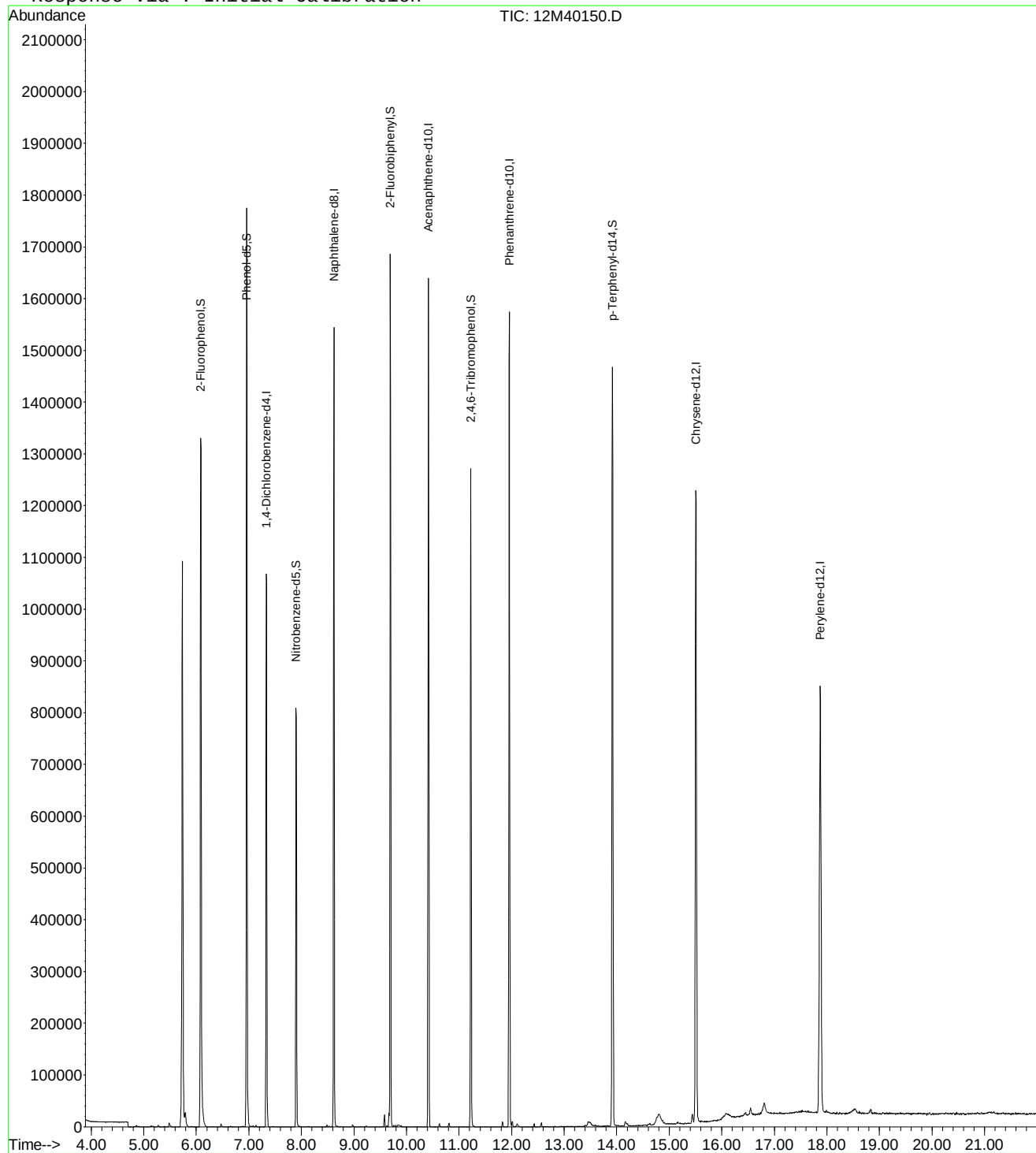
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration



12M40150.D MEGAMIX.M

Mon Jun 25 11:31:43 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\062412\12M40151.D

Vial: 15

Acq On : 24 Jun 2012 5:22 pm

Operator: MDC

Sample : L12060445-05 REF

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23:38 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.332	152	198100	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	758332	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	409939	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.958	188	726693	40.0000	ug/ml	0.000
113) Chrysene-d12	15.510	240	680664	40.0000	ug/ml	0.000
128) Perylene-d12	17.872	264	655631	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.081	112	467823	73.9262256	ug/ml	-0.02
Spiked Amount 100.000	Range 21 - 100		Recovery =	73.93%		
12) Phenol-d5	6.958	99	607915	79.4992264	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	79.50%		
31) Nitrobenzene-d5	7.898	82	271111	42.2053903	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	84.41%		
59) 2-Fluorobiphenyl	9.693	172	535766	38.9633128	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	77.93%		
86) 2,4,6-Tribromophenol	11.226	330	164802	94.2364359	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	94.24%		
117) p-Terphenyl-d14	13.918	244	656497	52.0668087	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	104.13%		

Target Compounds

Qvalue

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M40151.D MEGAMIX.M Mon Jun 25 11:31:44 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40151.D

Vial: 15

Acq On : 24 Jun 2012 5:22 pm

Operator: MDC

Sample : L12060445-05 REF

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

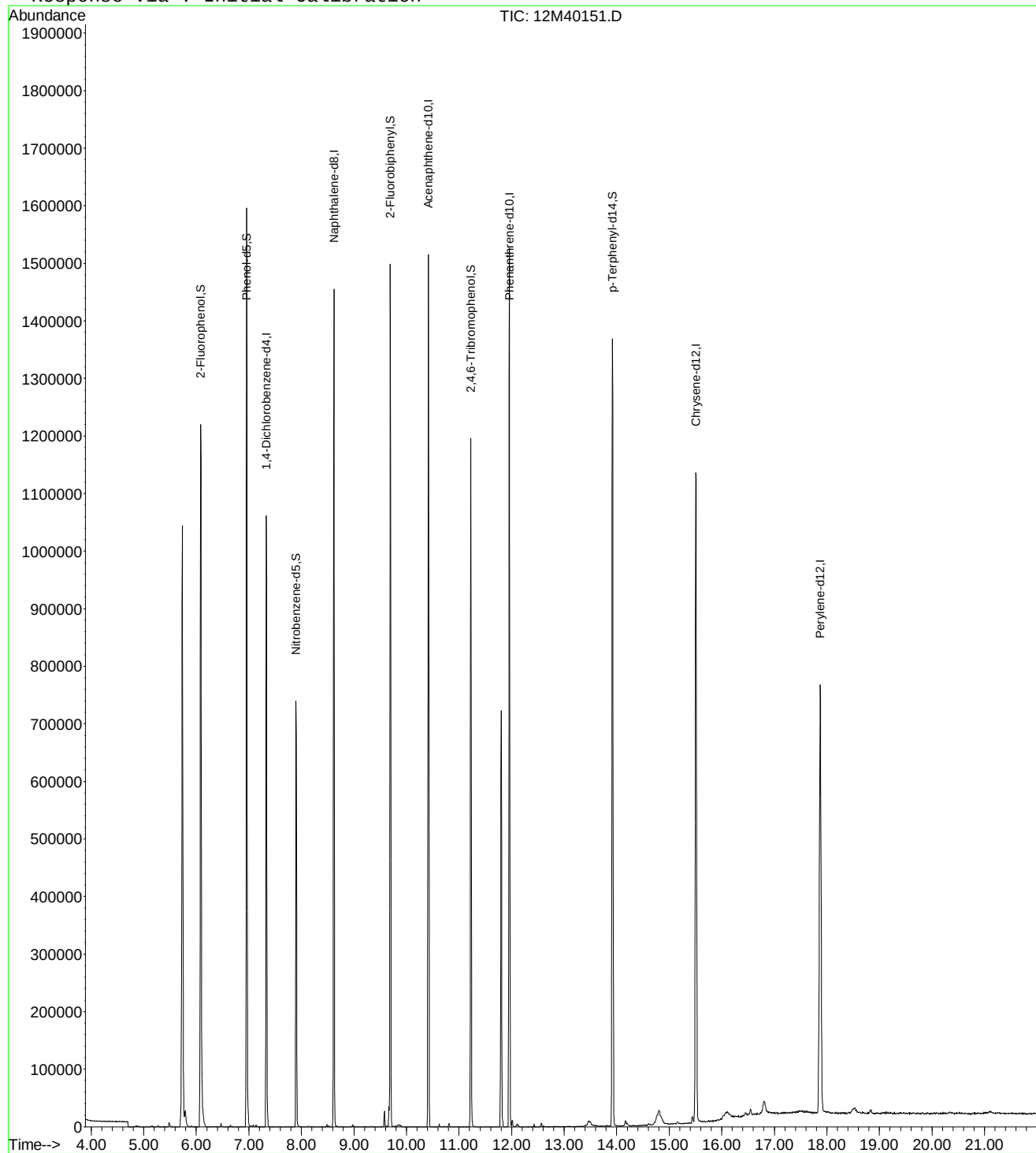
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration



12M40151.D MEGAMIX.M

Mon Jun 25 11:31:44 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\062412\12M40152.D

Vial: 16

Acq On : 24 Jun 2012 5:53 pm

Operator: MDC

Sample : L12060445-06 MS

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23:38 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.337	152	173480	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	751271	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	356064	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.958	188	627765	40.0000	ug/ml	0.000
113) Chrysene-d12	15.511	240	583799	40.0000	ug/ml	0.000
128) Perylene-d12	17.877	264	562130	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.081	112	458506	82.7364817	ug/ml	-0.02
Spiked Amount 100.000	Range 21 - 100		Recovery =	82.74%		
12) Phenol-d5	6.958	99	608383	90.8515153	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	90.85%		
31) Nitrobenzene-d5	7.903	82	283414	44.5353469	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	89.07%		
59) 2-Fluorobiphenyl	9.693	172	547185	45.8148301	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	91.63%		
86) 2,4,6-Tribromophenol	11.226	330	160207	105.4700213	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	105.47%		
117) p-Terphenyl-d14	13.919	244	539890	49.9232594	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	99.85%		
Target Compounds						
					Qvalue	
3) n-Nitrosodimethylamine	4.55	74	175019	53.4674	ug/ml	81
4) Pyridine	4.55	79	245382	42.6410	ug/ml	90
11) Aniline	7.03	93	374316	44.4943	ug/ml	93
13) Phenol	6.97	94	344219	49.7746	ug/ml	87
14) bis(2-Chloroethyl)ether	7.06	63	206335	52.8169	ug/ml	91
16) 2-Chlorophenol	7.16	128	279509	47.8640	ug/ml	95
17) 1,3-Dichlorobenzene	7.30	146	240731	36.1567	ug/ml	98
18) 1,4-Dichlorobenzene	7.35	146	250094	37.1873	ug/ml	98
19) Benzyl Alcohol	7.45	108	197576	54.1497	ug/ml	94
20) 1,2-Dichlorobenzene	7.54	146	235796	37.2052	ug/ml	97
21) 2-Methylphenol	7.56	107	233792	51.2800	ug/ml	97
22) bis(2-Chloroisopropyl)ethe	7.60	45	481926	63.8585	ug/ml	89
23) 3-,4-Methylphenol	7.69	107	304914	52.1463	ug/ml	98
25) n-Nitrosodipropylamine	7.74	70	222753	63.2296	ug/ml#	66
26) Acetophenone	7.74	105	353577	50.6226	ug/ml	93
27) n-Nitrosomorpholine	7.74	56	16120	4.8990	ug/ml#	44
28) o-Toluidine	7.74	106	27836	3.1229	ug/ml#	1
29) Hexachloroethane	7.86	117	87043	36.8767	ug/ml	95
32) Nitrobenzene	7.92	77	306768	47.9180	ug/ml	93
34) Isophorone	8.14	82	587302	49.1365	ug/ml	97
35) 2-Nitrophenol	8.24	139	160888	42.9206	ug/ml	91
36) 2,4-Dimethylphenol	8.23	122	231505	38.1055	ug/ml	95
38) bis(2-Chloroethoxy)methane	8.33	93	338218	36.8449	ug/ml	88
39) Benzoic Acid	8.28	105	34854	29.4126	ug/ml#	52
40) 2,4-Dichlorophenol	8.47	162	235813	42.7285	ug/ml	98
42) 1,2,4-Trichlorobenzene	8.57	180	203023	31.8011	ug/ml	100
43) Naphthalene	8.64	128	836416	42.7274	ug/ml	100
44) 4-Chloroaniline	8.68	127	341782	42.5818	ug/ml	97
47) Hexachlorobutadiene	8.80	225	108207	33.0570	ug/ml	99
49) p-Phenylenediamine	9.13	108	21232	22.0552	ug/ml#	1
50) 4-Chloro-3-Methylphenol	9.13	107	269527	49.5851	ug/ml	93
52) 2-Methylnaphthalene	9.33	142	512852	38.8075	ug/ml	99
53) 1-Methylnaphthalene	9.45	142	494638	40.1261	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M40152.D MEGAMIX.M Mon Jun 25 11:31:55 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40152.D

Vial: 16

Acq On : 24 Jun 2012 5:53 pm

Operator: MDC

Sample : L12060445-06 MS

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23:38 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56) Hexachlorocyclopentadiene	9.55	237	27265	17.0721	ug/ml	98
57) 2,4,6-Trichlorophenol	9.62	196	172488	53.0221	ug/ml	100
58) 2,4,5-Trichlorophenol	9.67	196	186960	56.1082	ug/ml	100
60) Isosafrole	9.83	162	501761	112.4396	ug/ml#	35
61) 2-Chloronaphthalene	9.83	162	501761	49.1580	ug/ml	99
62) 1-Chloronaphthalene	9.83	162	501761	51.4026	ug/ml	99
63) 2-Nitroaniline	9.93	65	186937	66.5987	ug/ml	89
65) Dimethylphthalate	10.11	163	595241	51.5982	ug/ml	100
66) 1,3-Dinitrobenzene	10.16	168	107915	51.7715	ug/ml	88
67) 2,6-Dinitrotoluene	10.20	165	157115	56.0164	ug/ml	88
68) Acenaphthylene	10.27	152	869341	52.6947	ug/ml	100
69) 3-Nitroaniline	10.35	138	170241	67.5240	ug/ml	94
70) 2,4-Dinitrophenol	10.46	184	60299	55.8175	ug/ml	64
71) Acenaphthene	10.45	154	536642	52.4814	ug/ml	100
72) 4-Nitrophenol	10.47	65	139512	70.9647	ug/ml	84
73) 2,4-Dinitrotoluene	10.60	165	204243	59.5319	ug/ml	91
75) Dibenzofuran	10.61	168	729621	52.3595	ug/ml	98
76) 2,3,4,6-Tetrachlorophenol	10.71	232	146004	58.1651	ug/ml	97
77) 1-Naphthylamine	10.71	143	3082	Below Cal	#	1
78) 2-Naphthylamine	10.76	143	3369	Below Cal	#	1
79) Diethylphthalate	10.81	149	631268	56.7629	ug/ml	99
81) Fluorene	10.96	166	635031	53.9904	ug/ml	99
82) 4-Chlorophenyl Phenyl Ethe	10.92	204	292153	51.8874	ug/ml	97
83) 4-Nitroaniline	10.98	138	177008	63.4778	ug/ml	92
84) 5-Nitro-o-Toluidine	11.02	152	7084	2.2054	ug/ml#	1
85) 1,2-Diphenylhydrazine	11.09	77	667322	65.0292	ug/ml	94
88) 4,6-Dinitro-2-Methylphenol	11.02	198	120563	66.3854	ug/ml	95
89) n-Nitrosodiphenylamine	11.04	169	537620	53.6038	ug/ml	99
91) Sym-Trinitrobenzene	11.42	75	28459	13.2792	ug/ml#	63
94) Phorate	11.42	75	28459	4.5664	ug/ml#	39
95) 4-Bromophenyl Phenyl Ether	11.42	248	162302	50.1321	ug/ml	96
96) Hexachlorobenzene	11.62	284	177600	53.5050	ug/ml	98
99) Pentachlorophenol	11.80	266	116705	60.5673	ug/ml	97
101) Pentachloronitrobenzene	11.80	237	3633	3.0040	ug/ml#	25
102) Disulfoton	11.98	88	75985	13.4719	ug/ml#	4
103) Phenanthrene	11.98	178	927775	56.6223	ug/ml	100
104) Anthracene	12.04	178	923248	54.5435	ug/ml	99
105) Carbazole	12.19	167	861928	57.2438	ug/ml	98
107) Di-n-Butyl Phthalate	12.57	149	1059282	57.8456	ug/ml	100
112) Fluoranthene	13.46	202	985570	56.6823	ug/ml	99
114) Benzidine	13.57	184	211409	103.7684	ug/ml	100
115) Pyrene	13.77	202	1015690	57.1465	ug/ml	100
121) Butyl Benzyl Phthalate	14.60	149	507518	64.8901	ug/ml	97
122) 3,3'-Dimethylbenzidine	14.64	212	5193	Below Cal	#	65
124) bis(2-Ethylhexyl)phthalate	15.44	149	695171	63.8032	ug/ml	99
125) 3,3'-Dichlorobenzidine	15.41	252	259264	55.2688	ug/ml	99
126) Benzo[a]anthracene	15.48	228	887986	56.2547	ug/ml	100
127) Chrysene	15.55	228	860531	58.6480	ug/ml	100
129) Di-n-Octyl Phthalate	16.33	149	1160904	63.9662	ug/ml	93
131) Benzo[b]fluoranthene	17.17	252	865098	52.6747	ug/ml	97
132) Benzo[k]fluoranthene	17.20	252	804124	55.9212	ug/ml	100
133) Benzo[a]pyrene	17.77	252	802215	54.3635	ug/ml	100
135) Indeno[1,2,3-cd]pyrene	20.39	276	901766	59.7948	ug/ml	96
136) Dibenz[ah]anthracene	20.39	278	617536	48.6856	ug/ml	98

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

12M40152.D MEGAMIX.M Mon Jun 25 11:31:55 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\062412\12M40152.D Vial: 16
Acq On : 24 Jun 2012 5:53 pm Operator: MDC
Sample : L12060445-06 MS Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:23:38 2012 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Mon Jun 25 11:23:21 2012
Response via : Initial Calibration
DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
137) Benzo[ghi]perylene	21.15	276	799689	63.9123	ug/ml	99

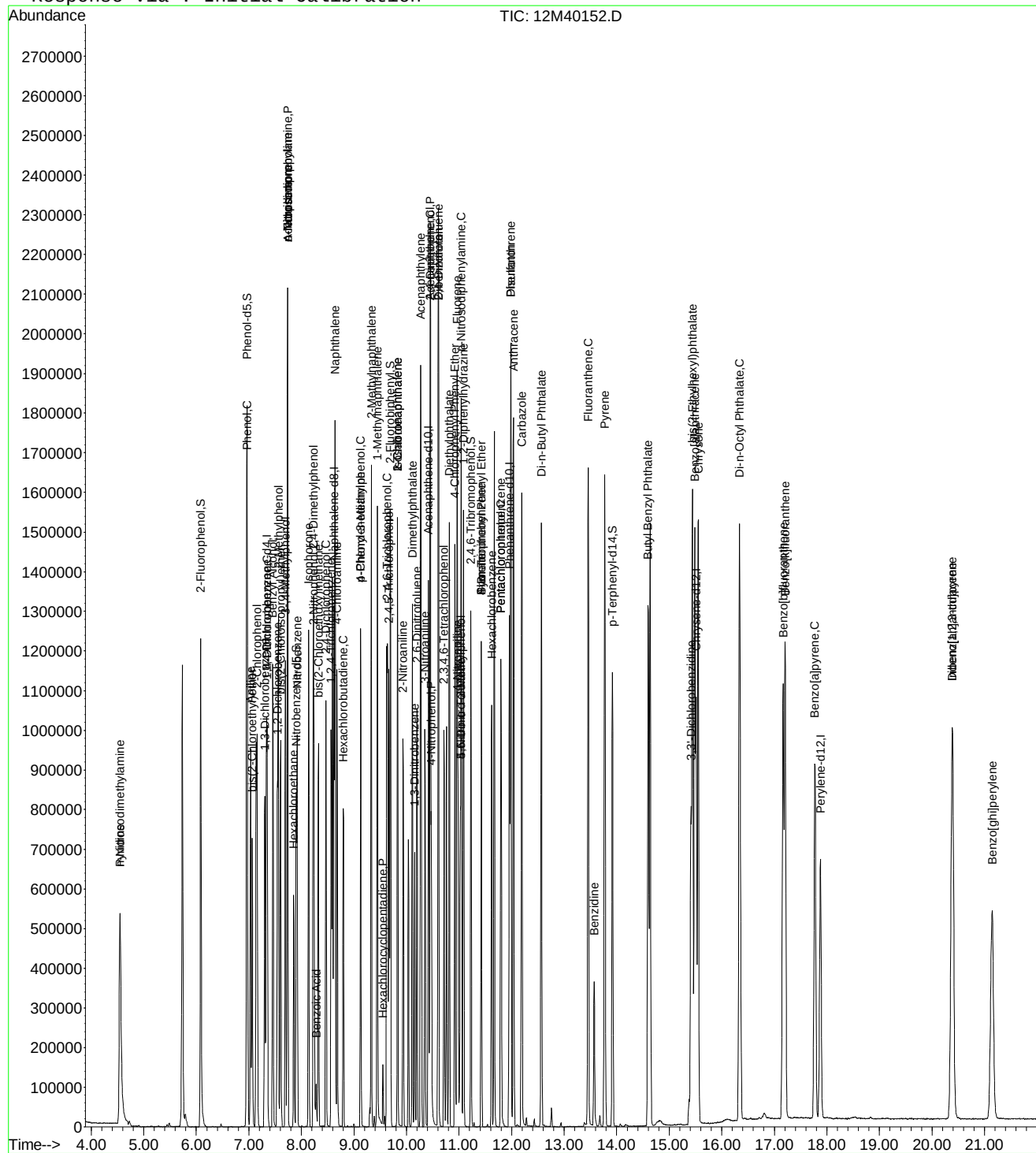
(#) = qualifier out of range (m) = manual integration (+) = signals summed
12M40152.D MEGAMIX.M Mon Jun 25 11:31:55 2012

Page 3

Vial: 16
Operator: MDC
Inst : MSD12
Multiplr: 1.00

Quant Results File: MEGAMIX.RES

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Method       : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title        : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update   : Mon Jun 25 11:23:21 2012
Response via  : Initial Calibration
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Data File : I:\MSDCHEM\1\DATA\062412\12M40153.D

Vial: 17

Acq On : 24 Jun 2012 6:24 pm

Operator: MDC

Sample : L12060445-07 MSD

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23:38 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.337	152	198727	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	866737	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	412648	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.958	188	737918	40.0000	ug/ml	0.000
113) Chrysene-d12	15.516	240	704076	40.0000	ug/ml	0.000
128) Perylene-d12	17.877	264	676140	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.087	112	501623	79.0172669	ug/ml	-0.01
Spiked Amount 100.000	Range 21 - 100		Recovery =	79.02%		
12) Phenol-d5	6.958	99	682370	88.9544271	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	88.95%		
31) Nitrobenzene-d5	7.903	82	307548	41.8895539	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	83.78%		
59) 2-Fluorobiphenyl	9.693	172	651354	47.0584158	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	94.12%		
86) 2,4,6-Tribromophenol	11.226	330	199975	113.5982322	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	113.60%		
117) p-Terphenyl-d14	13.918	244	694849	53.2760344	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	106.55%		
Target Compounds						
					Qvalue	
3) n-Nitrosodimethylamine	4.54	74	188766	50.3409	ug/ml	86
4) Pyridine	4.55	79	265214	40.2322	ug/ml	93
11) Aniline	7.03	93	421067	43.6928	ug/ml	94
13) Phenol	6.97	94	385741	48.6924	ug/ml	89
14) bis(2-Chloroethyl)ether	7.06	63	225354	50.3568	ug/ml	91
16) 2-Chlorophenol	7.16	128	313883	46.9216	ug/ml	97
17) 1,3-Dichlorobenzene	7.30	146	267267	35.0425	ug/ml	99
18) 1,4-Dichlorobenzene	7.35	146	273785	35.5381	ug/ml	98
19) Benzyl Alcohol	7.45	108	224087	53.6131	ug/ml	96
20) 1,2-Dichlorobenzene	7.54	146	265515	36.5720	ug/ml	98
21) 2-Methylphenol	7.56	107	264179	50.5835	ug/ml	98
22) bis(2-Chloroisopropyl)ethe	7.60	45	504078	58.3081	ug/ml	92
23) 3-,4-Methylphenol	7.69	107	345585	51.5934	ug/ml	98
25) n-Nitrosodipropylamine	7.74	70	240851	59.6812	ug/ml#	65
26) Acetophenone	7.74	105	393147	49.1369	ug/ml	95
27) n-Nitrosomorpholine	7.74	56	17338	4.5998	ug/ml#	44
28) o-Toluidine	7.74	106	30397	2.9770	ug/ml#	1
29) Hexachloroethane	7.86	117	95323	35.2540	ug/ml	98
32) Nitrobenzene	7.92	77	333204	45.1137	ug/ml	96
34) Isophorone	8.14	82	641748	46.5389	ug/ml	98
35) 2-Nitrophenol	8.24	139	186617	43.1522	ug/ml	94
36) 2,4-Dimethylphenol	8.23	122	270648	38.6137	ug/ml	96
38) bis(2-Chloroethoxy)methane	8.33	93	371018	35.0336	ug/ml	88
39) Benzoic Acid	8.28	105	24942	24.0624	ug/ml#	47
40) 2,4-Dichlorophenol	8.47	162	269967	42.4004	ug/ml	98
42) 1,2,4-Trichlorobenzene	8.57	180	234543	31.8441	ug/ml	99
43) Naphthalene	8.64	128	955252	42.2972	ug/ml	100
44) 4-Chloroaniline	8.68	127	395434	42.7030	ug/ml	98
47) Hexachlorobutadiene	8.80	225	126571	33.5160	ug/ml	99
49) p-Phenylenediamine	9.13	108	24737	22.1673	ug/ml#	1
50) 4-Chloro-3-Methylphenol	9.13	107	306783	48.9203	ug/ml	95
52) 2-Methylnaphthalene	9.33	142	592220	38.8432	ug/ml	99
53) 1-Methylnaphthalene	9.45	142	569968	40.0773	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M40153.D MEGAMIX.M Mon Jun 25 11:31:56 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40153.D

Vial: 17

Acq On : 24 Jun 2012 6:24 pm

Operator: MDC

Sample : L12060445-07 MSD

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23:38 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56) Hexachlorocyclopentadiene	9.55	237	34476	18.2341	ug/ml	99
57) 2,4,6-Trichlorophenol	9.62	196	204738	54.3056	ug/ml	99
58) 2,4,5-Trichlorophenol	9.67	196	225667	58.4378	ug/ml	99
60) Isosafrole	9.83	162	581488	112.4376	ug/ml#	35
61) 2-Chloronaphthalene	9.83	162	581488	49.1571	ug/ml	99
62) 1-Chloronaphthalene	9.83	162	581488	51.4017	ug/ml	100
63) 2-Nitroaniline	9.93	65	208110	63.9752	ug/ml	92
65) Dimethylphthalate	10.11	163	699698	52.3360	ug/ml	100
66) 1,3-Dinitrobenzene	10.16	168	127159	52.6386	ug/ml	94
67) 2,6-Dinitrotoluene	10.20	165	181200	55.7447	ug/ml	92
68) Acenaphthylene	10.27	152	1011091	52.8829	ug/ml	100
69) 3-Nitroaniline	10.35	138	195432	66.8864	ug/ml	96
70) 2,4-Dinitrophenol	10.46	184	71708	56.9024	ug/ml	63
71) Acenaphthene	10.45	154	634542	53.5463	ug/ml	99
72) 4-Nitrophenol	10.47	65	155471	68.2384	ug/ml	93
73) 2,4-Dinitrotoluene	10.60	165	239097	60.1347	ug/ml	95
75) Dibenzofuran	10.61	168	867819	53.7373	ug/ml	98
76) 2,3,4,6-Tetrachlorophenol	10.71	232	177552	61.0340	ug/ml	97
77) 1-Naphthylamine	10.71	143	3499	Below Cal	#	1
78) 2-Naphthylamine	10.76	143	4110	Below Cal	#	1
79) Diethylphthalate	10.81	149	738770	57.3202	ug/ml	99
81) Fluorene	10.96	166	757068	55.5399	ug/ml	99
82) 4-Chlorophenyl Phenyl Ethe	10.92	204	350617	53.7319	ug/ml	98
83) 4-Nitroaniline	10.98	138	208656	64.5666	ug/ml	95
84) 5-Nitro-o-Toluidine	11.02	152	8429	2.2643	ug/ml#	1
85) 1,2-Diphenylhydrazine	11.09	77	735063	61.8082	ug/ml	97
88) 4,6-Dinitro-2-Methylphenol	11.02	198	145951	68.1812	ug/ml	95
89) n-Nitrosodiphenylamine	11.04	169	624922	53.0072	ug/ml	99
91) Sym-Trinitrobenzene	11.42	75	31716	12.6577	ug/ml#	62
94) Phorate	11.42	75	31716	4.3294	ug/ml#	39
95) 4-Bromophenyl Phenyl Ether	11.42	248	196864	51.7306	ug/ml	98
96) Hexachlorobenzene	11.62	284	219060	56.1441	ug/ml	98
99) Pentachlorophenol	11.80	266	147253	64.5861	ug/ml	98
101) Pentachloronitrobenzene	11.80	237	4631	3.2576	ug/ml#	33
102) Disulfoton	11.98	88	86929	13.1115	ug/ml#	5
103) Phenanthrene	11.98	178	1103827	57.3106	ug/ml	99
104) Anthracene	12.04	178	1099523	55.2609	ug/ml	100
105) Carbazole	12.19	167	1025626	57.9476	ug/ml	99
107) Di-n-Butyl Phthalate	12.57	149	1255902	58.3450	ug/ml	100
112) Fluoranthene	13.46	202	1202336	58.8268	ug/ml	99
114) Benzidine	13.57	184	301289	122.6220	ug/ml	100
115) Pyrene	13.77	202	1246715	58.1621	ug/ml	100
121) Butyl Benzyl Phthalate	14.60	149	614799	65.1785	ug/ml	99
122) 3,3'-Dimethylbenzidine	14.64	212	6543	Below Cal	#	78
124) bis(2-Ethylhexyl)phthalate	15.44	149	854900	65.0593	ug/ml	100
125) 3,3'-Dichlorobenzidine	15.41	252	307277	54.3140	ug/ml	100
126) Benzo[a]anthracene	15.48	228	1146765	60.2381	ug/ml	100
127) Chrysene	15.55	228	1099311	62.1228	ug/ml	100
129) Di-n-Octyl Phthalate	16.33	149	1433968	65.6892	ug/ml	97
131) Benzo[b]fluoranthene	17.17	252	1204795	60.9888	ug/ml	94
132) Benzo[k]fluoranthene	17.21	252	1073601	62.0721	ug/ml	99
133) Benzo[a]pyrene	17.78	252	1039268	58.5524	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	20.39	276	1178342	64.9593	ug/ml	95
136) Dibenz[ah]anthracene	20.39	278	811777	53.2078	ug/ml	98

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

12M40153.D MEGAMIX.M Mon Jun 25 11:31:56 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\062412\12M40153.D Vial: 17
Acq On : 24 Jun 2012 6:24 pm Operator: MDC
Sample : L12060445-07 MSD Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:23:38 2012 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Mon Jun 25 11:23:21 2012
Response via : Initial Calibration
DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
137) Benzo[ghi]perylene	21.15	276	1049264	69.7185	ug/ml	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed
12M40153.D MEGAMIX.M Mon Jun 25 11:31:56 2012

Page 3

Data File : I:\MSDCHEM\1\DATA\062412\12M40153.D

Acq On : 24 Jun 2012 6:24 pm

Sample : L12060445-07 MSD

Misc : 1,1

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

Vial: 17

Operator: MDC

Inst : MSD12

Multiplr: 1.00

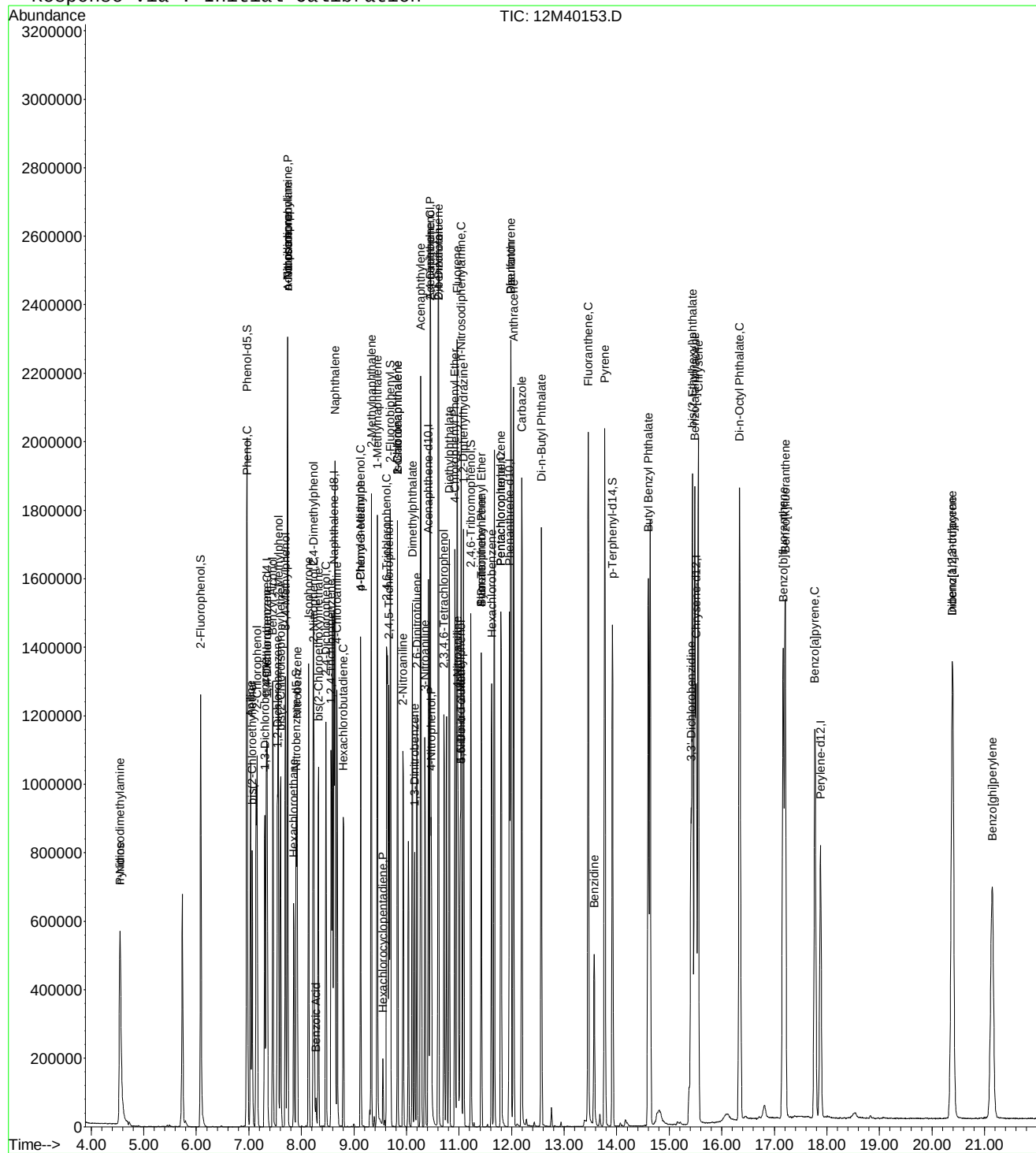
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration



Data File : I:\MSDCHEM\1\DATA\062412\12M40154.D

Vial: 18

Acq On : 24 Jun 2012 6:55 pm

Operator: MDC

Sample : L12060445-08

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23:39 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.332	152	183992	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	703455	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	380435	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.958	188	678686	40.0000	ug/ml	0.000
113) Chrysene-d12	15.511	240	630588	40.0000	ug/ml	0.000
128) Perylene-d12	17.877	264	601095	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.081	112	408077	69.4295926	ug/ml	-0.02
Spiked Amount 100.000	Range 21 - 100		Recovery =	69.43%		
12) Phenol-d5	6.958	99	549680	77.3954650	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	77.40%		
31) Nitrobenzene-d5	7.898	82	265480	44.5528666	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	89.11%		
59) 2-Fluorobiphenyl	9.693	172	522435	40.9403699	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	81.88%		
86) 2,4,6-Tribromophenol	11.226	330	157059	96.7738401	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	96.77%		
117) p-Terphenyl-d14	13.919	244	626505	53.6339564	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	107.27%		

Target Compounds

Qvalue

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M40154.D MEGAMIX.M Mon Jun 25 11:32:12 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40154.D

Vial: 18

Acq On : 24 Jun 2012 6:55 pm

Operator: MDC

Sample : L12060445-08

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

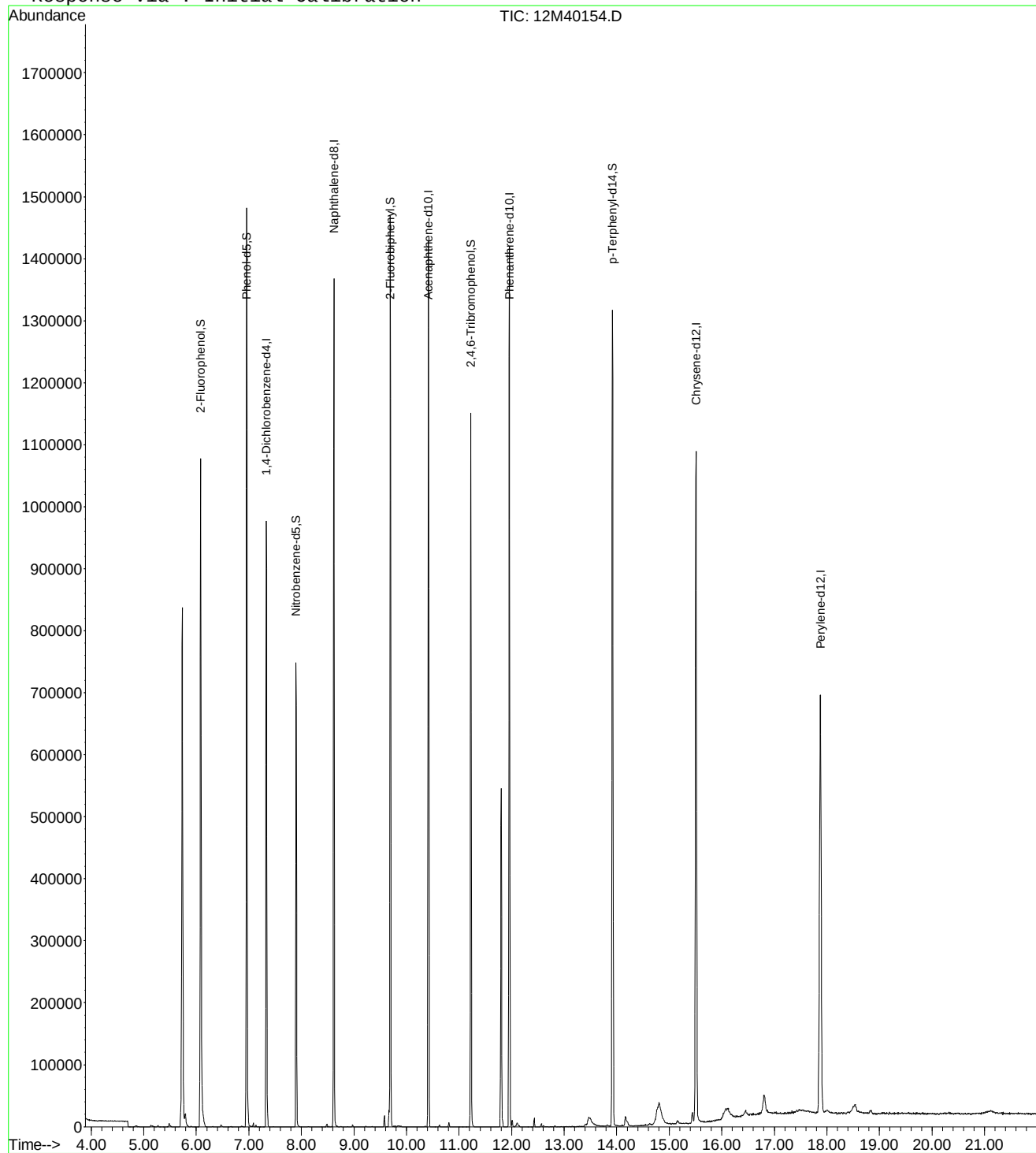
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration



Data File : I:\MSDCHEM\1\DATA\062412\12M40155.D

Vial: 19

Acq On : 24 Jun 2012 7:26 pm

Operator: MDC

Sample : L12060445-09

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23:39 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.332	152	210028	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	804121	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	441251	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.958	188	783701	40.0000	ug/ml	0.000
113) Chrysene-d12	15.511	240	740288	40.0000	ug/ml	0.000
128) Perylene-d12	17.877	264	721420	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.081	112	526730	78.5077077	ug/ml	-0.02
Spiked Amount 100.000	Range 21 - 100		Recovery =	78.51%		
12) Phenol-d5	6.958	99	686754	84.7087980	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	84.71%		
31) Nitrobenzene-d5	7.898	82	302324	44.3845055	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	88.77%		
59) 2-Fluorobiphenyl	9.693	172	620436	41.9190324	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	83.84%		
86) 2,4,6-Tribromophenol	11.226	330	191552	101.7598833	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	101.76%		
117) p-Terphenyl-d14	13.919	244	731289	53.3272669	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	106.65%		

Target Compounds

Qvalue

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M40155.D MEGAMIX.M Mon Jun 25 11:32:13 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40155.D

Vial: 19

Acq On : 24 Jun 2012 7:26 pm

Operator: MDC

Sample : L12060445-09

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

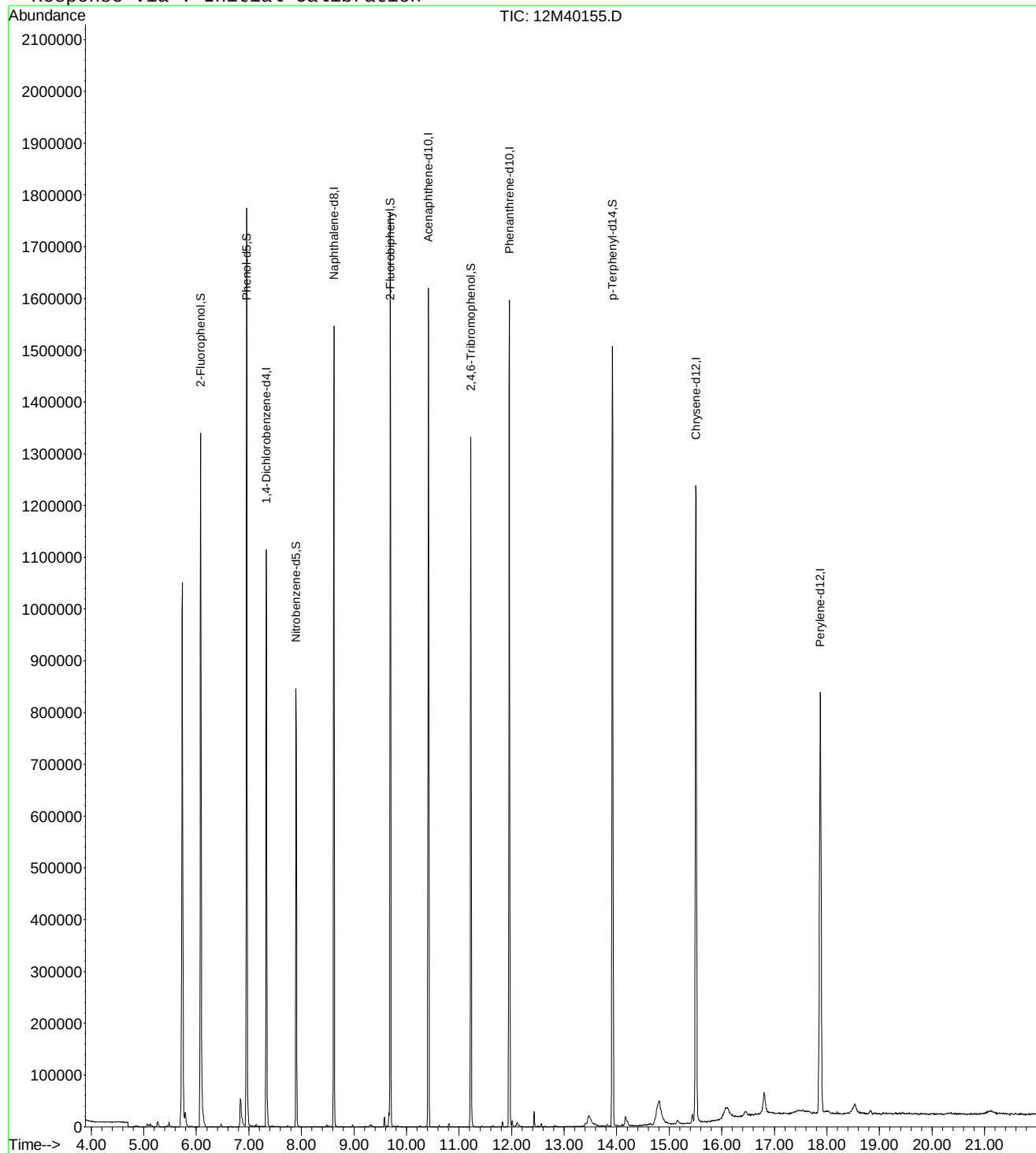
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration



12M40155.D MEGAMIX.M

Mon Jun 25 11:32:13 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\062412\12M40156.D Vial: 20
 Acq On : 24 Jun 2012 7:58 pm Operator: MDC
 Sample : L12060445-10 Inst : MSD12
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 25 11:23:39 2012 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Mon Jun 25 11:23:21 2012
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.337	152	176235	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	678995	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	361566	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.958	188	638642	40.0000	ug/ml	0.000
113) Chrysene-d12	15.510	240	600348	40.0000	ug/ml	0.000
128) Perylene-d12	17.877	264	581363	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.081	112	425046	75.4996972	ug/ml	-0.02
Spiked Amount 100.000	Range 21 - 100		Recovery =	75.50%		
12) Phenol-d5	6.957	99	582017	85.5555181	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	85.56%		
31) Nitrobenzene-d5	7.898	82	271660	47.2323207	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	94.46%		
59) 2-Fluorobiphenyl	9.693	172	525074	43.2945163	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	86.59%		
86) 2,4,6-Tribromophenol	11.226	330	156069	101.1823298	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	101.18%		
117) p-Terphenyl-d14	13.918	244	618979	55.6588004	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	111.32%		

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M40156.D MEGAMIX.M Mon Jun 25 11:32:14 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40156.D

Vial: 20

Acq On : 24 Jun 2012 7:58 pm

Operator: MDC

Sample : L12060445-10

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

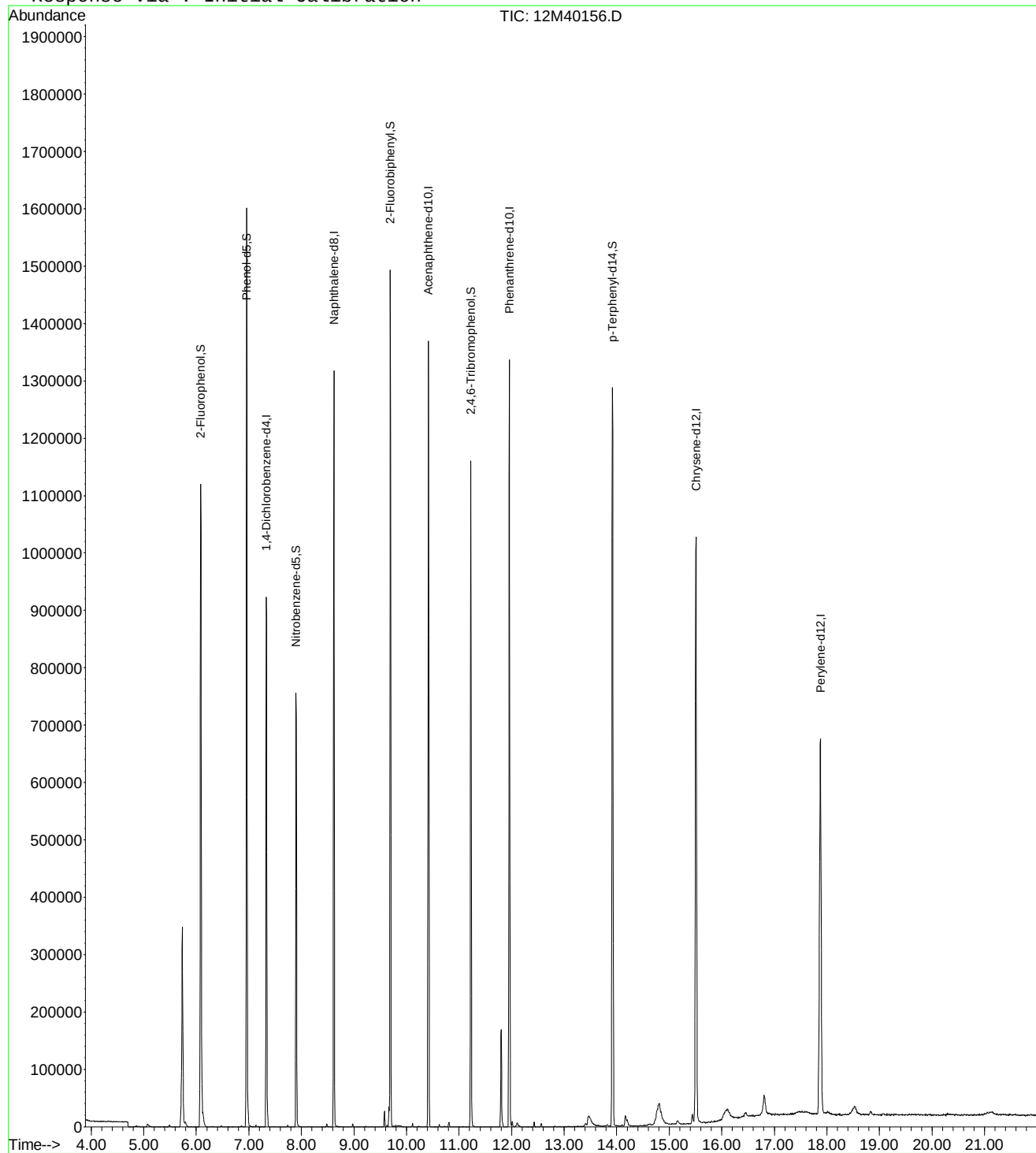
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration



Data File : I:\MSDCHEM\1\DATA\062412\12M40157.D

Vial: 21

Acq On : 24 Jun 2012 8:29 pm

Operator: MDC

Sample : L12060445-11

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23:40 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.337	152	199420	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	770351	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	411810	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.958	188	742969	40.0000	ug/ml	0.000
113) Chrysene-d12	15.510	240	703925	40.0000	ug/ml	0.000
128) Perylene-d12	17.877	264	691096	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.087	112	484305	76.0241688	ug/ml	-0.01
Spiked Amount 100.000	Range 21 - 100		Recovery =	76.02%		
12) Phenol-d5	6.957	99	641801	83.3750670	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	83.38%		
31) Nitrobenzene-d5	7.898	82	295709	45.3164684	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	90.63%		
59) 2-Fluorobiphenyl	9.693	172	593907	42.9953529	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	85.99%		
86) 2,4,6-Tribromophenol	11.226	330	177559	101.0698018	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	101.07%		
117) p-Terphenyl-d14	13.918	244	713095	54.6867352	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	109.37%		

Target Compounds

Qvalue

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M40157.D MEGAMIX.M Mon Jun 25 11:32:15 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40157.D

Vial: 21

Acq On : 24 Jun 2012 8:29 pm

Operator: MDC

Sample : L12060445-11

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

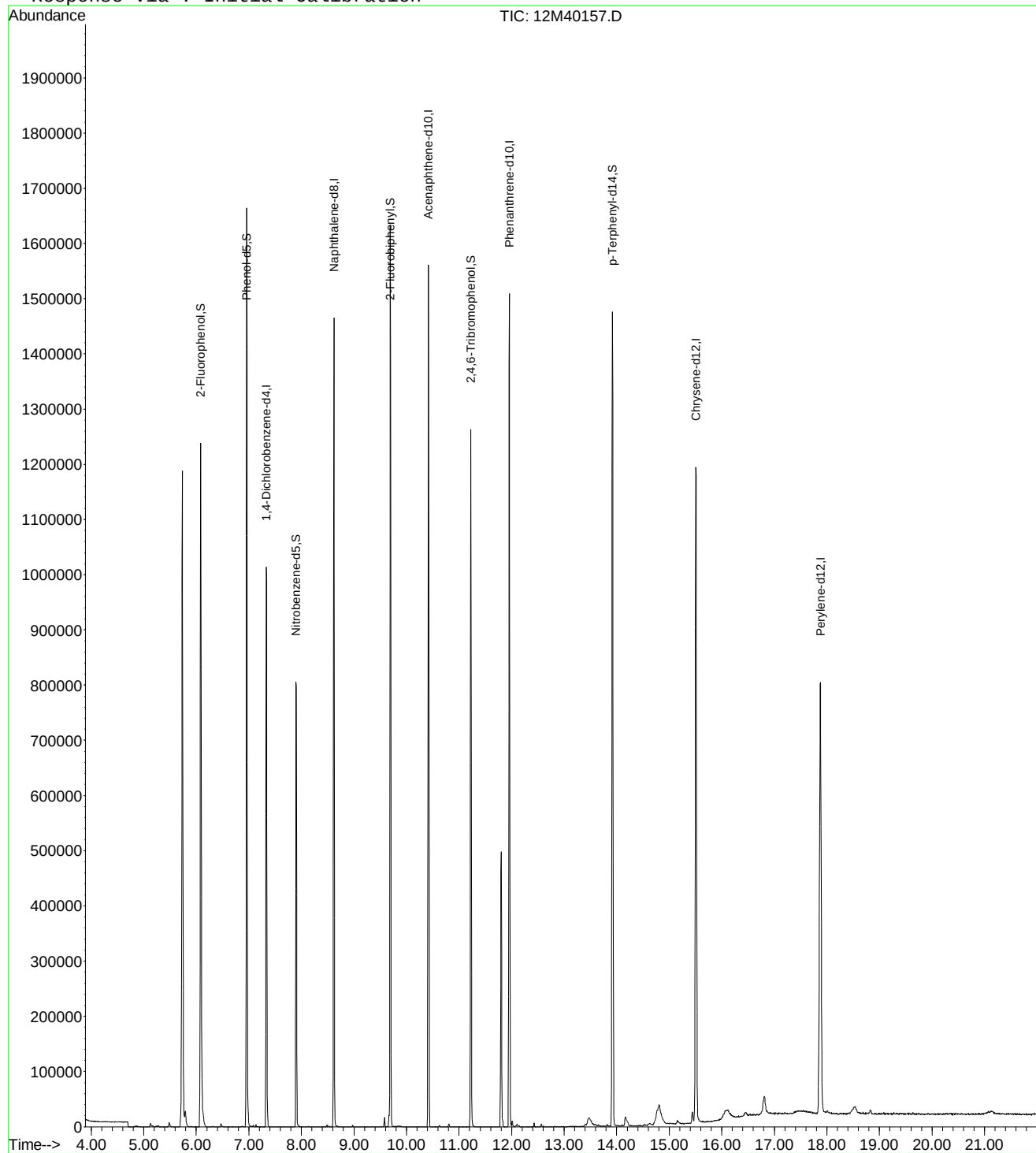
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration



12M40157.D MEGAMIX.M

Mon Jun 25 11:32:15 2012

Page 2

2.2.1.4 Standards Data

Data File : I:\MSDCHEM\1\DATA\060712\12M39932.D

Vial: 2

Acq On : 7 Jun 2012 11:46 am

Operator: CAA

Sample : WG400053-02 50ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:25:22 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:25:20 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.369	152	255816	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.651	136	960132	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.446	164	546815	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.990	188	976264	40.0000	ug/ml	0.000
113) Chrysene-d12	15.548	240	876598	40.0000	ug/ml	0.000
128) Perylene-d12	17.925	264	860290	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.124	112	415274	50.8169361	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	50.82%		
12) Phenol-d5	6.995	99	500879	50.7235497	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	50.72%		
31) Nitrobenzene-d5	7.935	82	412488	50.7178154	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	101.44%		
59) 2-Fluorobiphenyl	9.725	172	902145	49.1853640	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	98.37%		
86) 2,4,6-Tribromophenol	11.253	330	118270	50.7002136	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	50.70%		
117) p-Terphenyl-d14	13.951	244	797893	49.1366082	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	98.27%		
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.07	88	172451	51.7605	ug/ml	97
3) n-Nitrosodimethylamine	4.61	74	249364	51.6606	ug/ml	98
4) Pyridine	4.61	79	437613	51.5699	ug/ml	100
5) 2-Picoline	5.50	93	497373	50.7846	ug/ml	99
6) n-Nitrosomethylethylamine	5.64	88	214118	51.2295	ug/ml	98
7) Methyl Methanesulfonate	5.96	80	230000	51.0934	ug/ml	100
9) n-Nitrosodiethylamine	6.35	102	211358	50.6266	ug/ml	99
10) Ethyl Methanesulfonate	6.63	79	301586	50.8031	ug/ml	100
11) Aniline	7.07	93	655974	52.8779	ug/ml	99
13) Phenol	7.01	94	516996	50.6969	ug/ml	97
14) bis(2-Chloroethyl)ether	7.10	63	309059	53.1556	ug/ml	84
15) Pentachloroethane	7.10	167	160950	49.6453	ug/ml	100
16) 2-Chlorophenol	7.19	128	431656	50.1271	ug/ml	99
17) 1,3-Dichlorobenzene	7.34	146	484712	49.3699	ug/ml	99
18) 1,4-Dichlorobenzene	7.38	146	493617	49.7741	ug/ml	99
19) Benzyl Alcohol	7.49	108	278640	51.7877	ug/ml	98
20) 1,2-Dichlorobenzene	7.58	146	463502	49.5953	ug/ml	100
21) 2-Methylphenol	7.60	107	336149	50.0002	ug/ml	100
22) bis(2-Chloroisopropyl)ethe	7.64	45	567539	50.2385	ug/ml#	96
23) 3-,4-Methylphenol	7.73	107	435989	50.5643	ug/ml	98
24) n-Nitrosopyrrolidine	7.76	100	208061	50.8935	ug/ml#	61
25) n-Nitrosodipropylamine	7.77	70	259606	49.9727	ug/ml#	67
26) Acetophenone	7.77	105	508802	49.4005	ug/ml	96
27) n-Nitrosomorpholine	7.77	56	239205	49.2987	ug/ml	98
28) o-Toluidine	7.82	106	665995	50.6693	ug/ml	98
29) Hexachloroethane	7.89	117	177285	50.9345	ug/ml	98
32) Nitrobenzene	7.95	77	413317	50.5170	ug/ml	98
33) n-Nitrosopiperidine	8.10	114	215233	49.8709	ug/ml	95
34) Isophorone	8.17	82	767170	50.2227	ug/ml	100
35) 2-Nitrophenol	8.27	139	241395	50.3891	ug/ml	84
36) 2,4-Dimethylphenol	8.26	122	387954	49.9659	ug/ml	97
37) 0,0,0-Triethyl Phosphoroth	8.36	198	203697	47.9788	ug/ml	99
38) bis(2-Chloroethoxy)methane	8.36	93	580344	48.4518	ug/ml	98

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

12M39932.D MEGAMIX.M Fri Jun 08 11:34:45 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\060712\12M39932.D

Vial: 2

Acq On : 7 Jun 2012 11:46 am

Operator: CAA

Sample : WG400053-02 50ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:25:22 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:25:20 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.31	105	108216m	39.2676	ug/ml	
40) 2,4-Dichlorophenol	8.50	162	350922	49.7538	ug/ml	99
41) a,a-Dimethylphenethylamine	8.50	58	1123392	56.4802	ug/ml	98
42) 1,2,4-Trichlorobenzene	8.60	180	398231	48.8088	ug/ml	100
43) Naphthalene	8.67	128	1228173	49.1563	ug/ml	100
44) 4-Chloroaniline	8.71	127	521470	50.8358	ug/ml	98
45) 2,6-Dichlorophenol	8.73	162	359874	49.6805	ug/ml	99
46) Hexachloropropene	8.79	213	233873	51.2131	ug/ml	100
47) Hexachlorobutadiene	8.83	225	203209	48.5755	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.03	84	340365	50.9325	ug/ml	95
49) p-Phenylenediamine	9.05	108	103740	46.1142	ug/ml	97
50) 4-Chloro-3-Methylphenol	9.16	107	349918	50.3710	ug/ml	98
51) Safrole	9.24	162	337803	49.5501	ug/ml	99
52) 2-Methylnaphthalene	9.36	142	831789	49.2495	ug/ml	98
53) 1-Methylnaphthalene	9.47	142	774515	49.1626	ug/ml	100
55) 1,2,4,5-Tetrachlorobenzene	9.57	216	374669	48.9907	ug/ml	99
56) Hexachlorocyclopentadiene	9.58	237	150008	62.1308	ug/ml	100
57) 2,4,6-Trichlorophenol	9.66	196	252798	50.6354	ug/ml	99
58) 2,4,5-Trichlorophenol	9.70	196	262116	51.2223	ug/ml	98
60) Isosafrole	9.76	162	339968	49.6076	ug/ml	99
61) 2-Chloronaphthalene	9.86	162	770928	51.4269	ug/ml	97
62) 1-Chloronaphthalene	9.90	162	745757	49.7478	ug/ml	100
63) 2-Nitroaniline	9.97	65	223906	51.9426	ug/ml	96
64) 1,4-Naphthoquinone	10.03	158	285452	51.7431	ug/ml	100
65) Dimethylphthalate	10.14	163	876380	49.4677	ug/ml	100
66) 1,3-Dinitrobenzene	10.18	168	164825	51.4896	ug/ml	94
67) 2,6-Dinitrotoluene	10.23	165	220561	51.2052	ug/ml	91
68) Acenaphthylene	10.30	152	1259472	49.7110	ug/ml	99
69) 3-Nitroaniline	10.38	138	204211	52.7425	ug/ml	97
70) 2,4-Dinitrophenol	10.49	184	71973	50.1320	ug/ml#	39
71) Acenaphthene	10.48	154	781393	49.7597	ug/ml	98
72) 4-Nitrophenol	10.50	65	156046	51.6858	ug/ml	99
73) 2,4-Dinitrotoluene	10.63	165	270770	51.3914	ug/ml	88
74) Pentachlorobenzene	10.66	250	315249	48.4352	ug/ml	98
75) Dibenzofuran	10.64	168	1060447	49.5536	ug/ml	99
76) 2,3,4,6-Tetrachlorophenol	10.75	232	204547	50.8977	ug/ml	97
77) 1-Naphthylamine	10.71	143	339423m	33.5899	ug/ml	
78) 2-Naphthylamine	10.78	143	103782	17.7176	ug/ml	97
79) Diethylphthalate	10.84	149	857486	50.2071	ug/ml	99
80) Thionazin	10.94	107	134217	51.3488	ug/ml	98
81) Fluorene	10.99	166	895542	49.5787	ug/ml	100
82) 4-Chlorophenyl Phenyl Ether	10.95	204	428670	49.5749	ug/ml	99
83) 4-Nitroaniline	11.01	138	229085	53.4950	ug/ml	97
84) 5-Nitro-o-Toluidine	11.00	152	249094	50.4972	ug/ml	96
85) 1,2-Diphenylhydrazine	11.11	77	813137	51.5970	ug/ml	98
88) 4,6-Dinitro-2-Methylphenol	11.05	198	129511	53.2369	ug/ml#	33
89) n-Nitrosodiphenylamine	11.07	169	773116	49.5672	ug/ml	99
90) Sulfotep	11.27	322	135964	48.1997	ug/ml	95
91) Sym-Trinitrobenzene	11.35	75	189923	56.8511	ug/ml	96
92) Diallate	11.38	86	305955	49.5581	ug/ml	91
93) Phenacetin	11.38	108	396596	51.5613	ug/ml	98
94) Phorate	11.40	75	497868	51.3690	ug/ml#	98
95) 4-Bromophenyl Phenyl Ether	11.46	248	243561	48.3759	ug/ml	98
96) Hexachlorobenzene	11.65	284	246921	47.8343	ug/ml	97

(#) = qualifier out of range (m) = manual integration
 12M39932.D MEGAMIX.M Fri Jun 08 11:34:45 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\060712\12M39932.D

Vial: 2

Acq On : 7 Jun 2012 11:46 am

Operator: CAA

Sample : WG400053-02 50ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:25:22 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:25:20 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	11.59	87	280040	50.2158	ug/ml	94
98) 4-Aminobiphenyl	11.74	169	651738	49.6110	ug/ml	99
99) Pentachlorophenol	11.83	266	144731	55.3540	ug/ml	99
100) Pronamide	11.79	173	396540	50.2588	ug/ml	99
101) Pentachloronitrobenzene	11.91	237	93416	49.6686	ug/ml	99
102) Disulfoton	11.95	88	444989	50.7316	ug/ml	99
103) Phenanthrene	12.02	178	1251016	49.0951	ug/ml	99
104) Anthracene	12.07	178	1295599	49.2182	ug/ml	99
105) Carbazole	12.23	167	1161495	49.5478	ug/ml	100
106) Parathion Methyl	12.40	109	245952	52.5450	ug/ml	99
107) Di-n-Butyl Phthalate	12.59	149	1414253	49.6611	ug/ml	100
108) Parathion Ethyl	12.87	97	165089	52.5269	ug/ml	97
109) 4-Nitroquinoline 1-Oxide	12.94	190	54071	63.6247	ug/ml	96
110) Methapyrilene	13.01	58	275248	44.6588	ug/ml	98
111) Isodrin	13.32	193	135287	48.4429	ug/ml	97
112) Fluoranthene	13.49	202	1312782	48.5493	ug/ml	99
114) Benzidine	13.61	184	118798	38.7807	ug/ml	100
115) Pyrene	13.81	202	1329660	49.8233	ug/ml	99
116) Aramite	13.88	185	78892	52.3260	ug/ml	99
118) p-(Dimethylamino)azobenzen	14.16	225	278293	51.0136	ug/ml	98
119) Chlorobenzilate	14.21	251	377008	50.1702	ug/ml	98
120) Famphur	14.60	218	20131	50.0000	ug/ml#	64
121) Butyl Benzyl Phthalate	14.63	149	594798	50.6477	ug/ml	98
122) 3,3'-Dimethylbenzidine	14.63	212	665807	45.4990	ug/ml	99
123) 2-Acetylaminofluorene	15.04	181	566639	53.9425	ug/ml	100
124) bis(2-Ethylhexyl)phthalate	15.47	149	839363	51.3054	ug/ml	100
125) 3,3'-Dichlorobenzidine	15.45	252	338585	48.0583	ug/ml	99
126) Benzo[a]anthracene	15.52	228	1170818	49.3975	ug/ml	99
127) Chrysene	15.59	228	1093331	49.6251	ug/ml	99
129) Di-n-Octyl Phthalate	16.37	149	1419529	51.1082	ug/ml	99
130) 7,12-Dimethylbenz[a]anthra	17.21	256	536204	48.7510	ug/ml	99
131) Benzo[b]fluoranthene	17.21	252	1244079	49.4968	ug/ml	99
132) Benzo[k]fluoranthene	17.25	252	1084064	49.2607	ug/ml	97
133) Benzo[a]pyrene	17.82	252	1130067	50.0395	ug/ml	99
134) 3-Methylcholanthrene	18.56	268	578223	50.7623	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	20.46	276	1185876	51.3808	ug/ml	96
136) Dibenz[ah]anthracene	20.46	278	1000770	51.5543	ug/ml	99
137) Benzo[ghi]perylene	21.22	276	996122	52.0195	ug/ml	98

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M39932.D MEGAMIX.M Fri Jun 08 11:34:45 2012

Page 3

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39932.D

Vial: 2

Acq On : 7 Jun 2012 11:46 am

Operator: CAA

Sample : WG400053-02 50ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 8 11:25 2012

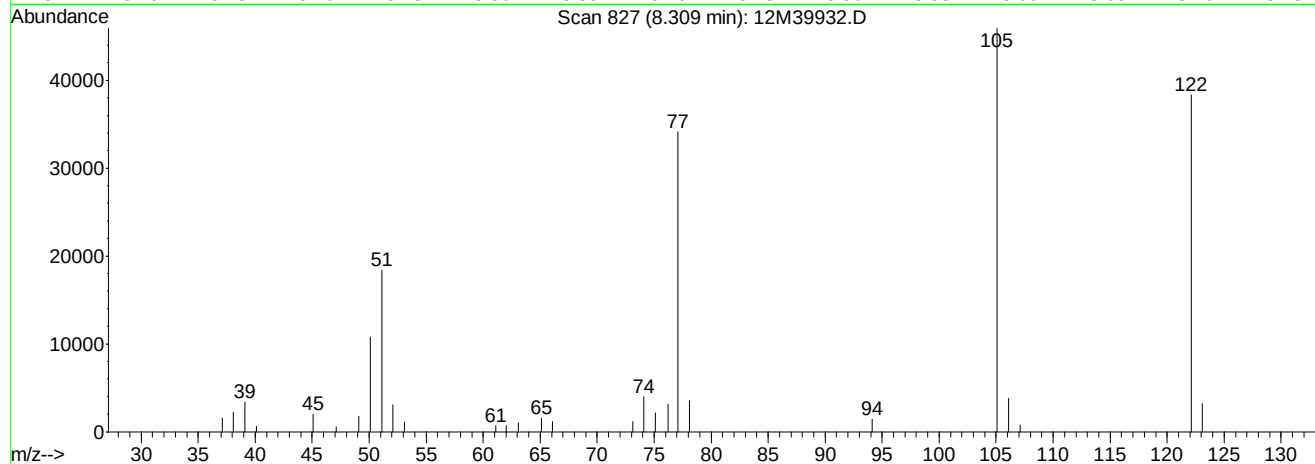
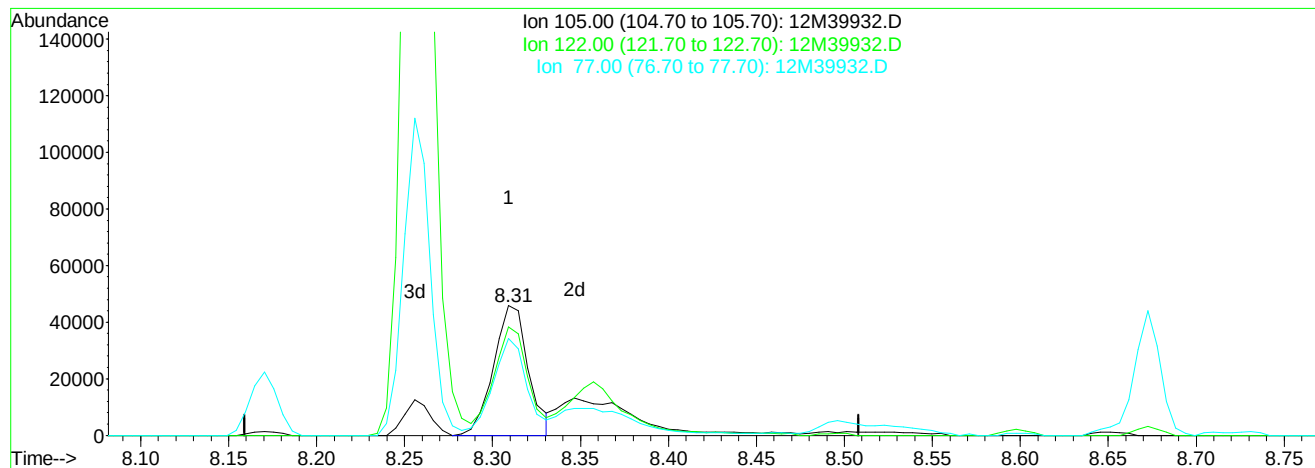
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:25:20 2012

Response via : Single Level Calibration



TIC: 12M39932.D

(39) Benzoic Acid

8.31min 22.77ug/ml

response 62739

Ion	Exp%	Act%
105.00	100	100
122.00	52.90	82.91#
77.00	65.00	72.06
0.00	0.00	0.00

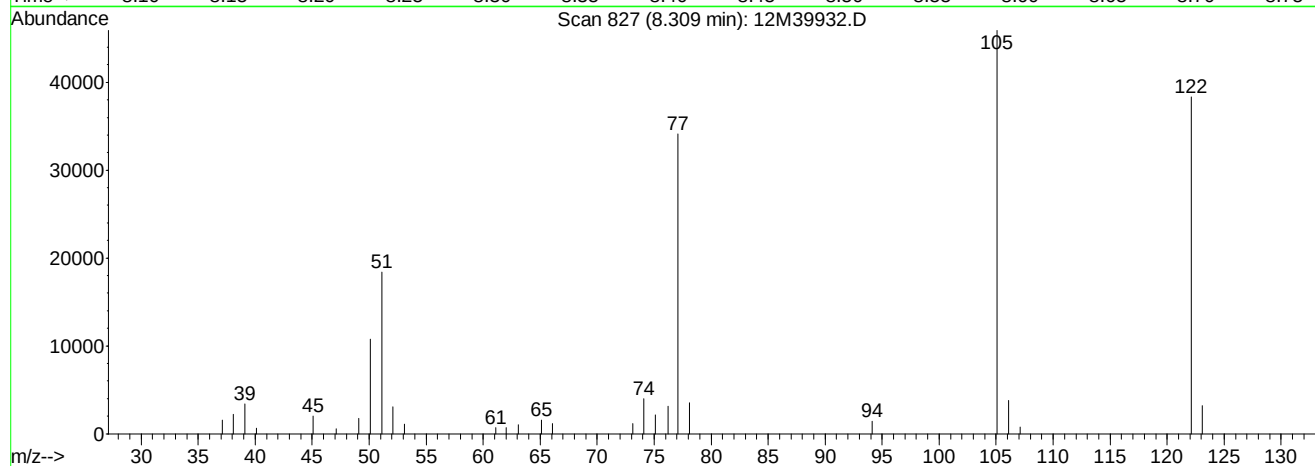
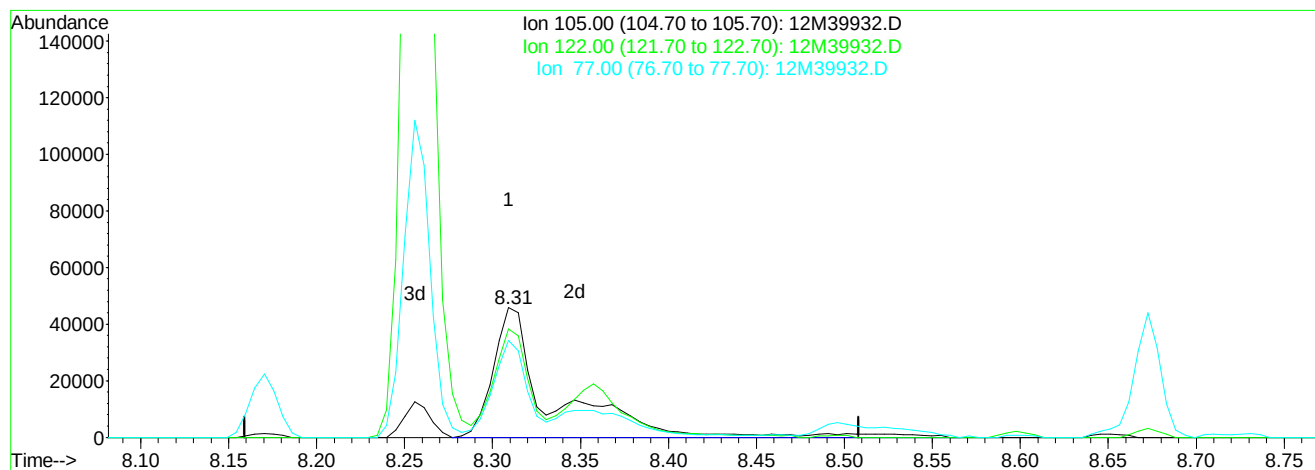
12M39932.D MEGAMIX.M

Fri Jun 08 11:25:33 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39932.D Vial: 2
 Acq On : 7 Jun 2012 11:46 am Operator: CAA
 Sample : WG400053-02 50ppm Megamix STD Inst : MSD12
 Misc : 1,1 STD52044 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 8 11:25 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Fri Jun 08 11:25:20 2012
 Response via : Single Level Calibration



TIC: 12M39932.D

(39) Benzoic Acid

8.31min 39.27ug/ml mint

response 108216

Ion	Exp%	Act%
105.00	100	100
122.00	52.90	48.07
77.00	65.00	41.78
0.00	0.00	0.00

12M39932.D MEGAMIX.M

Fri Jun 08 11:25:20 2012

Analyst: 06/08/2012 13:48

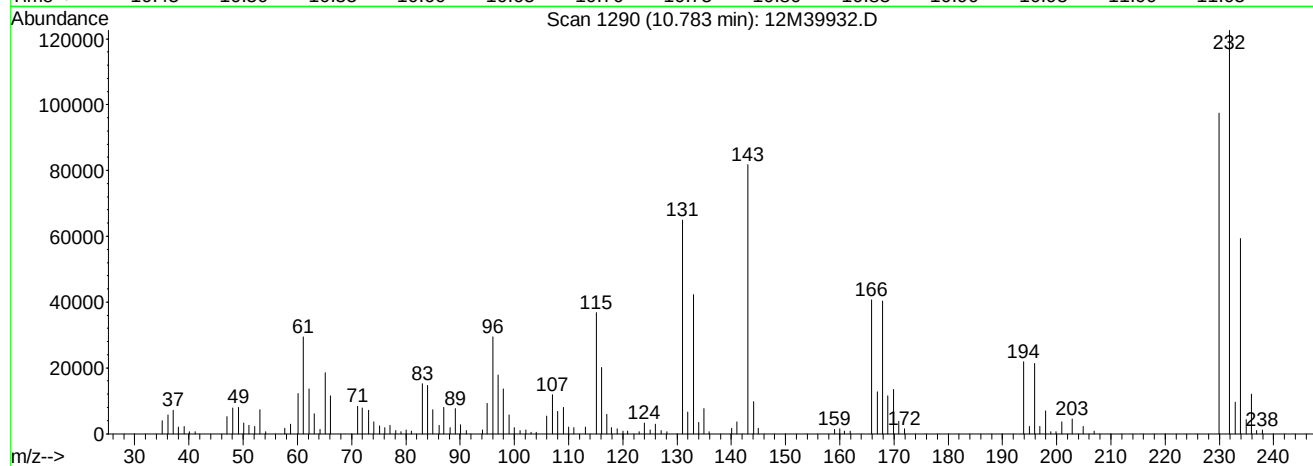
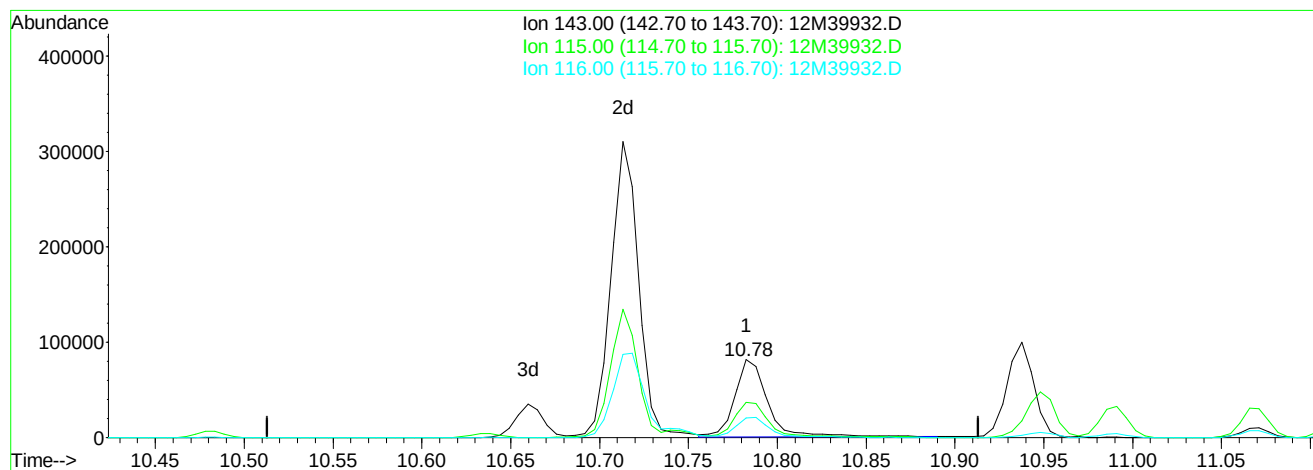
Supervisor: 06/08/2012 14:35

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39932.D Vial: 2
 Acq On : 7 Jun 2012 11:46 am Operator: CAA
 Sample : WG400053-02 50ppm Megamix STD Inst : MSD12
 Misc : 1,1 STD52044 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 8 11:25 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Fri Jun 08 11:25:20 2012
 Response via : Multiple Level Calibration



TIC: 12M39932.D

(77) 1-Naphthylamine

10.78min 10.21ug/ml

response 103191

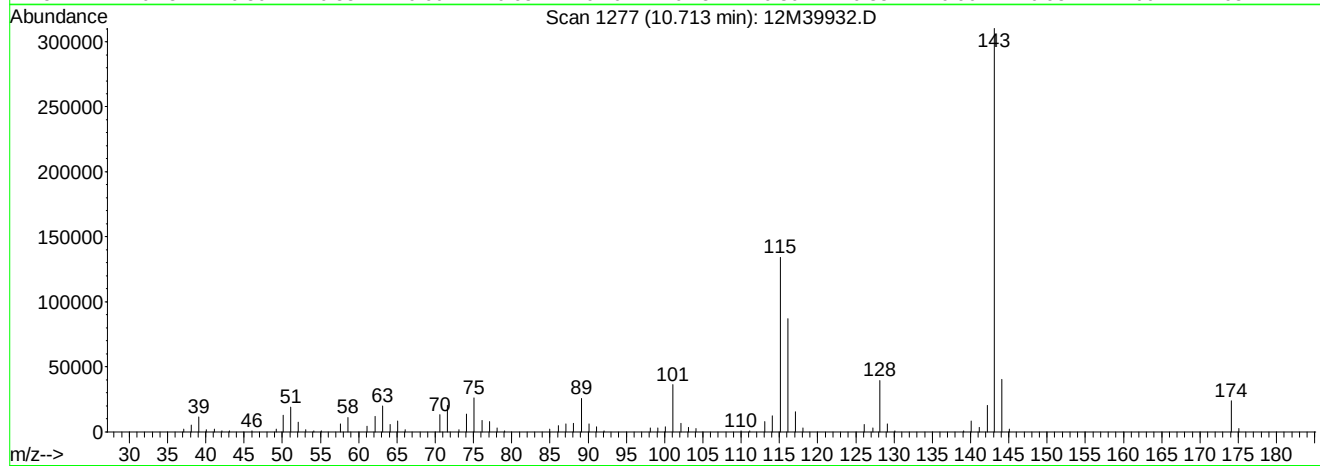
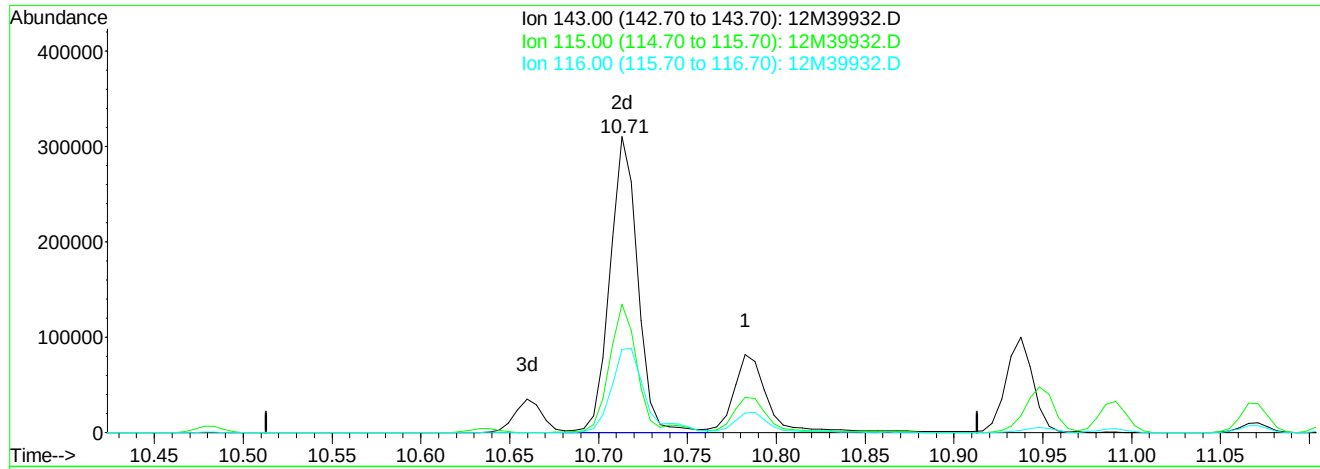
Ion	Exp%	Act%
143.00	100	100
115.00	42.70	44.86
116.00	25.30	27.01
0.00	0.00	0.00

12M39932.D MEGAMIX.M Fri Jun 08 11:25:44 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39932.D Vial: 2
 Acq On : 7 Jun 2012 11:46 am Operator: CAA
 Sample : WG400053-02 50ppm Megamix STD Inst : MSD12
 Misc : 1,1 STD52044 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 8 11:25 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Fri Jun 08 11:25:20 2012
 Response via : Multiple Level Calibration



TIC: 12M39932.D

(77) 1-Naphthylamine

10.71min 33.59ug/ml mint

response 339423

Ion	Exp%	Act%
143.00	100	100
115.00	42.70	13.64#
116.00	25.30	8.21#
0.00	0.00	0.00

12M39932.D MEGAMIX.M

Fri Jun 08 2012

Analyst: 06/08/2012 13:48

Supervisor: 06/08/2012 14:35

#1 - Data system fails to select correct peak

Data File : I:\MSDCHEM\1\DATA\060712\12M39933.D

Vial: 3

Acq On : 7 Jun 2012 12:18 pm

Operator: CAA

Sample : WG400053-03 3ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:26:11 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:26:06 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.369	152	270813	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.651	136	988126	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.446	164	561287	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.984	188	971546	40.0000	ug/ml	0.000
113) Chrysene-d12	15.537	240	926777	40.0000	ug/ml	-0.011
128) Perylene-d12	17.914	264	924475	40.0000	ug/ml	-0.011
System Monitoring Compounds						
8) 2-Fluorophenol	6.124	112	26787	3.0963925	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	3.10%#		
12) Phenol-d5	6.989	99	33402	3.1952694	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	3.20%#		
31) Nitrobenzene-d5	7.930	82	26570	3.1743835	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	6.35%#		
59) 2-Fluorobiphenyl	9.719	172	64363	3.4186234	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	6.84%#		
86) 2,4,6-Tribromophenol	11.253	330	6872	2.8699464	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	2.87%#		
117) p-Terphenyl-d14	13.945	244	57219	3.3329286	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	6.67%#		
Target Compounds						
2) 1,4-Dioxane	4.09	88	10522	2.9832	ug/ml	93
3) n-Nitrosodimethylamine	4.61	74	15534	3.0400	ug/ml#	98
4) Pyridine	4.62	79	27920	3.1080	ug/ml	98
5) 2-Picoline	5.51	93	33041	3.1868	ug/ml	96
6) n-Nitrosomethylethylamine	5.65	88	13505	3.0522	ug/ml	95
7) Methyl Methanesulfonate	5.96	80	14835	3.1130	ug/ml	95
9) n-Nitrosodiethylamine	6.35	102	14071	3.1838	ug/ml	100
10) Ethyl Methanesulfonate	6.63	79	19897	3.1661	ug/ml	98
11) Aniline	7.06	93	40797	3.1065	ug/ml	98
13) Phenol	7.01	94	34868	3.2298	ug/ml	98
14) bis(2-Chloroethyl)ether	7.10	63	20200	3.2818	ug/ml	85
15) Pentachloroethane	7.09	167	11074	3.2266	ug/ml	99
16) 2-Chlorophenol	7.19	128	29204	3.2036	ug/ml	97
17) 1,3-Dichlorobenzene	7.34	146	34534	3.3226	ug/ml	99
18) 1,4-Dichlorobenzene	7.38	146	34639	3.2994	ug/ml	96
19) Benzyl Alcohol	7.49	108	17051	2.9936	ug/ml	98
20) 1,2-Dichlorobenzene	7.58	146	32737	3.3089	ug/ml	99
21) 2-Methylphenol	7.59	107	22639	3.1809	ug/ml	99
22) bis(2-Chloroisopropyl)ethe	7.63	45	38887	3.2516	ug/ml	99
23) 3-,4-Methylphenol	7.72	107	28694	3.1435	ug/ml	99
24) n-Nitrosopyrrolidine	7.75	100	13678	3.1605	ug/ml	87
25) n-Nitrosodipropylamine	7.76	70	19377	3.5234	ug/ml	98
26) Acetophenone	7.76	105	36992	3.3927	ug/ml	98
27) n-Nitrosomorpholine	7.76	56	18475	3.5967	ug/ml	94
28) o-Toluidine	7.81	106	44380	3.1895	ug/ml	99
29) Hexachloroethane	7.89	117	11377	3.0876	ug/ml	98
32) Nitrobenzene	7.95	77	27160	3.2255	ug/ml	98
33) n-Nitrosopiperidine	8.09	114	14443	3.2517	ug/ml	98
34) Isophorone	8.16	82	52031	3.3097	ug/ml	99
35) 2-Nitrophenol	8.27	139	14233	2.8868	ug/ml	97
36) 2,4-Dimethylphenol	8.26	122	26081	3.2639	ug/ml	98
37) 0,0,0-Triethyl Phosphoroth	8.36	198	15193	3.4772	ug/ml	96
38) bis(2-Chloroethoxy)methane	8.35	93	41223	3.3441	ug/ml	99

(#) = qualifier out of range (m) = manual integration
 12M39933.D MEGAMIX.M Fri Jun 08 11:34:45 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\060712\12M39933.D

Vial: 3

Acq On : 7 Jun 2012 12:18 pm

Operator: CAA

Sample : WG400053-03 3ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:26:11 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:26:06 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.31	105	328	0.1156	ug/ml#	31
40) 2,4-Dichlorophenol	8.50	162	22421	3.0888	ug/ml	100
41) a,a-Dimethylphenethylamine	8.45	58	58233	2.8448	ug/ml	97
42) 1,2,4-Trichlorobenzene	8.60	180	28227	3.3616	ug/ml	99
43) Naphthalene	8.67	128	88202	3.4287	ug/ml	99
44) 4-Chloroaniline	8.70	127	33888	3.2100	ug/ml	98
45) 2,6-Dichlorophenol	8.73	162	23368	3.1346	ug/ml	99
46) Hexachloropropene	8.79	213	12716	2.7056	ug/ml	98
47) Hexachlorobutadiene	8.83	225	14413	3.3477	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.03	84	18290	2.6594	ug/ml	86
49) p-Phenylenediamine	9.05	108	8540	3.6886	ug/ml#	88
50) 4-Chloro-3-Methylphenol	9.15	107	22915	3.2052	ug/ml	98
51) Safrole	9.24	162	22369	3.1882	ug/ml	99
52) 2-Methylnaphthalene	9.36	142	58663	3.3750	ug/ml	99
53) 1-Methylnaphthalene	9.47	142	54184	3.3419	ug/ml	99
55) 1,2,4,5-Tetrachlorobenzene	9.57	216	26695	3.4006	ug/ml	99
56) Hexachlorocyclopentadiene	9.58	237	1994	0.8046	ug/ml#	89
57) 2,4,6-Trichlorophenol	9.65	196	14854	2.8986	ug/ml	98
58) 2,4,5-Trichlorophenol	9.70	196	15690	2.9871	ug/ml	100
60) Isosafrole	9.76	162	22945	3.2618	ug/ml	98
61) 2-Chloronaphthalene	9.86	162	53927	3.4899	ug/ml	99
62) 1-Chloronaphthalene	9.90	162	50846	3.3044	ug/ml	99
63) 2-Nitroaniline	9.96	65	13392	3.0266	ug/ml	96
64) 1,4-Naphthoquinone	10.02	158	18677	3.2982	ug/ml	98
65) Dimethylphthalate	10.13	163	60825	3.3448	ug/ml	99
66) 1,3-Dinitrobenzene	10.18	168	9630	2.9307	ug/ml	95
67) 2,6-Dinitrotoluene	10.22	165	13264	3.0000	ug/ml	99
68) Acenaphthylene	10.30	152	87257	3.3552	ug/ml	100
69) 3-Nitroaniline	10.38	138	13638	3.4315	ug/ml	100
71) Acenaphthene	10.48	154	54152	3.3595	ug/ml	99
72) 4-Nitrophenol	10.50	65	5223	1.6854	ug/ml	99
73) 2,4-Dinitrotoluene	10.63	165	16060	2.9696	ug/ml	97
74) Pentachlorobenzene	10.66	250	22654	3.3908	ug/ml	98
75) Dibenzofuran	10.63	168	75925	3.4564	ug/ml	99
76) 2,3,4,6-Tetrachlorophenol	10.74	232	8959	2.1814	ug/ml	98
77) 1-Naphthylamine	10.71	143	48226	4.6476	ug/ml#	36
78) 2-Naphthylamine	10.78	143	51845m	8.6227	ug/ml	
79) Diethylphthalate	10.84	149	57988	3.3077	ug/ml	100
80) Thionazin	10.93	107	8649	3.2236	ug/ml	98
81) Fluorene	10.99	166	63090	3.4027	ug/ml	98
82) 4-Chlorophenyl Phenyl Ethe	10.95	204	30017	3.3819	ug/ml	100
83) 4-Nitroaniline	11.00	138	13644	3.1039	ug/ml	94
84) 5-Nitro-o-Toluidine	11.00	152	16475	3.2538	ug/ml	99
85) 1,2-Diphenylhydrazine	11.11	77	52148	3.2237	ug/ml	99
88) 4,6-Dinitro-2-Methylphenol	11.05	198	1810	0.7476	ug/ml#	1
89) n-Nitrosodiphenylamine	11.07	169	52496	3.3820	ug/ml	96
90) Sulfotepp	11.27	322	9079	3.2342	ug/ml	99
91) Sym-Trinitrobenzene	11.34	75	6529	1.9639	ug/ml	92
92) Diallate	11.38	86	21273	3.4625	ug/ml	99
93) Phenacetin	11.36	108	24220	3.1641	ug/ml	97
94) Phorate	11.39	75	32445	3.3639	ug/ml#	99
95) 4-Bromophenyl Phenyl Ether	11.45	248	16688	3.3307	ug/ml	99
96) Hexachlorobenzene	11.65	284	17578	3.4218	ug/ml	97
97) Dimethoate	11.58	87	19677	3.5455	ug/ml	96

(#) = qualifier out of range (m) = manual integration
 12M39933.D MEGAMIX.M Fri Jun 08 11:34:46 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\060712\12M39933.D

Vial: 3

Acq On : 7 Jun 2012 12:18 pm

Operator: CAA

Sample : WG400053-03 3ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:26:11 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:26:06 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
98) 4-Aminobiphenyl	11.73	169	46731	3.5745	ug/ml	95
99) Pentachlorophenol	11.82	266	1498	0.5757	ug/ml	94
100) Pronamide	11.78	173	24410	3.1088	ug/ml	99
101) Pentachloronitrobenzene	11.90	237	5791	3.0940	ug/ml	97
102) Disulfoton	11.95	88	27984	3.2058	ug/ml	99
103) Phenanthrene	12.01	178	85962	3.3899	ug/ml	99
104) Anthracene	12.06	178	88236	3.3683	ug/ml	99
105) Carbazole	12.22	167	78917	3.3866	ug/ml	98
106) Parathion Methyl	12.40	109	14102	3.0274	ug/ml	96
107) Di-n-Butyl Phthalate	12.59	149	92008	3.2465	ug/ml	99
108) Parathion Ethyl	12.86	97	8713	2.7857	ug/ml	95
109) 4-Nitroquinoline 1-Oxide	13.00	190	1699	2.0089	ug/ml#	23
110) Methapyrilene	13.00	58	25270	4.1200	ug/ml	98
111) Isodrin	13.32	193	9438	3.3959	ug/ml	92
112) Fluoranthene	13.49	202	91763	3.4101	ug/ml	99
114) Benzidine	13.60	184	24116	7.4565	ug/ml	100
115) Pyrene	13.80	202	93577	3.3165	ug/ml	99
116) Aramite	13.88	185	4350	2.7290	ug/ml	94
118) p-(Dimethylamino)azobenzen	14.16	225	16994	2.9465	ug/ml	97
119) Chlorobenzilate	14.21	251	23791	2.9946	ug/ml	98
120) Famphur	14.60	218	27386	64.3367	ug/ml#	89
121) Butyl Benzyl Phthalate	14.63	149	39015	3.1423	ug/ml	98
122) 3,3'-Dimethylbenzidine	14.62	212	76361	4.9357	ug/ml	97
123) 2-Acetylaminofluorene	15.02	181	29478	2.6543	ug/ml	97
124) bis(2-Ethylhexyl)phthalate	15.47	149	52566	3.0391	ug/ml	99
125) 3,3'-Dichlorobenzidine	15.44	252	28589	3.8391	ug/ml	96
126) Benzo[a]anthracene	15.51	228	83705	3.3404	ug/ml	99
127) Chrysene	15.57	228	77506	3.3274	ug/ml	99
129) Di-n-Octyl Phthalate	16.36	149	91460	3.0643	ug/ml	99
130) 7,12-Dimethylbenz[a]anthra	17.20	256	38481	3.2557	ug/ml	99
131) Benzo[b]fluoranthene	17.19	252	89619	3.3180	ug/ml	98
132) Benzo[k]fluoranthene	17.24	252	79278	3.3523	ug/ml	96
133) Benzo[a]pyrene	17.81	252	77287	3.1847	ug/ml	98
134) 3-Methylcholanthrene	18.54	268	37692	3.0793	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	20.43	276	77811	3.1373	ug/ml	96
136) Dibenz[ah]anthracene	20.44	278	65428	3.1365	ug/ml	97
137) Benzo[ghi]perylene	21.19	276	67392	3.2750	ug/ml	98

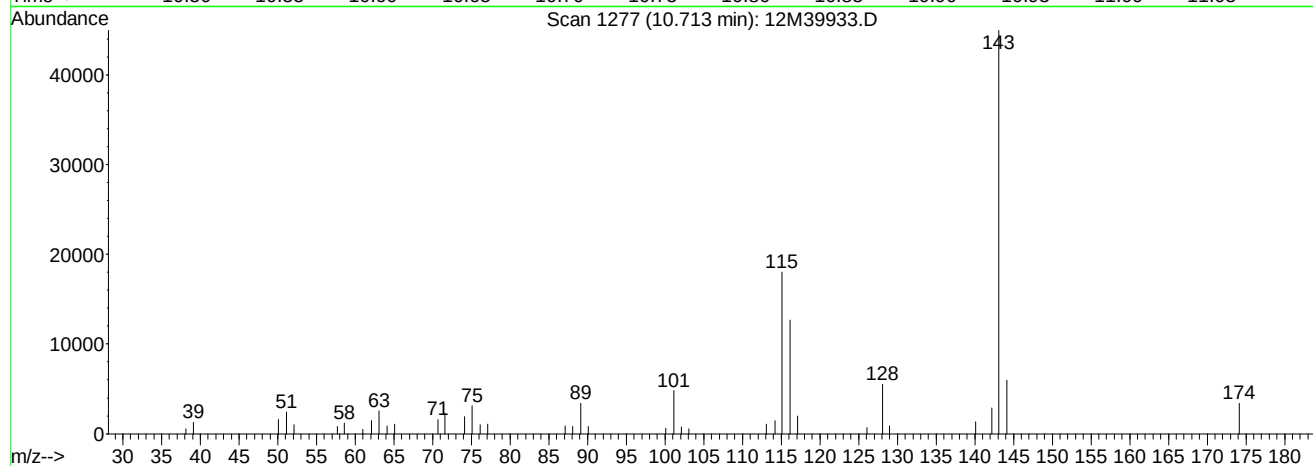
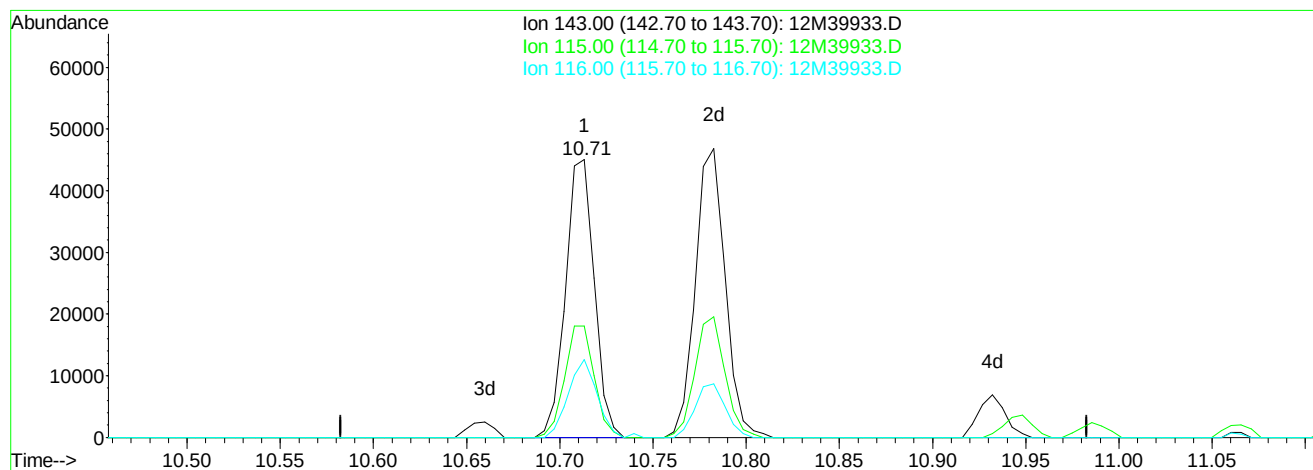
 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M39933.D MEGAMIX.M Fri Jun 08 11:34:46 2012

Page 3

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39933.D Vial: 3
Acq On : 7 Jun 2012 12:18 pm Operator: CAA
Sample : WG400053-03 3ppm Megamix STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:26 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:26:06 2012
Response via : Multiple Level Calibration



TIC: 12M39933.D

(78) 2-Naphthylamine

10.71min 8.02ug/ml

response 48226

Ion	Exp%	Act%
143.00	100	100
115.00	44.60	41.24
116.00	26.90	28.52
0.00	0.00	0.00

12M39933.D MEGAMIX.M Fri Jun 08 11:26:29 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39933.D

Vial: 3

Acq On : 7 Jun 2012 12:18 pm

Operator: CAA

Sample : WG400053-03 3ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 8 11:26 2012

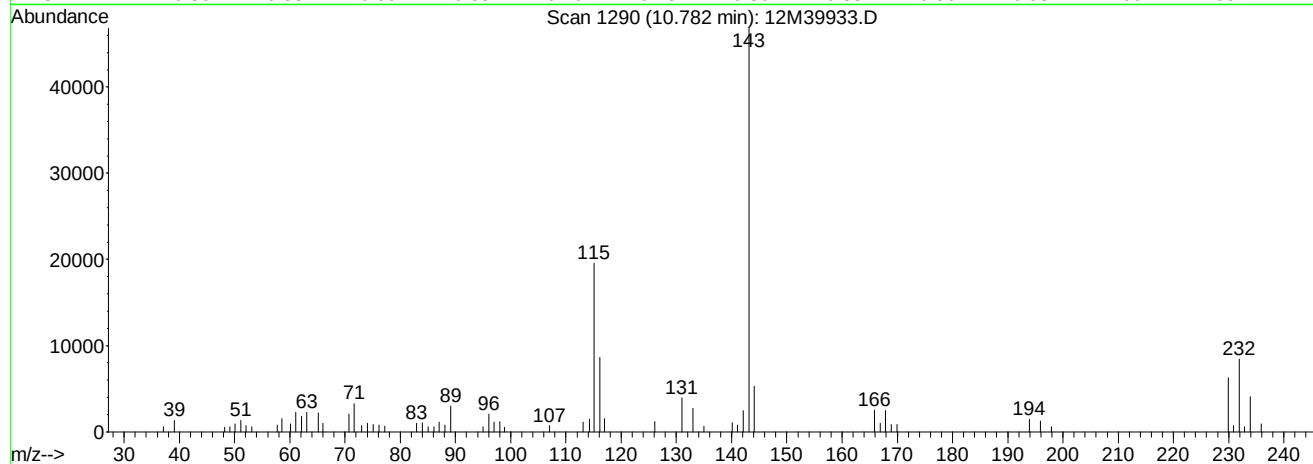
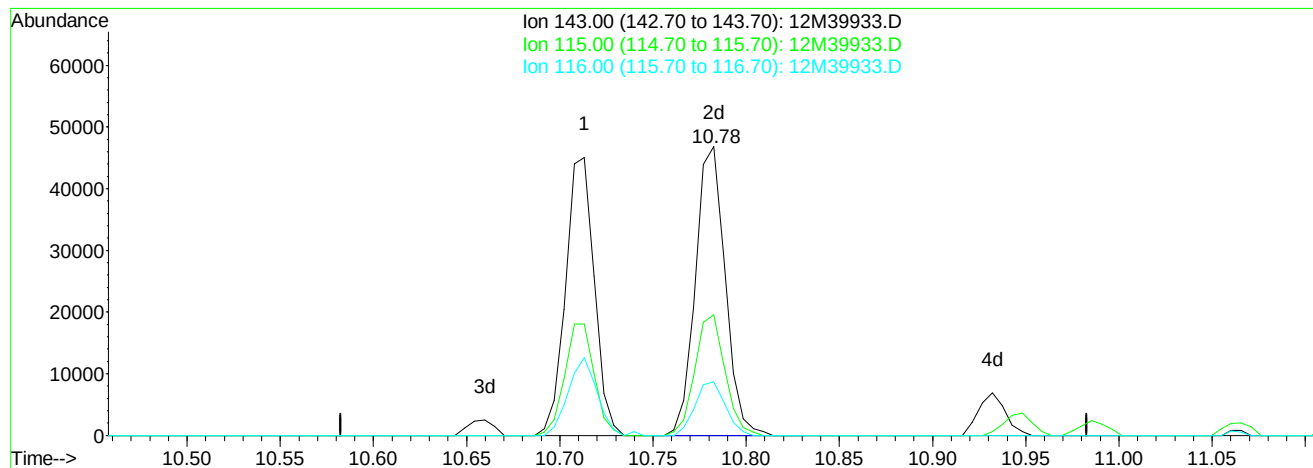
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:26:06 2012

Response via : Multiple Level Calibration



TIC: 12M39933.D

(78) 2-Naphthylamine

10.78min 8.62ug/ml mint

response 51845

Ion	Exp%	Act%
143.00	100	100
115.00	44.60	38.36
116.00	26.90	26.53
0.00	0.00	0.00

12M39933.D MEGAMIX.M

Fri Jun 08 11:32 2012

Analyst: 06/08/2012 13:48

Supervisor: 06/08/2012 14:35

#1 - Data system fails to select correct peak

Data File : I:\MSDCHEM\1\DATA\060712\12M39934.D

Vial: 4

Acq On : 7 Jun 2012 12:49 pm

Operator: CAA

Sample : WG400053-04 10ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:26:56 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:26:51 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.369	152	251876	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.651	136	916934	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.446	164	518693	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.985	188	904485	40.0000	ug/ml	0.000
113) Chrysene-d12	15.542	240	835549	40.0000	ug/ml	0.000
128) Perylene-d12	17.914	264	832010	40.0000	ug/ml	-0.011
System Monitoring Compounds						
8) 2-Fluorophenol	6.119	112	80879	10.0519524	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	10.05%#		
12) Phenol-d5	6.989	99	100541	10.3409617	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	10.34%		
31) Nitrobenzene-d5	7.930	82	79593	10.2474772	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	20.50%#		
59) 2-Fluorobiphenyl	9.719	172	184640	10.6124429	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	21.22%#		
86) 2,4,6-Tribromophenol	11.253	330	21734	9.8221121	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	9.82%#		
117) p-Terphenyl-d14	13.945	244	162114	10.4739282	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	20.95%#		
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.07	88	33278	10.1445	ug/ml	99
3) n-Nitrosodimethylamine	4.61	74	47846	10.0673	ug/ml	98
4) Pyridine	4.61	79	83884	10.0398	ug/ml	98
5) 2-Picoline	5.50	93	96927	10.0516	ug/ml	99
6) n-Nitrosomethylethylamine	5.64	88	40439	9.8267	ug/ml	99
7) Methyl Methanesulfonate	5.95	80	45413	10.2461	ug/ml	99
9) n-Nitrosodiethylamine	6.35	102	41701	10.1449	ug/ml	100
10) Ethyl Methanesulfonate	6.63	79	59549	10.1881	ug/ml	100
11) Aniline	7.06	93	122156	10.0010	ug/ml	98
13) Phenol	7.01	94	104566	10.4142	ug/ml	100
14) bis(2-Chloroethyl)ether	7.10	63	58964	10.3000	ug/ml	86
15) Pentachloroethane	7.09	167	33139	10.3817	ug/ml	99
16) 2-Chlorophenol	7.19	128	84990	10.0240	ug/ml	99
17) 1,3-Dichlorobenzene	7.34	146	98543	10.1940	ug/ml	99
18) 1,4-Dichlorobenzene	7.38	146	99060	10.1450	ug/ml	98
19) Benzyl Alcohol	7.49	108	51479	9.7175	ug/ml	96
20) 1,2-Dichlorobenzene	7.58	146	93764	10.1898	ug/ml	100
21) 2-Methylphenol	7.59	107	66410	10.0326	ug/ml	99
22) bis(2-Chloroisopropyl)ethe	7.63	45	115420	10.3768	ug/ml	98
23) 3-,4-Methylphenol	7.72	107	85694	10.0939	ug/ml	99
24) n-Nitrosopyrrolidine	7.75	100	41980	10.4293	ug/ml	90
25) n-Nitrosodipropylamine	7.76	70	57581	11.2574	ug/ml	98
26) Acetophenone	7.76	105	107592	10.6097	ug/ml	98
27) n-Nitrosomorpholine	7.76	56	53895	11.2812	ug/ml	95
28) o-Toluidine	7.81	106	131054	10.1266	ug/ml	100
29) Hexachloroethane	7.89	117	34388	10.0343	ug/ml	98
32) Nitrobenzene	7.95	77	80798	10.3407	ug/ml	100
33) n-Nitrosopiperidine	8.10	114	41189	9.9934	ug/ml	96
34) Isophorone	8.16	82	152825	10.4760	ug/ml	100
35) 2-Nitrophenol	8.27	139	45308	9.9032	ug/ml	99
36) 2,4-Dimethylphenol	8.26	122	76787	10.3556	ug/ml	100
37) 0,0,0-Triethyl Phosphoroth	8.36	198	43095	10.6288	ug/ml	99
38) bis(2-Chloroethoxy)methane	8.35	93	121484	10.6203	ug/ml	99

(#) = qualifier out of range (m) = manual integration
 12M39934.D MEGAMIX.M Fri Jun 08 11:34:46 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\060712\12M39934.D

Vial: 4

Acq On : 7 Jun 2012 12:49 pm

Operator: CAA

Sample : WG400053-04 10ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:26:56 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:26:51 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.31	105	5267	2.0012	ug/ml#	43
40) 2,4-Dichlorophenol	8.50	162	68228	10.1291	ug/ml	99
41) a,a-Dimethylphenethylamine	8.45	58	174345	9.1784	ug/ml	99
42) 1,2,4-Trichlorobenzene	8.60	180	81155	10.4153	ug/ml	99
43) Naphthalene	8.67	128	249404	10.4479	ug/ml	100
44) 4-Chloroaniline	8.70	127	98964	10.1021	ug/ml	99
45) 2,6-Dichlorophenol	8.73	162	69696	10.0748	ug/ml	100
46) Hexachloropropene	8.79	213	42705	9.7920	ug/ml	99
47) Hexachlorobutadiene	8.83	225	41382	10.3581	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.03	84	68267	10.6968	ug/ml#	82
49) p-Phenylenediamine	9.06	108	8639	4.0211	ug/ml#	68
50) 4-Chloro-3-Methylphenol	9.15	107	68179	10.2768	ug/ml	98
51) Safrole	9.24	162	66627	10.2335	ug/ml	98
52) 2-Methylnaphthalene	9.36	142	168688	10.4584	ug/ml	99
53) 1-Methylnaphthalene	9.47	142	158550	10.5381	ug/ml	99
55) 1,2,4,5-Tetrachlorobenzene	9.56	216	76687	10.5710	ug/ml	99
56) Hexachlorocyclopentadiene	9.58	237	15574	6.8002	ug/ml	97
57) 2,4,6-Trichlorophenol	9.65	196	47837	10.1014	ug/ml	100
58) 2,4,5-Trichlorophenol	9.70	196	48356	9.9620	ug/ml	100
60) Isosafrole	9.76	162	66277	10.1954	ug/ml	100
61) 2-Chloronaphthalene	9.86	162	153783	10.6808	ug/ml	100
62) 1-Chloronaphthalene	9.90	162	148112	10.4159	ug/ml	99
63) 2-Nitroaniline	9.96	65	41755	10.2117	ug/ml	98
64) 1,4-Naphthoquinone	10.02	158	62099	11.8668	ug/ml	100
65) Dimethylphthalate	10.14	163	177172	10.5428	ug/ml	99
66) 1,3-Dinitrobenzene	10.18	168	29649	9.7642	ug/ml	98
67) 2,6-Dinitrotoluene	10.22	165	41235	10.0921	ug/ml	99
68) Acenaphthylene	10.30	152	255020	10.6113	ug/ml	98
69) 3-Nitroaniline	10.38	138	35284	9.6070	ug/ml	99
70) 2,4-Dinitrophenol	10.48	184	2379	1.7469	ug/ml#	1
71) Acenaphthene	10.48	154	155944	10.4690	ug/ml	99
72) 4-Nitrophenol	10.50	65	26313	9.1880	ug/ml	88
73) 2,4-Dinitrotoluene	10.63	165	50644	10.1332	ug/ml	96
74) Pentachlorobenzene	10.66	250	64495	10.4463	ug/ml	99
75) Dibenzofuran	10.63	168	215760	10.6289	ug/ml	100
76) 2,3,4,6-Tetrachlorophenol	10.74	232	34839	9.4074	ug/ml	100
77) 1-Naphthylamine	10.71	143	109454	11.4143	ug/ml#	29
78) 2-Naphthylamine	10.78	143	59114m	10.6390	ug/ml	
79) Diethylphthalate	10.84	149	168821	10.4206	ug/ml	99
80) Thionazin	10.93	107	26189	10.5626	ug/ml	99
81) Fluorene	10.99	166	178782	10.4343	ug/ml	99
82) 4-Chlorophenyl Phenyl Ether	10.95	204	86027	10.4883	ug/ml	99
83) 4-Nitroaniline	11.01	138	41370	10.1843	ug/ml	97
84) 5-Nitro-o-Toluidine	11.00	152	46527	9.9435	ug/ml	98
85) 1,2-Diphenylhydrazine	11.11	77	157547	10.5390	ug/ml	99
88) 4,6-Dinitro-2-Methylphenol	11.04	198	14205	6.3025	ug/ml#	50
89) n-Nitrosodiphenylamine	11.07	169	150541	10.4177	ug/ml	99
90) Sulfotep	11.27	322	27565	10.5474	ug/ml	99
91) Sym-Trinitrobenzene	11.34	75	28571	9.2311	ug/ml	97
92) Diallate	11.38	86	63462	11.0952	ug/ml	96
93) Phenacetin	11.36	108	76069	10.6745	ug/ml	98
94) Phorate	11.39	75	100434	11.1849	ug/ml#	98
95) 4-Bromophenyl Phenyl Ether	11.45	248	48254	10.3448	ug/ml	99
96) Hexachlorobenzene	11.65	284	50424	10.5435	ug/ml	100

(#) = qualifier out of range (m) = manual integration
 12M39934.D MEGAMIX.M Fri Jun 08 11:34:46 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\060712\12M39934.D

Vial: 4

Acq On : 7 Jun 2012 12:49 pm

Operator: CAA

Sample : WG400053-04 10ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:26:56 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:26:51 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	11.59	87	61628	11.9279	ug/ml	100
98) 4-Aminobiphenyl	11.73	169	126563	10.3987	ug/ml	98
99) Pentachlorophenol	11.82	266	14624	6.0370	ug/ml	96
100) Pronamide	11.78	173	74995	10.2594	ug/ml	99
101) Pentachloronitrobenzene	11.90	237	18224	10.4585	ug/ml	98
102) Disulfoton	11.95	88	86655	10.6632	ug/ml	99
103) Phenanthrene	12.01	178	249697	10.5768	ug/ml	99
104) Anthracene	12.06	178	257163	10.5446	ug/ml	99
105) Carbazole	12.22	167	221019	10.1879	ug/ml	98
106) Parathion Methyl	12.40	109	48222	11.1197	ug/ml	98
107) Di-n-Butyl Phthalate	12.59	149	279079	10.5775	ug/ml	100
108) Parathion Ethyl	12.86	97	29675	10.1911	ug/ml	100
109) 4-Nitroquinoline 1-Oxide	12.94	190	4001	5.0815	ug/ml	93
110) Methapyrilene	13.00	58	76238	13.3512	ug/ml	99
111) Isodrin	13.32	193	27414	10.5953	ug/ml	97
112) Fluoranthene	13.49	202	266089	10.6214	ug/ml	99
114) Benzidine	13.60	184	33167	11.3747	ug/ml	100
115) Pyrene	13.80	202	265174	10.4244	ug/ml	100
116) Aramite	13.88	185	14616	10.1705	ug/ml	99
118) p-(Dimethylamino)azobenzen	14.16	225	52178	10.0346	ug/ml	99
119) Chlorobenzilate	14.21	251	72760	10.1582	ug/ml	100
120) Famphur	14.60	218	65861	171.6175	ug/ml#	88
121) Butyl Benzyl Phthalate	14.63	149	118314	10.5695	ug/ml	98
122) 3,3'-Dimethylbenzidine	14.62	212	167747	12.0264	ug/ml	98
123) 2-Acetylaminofluorene	15.02	181	98049	9.7926	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	15.47	149	161950	10.3854	ug/ml	99
125) 3,3'-Dichlorobenzidine	15.44	252	75420	11.2335	ug/ml	99
126) Benzo[a]anthracene	15.51	228	234325	10.3720	ug/ml	100
127) Chrysene	15.58	228	218923	10.4248	ug/ml	99
129) Di-n-Octyl Phthalate	16.36	149	266425	9.9183	ug/ml	99
130) 7,12-Dimethylbenz[a]anthra	17.20	256	111980	10.5271	ug/ml	99
131) Benzo[b]fluoranthene	17.20	252	249701	10.2722	ug/ml	98
132) Benzo[k]fluoranthene	17.24	252	202627	9.5205	ug/ml	94
133) Benzo[a]pyrene	17.80	252	222032	10.1658	ug/ml	99
134) 3-Methylcholanthrene	18.54	268	112212	10.1860	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	20.43	276	233754	10.4722	ug/ml	97
136) Dibenz[ah]anthracene	20.43	278	194770	10.3745	ug/ml	98
137) Benzo[ghi]perylene	21.19	276	191703	10.3514	ug/ml	99

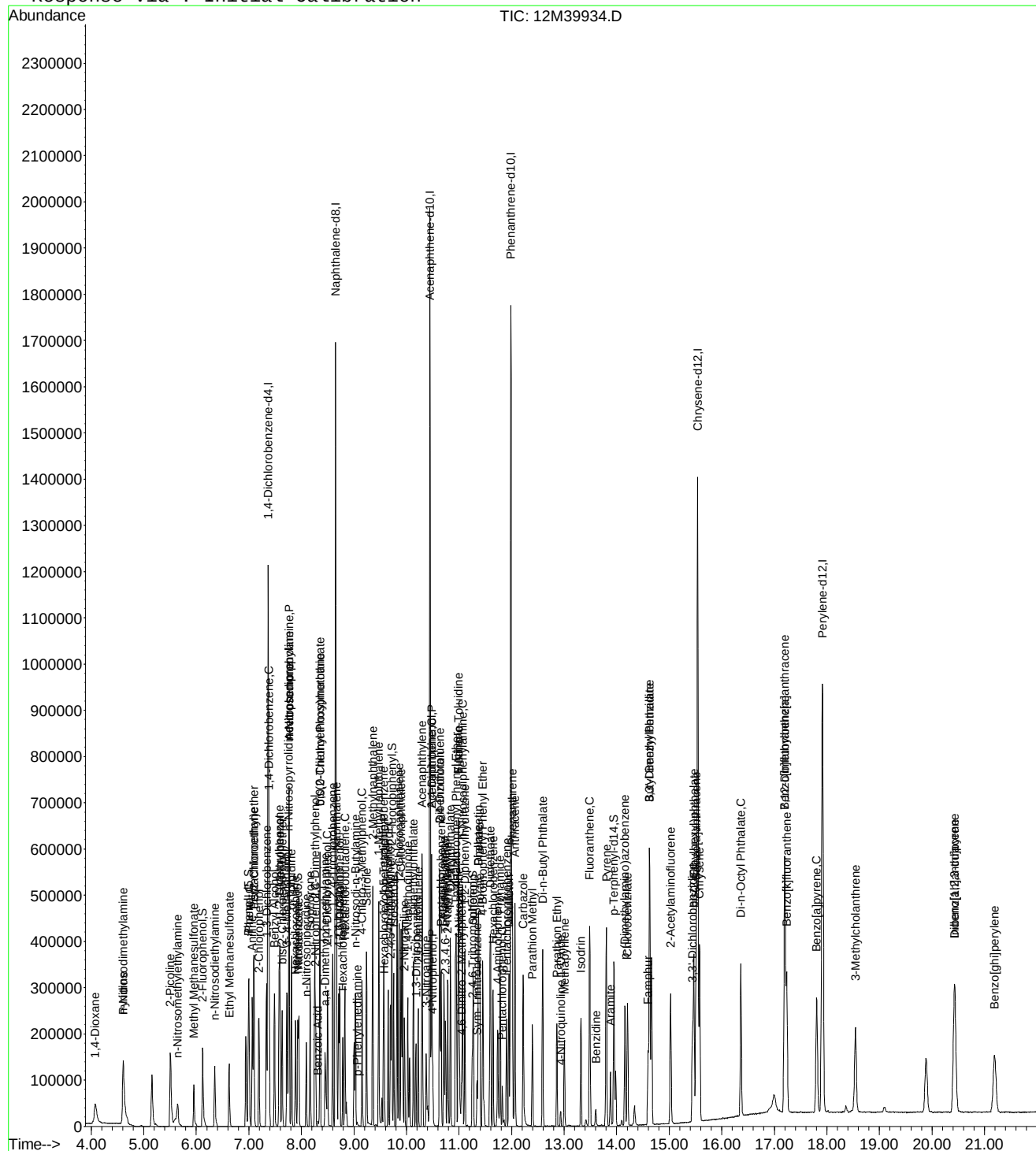
 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M39934.D MEGAMIX.M Fri Jun 08 11:34:46 2012

Page 3

Vial: 4
Operator: CAA
Inst : MSD12
Multiplr: 1.00

Quant Results File: MEGAMIX.RES

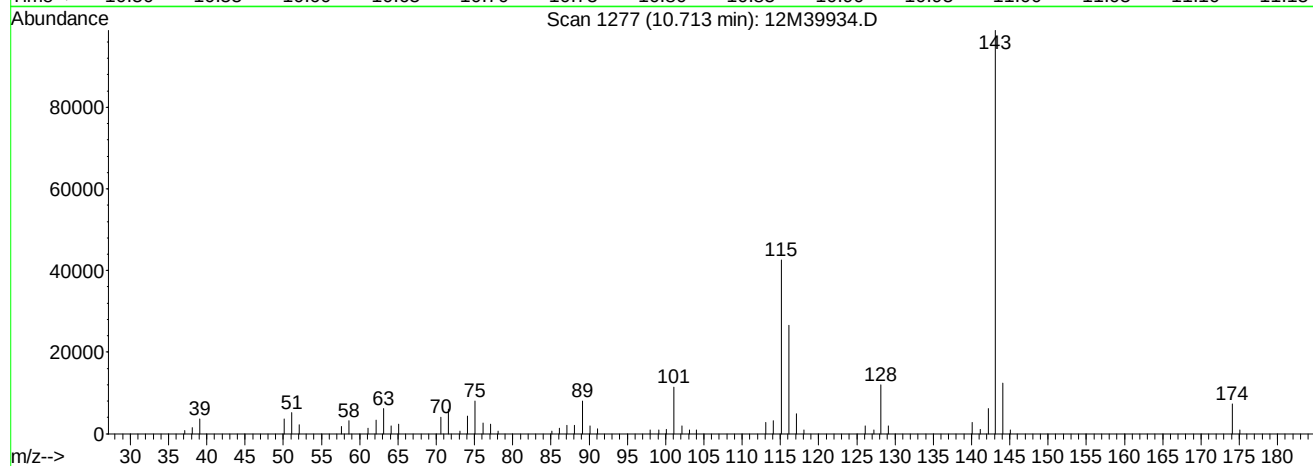
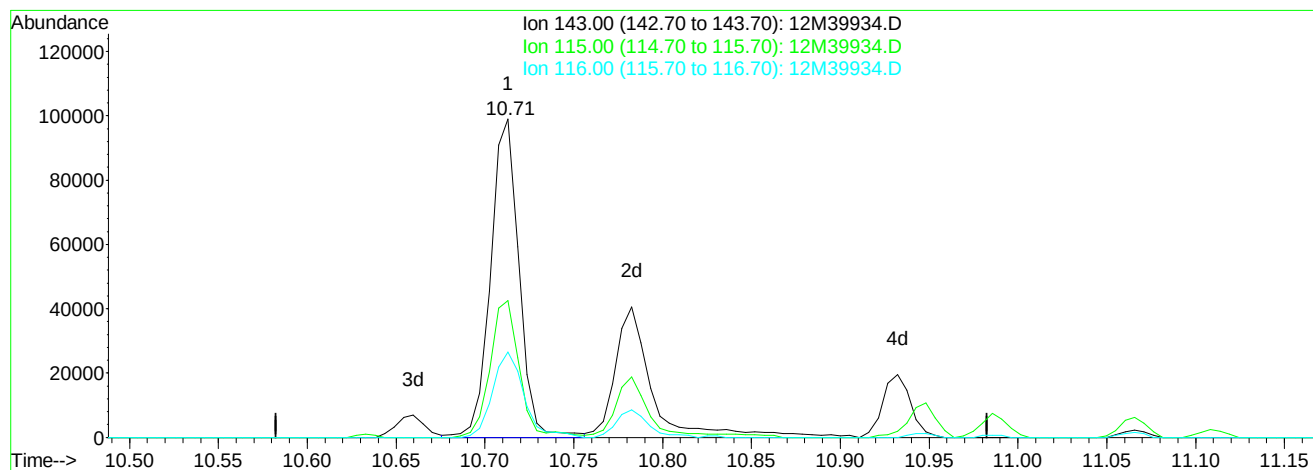
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Method       : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title        : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update   : Fri Jun 08 11:34:24 2012
Response via  : Initial Calibration
```



Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39934.D Vial: 4
 Acq On : 7 Jun 2012 12:49 pm Operator: CAA
 Sample : WG400053-04 10ppm Megamix STD Inst : MSD12
 Misc : 1,1 STD52044 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 8 11:26 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Fri Jun 08 11:26:51 2012
 Response via : Multiple Level Calibration



TIC: 12M39934.D

(78) 2-Naphthylamine

10.71min 19.89ug/ml

response 110490

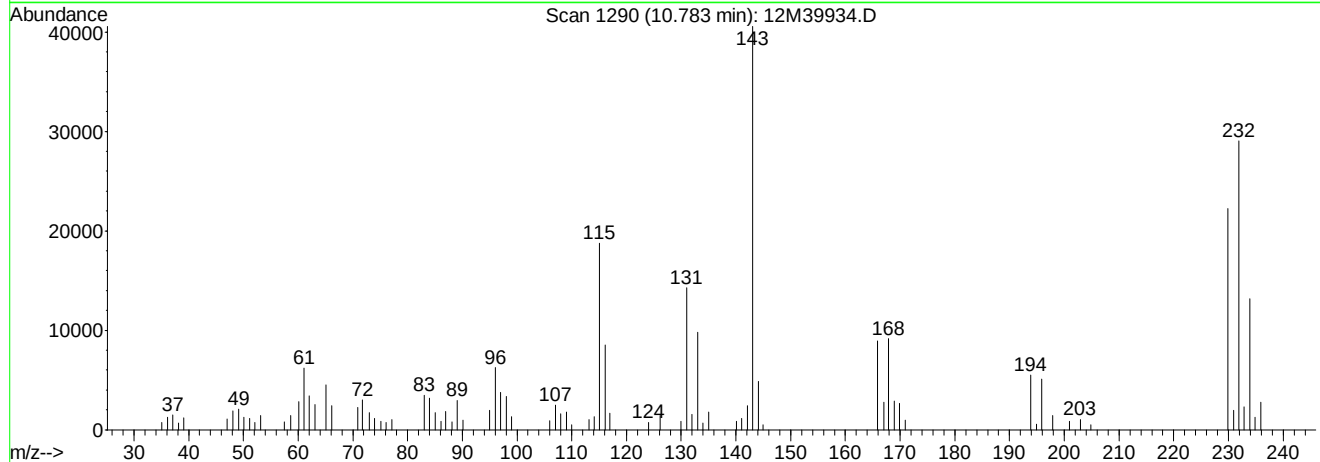
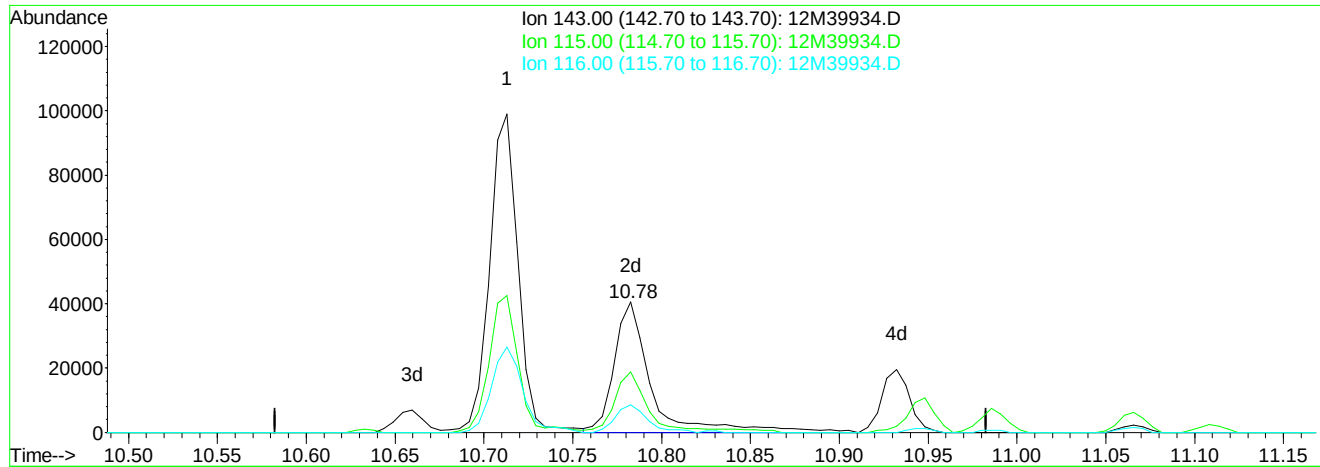
Ion	Exp%	Act%
143.00	100	100
115.00	44.60	44.20
116.00	26.90	29.33
0.00	0.00	0.00

12M39934.D MEGAMIX.M Fri Jun 08 11:27:11 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39934.D Vial: 4
 Acq On : 7 Jun 2012 12:49 pm Operator: CAA
 Sample : WG400053-04 10ppm Megamix STD Inst : MSD12
 Misc : 1,1 STD52044 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 8 11:27 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Fri Jun 08 11:26:51 2012
 Response via : Multiple Level Calibration



TIC: 12M39934.D

(78) 2-Naphthylamine

10.78min 10.64ug/ml mint

response 59114

Ion	Exp%	Act%
143.00	100	100
115.00	44.60	82.61#
116.00	26.90	54.82#
0.00	0.00	0.00

12M39934.D MEGAMIX.M

Fri Jun 08 15 2012

Analyst: 06/08/2012 13:48

Supervisor: 06/08/2012 14:35

#1 - Data system fails to select correct peak

Data File : I:\MSDCHEM\1\DATA\060712\12M39935.D

Vial: 5

Acq On : 7 Jun 2012 1:21 pm

Operator: CAA

Sample : WG400053-05 15ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:27:33 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:27:28 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.369	152	230852	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.651	136	848277	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.446	164	481546	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.984	188	832189	40.0000	ug/ml	0.000
113) Chrysene-d12	15.542	240	758182	40.0000	ug/ml	0.000
128) Perylene-d12	17.920	264	747677	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.119	112	111710	15.1481588	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	15.15%#		
12) Phenol-d5	6.989	99	137532	15.4338628	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	15.43%		
31) Nitrobenzene-d5	7.930	82	112644	15.6765516	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	31.35%#		
59) 2-Fluorobiphenyl	9.719	172	248591	15.3903177	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	30.78%#		
86) 2,4,6-Tribromophenol	11.253	330	29589	14.4035028	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	14.40%		
117) p-Terphenyl-d14	13.945	244	213967	15.2347146	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	30.47%#		
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.08	88	47342	15.7461	ug/ml	99
3) n-Nitrosodimethylamine	4.60	74	68188	15.6541	ug/ml	94
4) Pyridine	4.61	79	118659	15.4953	ug/ml	98
5) 2-Picoline	5.50	93	135819	15.3675	ug/ml	100
6) n-Nitrosomethylethylamine	5.64	88	57353	15.2061	ug/ml	99
7) Methyl Methanesulfonate	5.95	80	63978	15.7493	ug/ml	100
9) n-Nitrosodiethylamine	6.35	102	56974	15.1228	ug/ml	96
10) Ethyl Methanesulfonate	6.63	79	83510	15.5888	ug/ml	99
11) Aniline	7.06	93	167190	14.9346	ug/ml	97
13) Phenol	7.01	94	141859	15.4151	ug/ml	98
14) bis(2-Chloroethyl)ether	7.10	63	81274	15.4901	ug/ml	86
15) Pentachloroethane	7.09	167	44009	15.0426	ug/ml	98
16) 2-Chlorophenol	7.19	128	117753	15.1531	ug/ml	98
17) 1,3-Dichlorobenzene	7.34	146	132435	14.9477	ug/ml	99
18) 1,4-Dichlorobenzene	7.38	146	133860	14.9575	ug/ml	99
19) Benzyl Alcohol	7.49	108	73070	15.0493	ug/ml	97
20) 1,2-Dichlorobenzene	7.58	146	126876	15.0440	ug/ml	100
21) 2-Methylphenol	7.59	107	91594	15.0974	ug/ml	99
22) bis(2-Chloroisopropyl)ethe	7.63	45	163669	16.0547	ug/ml	97
23) 3-,4-Methylphenol	7.73	107	118287	15.2019	ug/ml	99
24) n-Nitrosopyrrolidine	7.75	100	57936	15.7042	ug/ml	87
25) n-Nitrosodipropylamine	7.76	70	78058	16.6506	ug/ml	97
26) Acetophenone	7.76	105	147665	15.8874	ug/ml	97
27) n-Nitrosomorpholine	7.76	56	74469	17.0073	ug/ml	96
28) o-Toluidine	7.81	106	180429	15.2116	ug/ml	100
29) Hexachloroethane	7.89	117	48007	15.2841	ug/ml	98
32) Nitrobenzene	7.95	77	112655	15.5847	ug/ml	99
33) n-Nitrosopiperidine	8.10	114	57760	15.1481	ug/ml	94
34) Isophorone	8.16	82	211799	15.6937	ug/ml	99
35) 2-Nitrophenol	8.27	139	65971	15.5867	ug/ml	99
36) 2,4-Dimethylphenol	8.26	122	104374	15.2152	ug/ml	98
37) 0,0,0-Triethyl Phosphoroth	8.36	198	57027	15.2033	ug/ml	98
38) bis(2-Chloroethoxy)methane	8.35	93	166189	15.7043	ug/ml	99

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

12M39935.D MEGAMIX.M Fri Jun 08 11:34:47 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\060712\12M39935.D

Vial: 5

Acq On : 7 Jun 2012 1:21 pm

Operator: CAA

Sample : WG400053-05 15ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:27:33 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:27:28 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.32	105	9920	4.0742	ug/ml#	49
40) 2,4-Dichlorophenol	8.50	162	92919	14.9112	ug/ml	99
41) a,a-Dimethylphenethylamine	8.47	58	219805	12.5082	ug/ml	99
42) 1,2,4-Trichlorobenzene	8.60	180	108213	15.0119	ug/ml	100
43) Naphthalene	8.67	128	340042	15.3979	ug/ml	100
44) 4-Chloroaniline	8.71	127	132493	14.6193	ug/ml	98
45) 2,6-Dichlorophenol	8.73	162	95885	14.9823	ug/ml	99
46) Hexachloropropene	8.79	213	58872	14.5916	ug/ml	99
47) Hexachlorobutadiene	8.83	225	54977	14.8747	ug/ml	100
48) n-Nitrosodi-n-Butylamine	9.03	84	95766	16.2201	ug/ml	96
49) p-Phenylenediamine	9.06	108	5815	2.9257	ug/ml#	65
50) 4-Chloro-3-Methylphenol	9.15	107	93953	15.3080	ug/ml	97
51) Safrole	9.24	162	89932	14.9310	ug/ml	98
52) 2-Methylnaphthalene	9.36	142	226914	15.2070	ug/ml	100
53) 1-Methylnaphthalene	9.47	142	213428	15.3338	ug/ml	99
55) 1,2,4,5-Tetrachlorobenzene	9.57	216	102156	15.1681	ug/ml	99
56) Hexachlorocyclopentadiene	9.58	237	26114	12.2820	ug/ml	97
57) 2,4,6-Trichlorophenol	9.65	196	65517	14.9023	ug/ml	99
58) 2,4,5-Trichlorophenol	9.70	196	66297	14.7117	ug/ml	100
60) Isosafrole	9.76	162	91869	15.2223	ug/ml	99
61) 2-Chloronaphthalene	9.86	162	209861	15.6230	ug/ml	100
62) 1-Chloronaphthalene	9.90	162	200556	15.1920	ug/ml	99
63) 2-Nitroaniline	9.96	65	60839	16.0266	ug/ml	95
64) 1,4-Naphthoquinone	10.02	158	85684	17.6369	ug/ml	98
65) Dimethylphthalate	10.13	163	236441	15.1550	ug/ml	99
66) 1,3-Dinitrobenzene	10.18	168	41297	14.6493	ug/ml	97
67) 2,6-Dinitrotoluene	10.22	165	57335	15.1150	ug/ml	98
68) Acenaphthylene	10.30	152	341990	15.3278	ug/ml	99
69) 3-Nitroaniline	10.38	138	45055	13.2138	ug/ml	100
70) 2,4-Dinitrophenol	10.48	184	7192	5.6885	ug/ml#	1
71) Acenaphthene	10.48	154	209703	15.1641	ug/ml	98
72) 4-Nitrophenol	10.50	65	39307	14.7840	ug/ml	88
73) 2,4-Dinitrotoluene	10.63	165	71109	15.3256	ug/ml	94
74) Pentachlorobenzene	10.66	250	85737	14.9581	ug/ml	99
75) Dibenzofuran	10.63	168	293937	15.5971	ug/ml	99
76) 2,3,4,6-Tetrachlorophenol	10.74	232	48960	14.3290	ug/ml	98
77) 1-Naphthylamine	10.71	143	118288	13.2871	ug/ml#	28
78) 2-Naphthylamine	10.78	143	46091	8.9351	ug/ml	91
79) Diethylphthalate	10.84	149	232341	15.4478	ug/ml	100
80) Thionazin	10.93	107	36832	16.0011	ug/ml	98
81) Fluorene	10.99	166	243267	15.2931	ug/ml	100
82) 4-Chlorophenyl Phenyl Ether	10.95	204	116478	15.2963	ug/ml	98
83) 4-Nitroaniline	11.01	138	57766	15.3176	ug/ml	98
84) 5-Nitro-o-Toluidine	11.00	152	62104	14.2964	ug/ml	96
85) 1,2-Diphenylhydrazine	11.11	77	224502	16.1765	ug/ml	98
88) 4,6-Dinitro-2-Methylphenol	11.04	198	23588	11.3748	ug/ml#	62
89) n-Nitrosodiphenylamine	11.07	169	206170	15.5067	ug/ml	98
90) Sulfotep	11.27	322	36697	15.2615	ug/ml	97
91) Sym-Trinitrobenzene	11.34	75	43913	15.4205	ug/ml	97
92) Diallate	11.38	86	87879	16.6989	ug/ml	93
93) Phenacetin	11.36	108	107556	16.4042	ug/ml	98
94) Phorate	11.39	75	142414	17.2379	ug/ml#	96
95) 4-Bromophenyl Phenyl Ether	11.45	248	63826	14.8718	ug/ml	98
96) Hexachlorobenzene	11.65	284	65854	14.9661	ug/ml	99

(#) = qualifier out of range (m) = manual integration
 12M39935.D MEGAMIX.M Fri Jun 08 11:34:47 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\060712\12M39935.D

Vial: 5

Acq On : 7 Jun 2012 1:21 pm

Operator: CAA

Sample : WG400053-05 15ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:27:33 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:27:28 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	11.59	87	85176	17.9177	ug/ml	99
98) 4-Aminobiphenyl	11.73	169	159776	14.2680	ug/ml	98
99) Pentachlorophenol	11.82	266	25592	11.4825	ug/ml	97
100) Pronamide	11.78	173	103944	15.4550	ug/ml	99
101) Pentachloronitrobenzene	11.90	237	24285	15.1476	ug/ml	99
102) Disulfoton	11.95	88	119349	15.9622	ug/ml	99
103) Phenanthrene	12.01	178	335983	15.4681	ug/ml	99
104) Anthracene	12.06	178	347400	15.4821	ug/ml	99
105) Carbazole	12.22	167	300269	15.0433	ug/ml	100
106) Parathion Methyl	12.40	109	68792	17.2411	ug/ml	98
107) Di-n-Butyl Phthalate	12.59	149	383712	15.8066	ug/ml	100
108) Parathion Ethyl	12.86	97	42616	15.9068	ug/ml	98
109) 4-Nitroquinoline 1-Oxide	12.94	190	7247	10.0038	ug/ml#	90
110) Methapyrilene	13.00	58	103164	19.6362	ug/ml	100
111) Isodrin	13.32	193	36296	15.2468	ug/ml	97
112) Fluoranthene	13.49	202	353874	15.3527	ug/ml	99
114) Benzidine	13.60	184	27821	10.5149	ug/ml	100
115) Pyrene	13.80	202	356554	15.4470	ug/ml	99
116) Aramite	13.88	185	20083	15.4007	ug/ml	99
118) p-(Dimethylamino)azobenzen	14.16	225	71283	15.1076	ug/ml	95
119) Chlorobenzilate	14.21	251	97628	15.0209	ug/ml	98
120) Famphur	14.60	218	67990	195.2436	ug/ml#	91
121) Butyl Benzyl Phthalate	14.63	149	162936	16.0411	ug/ml	98
122) 3,3'-Dimethylbenzidine	14.62	212	197377	15.5947	ug/ml	99
123) 2-Acetylaminofluorene	15.02	181	137542	15.1386	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	15.47	149	224537	15.8682	ug/ml	99
125) 3,3'-Dichlorobenzidine	15.44	252	94320	15.4822	ug/ml	100
126) Benzo[a]anthracene	15.52	228	312460	15.2418	ug/ml	99
127) Chrysene	15.58	228	291727	15.3092	ug/ml	99
129) Di-n-Octyl Phthalate	16.36	149	373272	15.4633	ug/ml	99
130) 7,12-Dimethylbenz[a]anthra	17.20	256	146738	15.3506	ug/ml	99
131) Benzo[b]fluoranthene	17.20	252	344817	15.7851	ug/ml	95
132) Benzo[k]fluoranthene	17.24	252	284395	14.8696	ug/ml	100
133) Benzo[a]pyrene	17.81	252	296421	15.1025	ug/ml	100
134) 3-Methylcholanthrene	18.54	268	148082	14.9582	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	20.44	276	313124	15.6102	ug/ml	99
136) Dibenz[ah]anthracene	20.44	278	262941	15.5855	ug/ml	99
137) Benzo[ghi]perylene	21.19	276	258988	15.5620	ug/ml	99

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M39935.D MEGAMIX.M Fri Jun 08 11:34:47 2012

Page 3

Data File : I:\MSDCHEM\1\DATA\060712\12M39936.D

Vial: 6

Acq On : 7 Jun 2012 1:53 pm

Operator: CAA

Sample : WG400053-06 25ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:28:02 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:27:58 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.369	152	273576	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.651	136	1002472	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.446	164	584286	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.990	188	1036432	40.0000	ug/ml	0.000
113) Chrysene-d12	15.543	240	956684	40.0000	ug/ml	0.000
128) Perylene-d12	17.920	264	953571	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.124	112	215701	24.6817303	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	24.68%		
12) Phenol-d5	6.990	99	261997	24.8097759	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	24.81%		
31) Nitrobenzene-d5	7.930	82	213499	25.1422279	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	50.28%		
59) 2-Fluorobiphenyl	9.719	172	496918	25.3547429	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	50.71%		
86) 2,4,6-Tribromophenol	11.253	330	66006	26.4809491	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	26.48%		
117) p-Terphenyl-d14	13.951	244	448778	25.3235182	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	50.65%		
Target Compounds						
2) 1,4-Dioxane	4.07	88	86986	24.4136	ug/ml	99
3) n-Nitrosodimethylamine	4.61	74	130098	25.2027	ug/ml	95
4) Pyridine	4.61	79	222502	24.5183	ug/ml	98
5) 2-Picoline	5.50	93	257171	24.5539	ug/ml	98
6) n-Nitrosomethylethylamine	5.64	88	109262	24.4448	ug/ml	96
7) Methyl Methanesulfonate	5.95	80	118719	24.6608	ug/ml	100
9) n-Nitrosodiethylamine	6.35	102	109816	24.5966	ug/ml	96
10) Ethyl Methanesulfonate	6.63	79	156003	24.5732	ug/ml	100
11) Aniline	7.06	93	317830	23.9570	ug/ml	98
13) Phenol	7.01	94	271065	24.8552	ug/ml	99
14) bis(2-Chloroethyl)ether	7.10	63	147728	23.7586	ug/ml	82
15) Pentachloroethane	7.09	167	87324	25.1867	ug/ml	99
16) 2-Chlorophenol	7.19	128	228432	24.8051	ug/ml	98
17) 1,3-Dichlorobenzene	7.34	146	263014	25.0500	ug/ml	99
18) 1,4-Dichlorobenzene	7.38	146	265182	25.0039	ug/ml	100
19) Benzyl Alcohol	7.49	108	142825	24.8220	ug/ml	99
20) 1,2-Dichlorobenzene	7.58	146	246157	24.6292	ug/ml	99
21) 2-Methylphenol	7.59	107	177753	24.7233	ug/ml	99
22) bis(2-Chloroisopropyl)ethe	7.63	45	291711	24.1459	ug/ml	99
23) 3-,4-Methylphenol	7.73	107	226558	24.5696	ug/ml	100
24) n-Nitrosopyrrolidine	7.75	100	110013	25.1632	ug/ml	98
25) n-Nitrosodipropylamine	7.77	70	142098	25.5774	ug/ml	99
26) Acetophenone	7.77	105	278603	25.2940	ug/ml	100
27) n-Nitrosomorpholine	7.76	56	131885	25.4162	ug/ml	99
28) o-Toluidine	7.81	106	346816	24.6731	ug/ml	100
29) Hexachloroethane	7.89	117	91821	24.6679	ug/ml	96
32) Nitrobenzene	7.95	77	214724	25.1359	ug/ml	99
33) n-Nitrosopiperidine	8.10	114	114333	25.3728	ug/ml	96
34) Isophorone	8.16	82	399639	25.0573	ug/ml	100
35) 2-Nitrophenol	8.27	139	130853	26.1608	ug/ml	96
36) 2,4-Dimethylphenol	8.26	122	204755	25.2573	ug/ml	100
37) 0,0,0-Triethyl Phosphoroth	8.36	198	115400	26.0333	ug/ml	97
38) bis(2-Chloroethoxy)methane	8.35	93	313091	25.0354	ug/ml	100

(#) = qualifier out of range (m) = manual integration
 12M39936.D MEGAMIX.M Fri Jun 08 11:34:48 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\060712\12M39936.D

Vial: 6

Acq On : 7 Jun 2012 1:53 pm

Operator: CAA

Sample : WG400053-06 25ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:28:02 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:27:58 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.33	105	28536m	9.9173	ug/ml	
40) 2,4-Dichlorophenol	8.50	162	188362	25.5780	ug/ml	99
41) a,a-Dimethylphenethylamine	8.48	58	446041	21.4782	ug/ml	99
42) 1,2,4-Trichlorobenzene	8.60	180	217104	25.4853	ug/ml	99
43) Naphthalene	8.67	128	670099	25.6763	ug/ml	100
44) 4-Chloroaniline	8.71	127	263226	24.5769	ug/ml	99
45) 2,6-Dichlorophenol	8.73	162	193299	25.5578	ug/ml	99
46) Hexachloropropene	8.79	213	122245	25.6384	ug/ml	99
47) Hexachlorobutadiene	8.83	225	112494	25.7550	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.03	84	181901	26.0702	ug/ml	99
49) p-Phenylenediamine	9.08	108	8398	3.5754	ug/ml#	73
50) 4-Chloro-3-Methylphenol	9.16	107	182908	25.2177	ug/ml	99
51) Safrole	9.24	162	184956	25.9842	ug/ml	99
52) 2-Methylnaphthalene	9.36	142	453590	25.7224	ug/ml	99
53) 1-Methylnaphthalene	9.47	142	421270	25.6108	ug/ml	100
55) 1,2,4,5-Tetrachlorobenzene	9.57	216	207910	25.4423	ug/ml	99
56) Hexachlorocyclopentadiene	9.58	237	67996	26.3567	ug/ml	98
57) 2,4,6-Trichlorophenol	9.65	196	134856	25.2803	ug/ml	100
58) 2,4,5-Trichlorophenol	9.70	196	138290	25.2913	ug/ml	100
60) Isosafrole	9.76	162	184531	25.1996	ug/ml	99
61) 2-Chloronaphthalene	9.86	162	420040	25.6234	ug/ml	100
62) 1-Chloronaphthalene	9.90	162	405264	25.3005	ug/ml	99
63) 2-Nitroaniline	9.96	65	113574	24.6576	ug/ml	97
64) 1,4-Naphthoquinone	10.02	158	174364	29.5795	ug/ml	98
65) Dimethylphthalate	10.14	163	480781	25.3975	ug/ml	100
66) 1,3-Dinitrobenzene	10.18	168	85359	24.9552	ug/ml	97
67) 2,6-Dinitrotoluene	10.23	165	115926	25.1873	ug/ml	98
68) Acenaphthylene	10.30	152	690810	25.5175	ug/ml	99
69) 3-Nitroaniline	10.38	138	88133	21.3027	ug/ml	96
70) 2,4-Dinitrophenol	10.48	184	24380	15.8926	ug/ml#	1
71) Acenaphthene	10.48	154	426082	25.3931	ug/ml	99
72) 4-Nitrophenol	10.50	65	76088	23.5858	ug/ml	98
73) 2,4-Dinitrotoluene	10.63	165	146649	26.0486	ug/ml	99
74) Pentachlorobenzene	10.66	250	178066	25.6037	ug/ml	99
75) Dibenzofuran	10.63	168	590893	25.8410	ug/ml	100
76) 2,3,4,6-Tetrachlorophenol	10.74	232	106851	25.9560	ug/ml	99
77) 1-Naphthylamine	10.71	143	162143	15.0107	ug/ml#	21
78) 2-Naphthylamine	10.78	143	42967	6.8648	ug/ml#	78
79) Diethylphthalate	10.84	149	462057	25.3191	ug/ml	100
80) Thionazin	10.93	107	72357	25.9071	ug/ml	99
81) Fluorene	10.99	166	496120	25.7046	ug/ml	99
82) 4-Chlorophenyl Phenyl Ether	10.95	204	239018	25.8693	ug/ml	100
83) 4-Nitroaniline	11.01	138	117613	25.7032	ug/ml	95
84) 5-Nitro-o-Toluidine	11.00	152	127446	24.1794	ug/ml	97
85) 1,2-Diphenylhydrazine	11.11	77	425358	25.2598	ug/ml	98
88) 4,6-Dinitro-2-Methylphenol	11.05	198	59437	23.0138	ug/ml	92
89) n-Nitrosodiphenylamine	11.07	169	421459	25.4526	ug/ml	99
90) Sulfotep	11.27	322	78647	26.2621	ug/ml	95
91) Sym-Trinitrobenzene	11.34	75	89316	25.1836	ug/ml	97
92) Diallate	11.38	86	167311	25.5275	ug/ml	99
93) Phenacetin	11.37	108	212075	25.9712	ug/ml	99
94) Phorate	11.40	75	266523	25.9029	ug/ml#	100
95) 4-Bromophenyl Phenyl Ether	11.45	248	134584	25.1792	ug/ml	98
96) Hexachlorobenzene	11.65	284	139780	25.5066	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M39936.D MEGAMIX.M Fri Jun 08 11:34:48 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\060712\12M39936.D

Vial: 6

Acq On : 7 Jun 2012 1:53 pm

Operator: CAA

Sample : WG400053-06 25ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:28:02 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:27:58 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	11.59	87	157757	26.6462	ug/ml	99
98) 4-Aminobiphenyl	11.74	169	301200	21.5967	ug/ml	100
99) Pentachlorophenol	11.82	266	64695	23.3069	ug/ml	99
100) Pronamide	11.79	173	213038	25.4337	ug/ml	100
101) Pentachloronitrobenzene	11.90	237	50841	25.4625	ug/ml	100
102) Disulfoton	11.95	88	232596	24.9780	ug/ml	100
103) Phenanthrene	12.01	178	687786	25.4246	ug/ml	100
104) Anthracene	12.06	178	710539	25.4255	ug/ml	99
105) Carbazole	12.22	167	619032	24.9016	ug/ml	98
106) Parathion Methyl	12.40	109	132964	26.7573	ug/ml	96
107) Di-n-Butyl Phthalate	12.59	149	770557	25.4871	ug/ml	100
108) Parathion Ethyl	12.86	97	84956	25.4615	ug/ml	97
109) 4-Nitroquinoline 1-Oxide	12.94	190	21436	23.7592	ug/ml	99
110) Methapyrilene	13.00	58	173916	26.5796	ug/ml	98
111) Isodrin	13.32	193	75183	25.3583	ug/ml	96
112) Fluoranthene	13.49	202	733905	25.5656	ug/ml	99
114) Benzidine	13.60	184	34180	10.2378	ug/ml	100
115) Pyrene	13.80	202	739154	25.3781	ug/ml	100
116) Aramite	13.88	185	42320	25.7195	ug/ml	100
118) p-(Dimethylamino)azobenzen	14.16	225	150597	25.2948	ug/ml	98
119) Chlorobenzilate	14.21	251	207581	25.3113	ug/ml	98
120) Famphur	14.60	218	67347	153.2692	ug/ml#	88
121) Butyl Benzyl Phthalate	14.63	149	324192	25.2944	ug/ml	98
122) 3,3'-Dimethylbenzidine	14.62	212	349978	21.9142	ug/ml	99
123) 2-Acetylaminofluorene	15.03	181	296489	25.8622	ug/ml	100
124) bis(2-Ethylhexyl)phthalate	15.47	149	452856	25.3633	ug/ml	99
125) 3,3'-Dichlorobenzidine	15.45	252	185066	24.0746	ug/ml	100
126) Benzo[a]anthracene	15.52	228	651662	25.1924	ug/ml	100
127) Chrysene	15.58	228	612664	25.4803	ug/ml	99
129) Di-n-Octyl Phthalate	16.36	149	763417	24.7970	ug/ml	99
130) 7,12-Dimethylbenz[a]anthra	17.20	256	310259	25.4489	ug/ml	99
131) Benzo[b]fluoranthene	17.20	252	699527	25.1087	ug/ml	99
132) Benzo[k]fluoranthene	17.24	252	637617	26.1395	ug/ml	99
133) Benzo[a]pyrene	17.81	252	631014	25.2081	ug/ml	99
134) 3-Methylcholanthrene	18.54	268	320833	25.4107	ug/ml	100
135) Indeno[1,2,3-cd]pyrene	20.44	276	673934	26.3433	ug/ml	98
136) Dibenz[ah]anthracene	20.44	278	566879	26.3459	ug/ml	98
137) Benzo[ghi]perylene	21.20	276	561647	26.4613	ug/ml	99

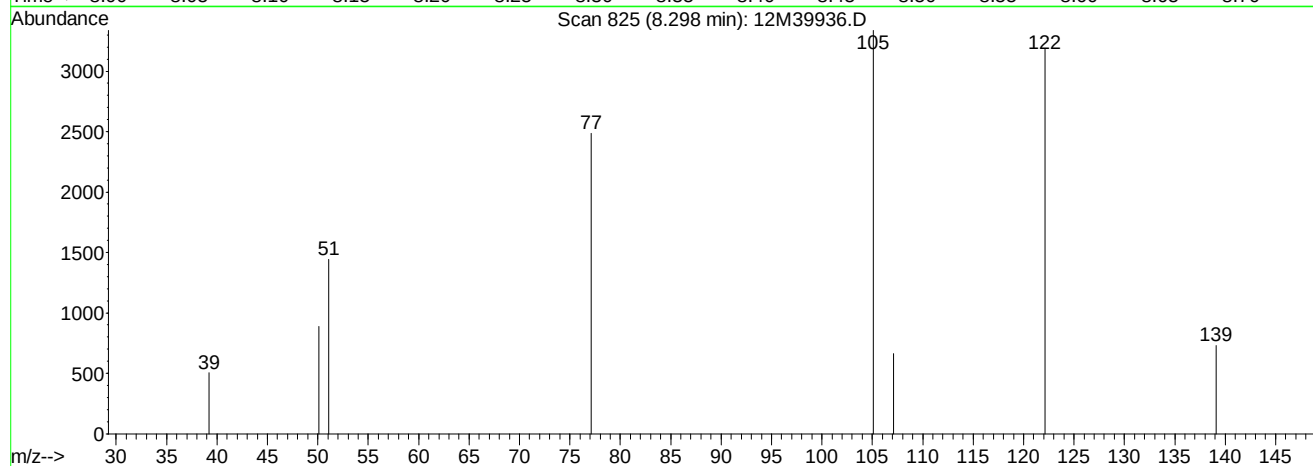
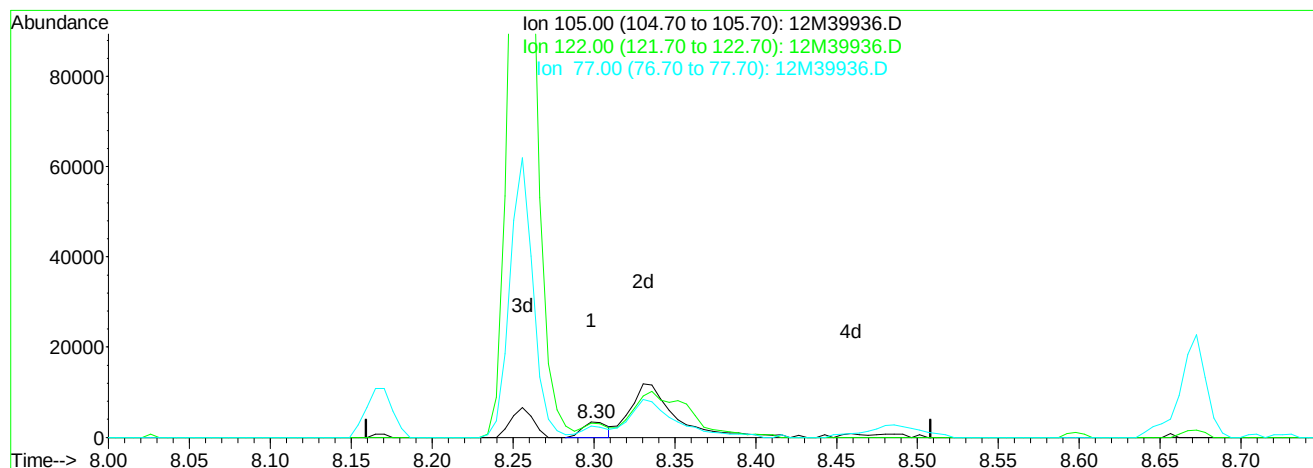
 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M39936.D MEGAMIX.M Fri Jun 08 11:34:48 2012

Page 3

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39936.D Vial: 6
Acq On : 7 Jun 2012 1:53 pm Operator: CAA
Sample : WG400053-06 25ppm Megamix STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:28 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:27:58 2012
Response via : Single Level Calibration



TIC: 12M39936.D

(39) Benzoic Acid

8.30min 1.28ug/ml

response 3690

Ion	Exp%	Act%
105.00	100	100
122.00	48.10	0.00#
77.00	41.80	76.42#
0.00	0.00	0.00

12M39936.D MEGAMIX.M

Fri Jun 08 11:28:11 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39936.D

Vial: 6

Acq On : 7 Jun 2012 1:53 pm

Operator: CAA

Sample : WG400053-06 25ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 8 11:28 2012

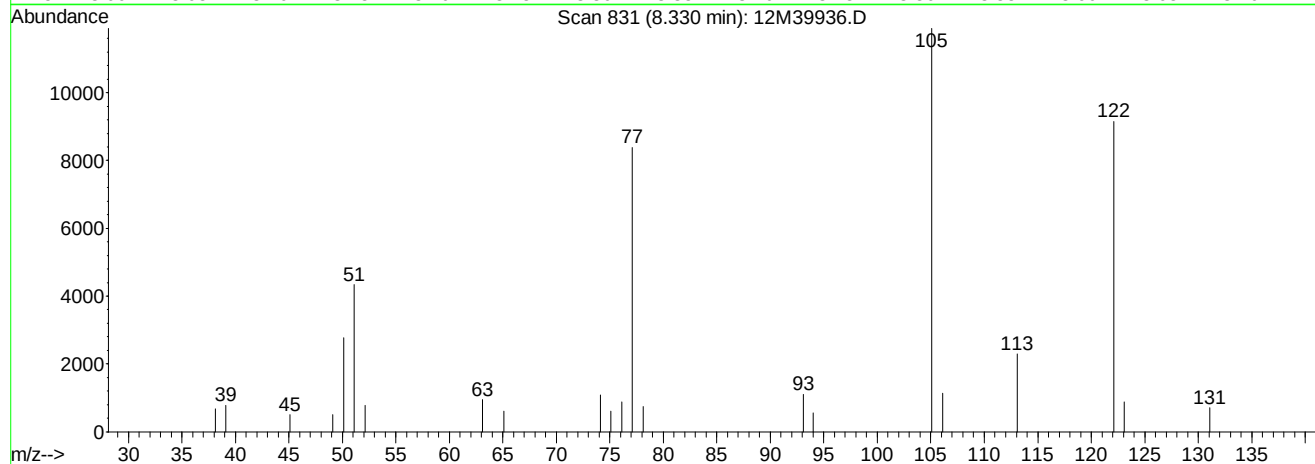
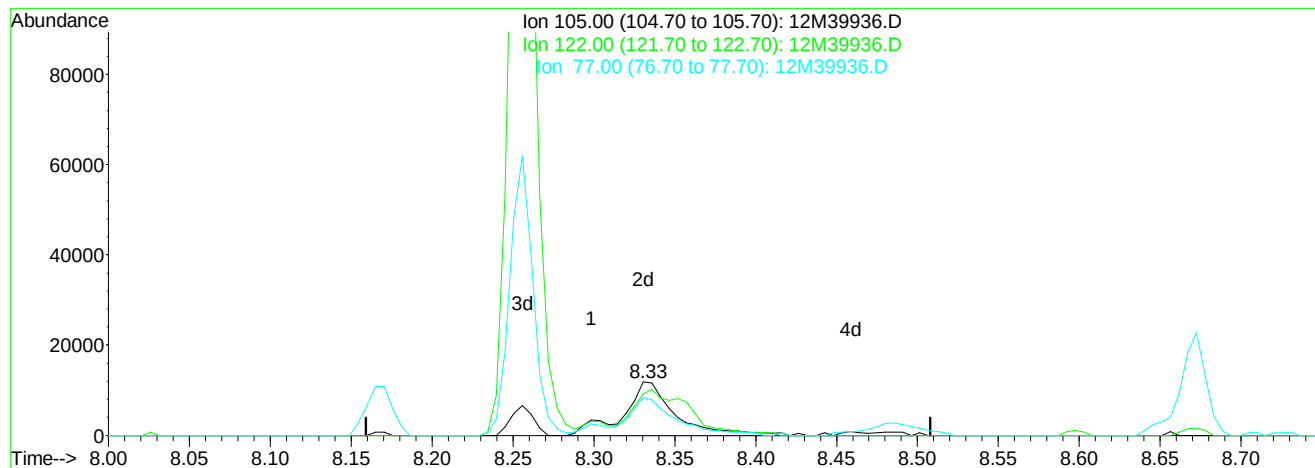
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:27:58 2012

Response via : Single Level Calibration



TIC: 12M39936.D

(39) Benzoic Acid

8.33min 9.92ug/ml mint

response 28536

Ion	Exp%	Act%
105.00	100	100
122.00	48.10	0.00#
77.00	41.80	9.88#
0.00	0.00	0.00

12M39936.D MEGAMIX.M

Fri Jun 08 15 2012

Analyst: 06/08/2012 13:48

Supervisor: 06/08/2012 14:35

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Data File : I:\MSDCHEM\1\DATA\060712\12M39937.D

Vial: 7

Acq On : 7 Jun 2012 2:24 pm

Operator: CAA

Sample : WG400053-07 80ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:28:40 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:28:33 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.369	152	251817	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.651	136	946763	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.451	164	546967	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.990	188	968087	40.0000	ug/ml	0.000
113) Chrysene-d12	15.548	240	869013	40.0000	ug/ml	0.000
128) Perylene-d12	17.925	264	825328	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.124	112	641349	79.7279901	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	79.73%		
12) Phenol-d5	6.995	99	759070	78.0910569	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	78.09%		
31) Nitrobenzene-d5	7.935	82	633336	78.9719865	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	157.94%#		
59) 2-Fluorobiphenyl	9.725	172	1391548	75.8467593	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	151.69%#		
86) 2,4,6-Tribromophenol	11.258	330	187942	80.5449528	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	80.55%		
117) p-Terphenyl-d14	13.951	244	1242404	77.1787184	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	154.36%#		
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.07	88	263745	80.4191	ug/ml	100
3) n-Nitrosodimethylamine	4.60	74	377340	79.4148	ug/ml	95
4) Pyridine	4.61	79	670084	80.2191	ug/ml	99
5) 2-Picoline	5.50	93	762158	79.0565	ug/ml	100
6) n-Nitrosomethylethylamine	5.64	88	332984	80.9344	ug/ml	99
7) Methyl Methanesulfonate	5.96	80	349903	78.9637	ug/ml	99
9) n-Nitrosodiethylamine	6.35	102	325372	79.1741	ug/ml	99
10) Ethyl Methanesulfonate	6.63	79	462662	79.1745	ug/ml	100
11) Aniline	7.07	93	986279	80.7663	ug/ml	100
13) Phenol	7.01	94	782231	77.9242	ug/ml	100
14) bis(2-Chloroethyl)ether	7.10	63	407978	71.2832	ug/ml	83
15) Pentachloroethane	7.10	167	247349	77.5069	ug/ml	100
16) 2-Chlorophenol	7.19	128	665173	78.4715	ug/ml	99
17) 1,3-Dichlorobenzene	7.34	146	751946	77.8050	ug/ml	100
18) 1,4-Dichlorobenzene	7.38	146	763969	78.2586	ug/ml	100
19) Benzyl Alcohol	7.49	108	426847	80.5932	ug/ml	99
20) 1,2-Dichlorobenzene	7.58	146	719546	78.2150	ug/ml	99
21) 2-Methylphenol	7.60	107	523523	79.1076	ug/ml	99
22) bis(2-Chloroisopropyl)ethe	7.64	45	853459	76.7478	ug/ml	98
23) 3-,4-Methylphenol	7.73	107	676750	79.7332	ug/ml	99
24) n-Nitrosopyrrolidine	7.77	100	317245	78.8332	ug/ml	92
25) n-Nitrosodipropylamine	7.77	70	372491	72.8411	ug/ml	99
26) Acetophenone	7.77	105	758512	74.8148	ug/ml	98
27) n-Nitrosomorpholine	7.77	56	343165	71.8473	ug/ml	97
28) o-Toluidine	7.82	106	1022271	79.0102	ug/ml	100
29) Hexachloroethane	7.89	117	273470	79.8165	ug/ml	99
32) Nitrobenzene	7.96	77	633344	78.5026	ug/ml	99
33) n-Nitrosopiperidine	8.10	114	335382	78.8076	ug/ml	99
34) Isophorone	8.17	82	1172467	77.8392	ug/ml	99
35) 2-Nitrophenol	8.27	139	379679	80.3738	ug/ml	98
36) 2,4-Dimethylphenol	8.26	122	596869	77.9583	ug/ml	99
37) 0,0,0-Triethyl Phosphoroth	8.36	198	316555	75.6142	ug/ml	98
38) bis(2-Chloroethoxy)methane	8.36	93	878403	74.3717	ug/ml	98

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

12M39937.D MEGAMIX.M Fri Jun 08 11:34:49 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\060712\12M39937.D

Vial: 7

Acq On : 7 Jun 2012 2:24 pm

Operator: CAA

Sample : WG400053-07 80ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:28:40 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:28:33 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.33	105	282156m	103.3489	ug/ml	
40) 2,4-Dichlorophenol	8.50	162	549097	78.9504	ug/ml	99
41) a,a-Dimethylphenethylamine	8.51	58	1803653m	91.9618	ug/ml	
42) 1,2,4-Trichlorobenzene	8.60	180	623852	77.5415	ug/ml	99
43) Naphthalene	8.67	128	1897429	76.9370	ug/ml	99
44) 4-Chloroaniline	8.71	127	806046	79.6875	ug/ml	99
45) 2,6-Dichlorophenol	8.73	162	569236	79.6925	ug/ml	100
46) Hexachloropropene	8.79	213	377161	83.7563	ug/ml	100
47) Hexachlorobutadiene	8.83	225	317457	76.9571	ug/ml	100
48) n-Nitrosodi-n-Butylamine	9.04	84	525710	79.7785	ug/ml	99
49) p-Phenylenediamine	9.06	108	265053	119.4844	ug/ml	100
50) 4-Chloro-3-Methylphenol	9.16	107	539335	78.7341	ug/ml	98
51) Safrole	9.24	162	525469	78.1661	ug/ml	99
52) 2-Methylnaphthalene	9.36	142	1284169	77.1082	ug/ml	100
53) 1-Methylnaphthalene	9.47	142	1190949	76.6633	ug/ml	100
55) 1,2,4,5-Tetrachlorobenzene	9.57	216	580395	75.8698	ug/ml	99
56) Hexachlorocyclopentadiene	9.58	237	256279	106.1169	ug/ml	99
57) 2,4,6-Trichlorophenol	9.66	196	400773	80.2568	ug/ml	100
58) 2,4,5-Trichlorophenol	9.70	196	413142	80.7131	ug/ml	100
60) Isosafrole	9.76	162	530233	77.3492	ug/ml	99
61) 2-Chloronaphthalene	9.86	162	1211165	78.5707	ug/ml	99
62) 1-Chloronaphthalene	9.90	162	1168198	77.9062	ug/ml	100
63) 2-Nitroaniline	9.97	65	344593	79.9178	ug/ml	97
64) 1,4-Naphthoquinone	10.03	158	386273	69.9991	ug/ml	99
65) Dimethylphthalate	10.14	163	1365420	77.0504	ug/ml	100
66) 1,3-Dinitrobenzene	10.18	168	262594	82.0089	ug/ml	98
67) 2,6-Dinitrotoluene	10.23	165	343162	79.6459	ug/ml	99
68) Acenaphthylene	10.30	152	1945257	76.7574	ug/ml	99
69) 3-Nitroaniline	10.38	138	335061	86.5136	ug/ml	99
70) 2,4-Dinitrophenol	10.49	184	142895	99.5043	ug/ml	53
71) Acenaphthene	10.48	154	1202529	76.5567	ug/ml	100
72) 4-Nitrophenol	10.51	65	243402	80.5976	ug/ml	100
73) 2,4-Dinitrotoluene	10.63	165	419833	79.6611	ug/ml	96
74) Pentachlorobenzene	10.67	250	497213	76.3710	ug/ml	99
75) Dibenzofuran	10.64	168	1615732	75.4805	ug/ml	100
76) 2,3,4,6-Tetrachlorophenol	10.75	232	328705	85.9390	ug/ml	99
77) 1-Naphthylamine	10.72	143	729331	72.1261	ug/ml#	32
78) 2-Naphthylamine	10.79	143	321914	54.9413	ug/ml	95
79) Diethylphthalate	10.84	149	1322266	77.3992	ug/ml	99
80) Thionazin	10.94	107	203465	77.8201	ug/ml	99
81) Fluorene	10.99	166	1374012	76.0465	ug/ml	99
82) 4-Chlorophenyl Phenyl Ether	10.95	204	658473	76.1301	ug/ml	99
83) 4-Nitroaniline	11.02	138	335894	78.4148	ug/ml	100
84) 5-Nitro-o-Toluidine	11.01	152	395011	80.0558	ug/ml	98
85) 1,2-Diphenylhydrazine	11.11	77	1225399	77.7352	ug/ml	98
88) 4,6-Dinitro-2-Methylphenol	11.06	198	231062	95.7828	ug/ml	88
89) n-Nitrosodiphenylamine	11.07	169	1176042	76.0371	ug/ml	99
90) Sulfotep	11.27	322	212076	75.8167	ug/ml	98
91) Sym-Trinitrobenzene	11.36	75	284299	85.8202	ug/ml	97
92) Diallate	11.38	86	449808	73.4745	ug/ml	96
93) Phenacetin	11.39	108	586603	76.9082	ug/ml	99
94) Phorate	11.40	75	733550	76.3254	ug/ml#	98
95) 4-Bromophenyl Phenyl Ether	11.46	248	386601	77.4350	ug/ml	98
96) Hexachlorobenzene	11.65	284	388396	75.8768	ug/ml	99

(#) = qualifier out of range (m) = manual integration
 12M39937.D MEGAMIX.M Fri Jun 08 11:34:49 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\060712\12M39937.D

Vial: 7

Acq On : 7 Jun 2012 2:24 pm

Operator: CAA

Sample : WG400053-07 80ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:28:40 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:28:33 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	11.60	87	395722	71.5588	ug/ml	98
98) 4-Aminobiphenyl	11.74	169	1038943	79.7535	ug/ml	100
99) Pentachlorophenol	11.83	266	242894	93.6822	ug/ml	99
100) Pronamide	11.79	173	618486	79.0512	ug/ml	99
101) Pentachloronitrobenzene	11.91	237	145381	77.9510	ug/ml	99
102) Disulfoton	11.95	88	674601	77.5585	ug/ml	100
103) Phenanthrene	12.02	178	1924953	76.1812	ug/ml	100
104) Anthracene	12.07	178	1995995	76.4658	ug/ml	99
105) Carbazole	12.23	167	1800863	77.5570	ug/ml	100
106) Parathion Methyl	12.40	109	364593	78.5493	ug/ml	99
107) Di-n-Butyl Phthalate	12.59	149	2182446	77.2832	ug/ml	100
108) Parathion Ethyl	12.87	97	255816	82.0813	ug/ml	99
109) 4-Nitroquinoline 1-Oxide	12.94	190	93869	111.3874	ug/ml	99
110) Methapyrilene	13.01	58	394444	64.5388	ug/ml	100
111) Isodrin	13.32	193	211286	76.2952	ug/ml	99
112) Fluoranthene	13.49	202	2025666	75.5459	ug/ml	100
114) Benzidine	13.61	184	226717	74.7589	ug/ml	100
115) Pyrene	13.81	202	2046953	77.3702	ug/ml	99
116) Aramite	13.89	185	123956	82.9328	ug/ml	99
118) p-(Dimethylamino)azobenzen	14.16	225	435882	80.5984	ug/ml	99
119) Chlorobenzilate	14.21	251	597917	80.2620	ug/ml	99
120) Famphur	14.60	218	8605	21.5591	ug/ml#	96
121) Butyl Benzyl Phthalate	14.63	149	908073	77.9983	ug/ml	99
122) 3,3'-Dimethylbenzidine	14.63	212	969414	66.8247	ug/ml	99
123) 2-Acetylaminofluorene	15.04	181	863002	82.8725	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	15.47	149	1295774	79.8945	ug/ml	100
125) 3,3'-Dichlorobenzidine	15.45	252	509254	72.9306	ug/ml	99
126) Benzo[a]anthracene	15.52	228	1801417	76.6663	ug/ml	100
127) Chrysene	15.59	228	1674579	76.6707	ug/ml	99
129) Di-n-Octyl Phthalate	16.37	149	2157913	80.9839	ug/ml	99
130) 7,12-Dimethylbenz[a]anthra	17.22	256	821390	77.8432	ug/ml	99
131) Benzo[b]fluoranthene	17.21	252	1852213	76.8136	ug/ml	100
132) Benzo[k]fluoranthene	17.26	252	1652394	78.2667	ug/ml	100
133) Benzo[a]pyrene	17.82	252	1700712	78.4979	ug/ml	99
134) 3-Methylcholanthrene	18.56	268	869313	79.5501	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	20.47	276	1681644	75.9476	ug/ml	100
136) Dibenz[ah]anthracene	20.47	278	1412696	75.8573	ug/ml	99
137) Benzo[ghi]perylene	21.23	276	1379537	75.0943	ug/ml	99

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M39937.D MEGAMIX.M Fri Jun 08 11:34:49 2012

Page 3

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39937.D

Vial: 7

Acq On : 7 Jun 2012 2:24 pm

Operator: CAA

Sample : WG400053-07 80ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 8 11:28 2012

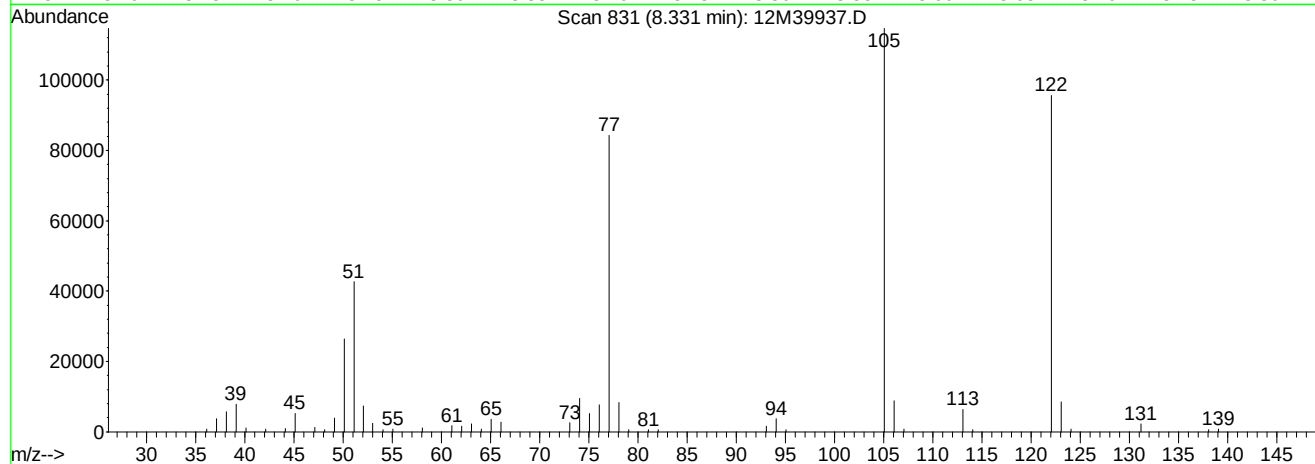
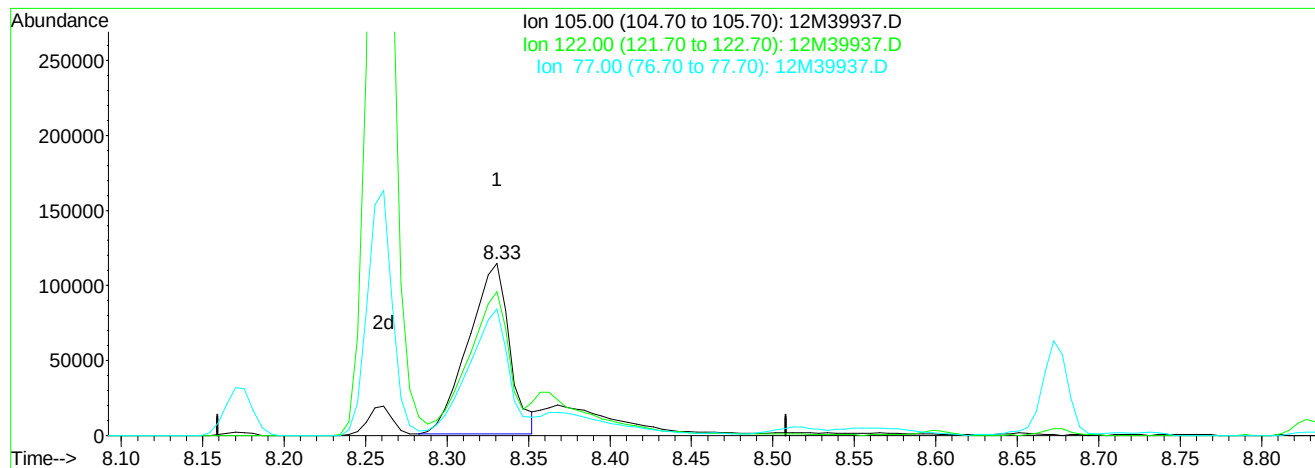
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:28:33 2012

Response via : Single Level Calibration



TIC: 12M39937.D

(39) Benzoic Acid

8.33min 73.37ug/ml

response 200315

Ion	Exp%	Act%
105.00	100	100
122.00	48.10	83.28#
77.00	41.80	73.22#
0.00	0.00	0.00

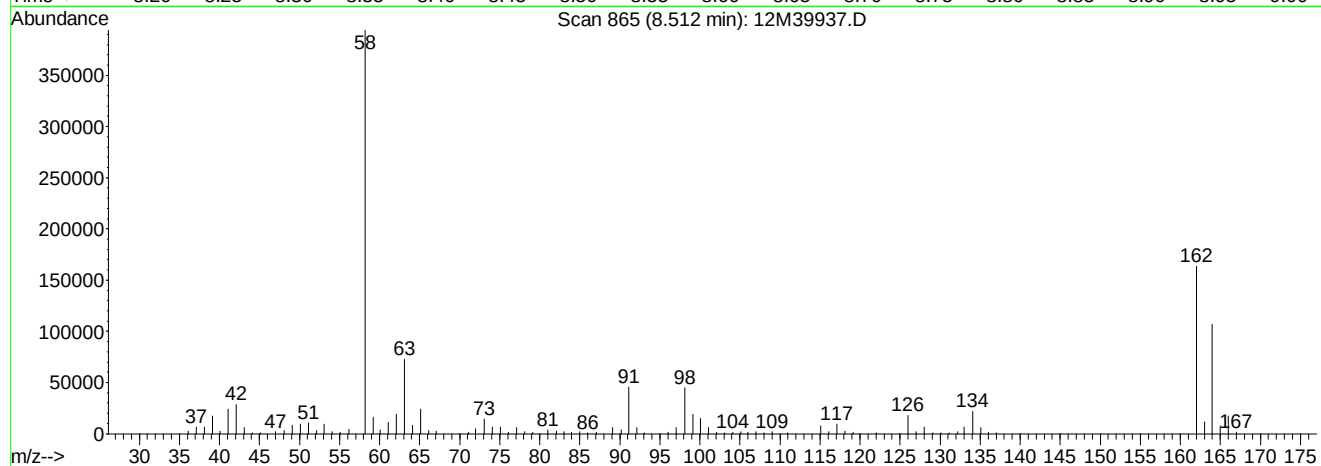
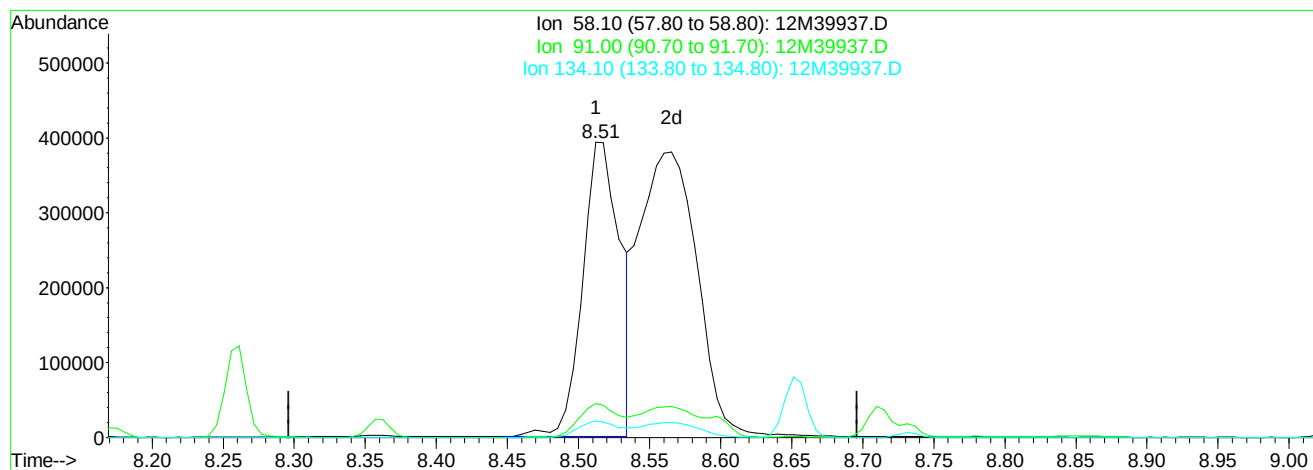
12M39937.D MEGAMIX.M

Fri Jun 08 11:28:51 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39937.D Vial: 7
Acq On : 7 Jun 2012 2:24 pm Operator: CAA
Sample : WG400053-07 80ppm Megamix STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:28 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:28:33 2012
Response via : Multiple Level Calibration



TIC: 12M39937.D

(41) a,a-Dimethylphenethylamine

8.51min 36.85ug/ml

response 722819

Ion	Exp%	Act%
58.10	100	100
91.00	11.40	12.17
134.10	5.40	5.86
0.00	0.00	0.00

12M39937.D MEGAMIX.M

Fri Jun 08 11:29:03 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39937.D

Vial: 7

Acq On : 7 Jun 2012 2:24 pm

Operator: CAA

Sample : WG400053-07 80ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 8 11:29 2012

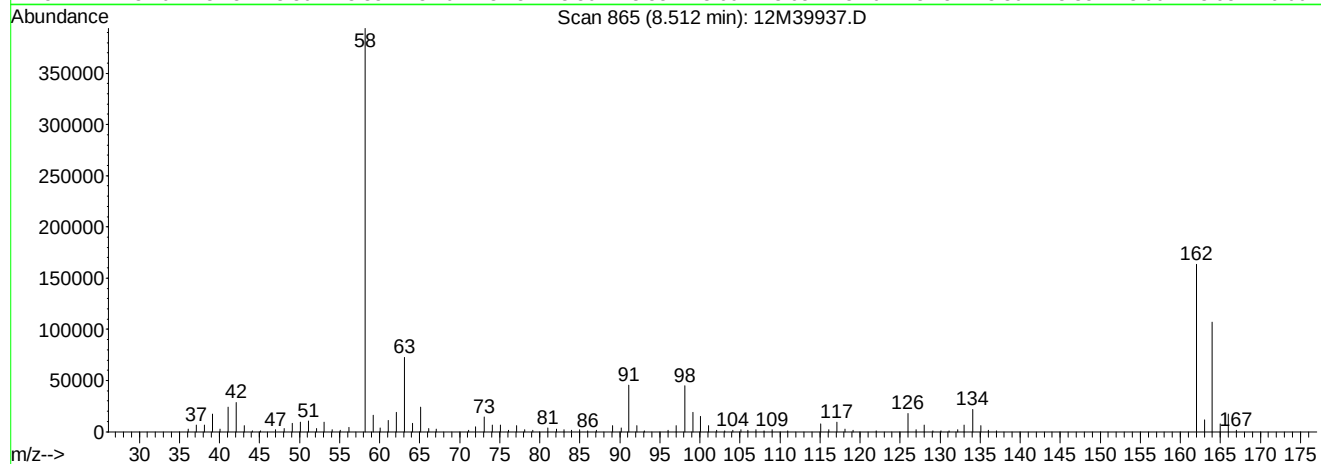
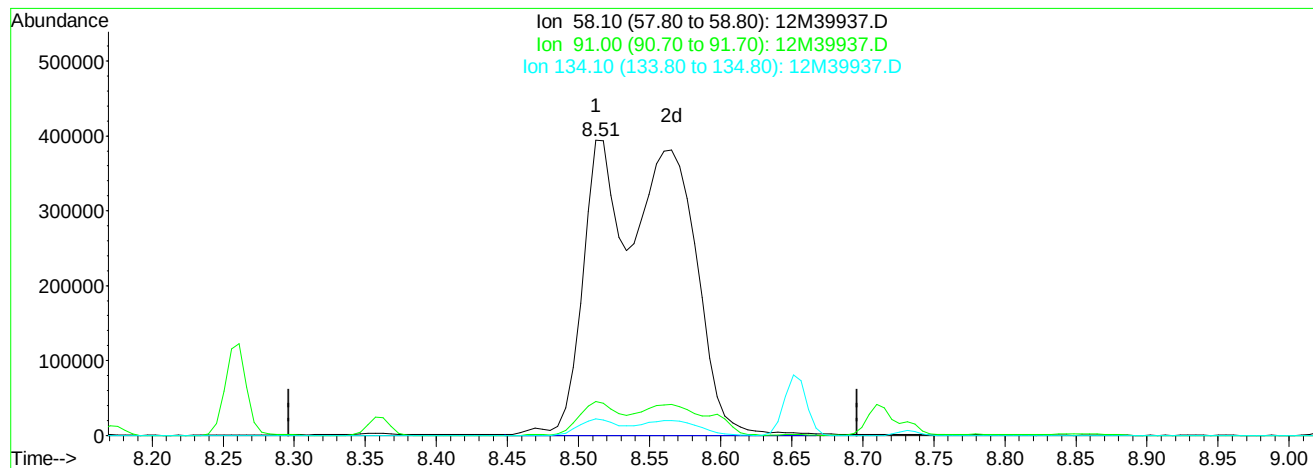
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:28:33 2012

Response via : Multiple Level Calibration



TIC: 12M39937.D

(41) a,a-Dimethylphenethylamine

8.51min 91.96ug/ml mint

response 1803653

Ion	Exp%	Act%
58.10	100	100
91.00	11.40	4.88#
134.10	5.40	2.35#
0.00	0.00	0.00

12M39937.D MEGAMIX.M

Fri Jun 08 2012

Analyst: 06/08/2012 13:48

Supervisor: 06/08/2012 14:35

Cassidy Augustin

E. C. Funn

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Data File : I:\MSDCHEM\1\DATA\060712\12M39938.D

Vial: 8

Acq On : 7 Jun 2012 2:56 pm

Operator: CAA

Sample : WG400053-08 100ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:29:30 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:29:25 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.369	152	285012	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.651	136	1081897	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.451	164	628628	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.995	188	1101721	40.0000	ug/ml	0.000
113) Chrysene-d12	15.553	240	1034369	40.0000	ug/ml	0.000
128) Perylene-d12	17.925	264	978384	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.124	112	897562	98.5831637	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	98.58%		
12) Phenol-d5	6.995	99	1049577	95.4016043	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	95.40%#		
31) Nitrobenzene-d5	7.941	82	862992	94.1674951	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	188.34%#		
59) 2-Fluorobiphenyl	9.725	172	1978489	93.8296036	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	187.66%#		
86) 2,4,6-Tribromophenol	11.258	330	278688	103.9202444	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	103.92%		
117) p-Terphenyl-d14	13.956	244	1807856	94.3516140	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	188.70%#		
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.07	88	359231	96.7767	ug/ml	98
3) n-Nitrosodimethylamine	4.61	74	510801	94.9822	ug/ml	97
4) Pyridine	4.61	79	899282	95.1188	ug/ml	98
5) 2-Picoline	5.50	93	1050753	96.2975	ug/ml	96
6) n-Nitrosomethylethylamine	5.64	88	459482	98.6734	ug/ml	95
7) Methyl Methanesulfonate	5.96	80	475767	94.8629	ug/ml	99
9) n-Nitrosodiethylamine	6.35	102	453020	97.3962	ug/ml	93
10) Ethyl Methanesulfonate	6.63	79	631048	95.4126	ug/ml	99
11) Aniline	7.07	93	1358684	98.3039	ug/ml	99
13) Phenol	7.01	94	1072174	94.3679	ug/ml	98
14) bis(2-Chloroethyl)ether	7.10	63	608192	93.8887	ug/ml	93
15) Pentachloroethane	7.10	167	352459	97.5799	ug/ml	98
16) 2-Chlorophenol	7.19	128	943775	98.3711	ug/ml	97
17) 1,3-Dichlorobenzene	7.34	146	1067159	97.5601	ug/ml	99
18) 1,4-Dichlorobenzene	7.38	146	1079357	97.6884	ug/ml	99
19) Benzyl Alcohol	7.49	108	602160	100.4523	ug/ml	97
20) 1,2-Dichlorobenzene	7.58	146	1014642	97.4465	ug/ml	99
21) 2-Methylphenol	7.60	107	737812	98.5031	ug/ml	98
22) bis(2-Chloroisopropyl)ethe	7.64	45	1105291	87.8177	ug/ml	95
23) 3-,4-Methylphenol	7.74	107	938935	97.7391	ug/ml	99
24) n-Nitrosopyrrolidine	7.77	100	429447	94.2858	ug/ml	85
25) n-Nitrosodipropylamine	7.78	70	485967	83.9633	ug/ml	95
26) Acetophenone	7.77	105	1052511	91.7220	ug/ml	96
27) n-Nitrosomorpholine	7.78	56	446445	82.5843	ug/ml	95
28) o-Toluidine	7.82	106	1423982	97.2397	ug/ml	99
29) Hexachloroethane	7.89	117	379472	97.8554	ug/ml	95
32) Nitrobenzene	7.96	77	860866	93.3760	ug/ml	96
33) n-Nitrosopiperidine	8.10	114	472938	97.2496	ug/ml	92
34) Isophorone	8.18	82	1592018	92.4914	ug/ml	98
35) 2-Nitrophenol	8.27	139	535343	99.1711	ug/ml	95
36) 2,4-Dimethylphenol	8.26	122	835571	95.5041	ug/ml	99
37) 0,0,0-Triethyl Phosphoroth	8.36	198	448031	93.6522	ug/ml	94
38) bis(2-Chloroethoxy)methane	8.36	93	1182601	87.6209	ug/ml	97

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

12M39938.D MEGAMIX.M Fri Jun 08 11:34:50 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\060712\12M39938.D

Vial: 8

Acq On : 7 Jun 2012 2:56 pm

Operator: CAA

Sample : WG400053-08 100ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:29:30 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:29:25 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.34	105	492721m	157.9601	ug/ml	
40) 2,4-Dichlorophenol	8.50	162	793674	99.8625	ug/ml	99
41) a,a-Dimethylphenethylamine	8.53	58	2432132m	108.5192	ug/ml	
42) 1,2,4-Trichlorobenzene	8.60	180	886476	96.4217	ug/ml	99
43) Naphthalene	8.67	128	2630243	93.3004	ug/ml	99
44) 4-Chloroaniline	8.71	127	1153788	99.8186	ug/ml	98
45) 2,6-Dichlorophenol	8.73	162	806191	98.7685	ug/ml	99
46) Hexachloropropene	8.79	213	540280	104.9941	ug/ml	99
47) Hexachlorobutadiene	8.83	225	460754	97.7436	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.04	84	723337	96.0585	ug/ml	97
49) p-Phenylenediamine	9.06	108	450785	177.8293	ug/ml	98
50) 4-Chloro-3-Methylphenol	9.16	107	751314	95.9801	ug/ml	97
51) Safrole	9.24	162	750035	97.6356	ug/ml	98
52) 2-Methylnaphthalene	9.36	142	1788951	94.0010	ug/ml	99
53) 1-Methylnaphthalene	9.47	142	1683157	94.8144	ug/ml	99
55) 1,2,4,5-Tetrachlorobenzene	9.57	216	834929	94.9647	ug/ml	99
56) Hexachlorocyclopentadiene	9.58	237	370898	133.6268	ug/ml	99
57) 2,4,6-Trichlorophenol	9.66	196	589305	102.6830	ug/ml	99
58) 2,4,5-Trichlorophenol	9.70	196	598072	101.6636	ug/ml	100
60) Isosafrole	9.76	162	766745	97.3212	ug/ml	98
61) 2-Chloronaphthalene	9.86	162	1736174	97.5732	ug/ml	99
62) 1-Chloronaphthalene	9.90	162	1635183	94.8832	ug/ml	99
63) 2-Nitroaniline	9.97	65	465684	93.9714	ug/ml	93
64) 1,4-Naphthoquinone	10.03	158	484320	76.3657	ug/ml	96
65) Dimethylphthalate	10.14	163	1930251	94.7741	ug/ml	99
66) 1,3-Dinitrobenzene	10.19	168	376023	102.1781	ug/ml	93
67) 2,6-Dinitrotoluene	10.23	165	492673	99.4925	ug/ml	94
68) Acenaphthylene	10.30	152	2716211	93.2555	ug/ml	99
69) 3-Nitroaniline	10.39	138	484024	108.7414	ug/ml	98
70) 2,4-Dinitrophenol	10.49	184	224647	136.1109	ug/ml	36
71) Acenaphthene	10.48	154	1711543	94.8075	ug/ml	99
72) 4-Nitrophenol	10.52	65	358054	103.1606	ug/ml	98
73) 2,4-Dinitrotoluene	10.64	165	589144	97.2654	ug/ml	91
74) Pentachlorobenzene	10.67	250	724873	96.8759	ug/ml	100
75) Dibenzofuran	10.64	168	2251838	91.5314	ug/ml	99
76) 2,3,4,6-Tetrachlorophenol	10.75	232	489079	111.4023	ug/ml	98
77) 1-Naphthylamine	10.72	143	1255847	108.0617	ug/ml#	37
78) 2-Naphthylamine	10.79	143	652666m	96.9209	ug/ml	
79) Diethylphthalate	10.85	149	1836615	93.5412	ug/ml	98
80) Thionazin	10.94	107	271694	90.4168	ug/ml	98
81) Fluorene	10.99	166	1940094	93.4283	ug/ml	100
82) 4-Chlorophenyl Phenyl Ether	10.95	204	934685	94.0266	ug/ml	97
83) 4-Nitroaniline	11.02	138	471968	95.8685	ug/ml	96
84) 5-Nitro-o-Toluidine	11.01	152	570067	100.5257	ug/ml	95
85) 1,2-Diphenylhydrazine	11.11	77	1627395	89.8257	ug/ml	95
88) 4,6-Dinitro-2-Methylphenol	11.06	198	337882	123.0741	ug/ml	79
89) n-Nitrosodiphenylamine	11.08	169	1672810	95.0368	ug/ml	99
90) Sulfotep	11.27	322	313628	98.5215	ug/ml	91
91) Sym-Trinitrobenzene	11.36	75	401513	106.5017	ug/ml	96
92) Diallate	11.38	86	601413	86.3228	ug/ml	90
93) Phenacetin	11.39	108	788912	90.8866	ug/ml	98
94) Phorate	11.40	75	914040	83.5694	ug/ml#	91
95) 4-Bromophenyl Phenyl Ether	11.46	248	565055	99.4508	ug/ml	97
96) Hexachlorobenzene	11.65	284	566711	97.2834	ug/ml	97

(#) = qualifier out of range (m) = manual integration
 12M39938.D MEGAMIX.M Fri Jun 08 11:34:50 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\060712\12M39938.D

Vial: 8

Acq On : 7 Jun 2012 2:56 pm

Operator: CAA

Sample : WG400053-08 100ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:29:30 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:29:25 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	11.61	87	485272	77.1083	ug/ml	98
98) 4-Aminobiphenyl	11.74	169	1502493	101.3476	ug/ml	100
99) Pentachlorophenol	11.83	266	366001	124.0410	ug/ml	99
100) Pronamide	11.79	173	868448	97.5360	ug/ml	99
101) Pentachloronitrobenzene	11.92	237	210734	99.2867	ug/ml	99
102) Disulfoton	11.95	88	915150	92.4522	ug/ml	100
103) Phenanthrene	12.02	178	2716398	94.4635	ug/ml	99
104) Anthracene	12.07	178	2821351	94.9746	ug/ml	99
105) Carbazole	12.23	167	2577419	97.5367	ug/ml	99
106) Parathion Methyl	12.40	109	451576	85.4885	ug/ml	96
107) Di-n-Butyl Phthalate	12.60	149	3026716	94.1794	ug/ml	99
108) Parathion Ethyl	12.87	97	345142	97.3099	ug/ml	96
109) 4-Nitroquinoline 1-Oxide	12.95	190	125542	130.9018	ug/ml	97
110) Methapyrilene	13.01	58	443032	63.6962	ug/ml	98
111) Isodrin	13.33	193	299975	95.1819	ug/ml	99
112) Fluoranthene	13.50	202	2906623	95.2521	ug/ml	99
114) Benzidine	13.61	184	288322	79.8743	ug/ml	100
115) Pyrene	13.81	202	2928742	93.0032	ug/ml	99
116) Aramite	13.89	185	175267	98.5167	ug/ml	98
118) p-(Dimethylamino)azobenzen	14.16	225	637376	99.0157	ug/ml	93
119) Chlorobenzilate	14.21	251	877284	98.9374	ug/ml	95
120) Famphur	14.60	218	8396	17.6727	ug/ml#	99
121) Butyl Benzyl Phthalate	14.63	149	1270968	91.7169	ug/ml	96
122) 3,3'-Dimethylbenzidine	14.63	212	1320101	76.4515	ug/ml	98
123) 2-Acetylaminofluorene	15.05	181	1240329	100.0660	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	15.47	149	1790098	92.7289	ug/ml	99
125) 3,3'-Dichlorobenzidine	15.45	252	731732	88.0396	ug/ml	99
126) Benzo[a]anthracene	15.53	228	2650297	94.7623	ug/ml	99
127) Chrysene	15.59	228	2448055	94.1663	ug/ml	99
129) Di-n-Octyl Phthalate	16.37	149	3032743	96.0102	ug/ml	97
130) 7,12-Dimethylbenz[a]anthra	17.23	256	1186753	94.8744	ug/ml	99
131) Benzo[b]fluoranthene	17.23	252	2616500	91.5345	ug/ml	99
132) Benzo[k]fluoranthene	17.26	252	2461238	98.3410	ug/ml	96
133) Benzo[a]pyrene	17.83	252	2511879	97.8009	ug/ml	100
134) 3-Methylcholanthrene	18.57	268	1283180	99.0534	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	20.49	276	2496053	95.0935	ug/ml	99
136) Dibenz[ah]anthracene	20.48	278	2104075	95.3075	ug/ml	100
137) Benzo[ghi]perylene	21.24	276	2049716	94.1206	ug/ml	100

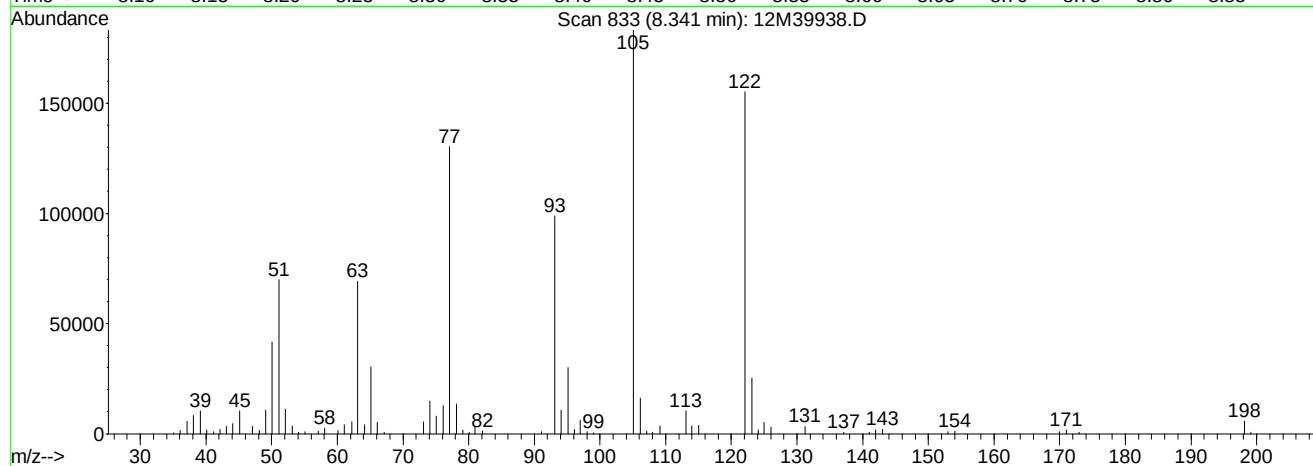
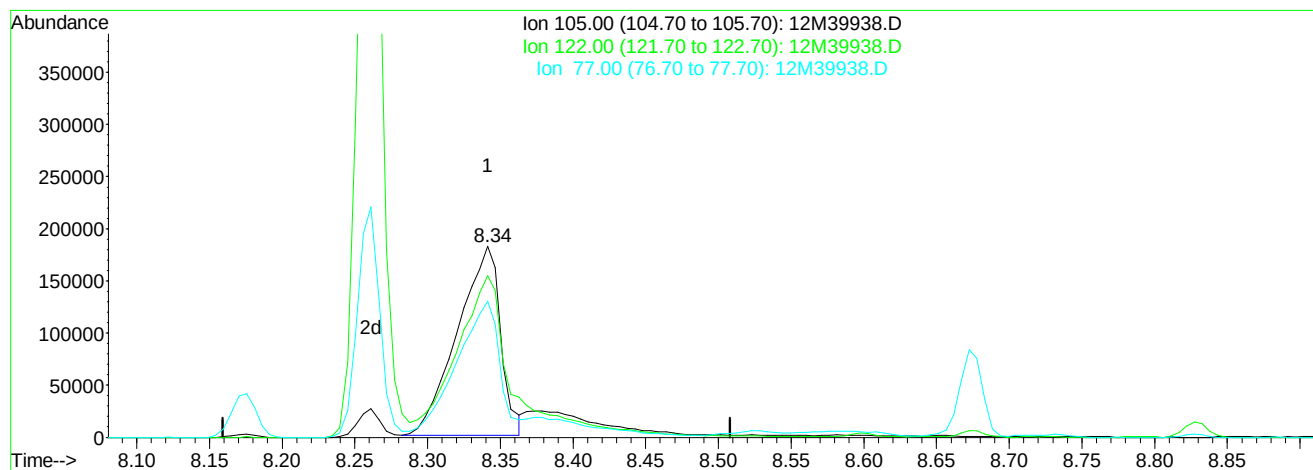
 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M39938.D MEGAMIX.M Fri Jun 08 11:34:50 2012

Page 3

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39938.D Vial: 8
Acq On : 7 Jun 2012 2:56 pm Operator: CAA
Sample : WG400053-08 100ppm Megamix STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:29 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:29:25 2012
Response via : Single Level Calibration



TIC: 12M39938.D

(39) Benzoic Acid

8.34min 119.03ug/ml

response 371295

Ion	Exp%	Act%
105.00	100	100
122.00	48.10	111.03#
77.00	41.80	66.31#
0.00	0.00	0.00

12M39938.D MEGAMIX.M

Fri Jun 08 11:29:39 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39938.D

Vial: 8

Acq On : 7 Jun 2012 2:56 pm

Operator: CAA

Sample : WG400053-08 100ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 8 11:29 2012

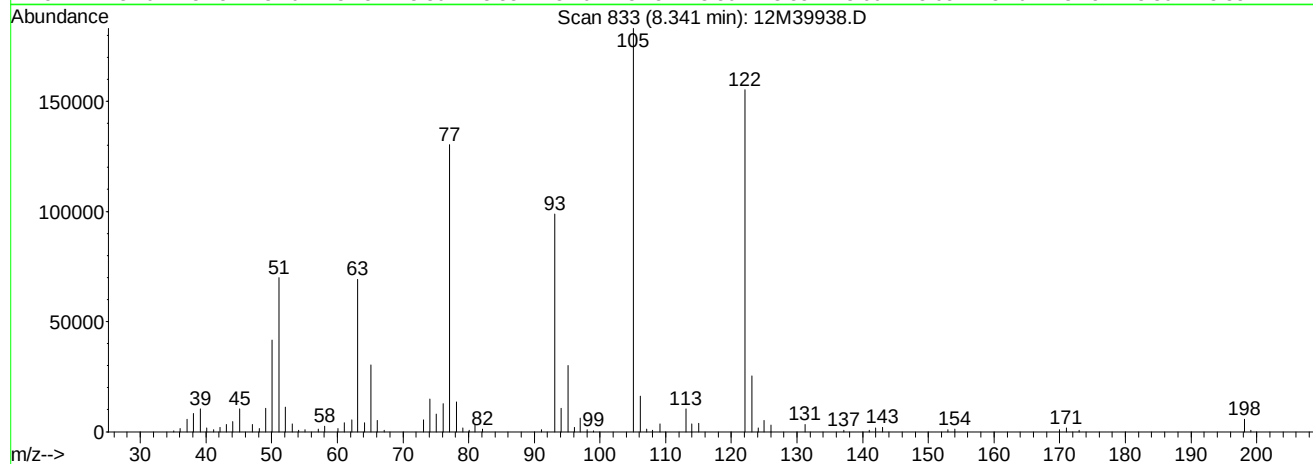
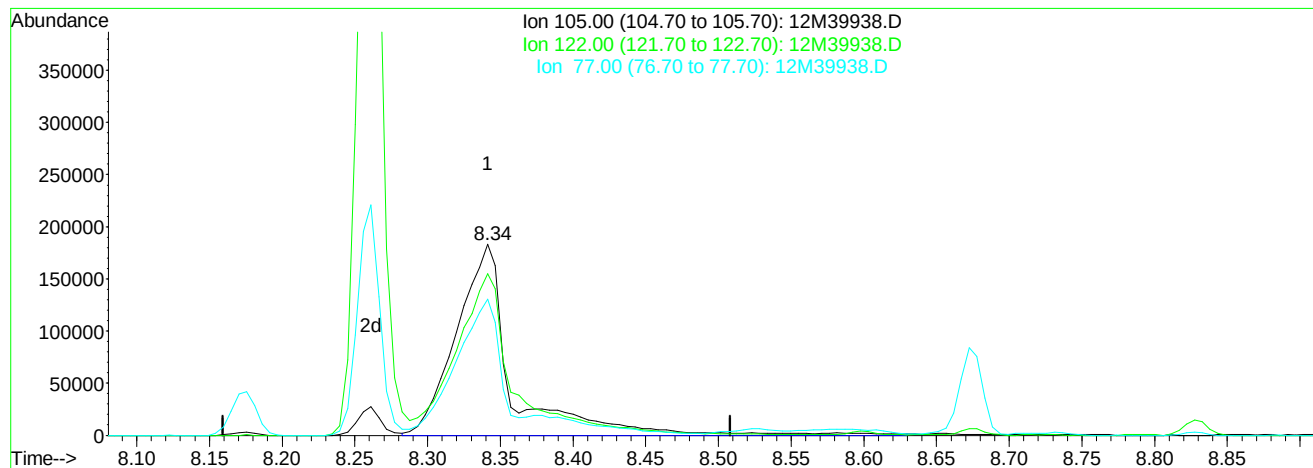
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:29:25 2012

Response via : Single Level Calibration



TIC: 12M39938.D

(39) Benzoic Acid

8.34min 157.96ug/ml mint

response 492721

Ion	Exp%	Act%
105.00	100	100
122.00	48.10	83.67#
77.00	41.80	49.97
0.00	0.00	0.00

12M39938.D MEGAMIX.M

Fri Jun 08 13 2012

Analyst: 06/08/2012 13:48

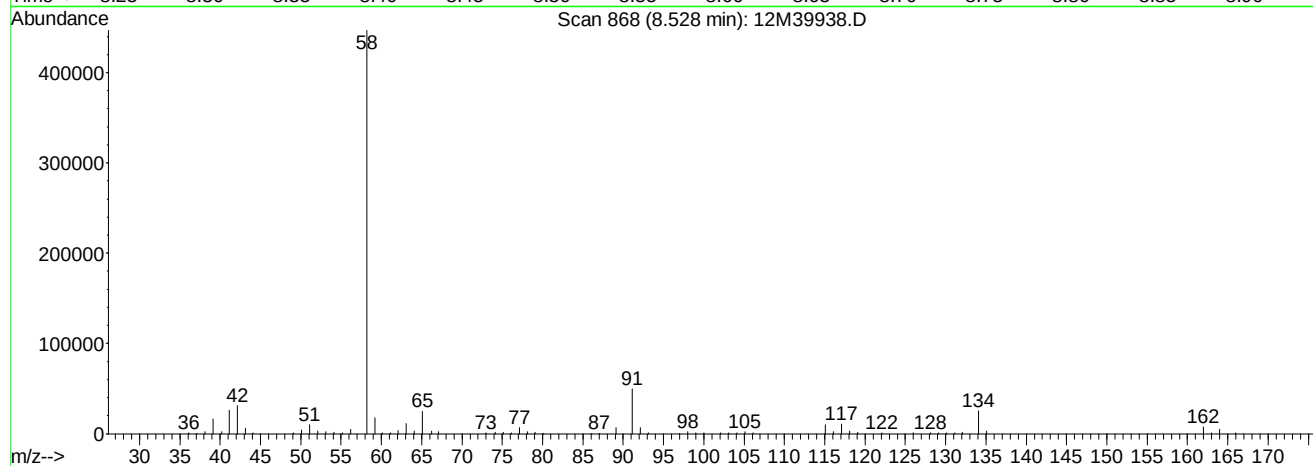
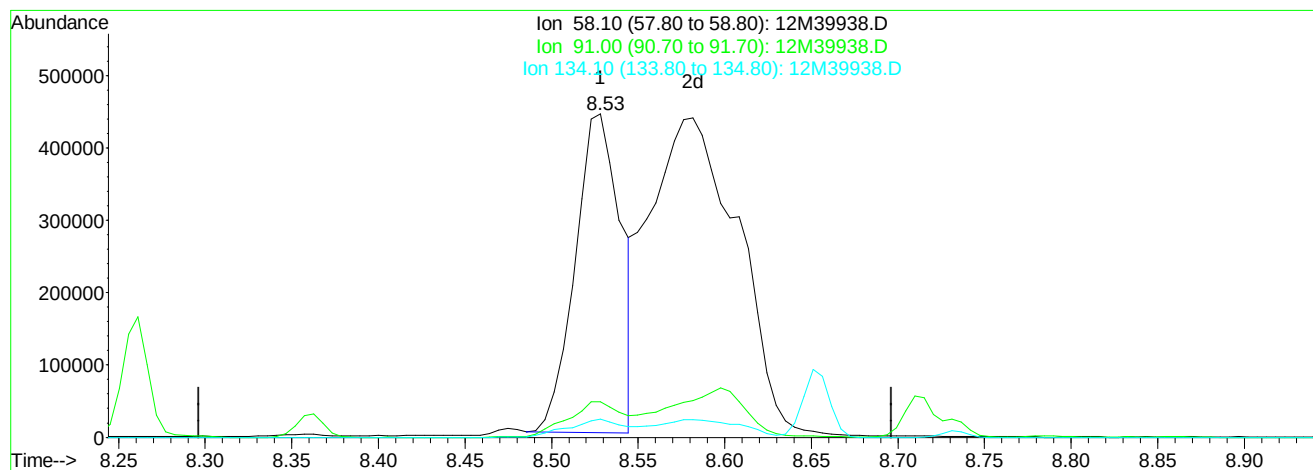
Supervisor: 06/08/2012 14:35

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39938.D Vial: 8
Acq On : 7 Jun 2012 2:56 pm Operator: CAA
Sample : WG400053-08 100ppm Megamix STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:29 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:29:25 2012
Response via : Multiple Level Calibration



TIC: 12M39938.D

(41) a,a-Dimethylphenethylamine

8.53min 36.10ug/ml

response 809047

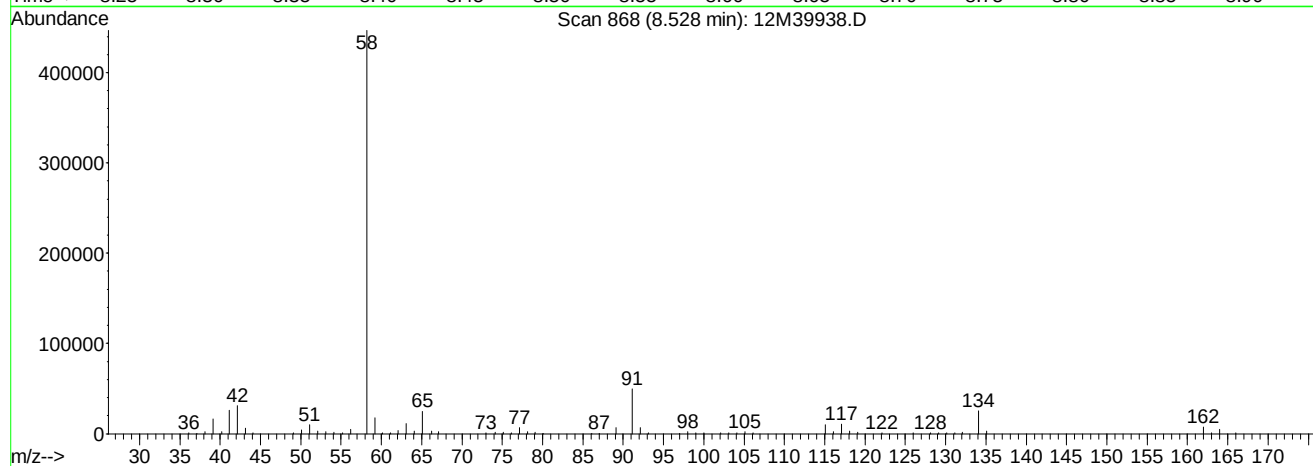
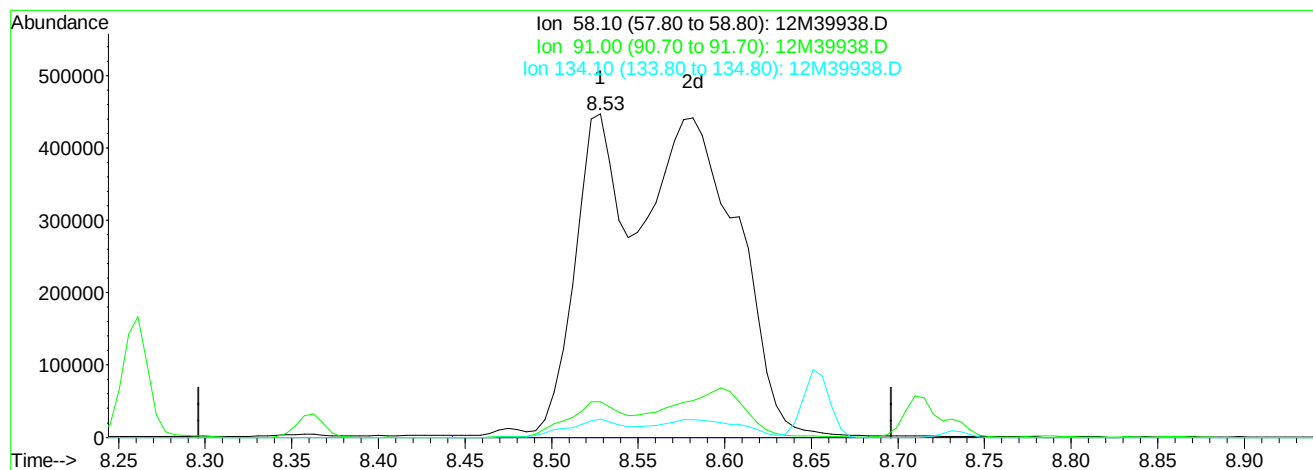
Ion	Exp%	Act%
58.10	100	100
91.00	11.40	13.20
134.10	5.40	7.22#
0.00	0.00	0.00

12M39938.D MEGAMIX.M Fri Jun 08 11:29:49 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39938.D Vial: 8
Acq On : 7 Jun 2012 2:56 pm Operator: CAA
Sample : WG400053-08 100ppm Megamix STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:29 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:29:25 2012
Response via : Multiple Level Calibration



TIC: 12M39938.D

(41) a,a-Dimethylphenethylamine

8.53min 108.52ug/ml mint

response 2432132

Ion	Exp%	Act%
58.10	100	100
91.00	11.40	4.39#
134.10	5.40	2.40#
0.00	0.00	0.00

12M39938.D MEGAMIX.M

Fri Jun 08 11:29:25 2012

Analyst: 06/08/2012 13:48

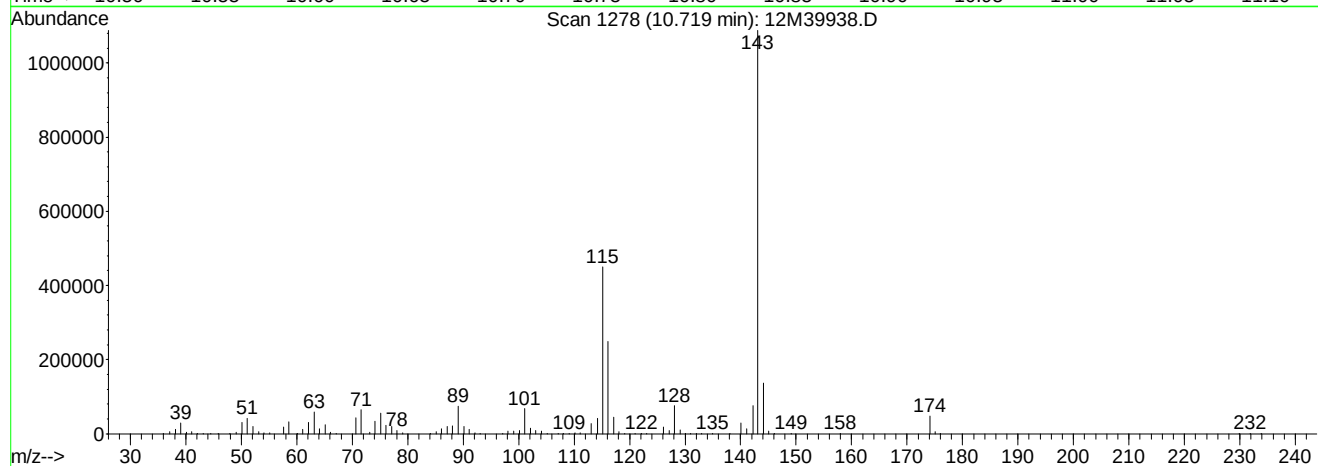
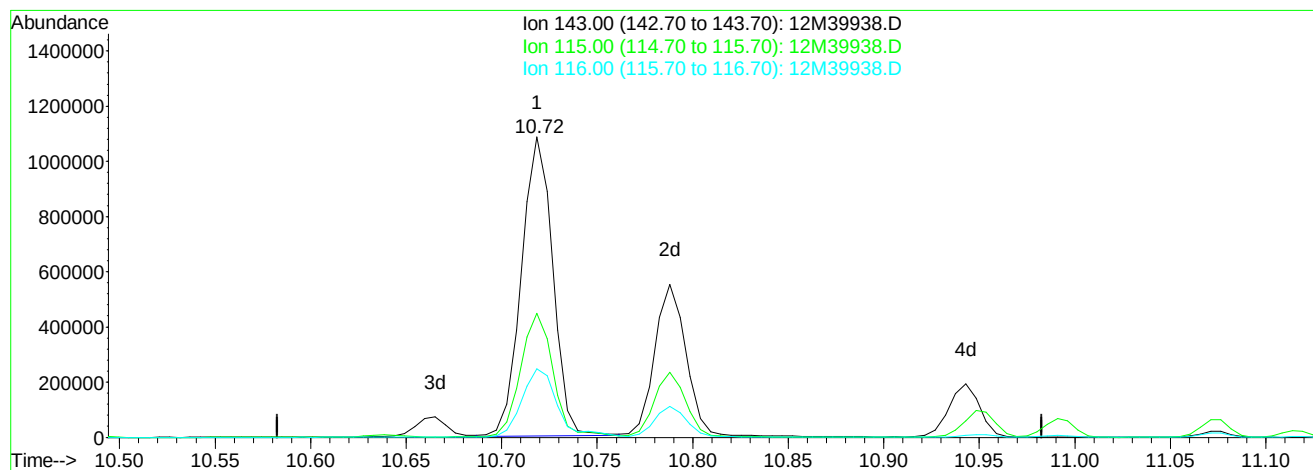
Supervisor: 06/08/2012 14:36

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39938.D Vial: 8
Acq On : 7 Jun 2012 2:56 pm Operator: CAA
Sample : WG400053-08 100ppm Megamix STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:29 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:29:25 2012
Response via : Multiple Level Calibration



TIC: 12M39938.D

(78) 2-Naphthylamine

10.72min 184.27ug/ml

response 1240871

Ion	Exp%	Act%
143.00	100	100
115.00	44.60	43.01
116.00	26.90	25.89
0.00	0.00	0.00

12M39938.D MEGAMIX.M

Fri Jun 08 11:29:59 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39938.D

Vial: 8

Acq On : 7 Jun 2012 2:56 pm

Operator: CAA

Sample : WG400053-08 100ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 8 11:30 2012

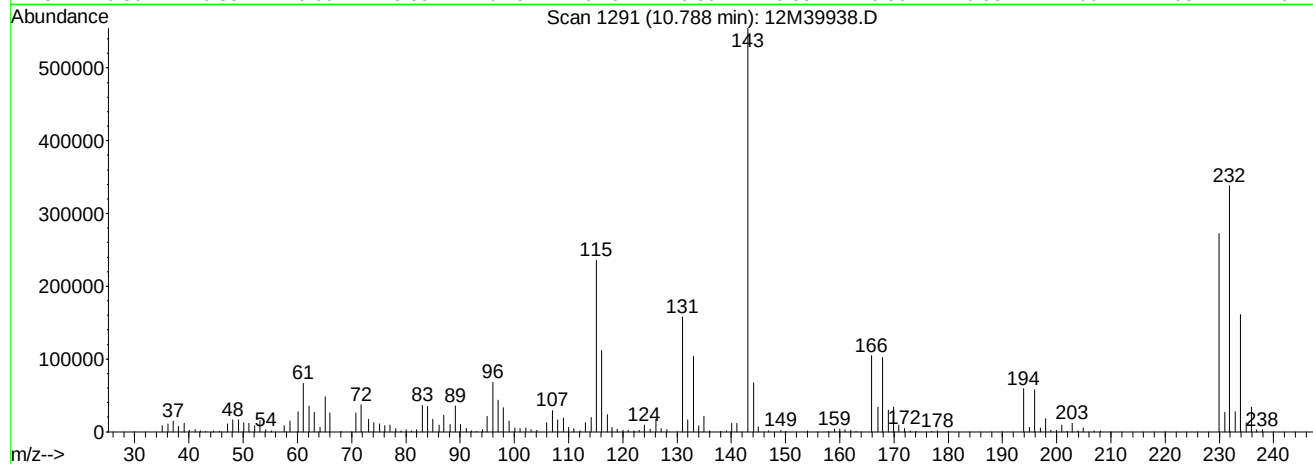
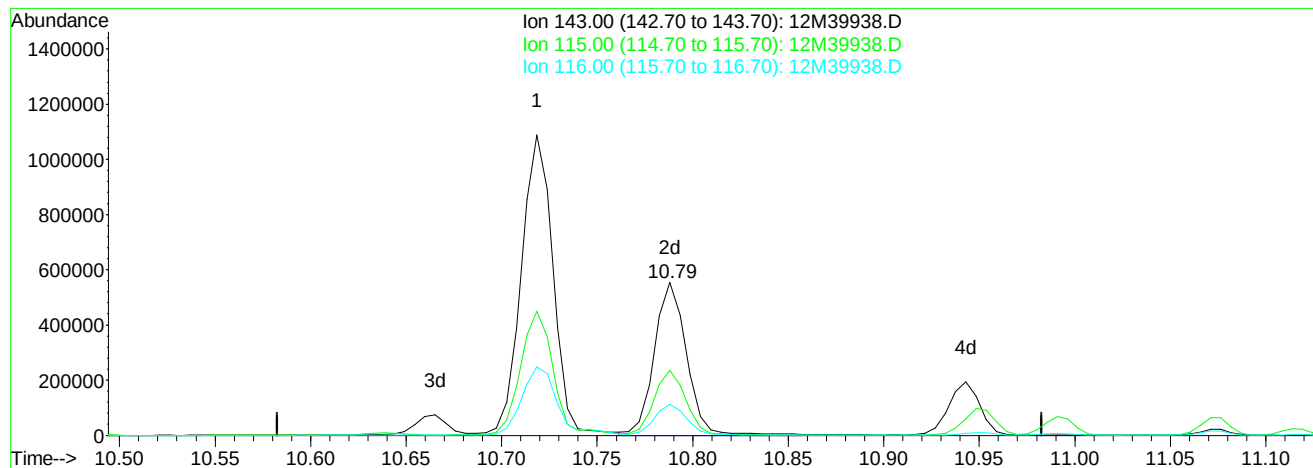
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:29:25 2012

Response via : Multiple Level Calibration



TIC: 12M39938.D

(78) 2-Naphthylamine

10.79min 96.92ug/ml mint

response 652666

Ion	Exp%	Act%
143.00	100	100
115.00	44.60	81.78#
116.00	26.90	49.23#
0.00	0.00	0.00

12M39938.D MEGAMIX.M

Fri Jun 08 2012

Analyst: 06/08/2012 13:48

Supervisor: 06/08/2012 14:36

#1 - Data system fails to select correct peak

Data File : I:\MSDCHEM\1\DATA\060712\12M39939.D

Vial: 9

Acq On : 7 Jun 2012 3:27 pm

Operator: CAA

Sample : WG400053-09 120ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:30:21 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:30:14 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.369	152	269521	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.651	136	1033817	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.451	164	593604	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.995	188	1056963	40.0000	ug/ml	0.000
113) Chrysene-d12	15.553	240	944885	40.0000	ug/ml	0.000
128) Perylene-d12	17.930	264	883098	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.124	112	998826	116.0108660	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery = 116.01%#			
12) Phenol-d5	7.000	99	1167138	112.1848259	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery = 112.18%#			
31) Nitrobenzene-d5	7.940	82	970102	110.7780957	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery = 221.56%#			
59) 2-Fluorobiphenyl	9.725	172	2123923	106.6699059	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 213.34%#			
86) 2,4,6-Tribromophenol	11.258	330	298304	117.7979873	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 117.80%#			
117) p-Terphenyl-d14	13.956	244	1936683	110.6472388	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 221.29%#			
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.07	88	402958	114.7962	ug/ml	100
3) n-Nitrosodimethylamine	4.61	74	581292	114.3024	ug/ml	98
4) Pyridine	4.61	79	1030951	115.3132	ug/ml	98
5) 2-Picoline	5.50	93	1187481	115.0831	ug/ml	99
6) n-Nitrosomethylethylamine	5.64	88	520693	118.2453	ug/ml	97
7) Methyl Methanesulfonate	5.96	80	537132	113.2540	ug/ml	99
9) n-Nitrosodiethylamine	6.35	102	504613	114.7238	ug/ml	96
10) Ethyl Methanesulfonate	6.63	79	708330	113.2530	ug/ml	99
11) Aniline	7.07	93	1506137	115.2358	ug/ml	99
13) Phenol	7.01	94	1197006	111.4104	ug/ml	99
14) bis(2-Chloroethyl)ether	7.10	63	680984	111.1681	ug/ml	92
15) Pentachloroethane	7.10	167	384649	112.6126	ug/ml	99
16) 2-Chlorophenol	7.19	128	1045359	115.2219	ug/ml	98
17) 1,3-Dichlorobenzene	7.34	146	1165529	112.6773	ug/ml	99
18) 1,4-Dichlorobenzene	7.38	146	1175795	112.5331	ug/ml	100
19) Benzyl Alcohol	7.49	108	671078	118.3836	ug/ml	98
20) 1,2-Dichlorobenzene	7.58	146	1117625	113.5064	ug/ml	99
21) 2-Methylphenol	7.61	107	822032	116.0549	ug/ml	99
22) bis(2-Chloroisopropyl)ethe	7.64	45	1258012	105.6965	ug/ml	96
23) 3-,4-Methylphenol	7.74	107	1047810	115.3416	ug/ml	99
24) n-Nitrosopyrrolidine	7.77	100	467223	108.4754	ug/ml	88
25) n-Nitrosodipropylamine	7.78	70	536634	98.0464	ug/ml	97
26) Acetophenone	7.77	105	1167759	107.6144	ug/ml	96
27) n-Nitrosomorpholine	7.79	56	498493	97.5122	ug/ml	95
28) o-Toluidine	7.82	106	1578246	113.9683	ug/ml	100
29) Hexachloroethane	7.89	117	425422	116.0100	ug/ml	98
32) Nitrobenzene	7.96	77	973593	110.5145	ug/ml	97
33) n-Nitrosopiperidine	8.11	114	522483	112.4341	ug/ml	96
34) Isophorone	8.18	82	1772931	107.7922	ug/ml	98
35) 2-Nitrophenol	8.28	139	592803	114.9227	ug/ml	96
36) 2,4-Dimethylphenol	8.26	122	925981	110.7600	ug/ml	98
37) 0,0,0-Triethyl Phosphoroth	8.36	198	483780	105.8278	ug/ml	95
38) bis(2-Chloroethoxy)methane	8.36	93	1293104	100.2640	ug/ml	97

(#) = qualifier out of range (m) = manual integration
 12M39939.D MEGAMIX.M Fri Jun 08 11:34:51 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\060712\12M39939.D

Vial: 9

Acq On : 7 Jun 2012 3:27 pm

Operator: CAA

Sample : WG400053-09 120ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:30:21 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:30:14 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.35	105	602645m	202.1856	ug/ml	
40) 2,4-Dichlorophenol	8.51	162	874618	115.1651	ug/ml	99
41) a,a-Dimethylphenethylamine	8.54	58	2803495m	130.7953	ug/ml	
42) 1,2,4-Trichlorobenzene	8.60	180	957309	108.9688	ug/ml	100
43) Naphthalene	8.68	128	2864675	106.3439	ug/ml	98
44) 4-Chloroaniline	8.71	127	1260606	114.1319	ug/ml	99
45) 2,6-Dichlorophenol	8.74	162	888308	113.8902	ug/ml	99
46) Hexachloropropene	8.79	213	589734	119.9345	ug/ml	99
47) Hexachlorobutadiene	8.83	225	494872	109.8638	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.04	84	814456	113.1892	ug/ml	99
49) p-Phenylenediamine	9.06	108	533720	220.3381	ug/ml	98
50) 4-Chloro-3-Methylphenol	9.16	107	828733	110.7941	ug/ml	97
51) Safrole	9.24	162	823362	112.1656	ug/ml	98
52) 2-Methylnaphthalene	9.36	142	1958825	107.7139	ug/ml	99
53) 1-Methylnaphthalene	9.48	142	1823568	107.5014	ug/ml	99
55) 1,2,4,5-Tetrachlorobenzene	9.57	216	899262	108.3168	ug/ml	99
56) Hexachlorocyclopentadiene	9.58	237	400499	152.8049	ug/ml	100
57) 2,4,6-Trichlorophenol	9.66	196	638589	117.8069	ug/ml	99
58) 2,4,5-Trichlorophenol	9.70	196	643739	115.8828	ug/ml	100
60) Isosafrole	9.77	162	837545	112.5801	ug/ml	98
61) 2-Chloronaphthalene	9.86	162	1877246	110.9393	ug/ml	99
62) 1-Chloronaphthalene	9.91	162	1785892	109.7425	ug/ml	99
63) 2-Nitroaniline	9.97	65	526539	112.5206	ug/ml	95
64) 1,4-Naphthoquinone	10.03	158	489710	81.7714	ug/ml	97
65) Dimethylphthalate	10.15	163	2087097	108.5214	ug/ml	100
66) 1,3-Dinitrobenzene	10.19	168	414981	119.4177	ug/ml	95
67) 2,6-Dinitrotoluene	10.23	165	539259	115.3257	ug/ml	96
68) Acenaphthylene	10.30	152	2942913	107.0004	ug/ml	99
69) 3-Nitroaniline	10.39	138	546032	129.9102	ug/ml	98
70) 2,4-Dinitrophenol	10.50	184	257624	165.3011	ug/ml	29
71) Acenaphthene	10.48	154	1854095	108.7636	ug/ml	99
72) 4-Nitrophenol	10.52	65	392579	119.7814	ug/ml	98
73) 2,4-Dinitrotoluene	10.64	165	643064	112.4315	ug/ml	91
74) Pentachlorobenzene	10.66	250	772947	109.3957	ug/ml	100
75) Dibenzofuran	10.64	168	2402012	103.3963	ug/ml	100
76) 2,3,4,6-Tetrachlorophenol	10.75	232	533833	128.2692	ug/ml	99
77) 1-Naphthylamine	10.72	143	1540006	140.3313	ug/ml#	38
78) 2-Naphthylamine	10.79	143	903869m	142.2069	ug/ml	
79) Diethylphthalate	10.85	149	2015027	108.6832	ug/ml	98
80) Thionazin	10.94	107	293605	103.4736	ug/ml	99
81) Fluorene	11.00	166	2113433	107.7808	ug/ml	99
82) 4-Chlorophenyl Phenyl Ether	10.95	204	997957	106.3150	ug/ml	98
83) 4-Nitroaniline	11.02	138	515177	110.8196	ug/ml	98
84) 5-Nitro-o-Toluidine	11.01	152	632882	118.1873	ug/ml	96
85) 1,2-Diphenylhydrazine	11.11	77	1808274	105.6985	ug/ml	95
88) 4,6-Dinitro-2-Methylphenol	11.06	198	378675	143.7739	ug/ml	79
89) n-Nitrosodiphenylamine	11.08	169	1797055	106.4188	ug/ml	99
90) Sulfotep	11.28	322	330704	108.2848	ug/ml	94
91) Sym-Trinitrobenzene	11.37	75	482676	133.4518	ug/ml	97
92) Diallate	11.39	86	665029	99.4958	ug/ml	91
93) Phenacetin	11.39	108	843342	101.2714	ug/ml	98
94) Phorate	11.40	75	954167	90.9324	ug/ml#	89
95) 4-Bromophenyl Phenyl Ether	11.46	248	606176	111.2059	ug/ml	97
96) Hexachlorobenzene	11.65	284	609658	109.0876	ug/ml	98

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

12M39939.D MEGAMIX.M Fri Jun 08 11:34:51 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\060712\12M39939.D

Vial: 9

Acq On : 7 Jun 2012 3:27 pm

Operator: CAA

Sample : WG400053-09 120ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 08 11:30:21 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:30:14 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	11.61	87	503628	83.4137	ug/ml	98
98) 4-Aminobiphenyl	11.74	169	1623039	114.1147	ug/ml	99
99) Pentachlorophenol	11.83	266	400841	141.6012	ug/ml	100
100) Pronamide	11.80	173	944508	110.5703	ug/ml	99
101) Pentachloronitrobenzene	11.91	237	228186	112.0618	ug/ml	99
102) Disulfoton	11.95	88	1017820	107.1786	ug/ml	99
103) Phenanthrene	12.02	178	2931024	106.2434	ug/ml	99
104) Anthracene	12.08	178	3022204	106.0440	ug/ml	98
105) Carbazole	12.23	167	2788230	109.9825	ug/ml	100
106) Parathion Methyl	12.40	109	469205	92.5873	ug/ml	98
107) Di-n-Butyl Phthalate	12.60	149	3277201	106.2917	ug/ml	99
108) Parathion Ethyl	12.87	97	377197	110.8510	ug/ml	97
109) 4-Nitroquinoline 1-Oxide	12.95	190	135924	147.7286	ug/ml	97
110) Methapyrilene	13.02	58	466372	69.8913	ug/ml	100
111) Isodrin	13.33	193	327760	108.4020	ug/ml	99
112) Fluoranthene	13.50	202	3116798	106.4648	ug/ml	99
114) Benzidine	13.61	184	299386	90.7940	ug/ml	100
115) Pyrene	13.81	202	3153372	109.6197	ug/ml	98
116) Aramite	13.89	185	185161	113.9346	ug/ml	99
118) p-(Dimethylamino)azobenzen	14.17	225	689755	117.3005	ug/ml	95
119) Chlorobenzilate	14.22	251	948760	117.1313	ug/ml	95
120) Famphur	14.61	218	5122	11.8023	ug/ml#	11
121) Butyl Benzyl Phthalate	14.63	149	1381318	109.1202	ug/ml	97
122) 3,3'-Dimethylbenzidine	14.63	212	1374354	87.1312	ug/ml	99
123) 2-Acetylaminofluorene	15.05	181	1327264	117.2204	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	15.47	149	1955194	110.8727	ug/ml	99
125) 3,3'-Dichlorobenzidine	15.45	252	772977	101.8097	ug/ml	100
126) Benzo[a]anthracene	15.53	228	2856178	111.7951	ug/ml	99
127) Chrysene	15.60	228	2610383	109.9196	ug/ml	99
129) Di-n-Octyl Phthalate	16.37	149	3316708	116.3294	ug/ml	98
130) 7,12-Dimethylbenz[a]anthra	17.23	256	1251753	110.8684	ug/ml	100
131) Benzo[b]fluoranthene	17.23	252	2924671	113.3553	ug/ml	99
132) Benzo[k]fluoranthene	17.27	252	2566233	113.5998	ug/ml	95
133) Benzo[a]pyrene	17.83	252	2633555	113.6023	ug/ml	99
134) 3-Methylcholanthrene	18.57	268	1320612	112.9425	ug/ml	100
135) Indeno[1,2,3-cd]pyrene	20.49	276	2515288	106.1659	ug/ml	99
136) Dibenz[ah]anthracene	20.49	278	2132483	107.0168	ug/ml	99
137) Benzo[ghi]perylene	21.25	276	2021459	102.8386	ug/ml	99

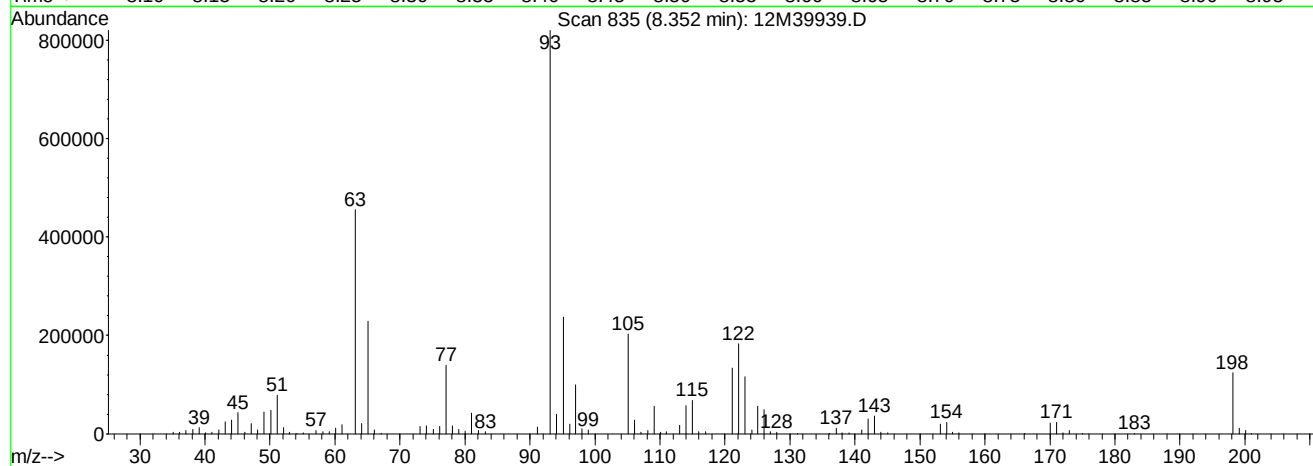
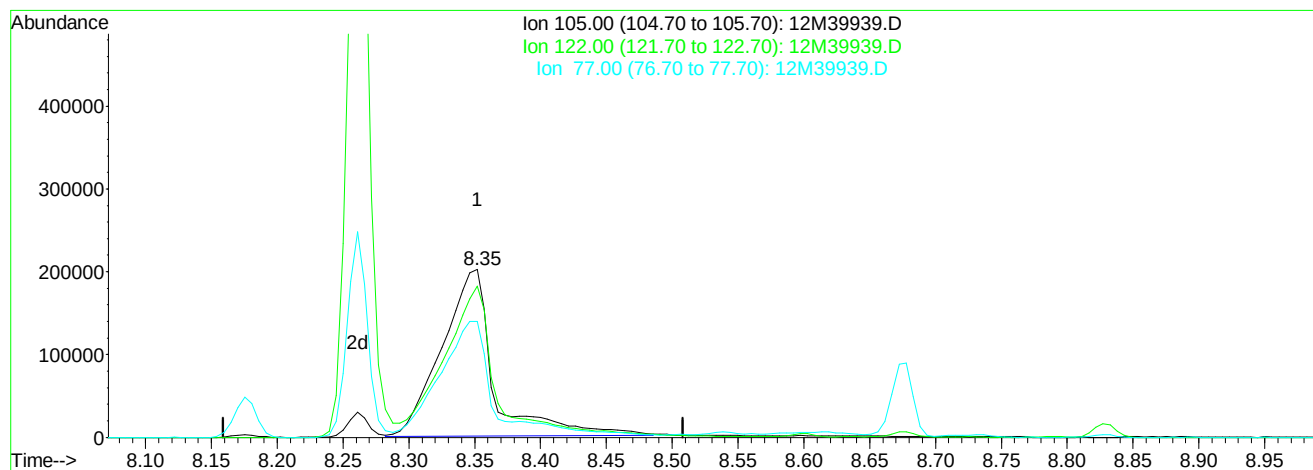
 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M39939.D MEGAMIX.M Fri Jun 08 11:34:51 2012

Page 3

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39939.D Vial: 9
Acq On : 7 Jun 2012 3:27 pm Operator: CAA
Sample : WG400053-09 120ppm Megamix STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:30 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:30:14 2012
Response via : Single Level Calibration



TIC: 12M39939.D

(39) Benzoic Acid

8.35min 187.27ug/ml

response 558177

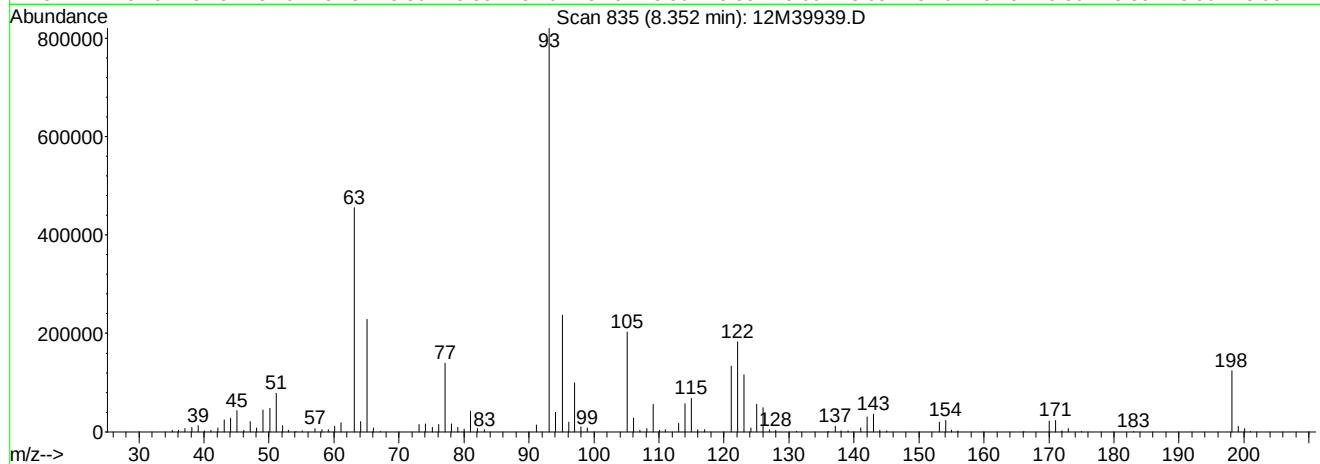
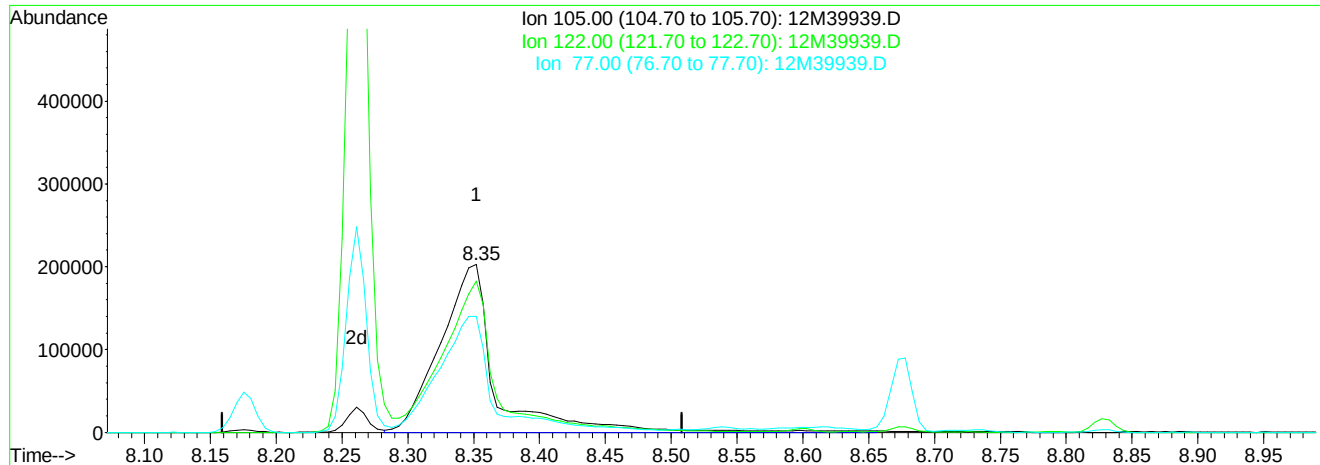
Ion	Exp%	Act%
105.00	100	100
122.00	48.10	86.77#
77.00	41.80	69.61#
0.00	0.00	0.00

12M39939.D MEGAMIX.M Fri Jun 08 11:30:30 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39939.D Vial: 9
 Acq On : 7 Jun 2012 3:27 pm Operator: CAA
 Sample : WG400053-09 120ppm Megamix STD Inst : MSD12
 Misc : 1,1 STD52044 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 8 11:30 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Fri Jun 08 11:30:14 2012
 Response via : Single Level Calibration



TIC: 12M39939.D

(39) Benzoic Acid

8.35min 202.19ug/ml mint

response 602645

Ion	Exp%	Act%
105.00	100	100
122.00	48.10	80.36#
77.00	41.80	64.47#
0.00	0.00	0.00

12M39939.D MEGAMIX.M

Fri Jun 08 11:35 2012

Analyst: 06/08/2012 13:48

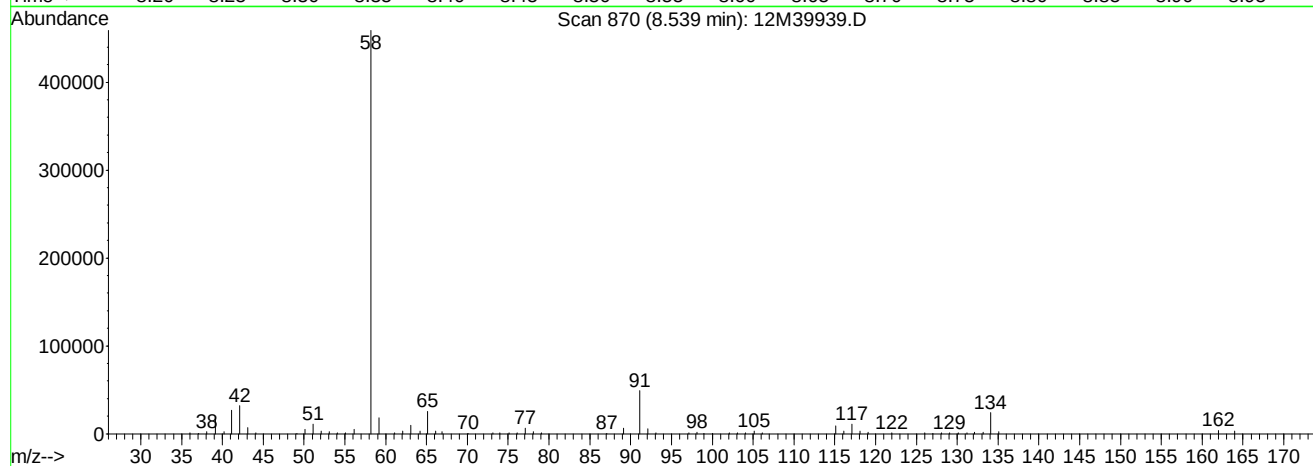
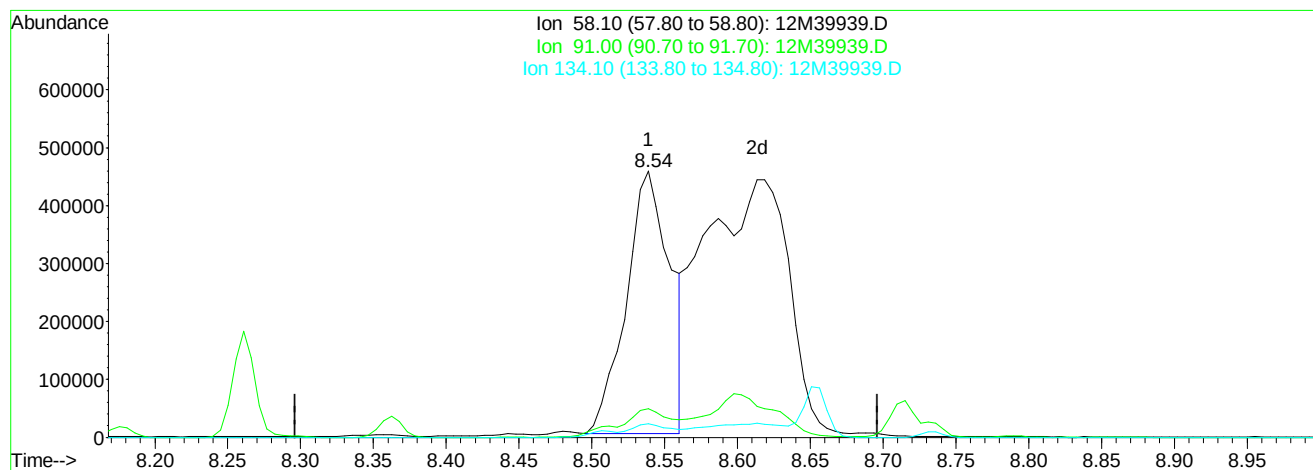
Supervisor: 06/08/2012 14:36

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39939.D Vial: 9
Acq On : 7 Jun 2012 3:27 pm Operator: CAA
Sample : WG400053-09 120ppm Megamix STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:30 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:30:14 2012
Response via : Multiple Level Calibration



TIC: 12M39939.D

(41) a,a-Dimethylphenethylamine

8.54min 44.33ug/ml

response 950129

Ion	Exp%	Act%
58.10	100	100
91.00	11.40	12.78
134.10	5.40	4.36
0.00	0.00	0.00

12M39939.D MEGAMIX.M Fri Jun 08 11:30:39 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39939.D

Vial: 9

Acq On : 7 Jun 2012 3:27 pm

Operator: CAA

Sample : WG400053-09 120ppm Megamix STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 8 11:30 2012

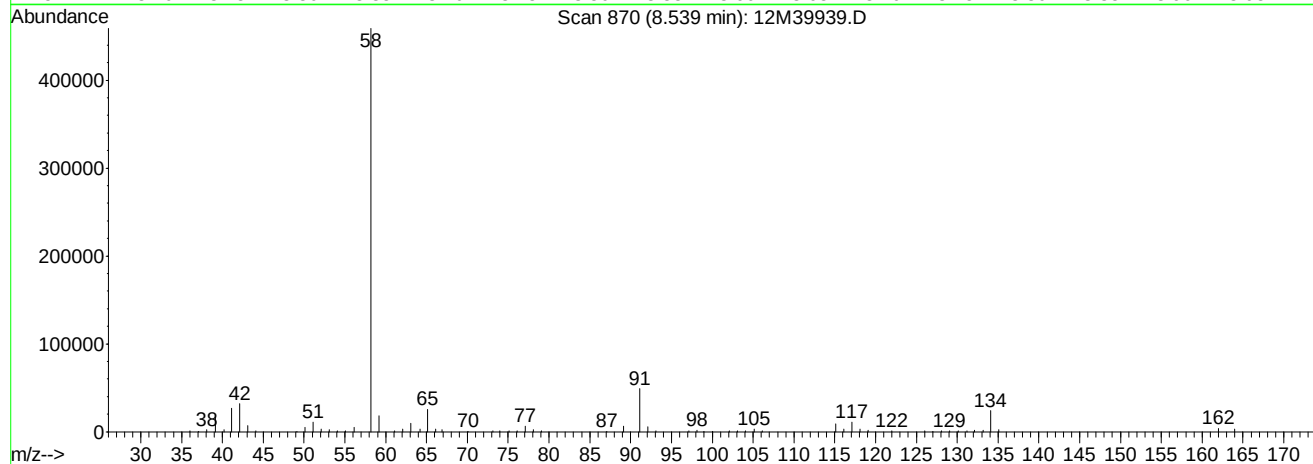
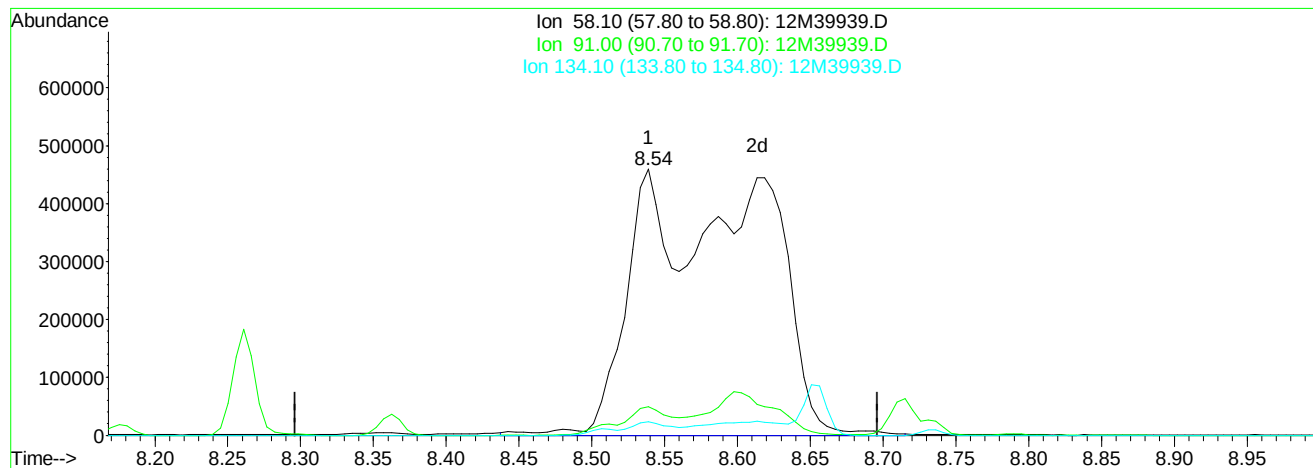
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Fri Jun 08 11:30:14 2012

Response via : Multiple Level Calibration



TIC: 12M39939.D

(41) a,a-Dimethylphenethylamine

8.54min 130.80ug/ml mint

response 2803495

Ion	Exp%	Act%
58.10	100	100
91.00	11.40	4.33#
134.10	5.40	1.48#
0.00	0.00	0.00

12M39939.D MEGAMIX.M

Fri Jun 08 12 2012

Analyst: 06/08/2012 13:48

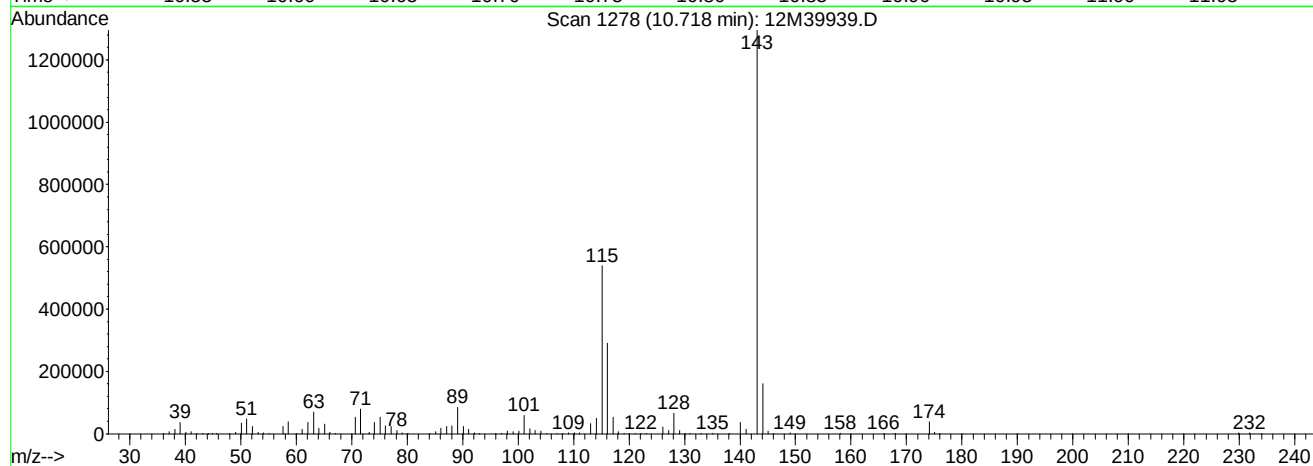
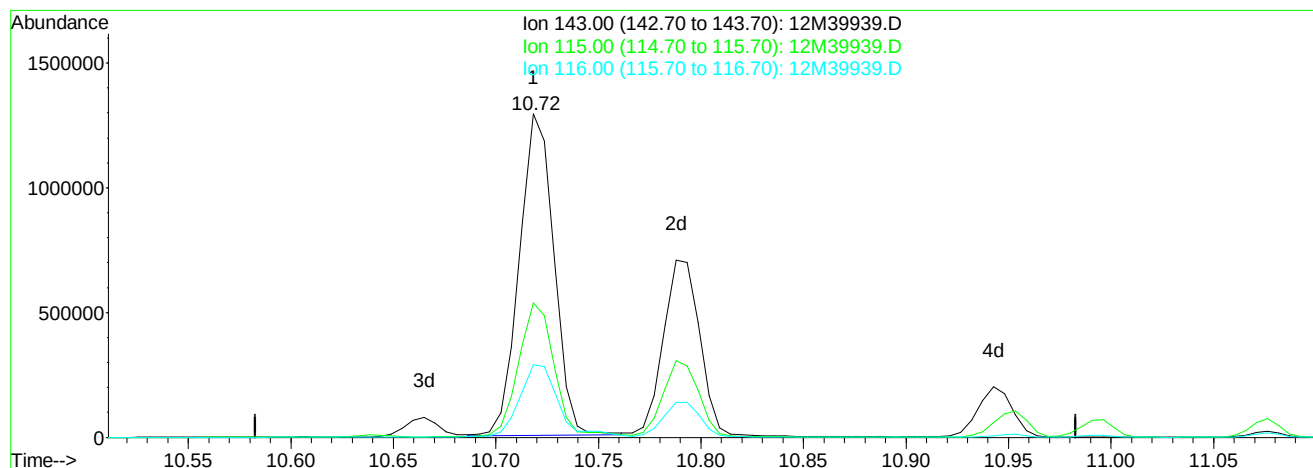
Supervisor: 06/08/2012 14:36

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39939.D Vial: 9
Acq On : 7 Jun 2012 3:27 pm Operator: CAA
Sample : WG400053-09 120ppm Megamix STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:30 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:30:14 2012
Response via : Multiple Level Calibration



TIC: 12M39939.D

(78) 2-Naphthylamine

10.72min 237.72ug/ml

response 1510975

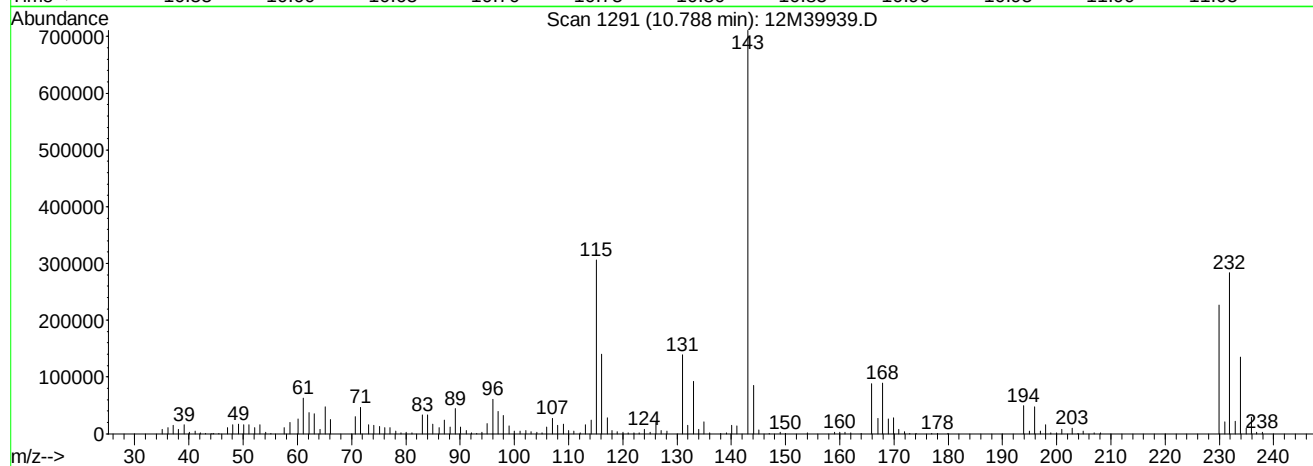
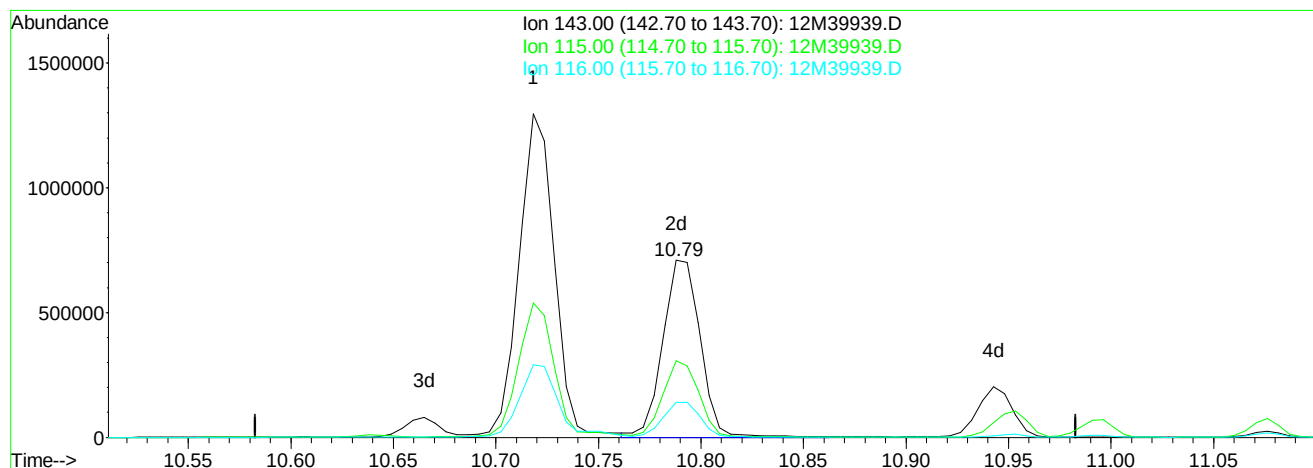
Ion	Exp%	Act%
143.00	100	100
115.00	44.60	43.34
116.00	26.90	25.15
0.00	0.00	0.00

12M39939.D MEGAMIX.M Fri Jun 08 11:30:49 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39939.D Vial: 9
Acq On : 7 Jun 2012 3:27 pm Operator: CAA
Sample : WG400053-09 120ppm Megamix STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:30 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:30:14 2012
Response via : Multiple Level Calibration



TIC: 12M39939.D

(78) 2-Naphthylamine

10.79min 142.21ug/ml mint

response 903869

Ion	Exp%	Act%
143.00	100	100
115.00	44.60	72.45#
116.00	26.90	42.05#
0.00	0.00	0.00

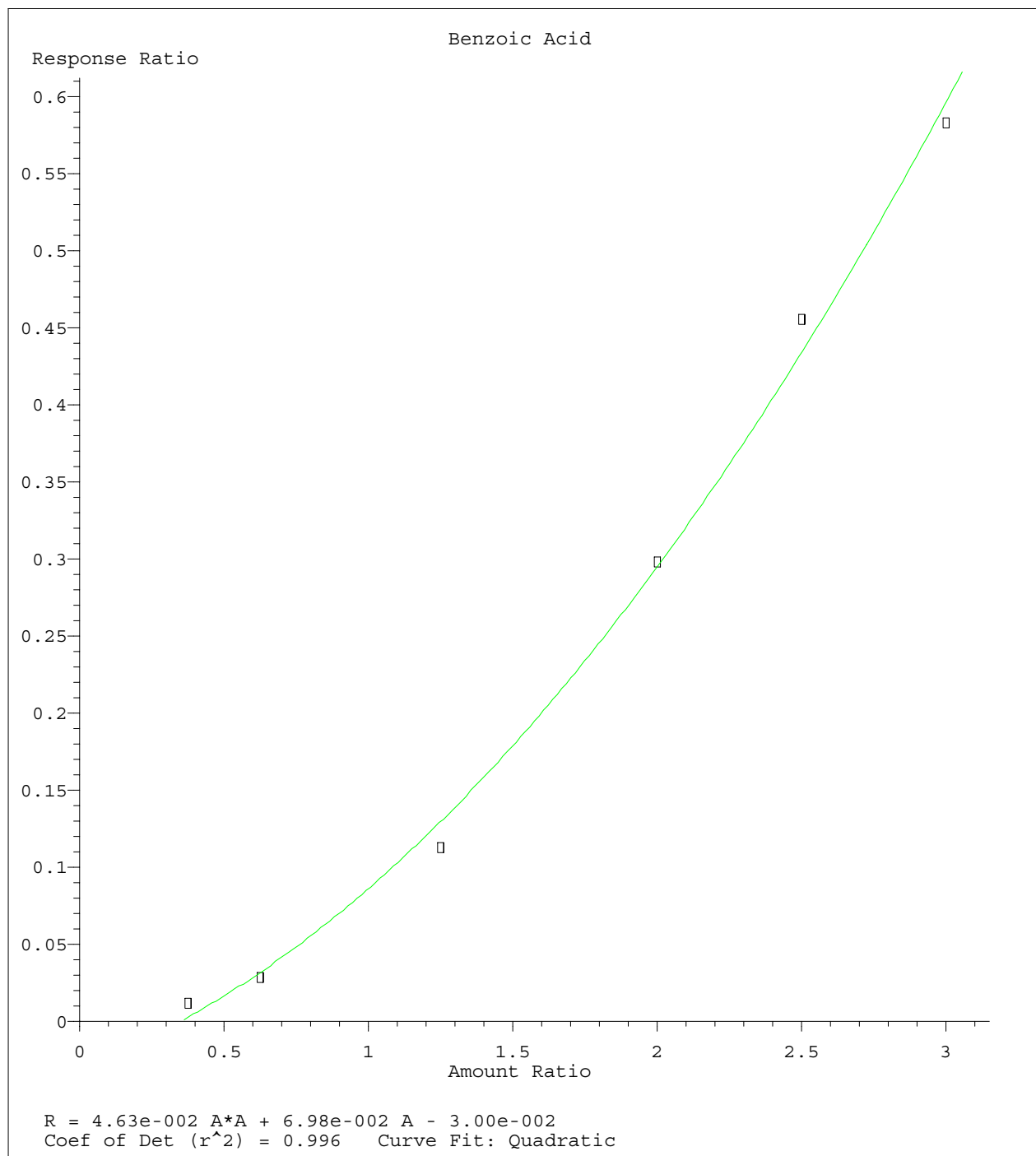
12M39939.D MEGAMIX.M

Fri Jun 08 11:30 2012

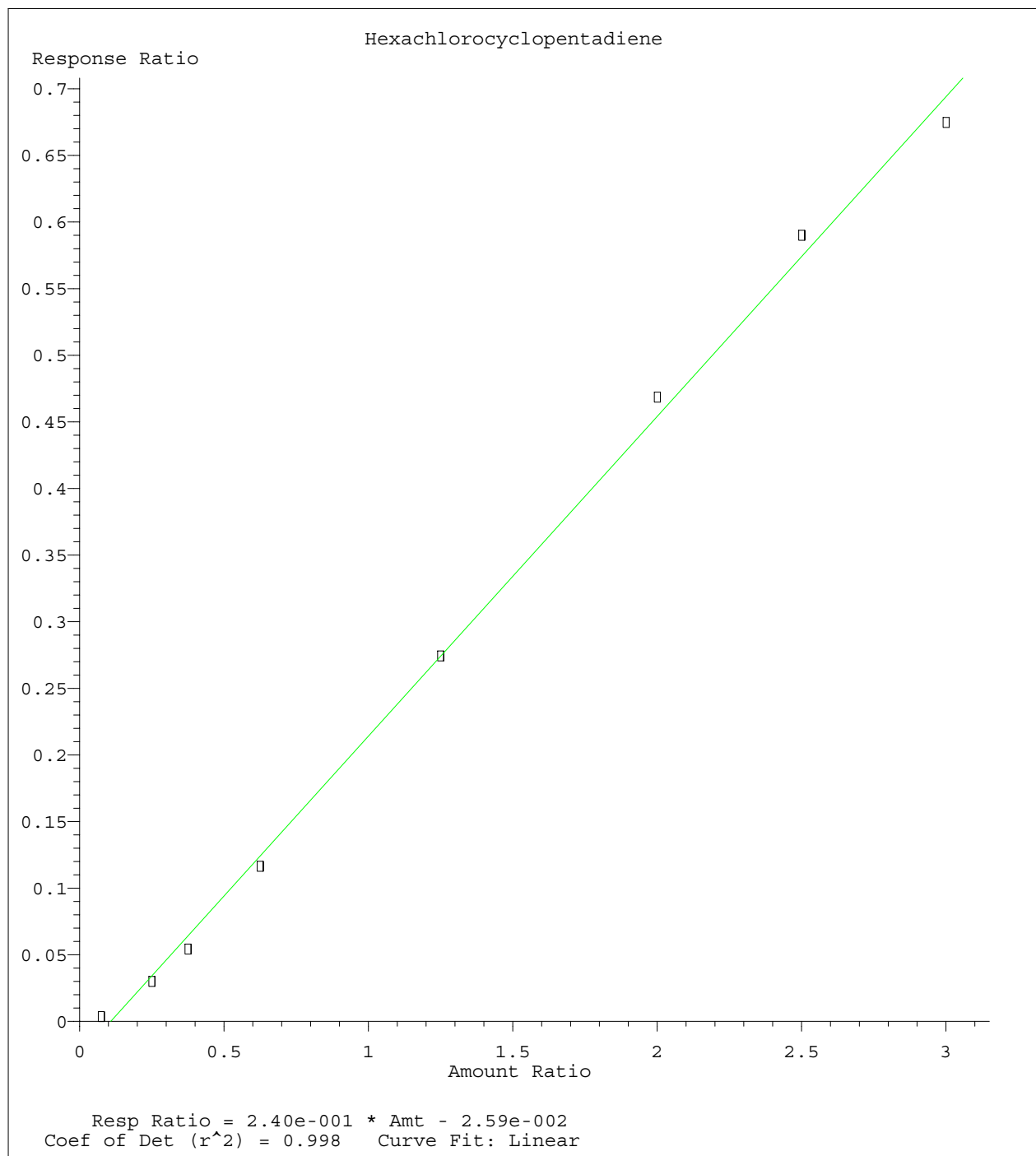
Analyst: 06/08/2012 13:48

Supervisor: 06/08/2012 14:36

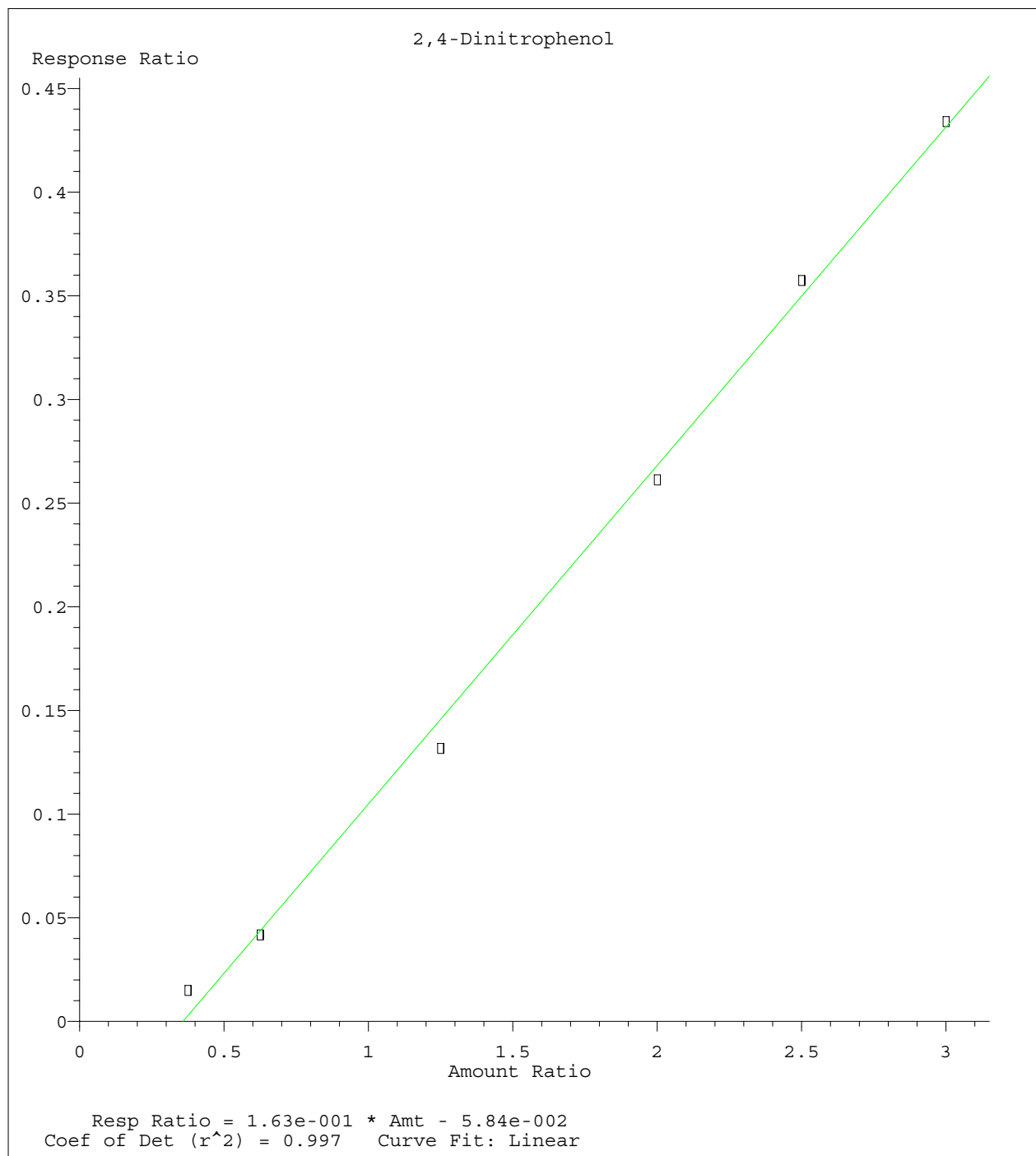
#1 - Data system fails to select correct peak



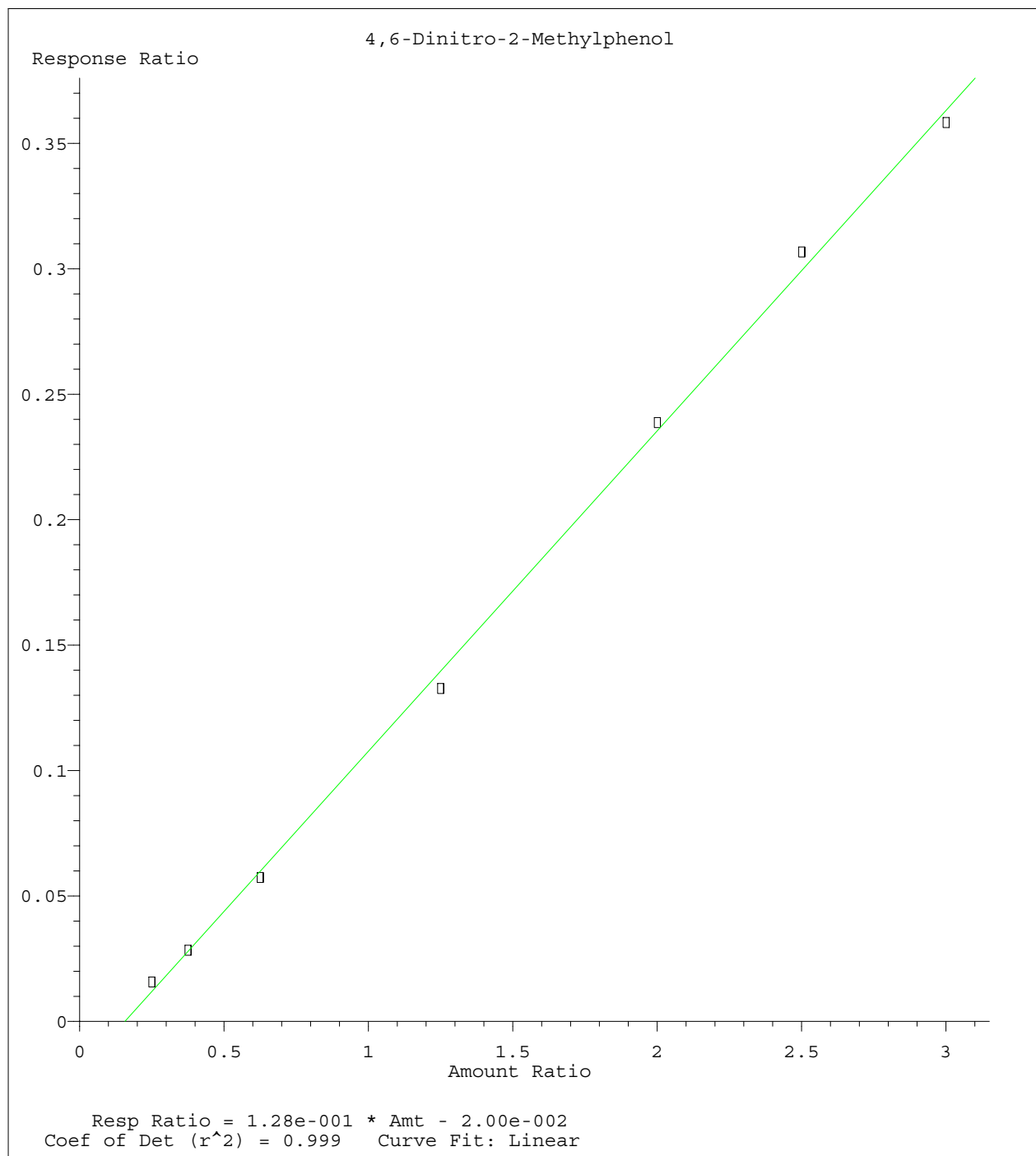
Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Jun 08 11:46:02 2012



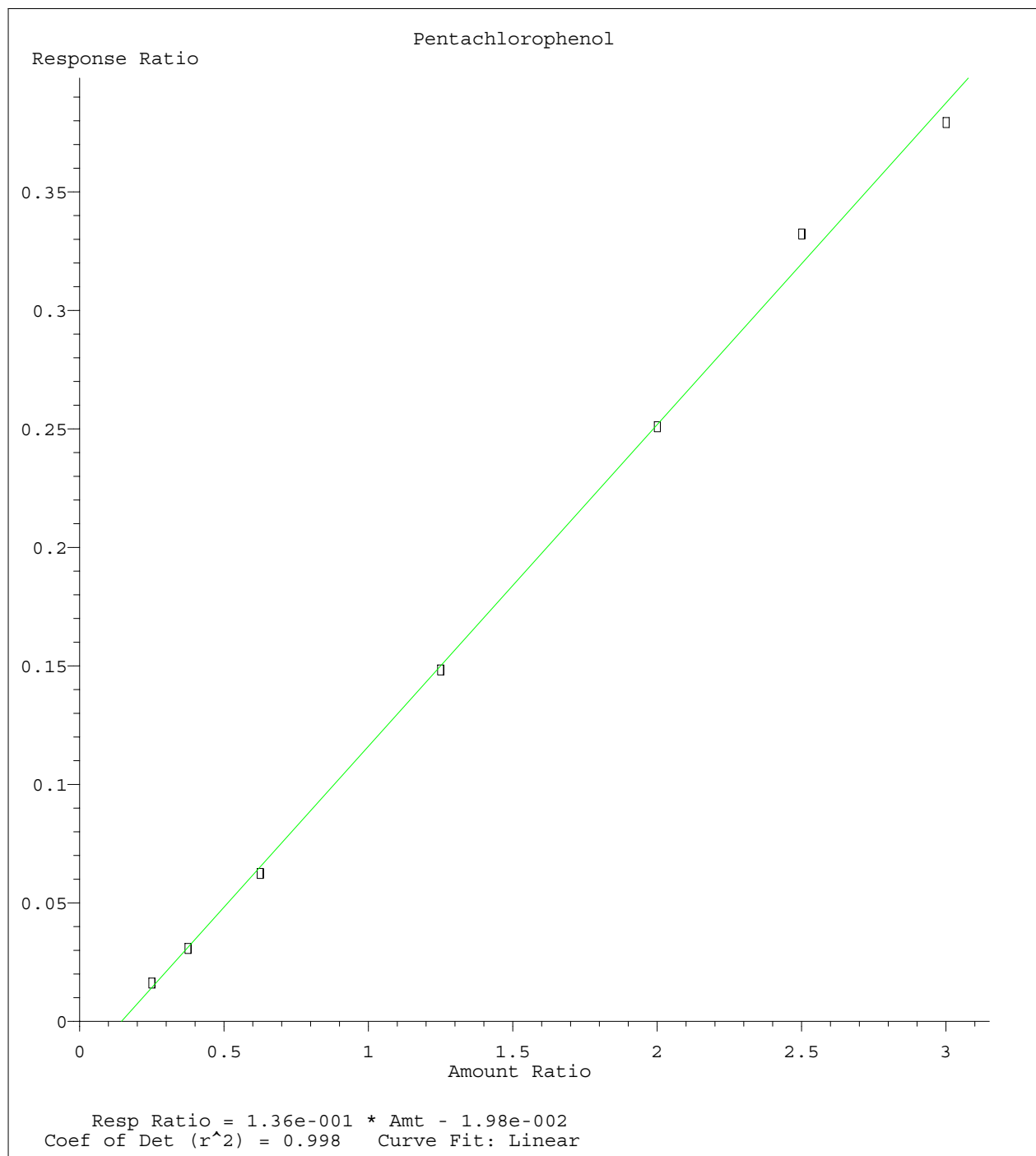
Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Jun 08 11:46:02 2012



Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Jun 08 11:46:02 2012



Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Jun 08 11:46:02 2012



Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Jun 08 11:46:02 2012

Data File : I:\MSDCHEM\1\DATA\060712\12M39940.D Vial: 10
 Acq On : 7 Jun 2012 3:59 pm Operator: CAA
 Sample : WG400053-10 50ppm Megamix Alt Src STD Inst : MSD12
 Misc : 1,1 STD50596 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 08 12:36:34 2012 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Fri Jun 08 11:46:02 2012
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.369	152	267482	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.651	136	1011421	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.446	164	580908	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.990	188	1028083	40.0000	ug/ml	0.000
113) Chrysene-d12	15.548	240	953348	40.0000	ug/ml	0.000
128) Perylene-d12	17.925	264	935703	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	0.000	112	0	0.0000000	ug/ml	
Spiked Amount 100.000	Range 21 - 100		Recovery	=	0.00%#	
12) Phenol-d5	7.091	99	2699	0.2614044	ug/ml	0.10
Spiked Amount 100.000	Range 10 - 94		Recovery	=	0.26%#	
31) Nitrobenzene-d5	7.887	82	37536	4.3812314	ug/ml	-0.05
Spiked Amount 50.000	Range 35 - 114		Recovery	=	8.76%#	
59) 2-Fluorobiphenyl	9.698	172	371	0.0190400	ug/ml	-0.03
Spiked Amount 50.000	Range 43 - 116		Recovery	=	0.04%#	
86) 2,4,6-Tribromophenol	0.000	330	0	0.0000000	ug/ml	
Spiked Amount 100.000	Range 10 - 123		Recovery	=	0.00%#	
117) p-Terphenyl-d14	0.000	244	0	0.0000000	ug/ml	
Spiked Amount 50.000	Range 33 - 141		Recovery	=	0.00%#	
Target Compounds						
					Qvalue	
3) n-Nitrosodimethylamine	4.61	74	262234	51.9575	ug/ml	97
4) Pyridine	4.61	79	461704	52.0359	ug/ml	99
5) 2-Picoline	5.50	93	479834	46.8569	ug/ml	100
6) n-Nitrosomethylethylamine	5.64	88	216329	49.5011	ug/ml	97
7) Methyl Methanesulfonate	5.96	80	238511	50.6733	ug/ml	100
9) n-Nitrosodiethylamine	6.35	102	208894	47.8541	ug/ml	97
10) Ethyl Methanesulfonate	6.63	79	307398	49.5237	ug/ml	98
11) Aniline	7.07	93	680628	52.4724	ug/ml	97
13) Phenol	7.01	94	544286	51.0452	ug/ml	96
14) bis(2-Chloroethyl)ether	7.10	63	285113	47.3339	ug/ml	88
15) Pentachloroethane	7.10	167	177845	52.4641	ug/ml	98
16) 2-Chlorophenol	7.19	128	469571	52.1517	ug/ml	99
17) 1,3-Dichlorobenzene	7.34	146	517836	50.4433	ug/ml	99
18) 1,4-Dichlorobenzene	7.38	146	530751	51.1844	ug/ml	99
19) Benzyl Alcohol	7.49	108	313464	55.7191	ug/ml	99
20) 1,2-Dichlorobenzene	7.58	146	501925	51.3642	ug/ml	99
21) 2-Methylphenol	7.60	107	360180	51.2380	ug/ml	99
22) bis(2-Chloroisopropyl)ethe	7.64	45	557471	47.9088	ug/ml	98
23) 3-,4-Methylphenol	7.73	107	459082	50.9204	ug/ml	99
24) n-Nitrosopyrrolidine	7.76	100	210828	49.3212	ug/ml	99
25) n-Nitrosodipropylamine	7.77	70	282670	52.0393	ug/ml	94
26) Acetophenone	7.77	105	545889	50.6897	ug/ml	99
27) n-Nitrosomorpholine	7.77	56	245559	48.4009	ug/ml	98
28) o-Toluidine	7.81	106	667332	48.5567	ug/ml	99
29) Hexachloroethane	7.89	117	187305	51.4663	ug/ml	97
32) Nitrobenzene	7.95	77	430815	49.9856	ug/ml	98
33) n-Nitrosopiperidine	8.10	114	210900	46.3889	ug/ml	98
34) Isophorone	8.17	82	783672	48.7014	ug/ml	99
35) 2-Nitrophenol	8.27	139	264369	52.3863	ug/ml	98
36) 2,4-Dimethylphenol	8.26	122	423444	51.7712	ug/ml	100
37) 0,0,0-Triethyl Phosphoroth	8.36	198	215714	48.2327	ug/ml	96
38) bis(2-Chloroethoxy)methane	8.36	93	654957	52.9978	ug/ml	99
39) Benzoic Acid	8.33	105	182066	60.2067	ug/ml#	54

(#) = qualifier out of range (m) = manual integration
 12M39940.D MEGAMIX.M Fri Jun 08 12:37:08 2012

Data File : I:\MSDCHEM\1\DATA\060712\12M39940.D Vial: 10
 Acq On : 7 Jun 2012 3:59 pm Operator: CAA
 Sample : WG400053-10 50ppm Megamix Alt Src STD Inst : MSD12
 Misc : 1,1 STD50596 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 08 12:36:34 2012 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Fri Jun 08 11:46:02 2012
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
40) 2,4-Dichlorophenol	8.50	162	383926	51.6728	ug/ml	99
41) a,a-Dimethylphenethylamine	8.52	58	1127109	53.6977	ug/ml#	85
42) 1,2,4-Trichlorobenzene	8.60	180	432380	50.3069	ug/ml	99
43) Naphthalene	8.67	128	1367028	51.8712	ug/ml	100
44) 4-Chloroaniline	8.71	127	567297	52.4989	ug/ml	99
45) 2,6-Dichlorophenol	8.73	162	407637	53.4205	ug/ml	99
46) Hexachloropropene	8.79	213	261915	54.4453	ug/ml	100
47) Hexachlorobutadiene	8.83	225	239772	54.4091	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.03	84	283031	40.2053	ug/ml#	85
49) p-Phenylenediamine	9.09	108	11356	14.5740	ug/ml#	76
50) 4-Chloro-3-Methylphenol	9.15	107	373649	51.0596	ug/ml	98
51) Safrole	9.24	162	375204	52.2454	ug/ml	99
52) 2-Methylnaphthalene	9.36	142	910167	51.1575	ug/ml	100
53) 1-Methylnaphthalene	9.47	142	834511	50.2847	ug/ml	100
55) 1,2,4,5-Tetrachlorobenzene	9.57	216	421576	51.8889	ug/ml	99
56) Hexachlorocyclopentadiene	9.58	237	129014	41.3153	ug/ml	99
57) 2,4,6-Trichlorophenol	9.65	196	287679	54.2034	ug/ml	99
58) 2,4,5-Trichlorophenol	9.70	196	304147	55.9477	ug/ml	100
60) Isosafrole	9.76	162	389458	53.4938	ug/ml	98
61) 2-Chloronaphthalene	9.86	162	972678	58.4100	ug/ml	99
62) 1-Chloronaphthalene	9.90	162	810405	50.8875	ug/ml	99
63) 2-Nitroaniline	9.97	65	243617	53.1984	ug/ml	98
64) 1,4-Naphthoquinone	10.03	158	332327	57.2538	ug/ml	98
65) Dimethylphthalate	10.14	163	951214	50.5406	ug/ml	100
66) 1,3-Dinitrobenzene	10.18	168	165660	48.7133	ug/ml	96
67) 2,6-Dinitrotoluene	10.23	165	240607	52.5807	ug/ml	98
68) Acenaphthylene	10.30	152	1379880	51.2671	ug/ml	100
69) 3-Nitroaniline	10.38	138	193891	47.1381	ug/ml	98
70) 2,4-Dinitrophenol	10.48	184	126860	67.8348	ug/ml	19
71) Acenaphthene	10.48	154	849791	50.9393	ug/ml	98
72) 4-Nitrophenol	10.50	65	163915	51.1058	ug/ml	99
73) 2,4-Dinitrotoluene	10.63	165	298784	53.3802	ug/ml	97
74) Pentachlorobenzene	10.66	250	361341	52.2585	ug/ml	99
75) Dibenzofuran	10.64	168	1196266	52.6195	ug/ml	100
76) 2,3,4,6-Tetrachlorophenol	10.75	232	228091	55.6963	ug/ml	99
77) 1-Naphthylamine	10.71	143	211333	30.2709	ug/ml#	15
78) 2-Naphthylamine	10.78	143	52012	Below Cal	#	91
79) Diethylphthalate	10.84	149	921357	50.7807	ug/ml	99
80) Thionazin	10.94	107	128223	46.1766	ug/ml	99
81) Fluorene	10.99	166	994056	51.8028	ug/ml	100
82) 4-Chlorophenyl Phenyl Ethe	10.95	204	471786	51.3591	ug/ml	98
83) 4-Nitroaniline	11.01	138	241537	53.0925	ug/ml	95
84) 5-Nitro-o-Toluidine	11.00	152	247837	47.2937	ug/ml	99
85) 1,2-Diphenylhydrazine	11.11	77	876502	52.3536	ug/ml	98
88) 4,6-Dinitro-2-Methylphenol	11.05	198	180316	61.1698	ug/ml	84
89) n-Nitrosodiphenylamine	11.07	169	864665	52.6425	ug/ml	99
90) Sulfotepp	11.27	322	152027	51.1777	ug/ml	95
91) Sym-Trinitrobenzene	11.35	75	224154	58.8801	ug/ml	97
92) Diallate	11.38	86	326588	50.2338	ug/ml	97
93) Phenacetin	11.38	108	437220	53.9778	ug/ml	99
94) Phorate	11.40	75	523378	51.2792	ug/ml#	99
95) 4-Bromophenyl Phenyl Ether	11.46	248	275558	51.9725	ug/ml	98
96) Hexachlorobenzene	11.65	284	279253	51.3711	ug/ml	98
97) Dimethoate	11.59	87	275907	45.7048	ug/ml	95

(#) = qualifier out of range (m) = manual integration
 12M39940.D MEGAMIX.M Fri Jun 08 12:37:08 2012

Data File : I:\MSDCHEM\1\DATA\060712\12M39940.D Vial: 10
 Acq On : 7 Jun 2012 3:59 pm Operator: CAA
 Sample : WG400053-10 50ppm Megamix Alt Src STD Inst : MSD12
 Misc : 1,1 STD50596 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 08 12:36:34 2012 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Fri Jun 08 11:46:02 2012
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
98) 4-Aminobiphenyl	11.74	169	623856	45.0950	ug/ml	99
99) Pentachlorophenol	11.83	266	186060	59.1161	ug/ml	100
100) Pronamide	11.79	173	437768	52.6876	ug/ml	99
101) Pentachloronitrobenzene	11.91	237	104454	52.7382	ug/ml	99
102) Disulfoton	11.95	88	438147	47.4339	ug/ml	99
103) Phenanthrene	12.02	178	1415098	52.7352	ug/ml	100
104) Anthracene	12.07	178	1452701	52.4047	ug/ml	99
105) Carbazole	12.22	167	1232844	49.9959	ug/ml	99
106) Parathion Methyl	12.40	109	253239	51.3749	ug/ml	98
107) Di-n-Butyl Phthalate	12.59	149	1526545	50.9023	ug/ml	100
108) Parathion Ethyl	12.87	97	166082	50.1794	ug/ml	97
109) 4-Nitroquinoline 1-Oxide	12.94	190	54730	49.8866	ug/ml	98
110) Methapyrilene	13.00	58	347320	62.4471	ug/ml	98
111) Isodrin	13.32	193	154026	52.3729	ug/ml	98
112) Fluoranthene	13.49	202	1481260	52.0188	ug/ml	99
114) Benzidine	13.61	184	61364	18.4445	ug/ml	100
115) Pyrene	13.81	202	1516391	52.2459	ug/ml	100
116) Aramite	13.88	185	78541	47.8994	ug/ml	98
118) p-(Dimethylamino)azobenzen	14.16	225	315014	53.0960	ug/ml	95
119) Chlorobenzilate	14.21	251	435791	53.3240	ug/ml	98
120) Famphur	14.60	218	40773	93.1164	ug/ml#	91
121) Butyl Benzyl Phthalate	14.63	149	677038	53.0093	ug/ml	98
122) 3,3'-Dimethylbenzidine	14.63	212	381639	26.1945	ug/ml	99
123) 2-Acetylaminofluorene	15.03	181	609845	53.3818	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	15.47	149	910265	51.1600	ug/ml	100
125) 3,3'-Dichlorobenzidine	15.45	252	351982	45.9484	ug/ml	100
126) Benzo[a]anthracene	15.52	228	1318300	51.1422	ug/ml	99
127) Chrysene	15.59	228	1270686	53.0318	ug/ml	100
129) Di-n-Octyl Phthalate	16.37	149	1551406	51.3545	ug/ml	99
130) 7,12-Dimethylbenz[a]anthra	17.21	256	649830	54.3200	ug/ml	99
131) Benzo[b]fluoranthene	17.21	252	1398589	51.1594	ug/ml	100
132) Benzo[k]fluoranthene	17.25	252	1235503	51.6174	ug/ml	100
133) Benzo[a]pyrene	17.82	252	1281454	52.1697	ug/ml	99
134) 3-Methylcholanthrene	18.56	268	661684	53.4077	ug/ml	100
135) Indeno[1,2,3-cd]pyrene	20.46	276	1318445	52.5207	ug/ml	99
136) Dibenz[ah]anthracene	20.46	278	1102723	52.2280	ug/ml	99
137) Benzo[ghi]perylene	21.23	276	1092266	52.4434	ug/ml	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M39940.D MEGAMIX.M Fri Jun 08 12:37:08 2012

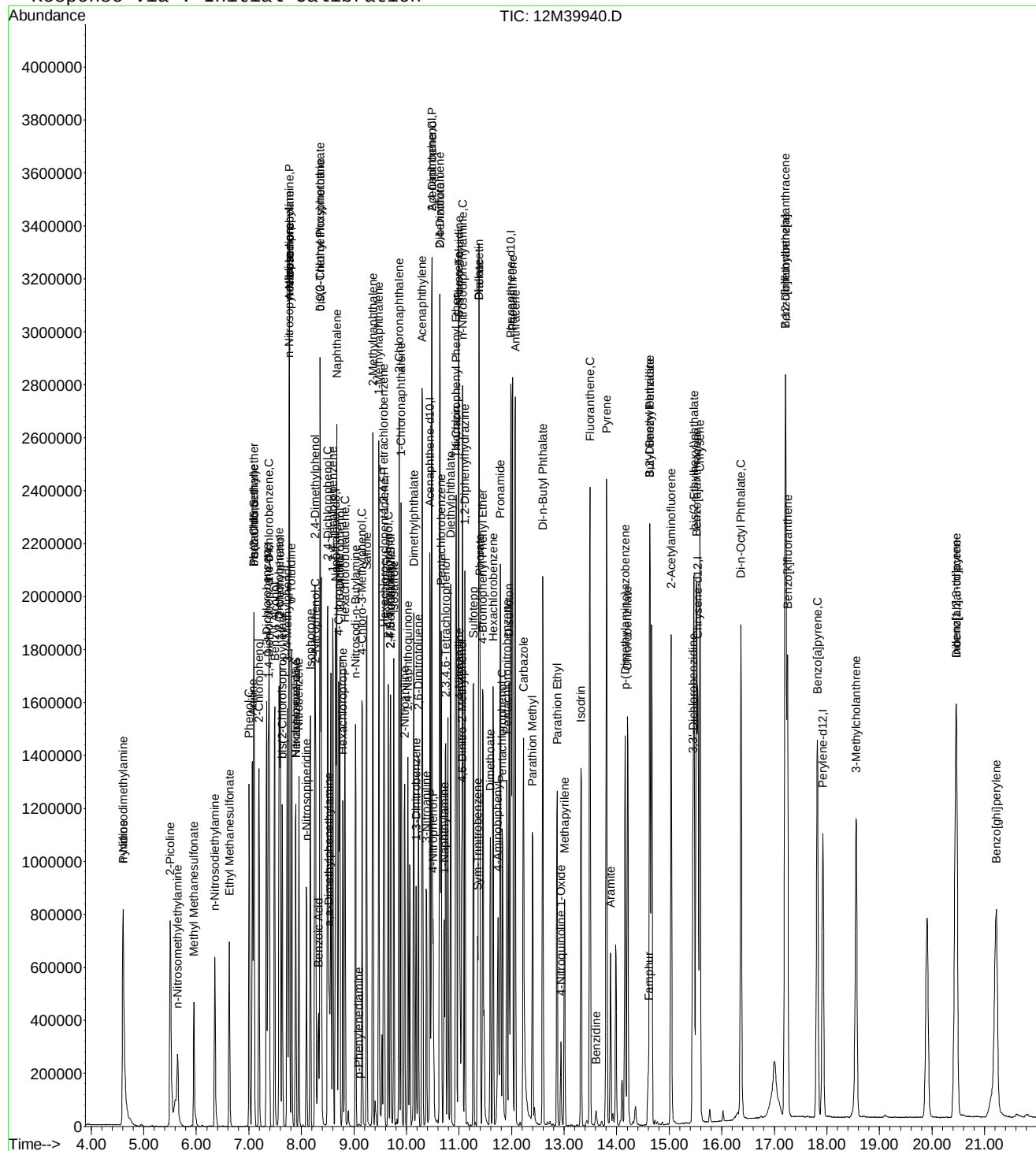
Page 3

Data File : I:\MSDCHEM\1\DATA\060712\12M39940.D
Acq On : 7 Jun 2012 3:59 pm
Sample : WG400053-10 50ppm Megamix Alt Src STD
Misc : 1,1 STD50596
MS Integration Params: RTEINT.P
Quant Time: Jun 8 12:36 2012 Quant

Vial: 10
Operator: CAA
Inst : MSD12
Multiplr: 1.00

Quant Results File: MEGAMIX.RES

```
Method       : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title        : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update   : Fri Jun 08 11:46:02 2012
Response via  : Initial Calibration
```



Data File : I:\MSDCHEM\1\DATA\060712\12M39941.D Vial: 11
 Acq On : 7 Jun 2012 4:30 pm Operator: CAA
 Sample : WG400053-11 50ppm 1,4-Dioxane Alt Src ST Inst : MSD12
 Misc : 1,1 STD50848 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 08 07:47:19 2012 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Fri Jun 08 07:46:40 2012
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.369	152	257447	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.651	136	947975	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.446	164	533156	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.985	188	914049	40.0000	ug/ml	0.000
113) Chrysene-d12	15.537	240	862036	40.0000	ug/ml	-0.011
128) Perylene-d12	17.915	264	837175	40.0000	ug/ml	-0.011

System Monitoring Compounds

8) 2-Fluorophenol	0.000	112	0	0.0000000	ug/ml	
Spiked Amount	100.000	Range 21 - 100	Recovery	=	0.00%#	
12) Phenol-d5	0.000	99	0	0.0000000	ug/ml	
Spiked Amount	100.000	Range 10 - 94	Recovery	=	0.00%#	
31) Nitrobenzene-d5	0.000	82	0	0.0000000	ug/ml	
Spiked Amount	50.000	Range 35 - 114	Recovery	=	0.00%#	
59) 2-Fluorobiphenyl	0.000	172	0	0.0000000	ug/ml	
Spiked Amount	50.000	Range 43 - 116	Recovery	=	0.00%#	
86) 2,4,6-Tribromophenol	0.000	330	0	0.0000000	ug/ml	
Spiked Amount	100.000	Range 10 - 123	Recovery	=	0.00%#	
117) p-Terphenyl-d14	0.000	244	0	0.0000000	ug/ml	
Spiked Amount	50.000	Range 33 - 141	Recovery	=	0.00%#	

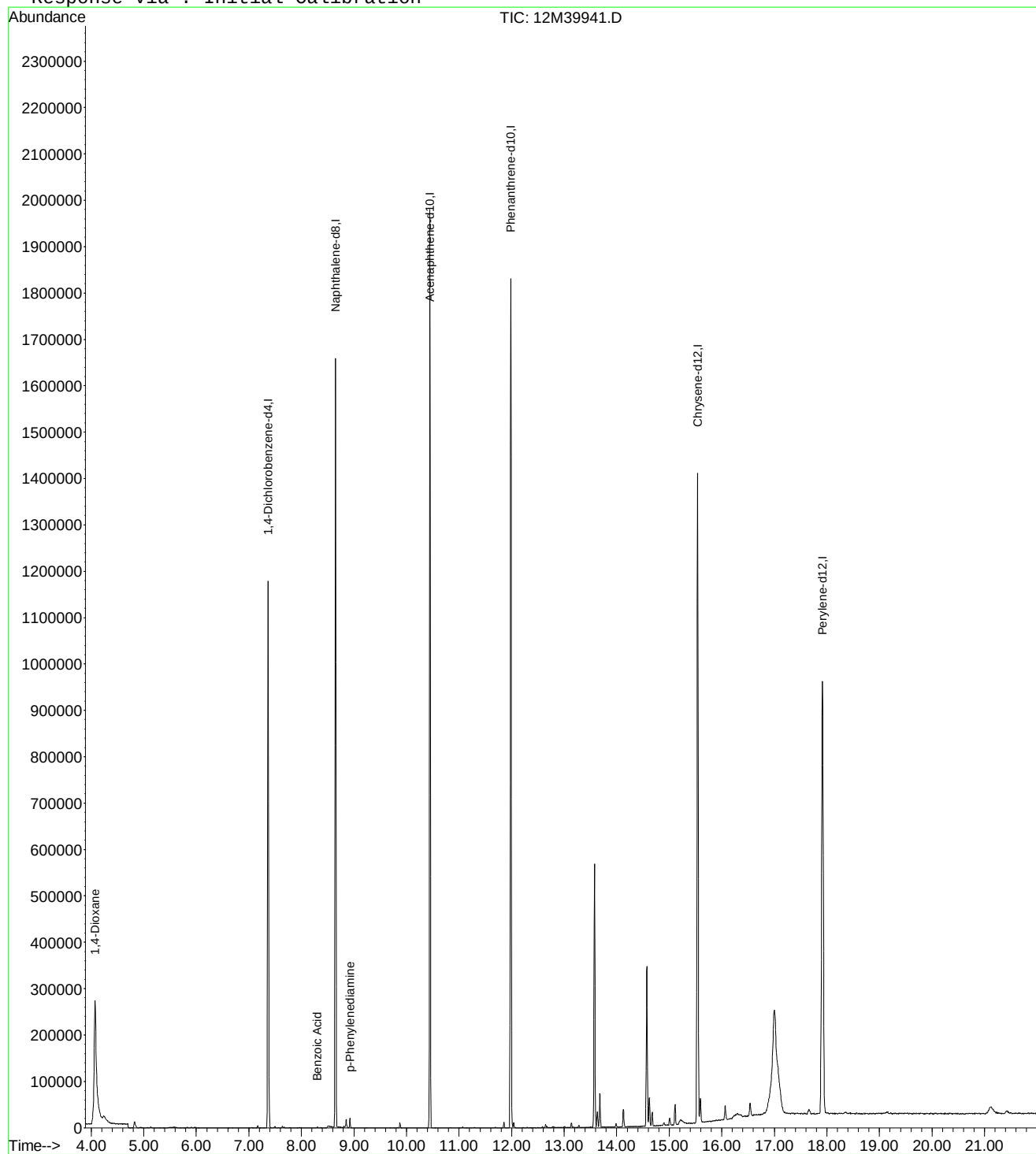
Target Compounds

					Qvalue	
2) 1,4-Dioxane	4.07	88	181728	54.1994	ug/ml	99
39) Benzoic Acid	8.30	105	688	14.6373	ug/ml	87
49) p-Phenylenediamine	8.92	108	3233	10.5826	ug/ml#	39
110) Methapyrilene	13.00	58	1071	Below Cal	#	85

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M39941.D MEGAMIX.M Fri Jun 08 12:37:23 2012

Data File : I:\MSDCHEM\1\DATA\060712\12M39941.D Vial: 11
Acq On : 7 Jun 2012 4:30 pm Operator: CAA
Sample : WG400053-11 50ppm 1,4-Dioxane Alt Src ST Inst : MSD12
Misc : 1,1 STD50848 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 7:47 2012 Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Fri Jun 08 11:46:02 2012
Response via : Initial Calibration



12M39941.D MEGAMIX.M Fri Jun 08 12:37:23 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\062412\12M40138.D

Vial: 2

Acq On : 24 Jun 2012 10:35 am

Operator: MDC

Sample : WG401464-02 50ppm BNA STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:22:28 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Thu Jun 21 12:34:59 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.337	152	241847	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	916555	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	505293	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.963	188	885290	40.0000	ug/ml	0.000
113) Chrysene-d12	15.516	240	794838	40.0000	ug/ml	0.000
128) Perylene-d12	17.877	264	767117	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.087	112	391941	50.7319355	ug/ml	-0.01
Spiked Amount 100.000	Range 21 - 100		Recovery =	50.73%		
12) Phenol-d5	6.963	99	502954	53.8755951	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	53.88%		
31) Nitrobenzene-d5	7.903	82	440319	56.7138408	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	113.43%		
59) 2-Fluorobiphenyl	9.698	172	818490	48.2914292	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	96.58%		
86) 2,4,6-Tribromophenol	11.226	330	114469	53.1031421	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	53.10%		
117) p-Terphenyl-d14	13.918	244	727782	49.4292116	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	98.86%		
Target Compounds						
2) 1,4-Dioxane	4.01	88	186870	59.3279	ug/ml	90
3) n-Nitrosodimethylamine	4.55	74	276693	60.6333	ug/ml	85
4) Pyridine	4.56	79	466214	58.1137	ug/ml	90
5) 2-Picoline	5.46	93	467750	50.5185	ug/ml	95
6) n-Nitrosomethylethylamine	5.61	88	218438	55.2818	ug/ml#	79
7) Methyl Methanesulfonate	5.92	80	242080	56.8831	ug/ml	97
9) n-Nitrosodiethylamine	6.32	102	214820	54.4279	ug/ml#	78
10) Ethyl Methanesulfonate	6.59	79	317697	56.6081	ug/ml	97
11) Aniline	7.03	93	628565	53.5951	ug/ml	92
13) Phenol	6.97	94	512055	53.1127	ug/ml	91
14) bis(2-Chloroethyl)ether	7.06	63	313899	57.6367	ug/ml	93
15) Pentachloroethane	7.06	167	154331	50.3532	ug/ml	97
16) 2-Chlorophenol	7.16	128	419617	51.5436	ug/ml	95
17) 1,3-Dichlorobenzene	7.30	146	454515	48.9681	ug/ml	99
18) 1,4-Dichlorobenzene	7.35	146	463636	49.4513	ug/ml	98
19) Benzyl Alcohol	7.46	108	279176	54.8843	ug/ml	93
20) 1,2-Dichlorobenzene	7.54	146	431433	48.8303	ug/ml	98
21) 2-Methylphenol	7.57	107	341244	53.6898	ug/ml	97
22) bis(2-Chloroisopropyl)ethe	7.60	45	743221	70.6423	ug/ml	89
23) 3-,4-Methylphenol	7.70	107	435815	53.4635	ug/ml	98
24) n-Nitrosopyrrolidine	7.73	100	220314	57.0034	ug/ml#	70
25) n-Nitrosodipropylamine	7.74	70	309376	62.9929	ug/ml	89
26) Acetophenone	7.74	105	538150	55.2678	ug/ml	96
27) n-Nitrosomorpholine	7.74	56	292676	63.8027	ug/ml	93
28) o-Toluidine	7.79	106	682089	54.8912	ug/ml	99
29) Hexachloroethane	7.85	117	176221	53.5532	ug/ml	94
32) Nitrobenzene	7.92	77	446203	57.1294	ug/ml	94
33) n-Nitrosopiperidine	8.07	114	210671	51.1347	ug/ml#	73
34) Isophorone	8.14	82	814592	55.8626	ug/ml	97
35) 2-Nitrophenol	8.24	139	229752	50.2389	ug/ml	91
36) 2,4-Dimethylphenol	8.23	122	374806	50.5676	ug/ml	97
37) 0,0,0-Triethyl Phosphoroth	8.33	198	194055	47.8809	ug/ml	95
38) bis(2-Chloroethoxy)methane	8.32	93	594966	53.1264	ug/ml	100

(#) = qualifier out of range (m) = manual integration
 12M40138.D MEGAMIX.M Mon Jun 25 11:23:19 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40138.D

Vial: 2

Acq On : 24 Jun 2012 10:35 am

Operator: MDC

Sample : WG401464-02 50ppm BNA STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:22:28 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Thu Jun 21 12:34:59 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.29	105	148281m	56.6516	ug/ml	
40) 2,4-Dichlorophenol	8.47	162	325089	48.2825	ug/ml	98
41) a,a-Dimethylphenethylamine	8.46	58	1265311m	66.5212	ug/ml	
42) 1,2,4-Trichlorobenzene	8.57	180	369137	47.3939	ug/ml	99
43) Naphthalene	8.64	128	1171070	49.0349	ug/ml	100
44) 4-Chloroaniline	8.68	127	506327	51.7064	ug/ml	97
45) 2,6-Dichlorophenol	8.70	162	330086	47.7348	ug/ml	98
46) Hexachloropropene	8.76	213	219514	50.3542	ug/ml	100
47) Hexachlorobutadiene	8.80	225	181432	45.4319	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.00	84	365951	57.3648	ug/ml	87
49) p-Phenylenediamine	9.02	108	55931	33.7220	ug/ml	99
50) 4-Chloro-3-Methylphenol	9.13	107	350209	52.8098	ug/ml	95
51) Safrole	9.21	162	310150	47.6569	ug/ml	93
52) 2-Methylnaphthalene	9.33	142	786265	48.7675	ug/ml	100
53) 1-Methylnaphthalene	9.45	142	725026	48.2093	ug/ml	99
55) 1,2,4,5-Tetrachlorobenzene	9.54	216	332550	47.0565	ug/ml	100
56) Hexachlorocyclopentadiene	9.55	237	115131	42.2749	ug/ml	99
57) 2,4,6-Trichlorophenol	9.63	196	233903	50.6662	ug/ml	99
58) 2,4,5-Trichlorophenol	9.67	196	242003	51.1780	ug/ml	99
60) Isosafrole	9.74	162	310495	49.0300	ug/ml	94
61) 2-Chloronaphthalene	9.83	162	718323	49.5909	ug/ml	99
62) 1-Chloronaphthalene	9.87	162	689452	49.7711	ug/ml	99
63) 2-Nitroaniline	9.94	65	243843	61.2160	ug/ml	88
64) 1,4-Naphthoquinone	10.00	158	272530	52.7929	ug/ml	93
65) Dimethylphthalate	10.11	163	809269	49.4332	ug/ml	99
66) 1,3-Dinitrobenzene	10.16	168	155378	52.5271	ug/ml	88
67) 2,6-Dinitrotoluene	10.20	165	199661	50.1621	ug/ml	88
68) Acenaphthylene	10.27	152	1166570	49.8278	ug/ml	100
69) 3-Nitroaniline	10.36	138	192536	53.8134	ug/ml	94
70) 2,4-Dinitrophenol	10.46	184	83064	54.6017	ug/ml	59
71) Acenaphthene	10.45	154	743113	51.2106	ug/ml	98
72) 4-Nitrophenol	10.48	65	167447	60.0196	ug/ml	90
73) 2,4-Dinitrotoluene	10.61	165	256573	52.6985	ug/ml	89
74) Pentachlorobenzene	10.63	250	281504	46.8046	ug/ml#	96
75) Dibenzofuran	10.61	168	968124	48.9569	ug/ml	97
76) 2,3,4,6-Tetrachlorophenol	10.72	232	179171	50.2979	ug/ml	97
77) 1-Naphthylamine	10.69	143	282647	43.7780	ug/ml#	18
78) 2-Naphthylamine	10.76	143	93686	47.6027	ug/ml	93
79) Diethylphthalate	10.81	149	807843	51.1873	ug/ml	99
80) Thionazin	10.91	107	137090	56.7578	ug/ml	98
81) Fluorene	10.96	166	819522	49.0984	ug/ml	100
82) 4-Chlorophenyl Phenyl Ether	10.92	204	388915	48.6733	ug/ml	98
83) 4-Nitroaniline	10.99	138	221919	56.0800	ug/ml	90
84) 5-Nitro-o-Toluidine	10.97	152	237162	52.0291	ug/ml	87
85) 1,2-Diphenylhydrazine	11.09	77	865145	59.4083	ug/ml	94
88) 4,6-Dinitro-2-Methylphenol	11.03	198	143692	57.0751	ug/ml	90
89) n-Nitrosodiphenylamine	11.04	169	717435	50.7241	ug/ml	100
90) Sulfotep	11.25	322	132433	51.7724	ug/ml	95
91) Sym-Trinitrobenzene	11.33	75	200007	60.9638	ug/ml	95
92) Diallate	11.35	86	332344m	59.3644	ug/ml	
93) Phenacetin	11.35	108	414114	59.3714	ug/ml	96
94) Phorate	11.37	75	549305	62.5003	ug/ml#	93
95) 4-Bromophenyl Phenyl Ether	11.43	248	210626	46.1334	ug/ml	96
96) Hexachlorobenzene	11.62	284	227934	48.6937	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M40138.D MEGAMIX.M Mon Jun 25 11:23:19 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\062412\12M40138.D

Vial: 2

Acq On : 24 Jun 2012 10:35 am

Operator: MDC

Sample : WG401464-02 50ppm BNA STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:22:28 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Thu Jun 21 12:34:59 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	11.57	87	295478	60.8368	ug/ml	94
98) 4-Aminobiphenyl	11.71	169	574910	48.2599	ug/ml	100
99) Pentachlorophenol	11.80	266	130493	49.2282	ug/ml	98
100) Pronamide	11.76	173	363081	50.7470	ug/ml	99
101) Pentachloronitrobenzene	11.88	237	83791	49.1292	ug/ml	99
102) Disulfoton	11.93	88	460799	57.9326	ug/ml	99
103) Phenanthrene	11.99	178	1136192	49.1709	ug/ml	100
104) Anthracene	12.04	178	1186567	49.7083	ug/ml	100
105) Carbazole	12.20	167	1061453	49.9885	ug/ml	98
106) Parathion Methyl	12.37	109	255913	60.2914	ug/ml	91
107) Di-n-Butyl Phthalate	12.57	149	1363278	52.7904	ug/ml	99
108) Parathion Ethyl	12.83	97	167296	58.6990	ug/ml	95
109) 4-Nitroquinoline 1-Oxide	12.91	190	39323	42.3671	ug/ml#	87
110) Methapyrilene	12.98	58	318660	69.4583	ug/ml	92
111) Isodrin	13.29	193	124082	48.9964	ug/ml	98
112) Fluoranthene	13.46	202	1202071	49.0232	ug/ml	99
114) Benzidine	13.59	184	66501	23.9748	ug/ml	100
115) Pyrene	13.77	202	1229583	50.8126	ug/ml	100
116) Aramite	13.85	185	77339	56.5725	ug/ml	97
118) p-(Dimethylamino)azobenzen	14.13	225	259004	52.3614	ug/ml	88
119) Chlorobenzilate	14.18	251	337603	49.5477	ug/ml	92
120) Famphur	14.57	218	27574	75.5312	ug/ml#	97
121) Butyl Benzyl Phthalate	14.60	149	590950	55.4961	ug/ml	96
122) 3,3'-Dimethylbenzidine	14.60	212	550224	50.6138	ug/ml	99
123) 2-Acetylaminofluorene	15.01	181	521790	54.7825	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	15.44	149	817602	55.1159	ug/ml	99
125) 3,3'-Dichlorobenzidine	15.41	252	315755	49.4394	ug/ml	100
126) Benzo[a]anthracene	15.48	228	1070745	49.8223	ug/ml	100
127) Chrysene	15.55	228	993291	49.7219	ug/ml	100
129) Di-n-Octyl Phthalate	16.33	149	1398839	56.4803	ug/ml	94
130) 7,12-Dimethylbenz[a]anthra	17.17	256	496828	50.6574	ug/ml	98
131) Benzo[b]fluoranthene	17.17	252	1051798	46.9293	ug/ml	95
132) Benzo[k]fluoranthene	17.21	252	950209	48.4226	ug/ml	100
133) Benzo[a]pyrene	17.78	252	1022697	50.7854	ug/ml	99
134) 3-Methylcholanthrene	18.51	268	546451	53.7998	ug/ml	97
135) Indeno[1,2,3-cd]pyrene	20.40	276	1122743	54.5538	ug/ml	98
136) Dibenz[ah]anthracene	20.40	278	945254	54.6087	ug/ml	99
137) Benzo[ghi]perylene	21.15	276	942518	55.1986	ug/ml	99

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M40138.D MEGAMIX.M Mon Jun 25 11:23:19 2012

Page 3

Data File : I:\MSDCHEM\1\DATA\062412\12M40138.D

Vial: 2

Acq On : 24 Jun 2012 10:35 am

Operator: MDC

Sample : WG401464-02 50ppm BNA STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

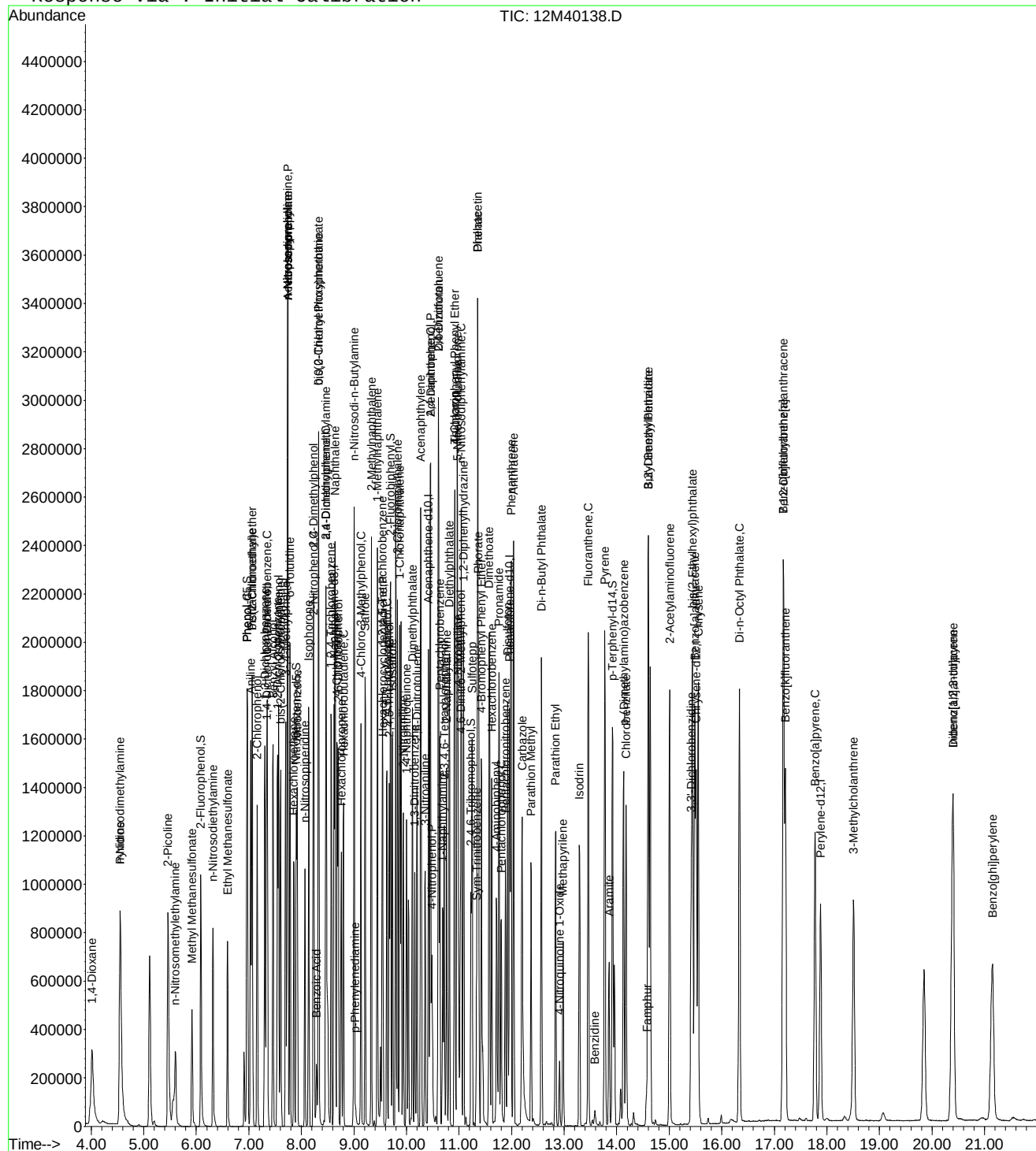
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Thu Jun 21 12:34:59 2012

Response via : Initial Calibration



12M40138.D MEGAMIX.M

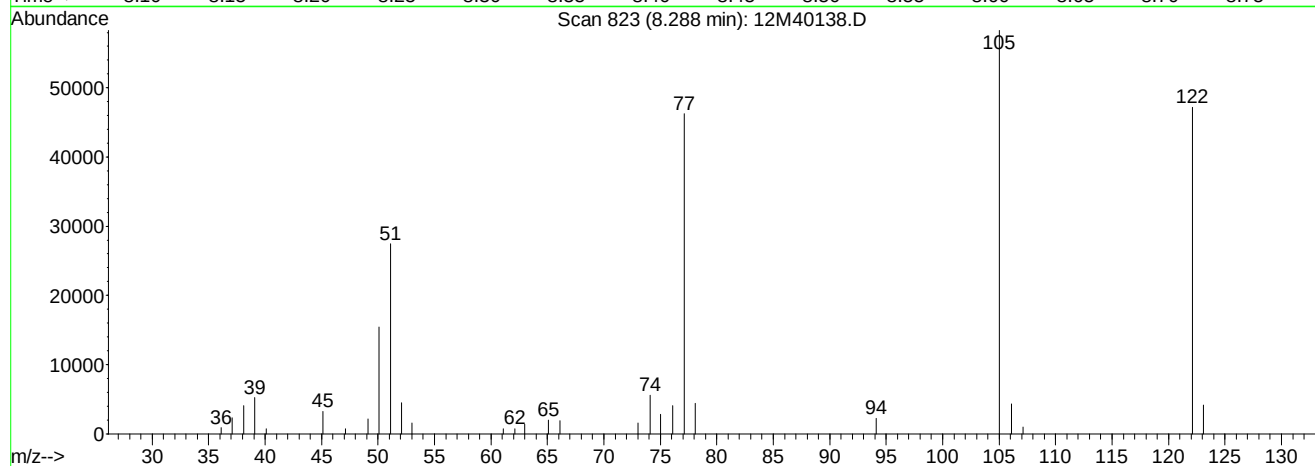
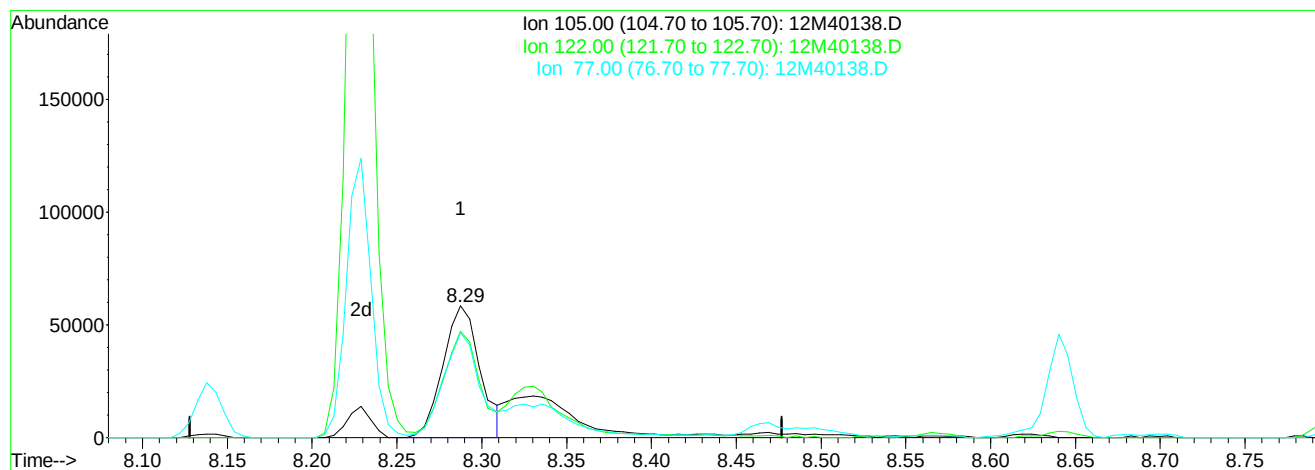
Mon Jun 25 11:23:19 2012

Page 4

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\062412\12M40138.D Vial: 2
 Acq On : 24 Jun 2012 10:35 am Operator: MDC
 Sample : WG401464-02 50ppm BNA STD Inst : MSD12
 Misc : 1,1 STD52044 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 25 11:22 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Thu Jun 21 12:34:59 2012
 Response via : Single Level Calibration



TIC: 12M40138.D

(39) Benzoic Acid

8.29min 42.44ug/ml

response 88204

Ion	Exp%	Act%
105.00	100	100
122.00	48.10	78.30#
77.00	41.80	77.19#
0.00	0.00	0.00

12M40138.D MEGAMIX.M Mon Jun 25 11:22:38 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\062412\12M40138.D

Vial: 2

Acq On : 24 Jun 2012 10:35 am

Operator: MDC

Sample : WG401464-02 50ppm BNA STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:22 2012

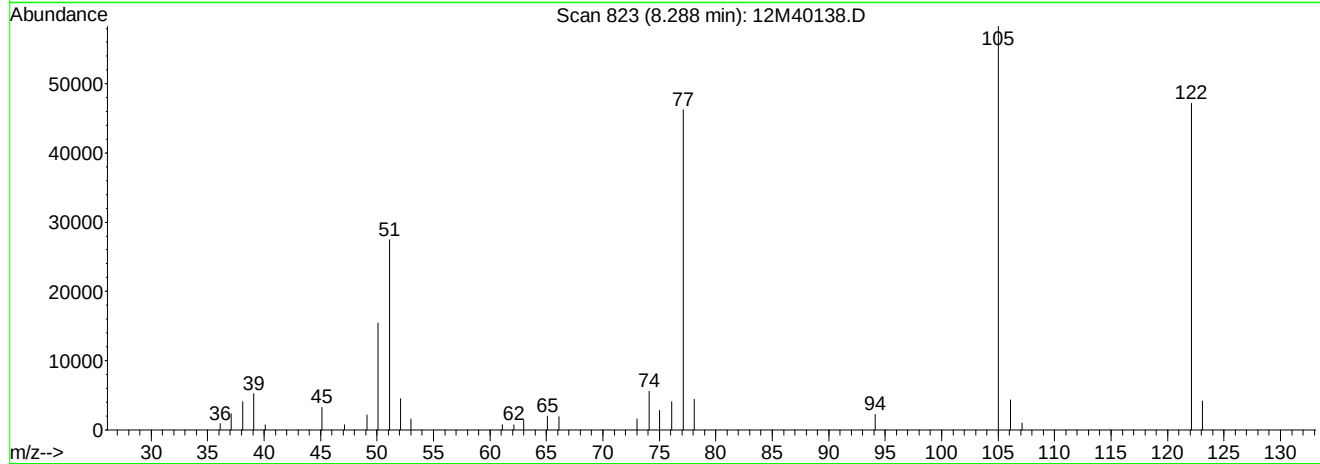
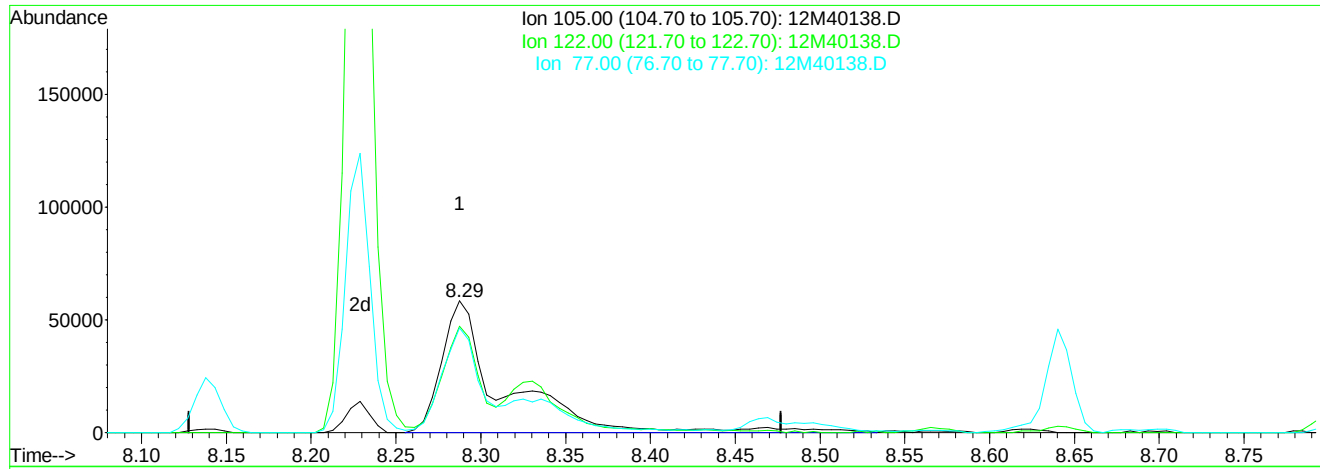
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Thu Jun 21 12:34:59 2012

Response via : Single Level Calibration



TIC: 12M40138.D

(39) Benzoic Acid

8.29min 56.65ug/ml mint

response 148281

Ion	Exp%	Act%
105.00	100	100
122.00	48.10	46.58
77.00	41.80	45.91
0.00	0.00	0.00

12M40138.D MEGAMIX.M

Mon Jun 25 11 2012

Analyst: 06/25/2012 13:53

Supervisor: 06/25/2012 15:34

Casual Augustin

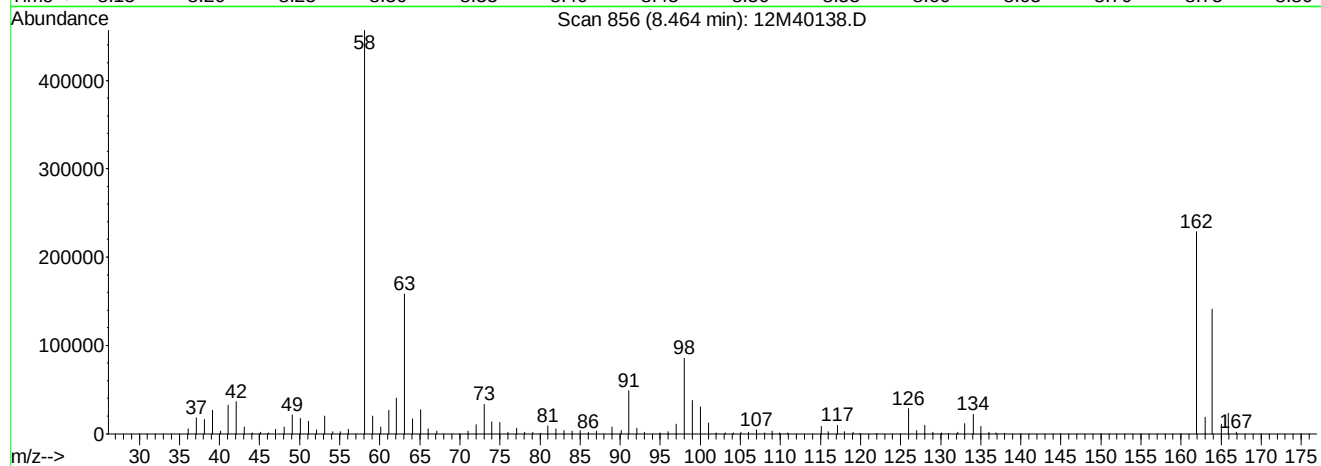
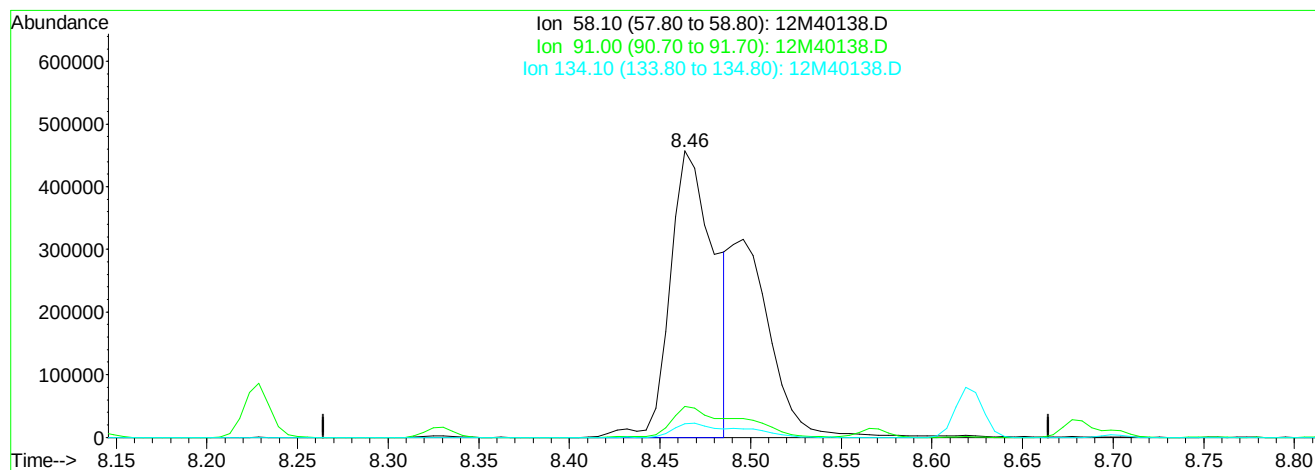
Hema Velasquez

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\062412\12M40138.D Vial: 2
 Acq On : 24 Jun 2012 10:35 am Operator: MDC
 Sample : WG401464-02 50ppm BNA STD Inst : MSD12
 Misc : 1,1 STD52044 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 25 11:22 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Thu Jun 21 12:34:59 2012
 Response via : Multiple Level Calibration



TIC: 12M40138.D

(41) a,a-Dimethylphenethylamine

8.46min 41.03ug/ml

response 780375

Ion	Exp%	Act%
58.10	100	100
91.00	11.40	16.29#
134.10	5.40	7.45#
0.00	0.00	0.00

12M40138.D MEGAMIX.M Mon Jun 25 11:22:45 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\062412\12M40138.D

Vial: 2

Acq On : 24 Jun 2012 10:35 am

Operator: MDC

Sample : WG401464-02 50ppm BNA STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:22 2012

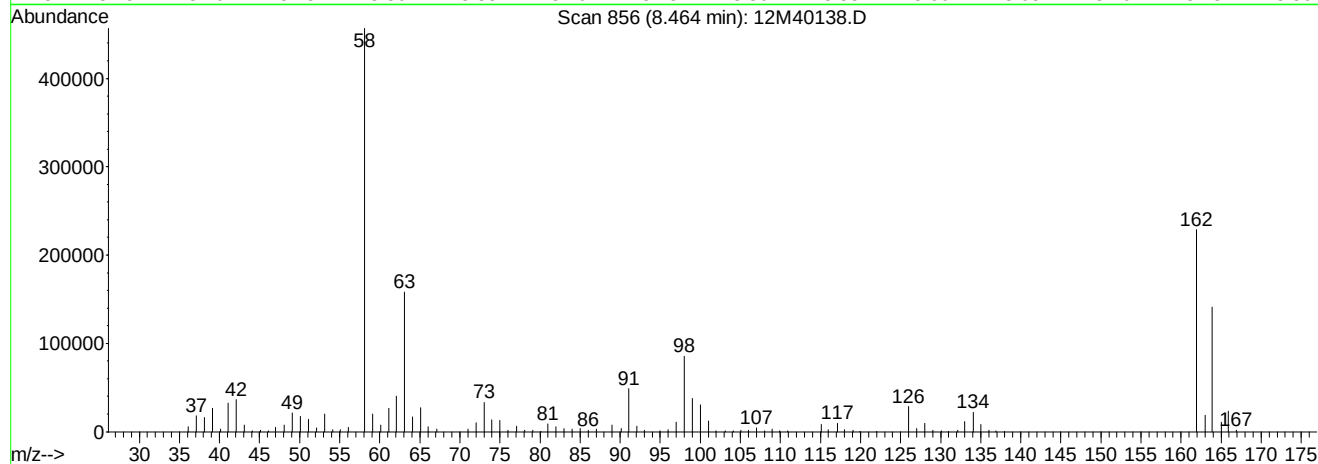
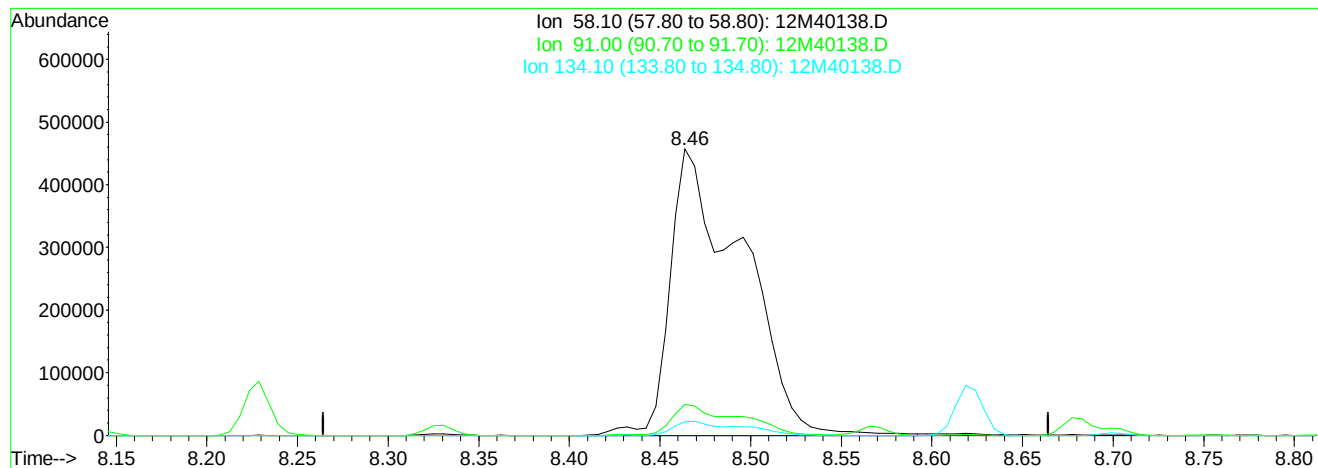
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Thu Jun 21 12:34:59 2012

Response via : Multiple Level Calibration



TIC: 12M40138.D

(41) a,a-Dimethylphenethylamine

8.46min 66.52ug/ml mint

response 1265311

Ion	Exp%	Act%
58.10	100	100
91.00	11.40	10.05
134.10	5.40	4.59
0.00	0.00	0.00

12M40138.D MEGAMIX.M

Mon Jun 25 18 2012

Analyst: 06/25/2012 13:53

Supervisor: 06/25/2012 15:34

Cassidy Augustin

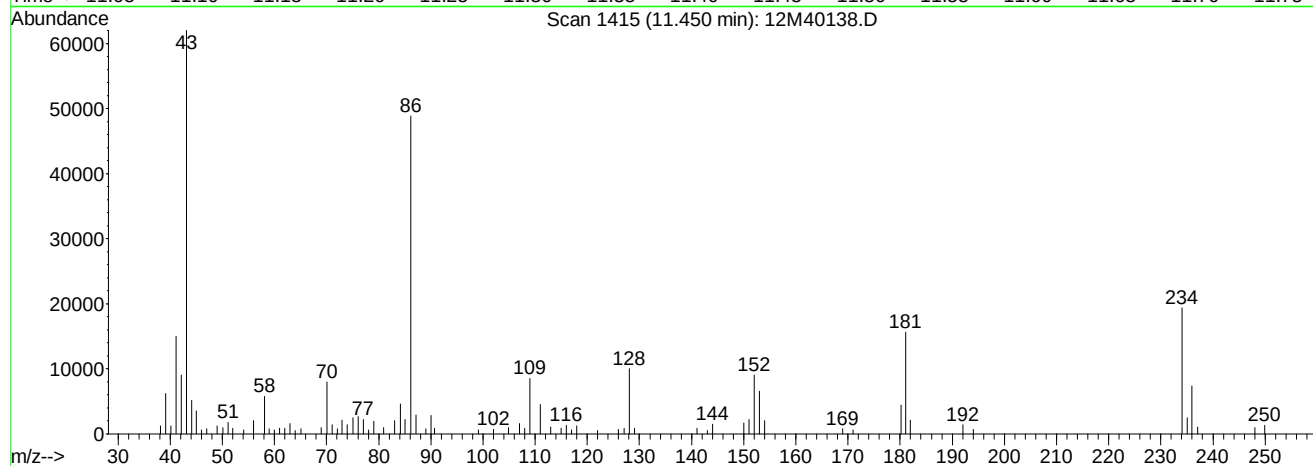
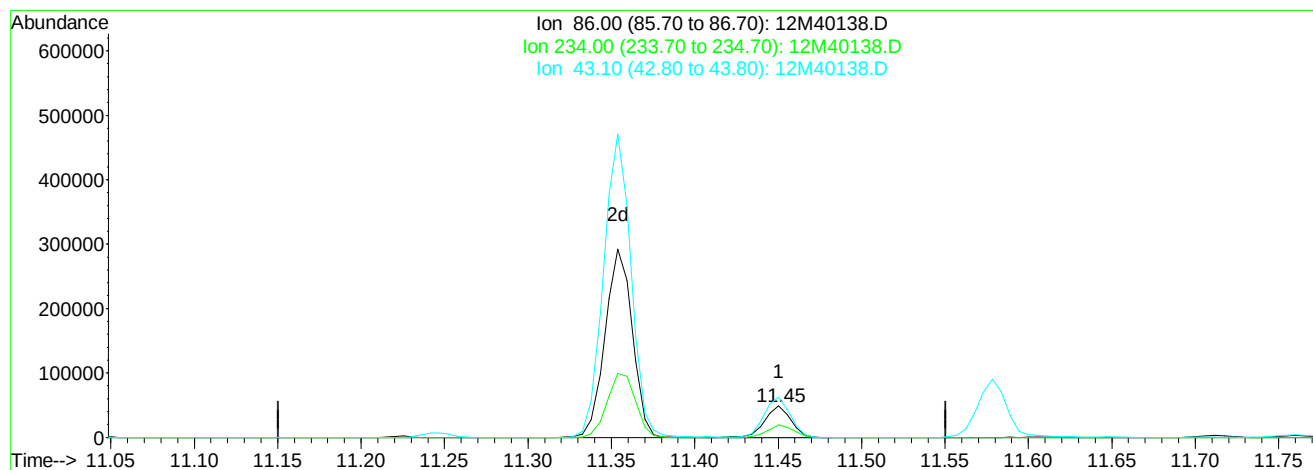
Hema Velasquez

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\062412\12M40138.D Vial: 2
Acq On : 24 Jun 2012 10:35 am Operator: MDC
Sample : WG401464-02 50ppm BNA STD Inst : MSD12
Misc : 1,1 STD52044 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:22 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Thu Jun 21 12:34:59 2012
Response via : Multiple Level Calibration



TIC: 12M40138.D

(92) Diallate

11.45min 9.51ug/ml

response 53219

Ion	Exp%	Act%
86.00	100	100
234.00	44.00	38.55
43.10	131.00	127.70
0.00	0.00	0.00

12M40138.D MEGAMIX.M

Mon Jun 25 11:22:59 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\062412\12M40138.D

Vial: 2

Acq On : 24 Jun 2012 10:35 am

Operator: MDC

Sample : WG401464-02 50ppm BNA STD

Inst : MSD12

Misc : 1,1 STD52044

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

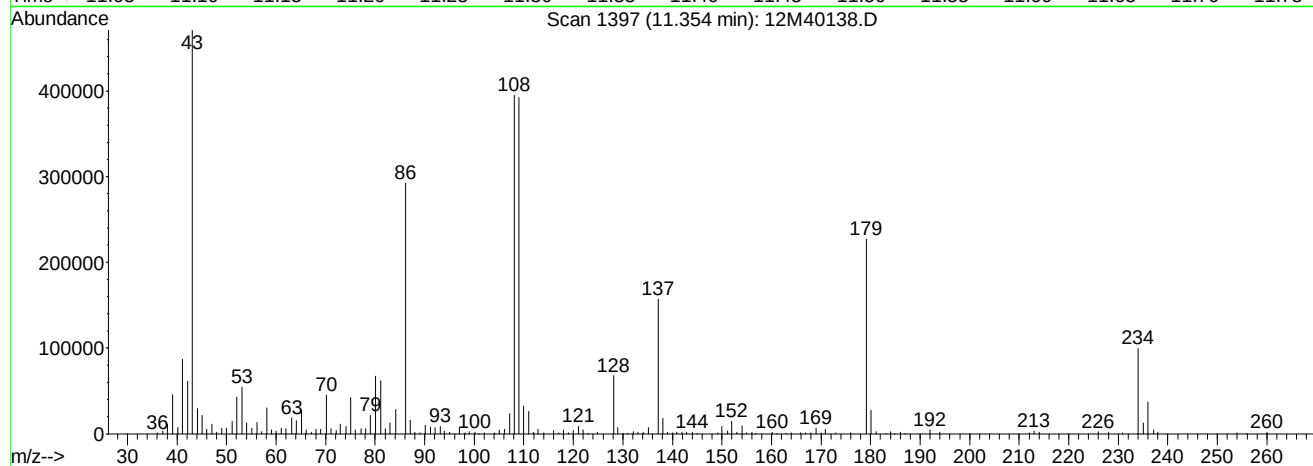
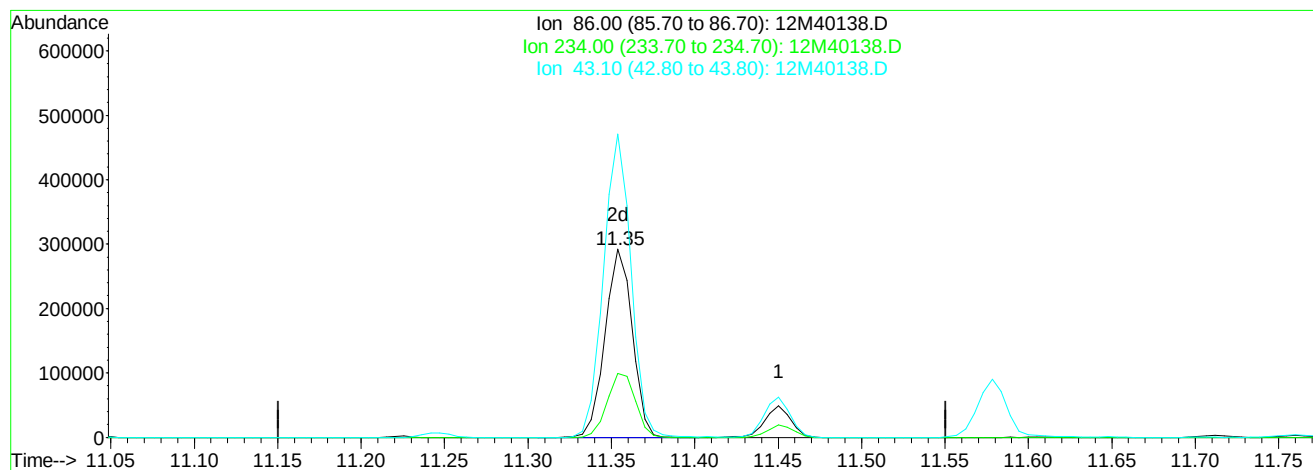
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Thu Jun 21 12:34:59 2012

Response via : Multiple Level Calibration



TIC: 12M40138.D

(92) Diallate

11.35min 59.36ug/ml mint

response 332344

Ion	Exp%	Act%
86.00	100	100
234.00	44.00	6.17#
43.10	131.00	20.45#
0.00	0.00	0.00

12M40138.D MEGAMIX.M

Mon Jun 25 2012

Analyst: 06/25/2012 13:53

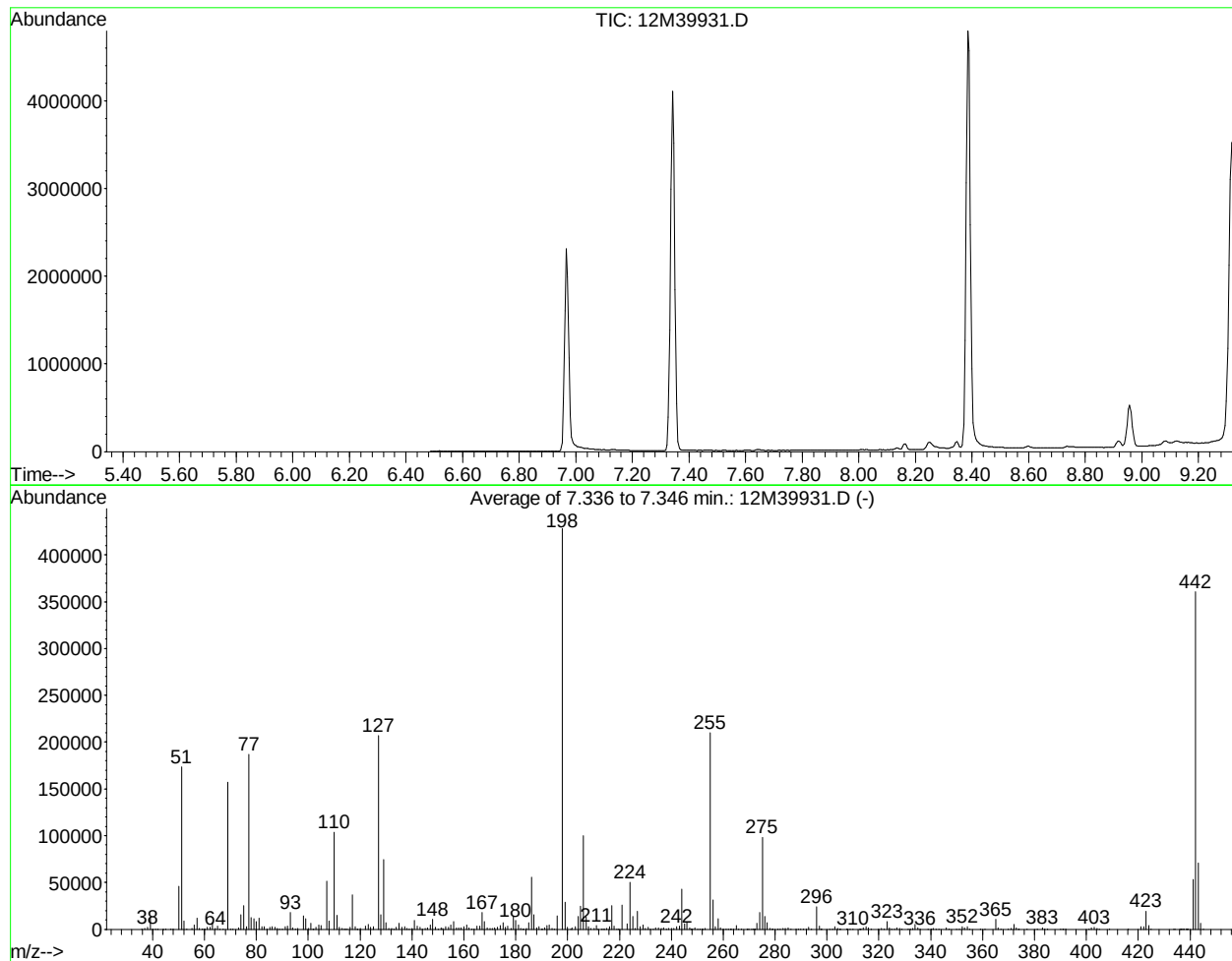
Supervisor: 06/25/2012 15:35

#1 - Data system fails to select correct peak

2.2.1.5 Raw QC Data

DFTPP

Data File : I:\MSDCHEM\1\DATA\060712\12M39931.D Vial: 1
Acq On : 7 Jun 2012 11:26 am Operator: CAA
Sample : WG400053-01 50ppm DFTPP STD Inst : MSD12
Misc : 1,1 STD50659 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP



AutoFind: Scans 178, 179, 180; Background Corrected with Scan 171

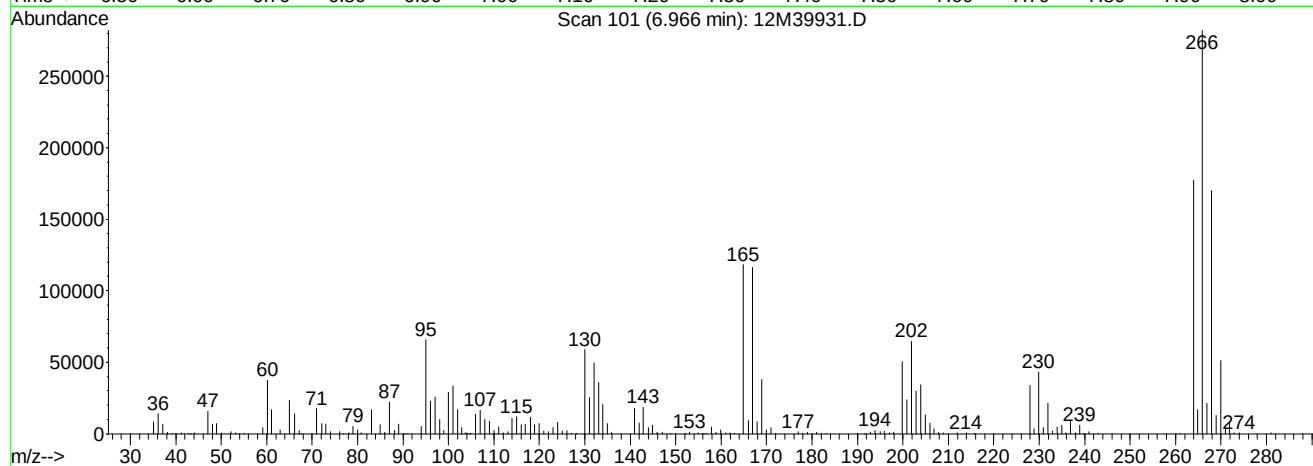
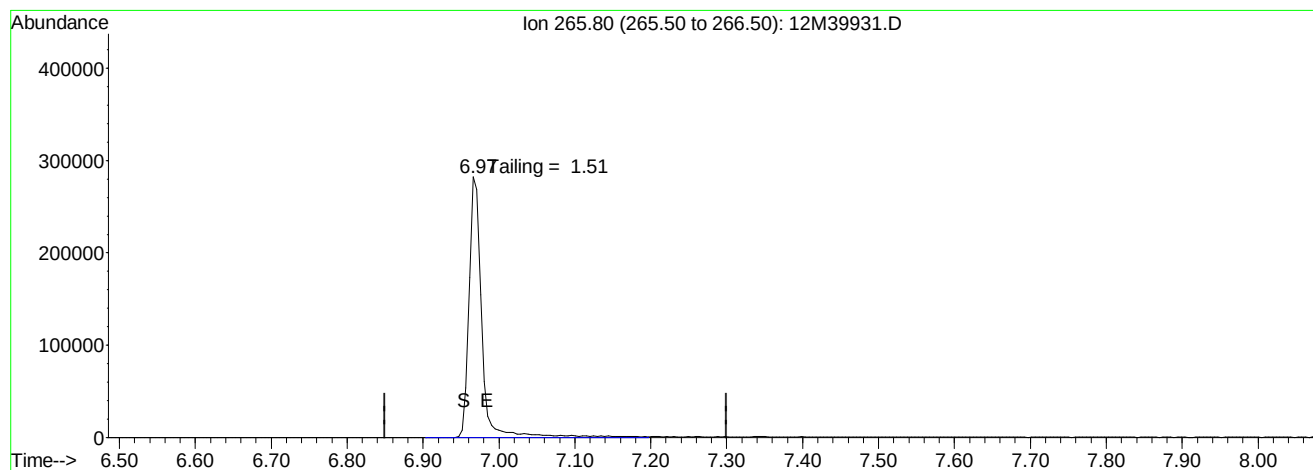
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	40.6	173760	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	36.7	156992	PASS
70	69	0.00	2	0.3	480	PASS
127	198	40	60	48.4	207168	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	428309	PASS
199	198	5	9	6.7	28893	PASS
275	198	10	30	23.0	98309	PASS
365	198	1	100	2.5	10527	PASS
441	443	0.01	100	75.1	53240	PASS
442	198	40	100	84.2	360554	PASS
443	442	17	23	19.7	70885	PASS

12M39931.D DFTPP.M Fri Jun 08 11:06:05 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39931.D Vial: 1
Acq On : 7 Jun 2012 11:26 am Operator: CAA
Sample : WG400053-01 50ppm DFTPP STD Inst : MSD12
Misc : 1,1 STD50659 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:06 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP
Last Update : Fri Jun 08 11:05:50 2012
Response via : Single Level Calibration



TIC: 12M39931.D

(1) Pentachlorophenol

6.97min 0.00ug/ml

response 320464

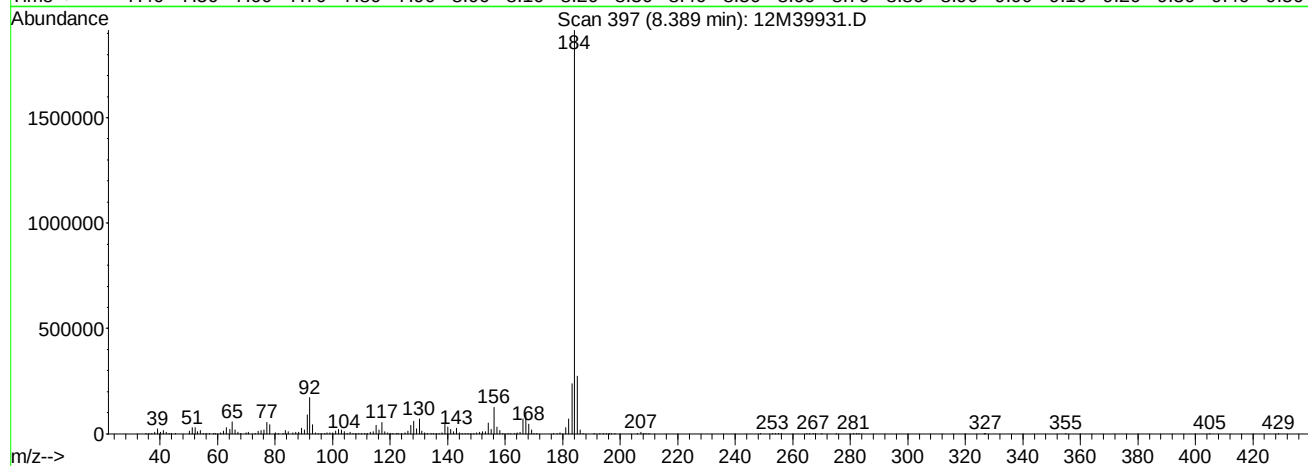
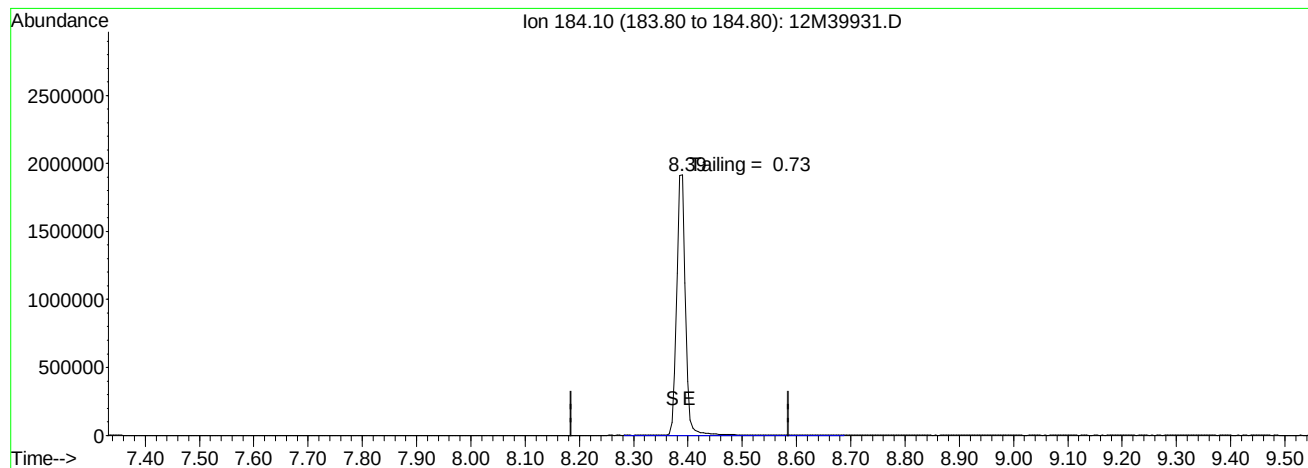
Ion	Exp%	Act%
265.80	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M39931.D DFTPP.M Fri Jun 08 11:06:13 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39931.D Vial: 1
Acq On : 7 Jun 2012 11:26 am Operator: CAA
Sample : WG400053-01 50ppm DFTPP STD Inst : MSD12
Misc : 1,1 STD50659 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 8 11:06 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP
Last Update : Fri Jun 08 11:05:50 2012
Response via : Single Level Calibration



TIC: 12M39931.D

(2) Benzidine

8.39min 0.00ug/ml

response 2168791

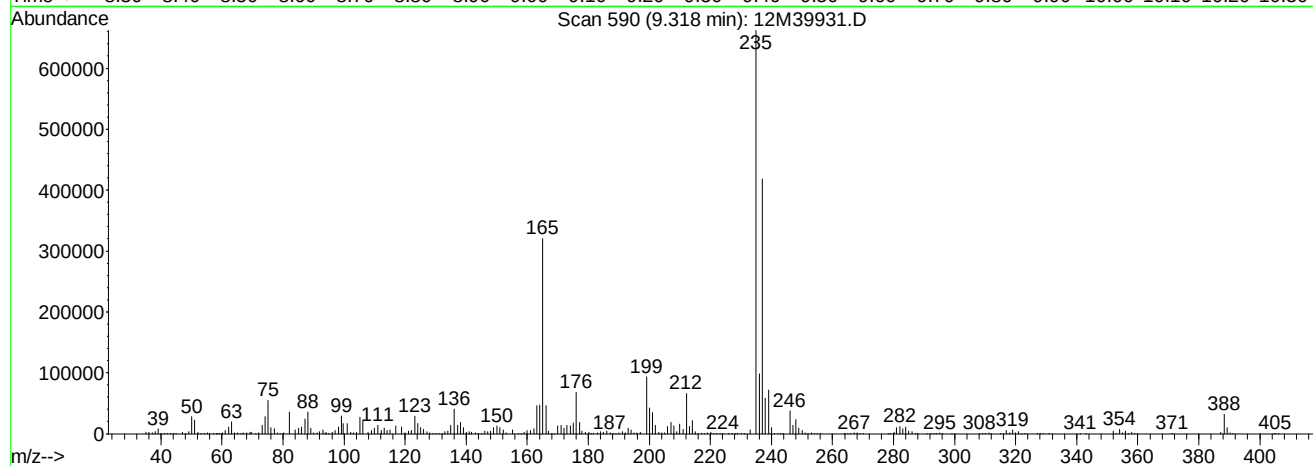
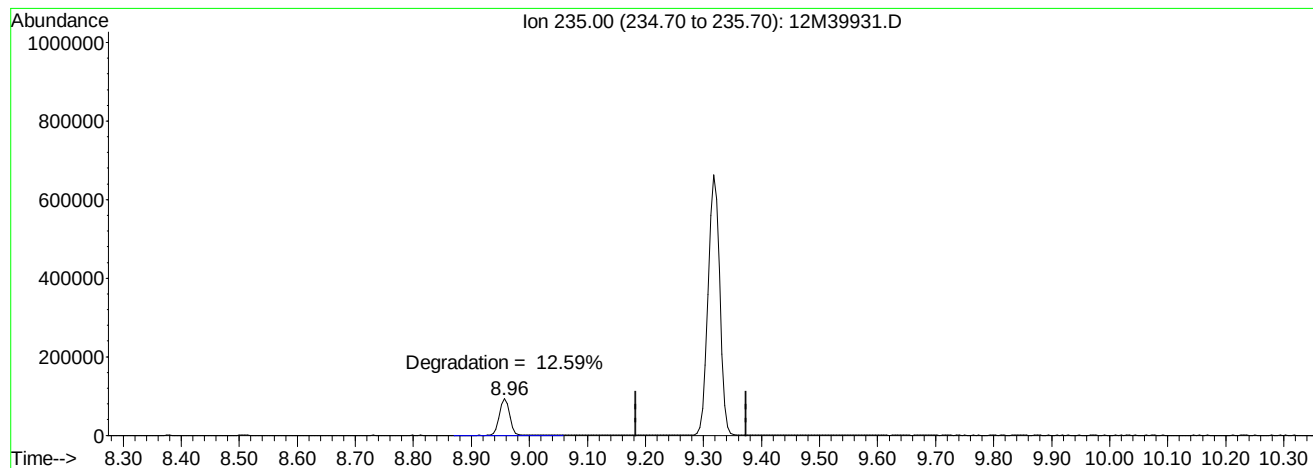
Ion	Exp%	Act%
184.10	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M39931.D DFTPP.M Fri Jun 08 11:06:18 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\060712\12M39931.D Vial: 1
 Acq On : 7 Jun 2012 11:26 am Operator: CAA
 Sample : WG400053-01 50ppm DFTPP STD Inst : MSD12
 Misc : 1,1 STD50659 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 8 11:06 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
 Title : DFTPP
 Last Update : Fri Jun 08 11:05:50 2012
 Response via : Single Level Calibration



TIC: 12M39931.D

(3) DDT

9.32min 0.00ug/ml

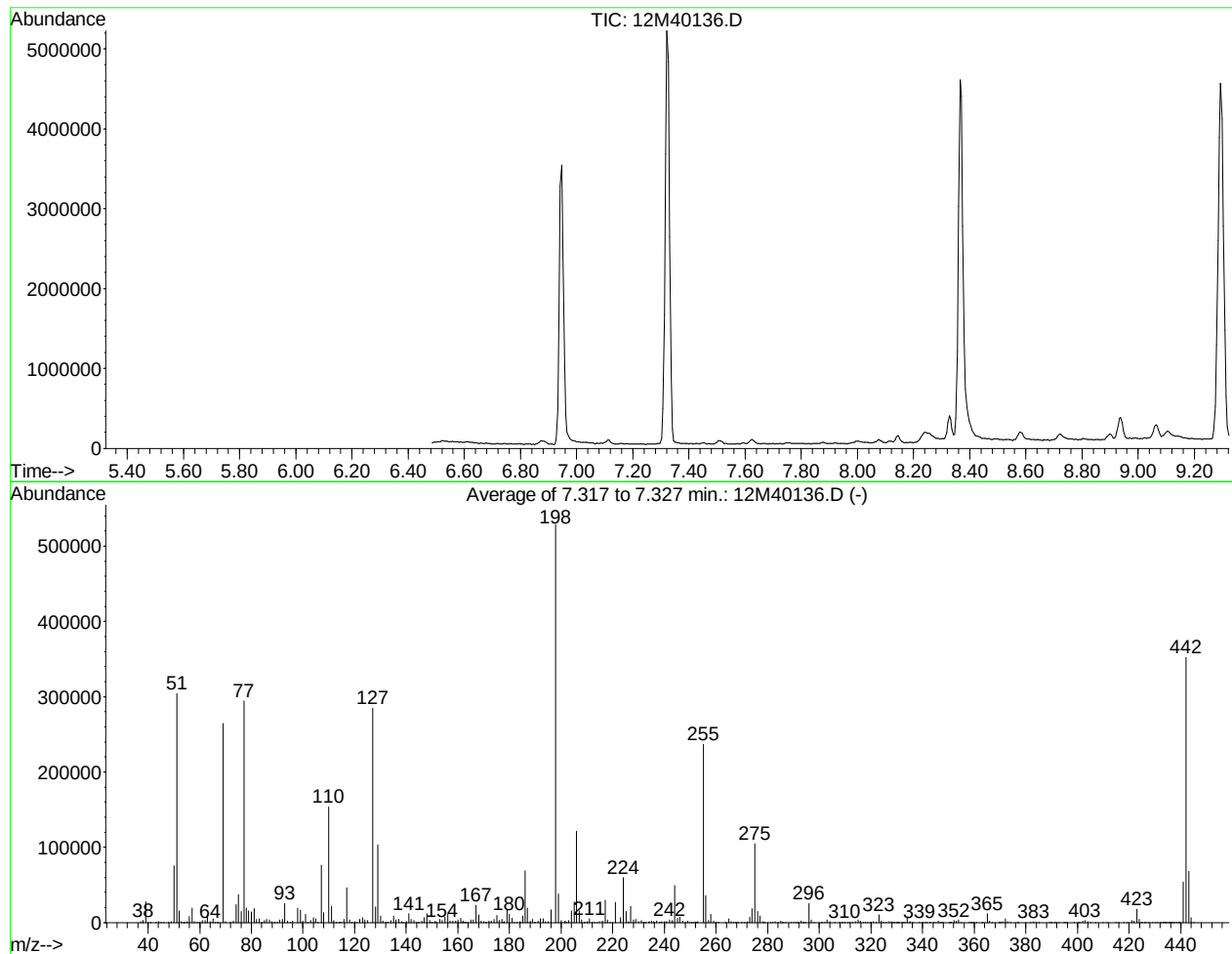
response 916969

Ion	Exp%	Act%
235.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M39931.D DFTPP.M Fri Jun 08 11:06:24 2012

DFTPP

Data File : I:\MSDCHEM\1\DATA\062412\12M40136.D Vial: 1
Acq On : 24 Jun 2012 9:46 am Operator: MDC
Sample : WG401464-01 50ppm DFTPP STD Inst : MSD12
Misc : 1,1 STD50659 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP



AutoFind: Scans 174, 175, 176; Background Corrected with Scan 164

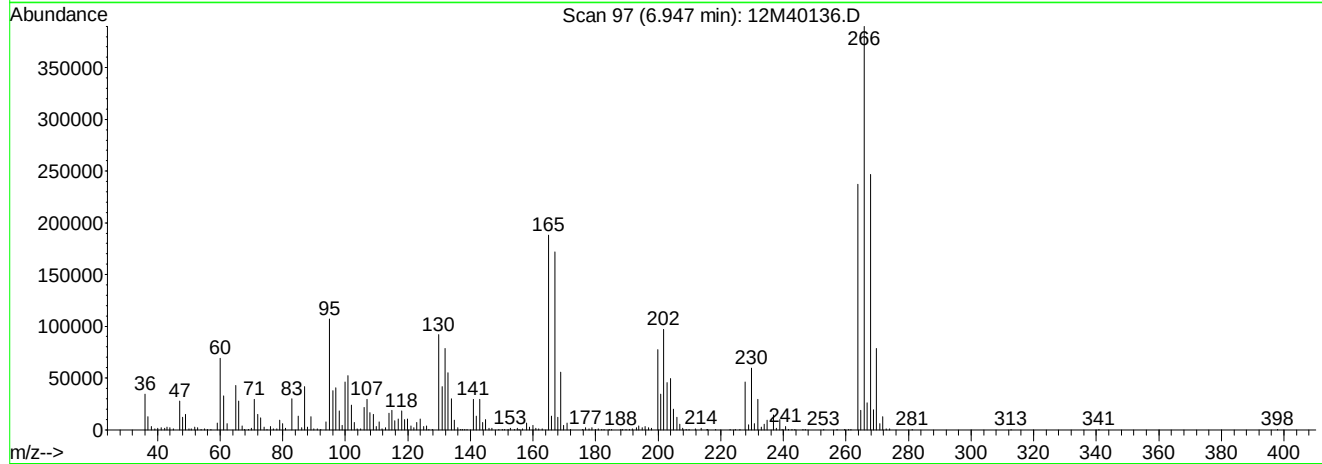
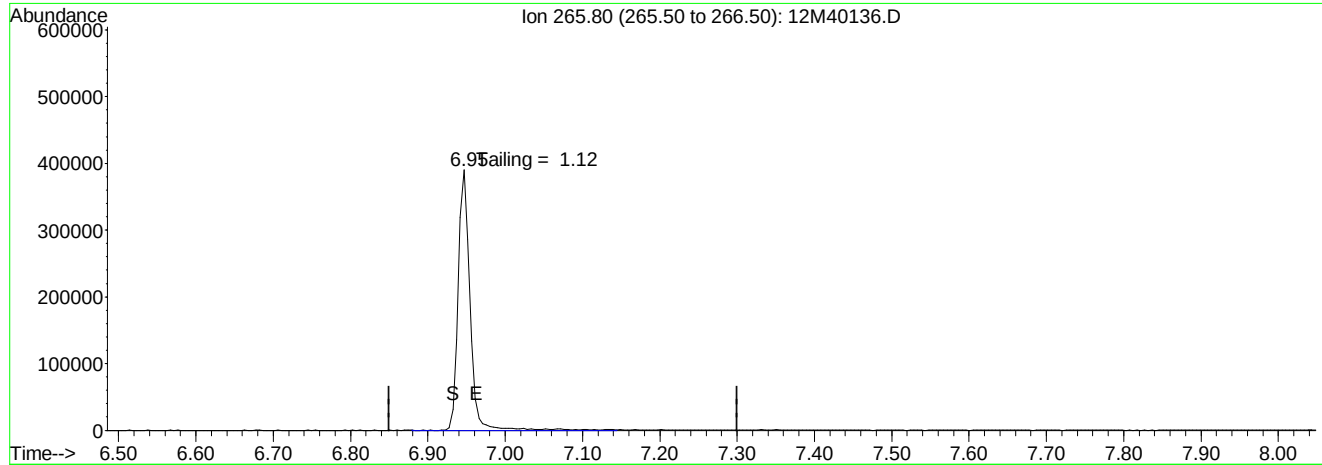
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	57.5	304118	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	50.0	264130	PASS
70	69	0.00	2	0.3	840	PASS
127	198	40	60	53.8	284458	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	528554	PASS
199	198	5	9	7.2	38210	PASS
275	198	10	30	19.8	104808	PASS
365	198	1	100	2.3	11914	PASS
441	443	0.01	100	78.5	53488	PASS
442	198	40	100	66.6	352192	PASS
443	442	17	23	19.3	68133	PASS

12M40136.D DFTPP.M Mon Jun 25 11:21:35 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\062412\12M40136.D Vial: 1
 Acq On : 24 Jun 2012 9:46 am Operator: MDC
 Sample : WG401464-01 50ppm DFTPP STD Inst : MSD12
 Misc : 1,1 STD50659 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 24 10:01 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
 Title : DFTPP
 Last Update : Fri Jun 08 11:05:50 2012
 Response via : Single Level Calibration



TIC: 12M40136.D

(1) Pentachlorophenol

6.95min 0.00ug/ml

response 412158

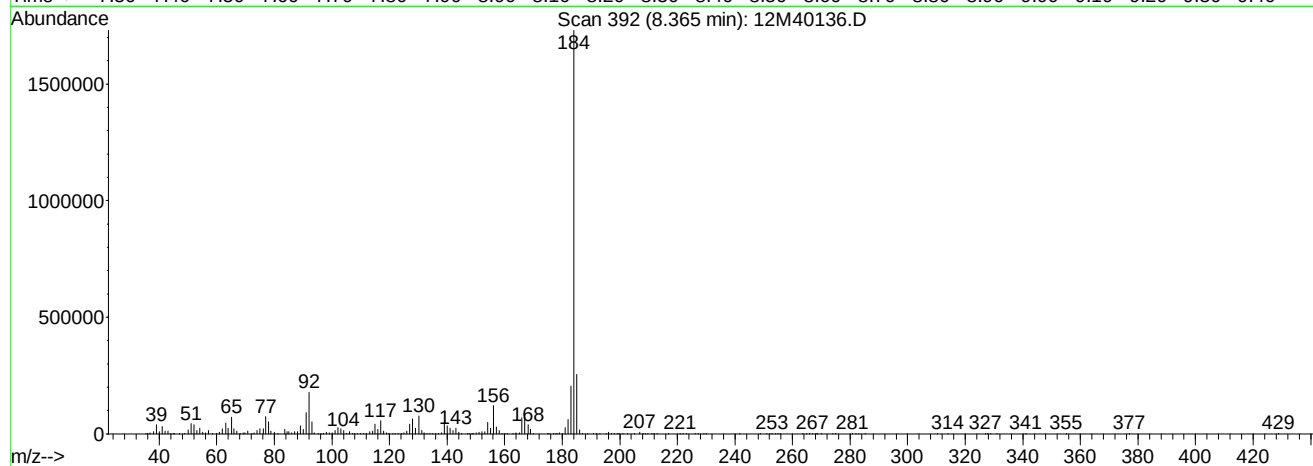
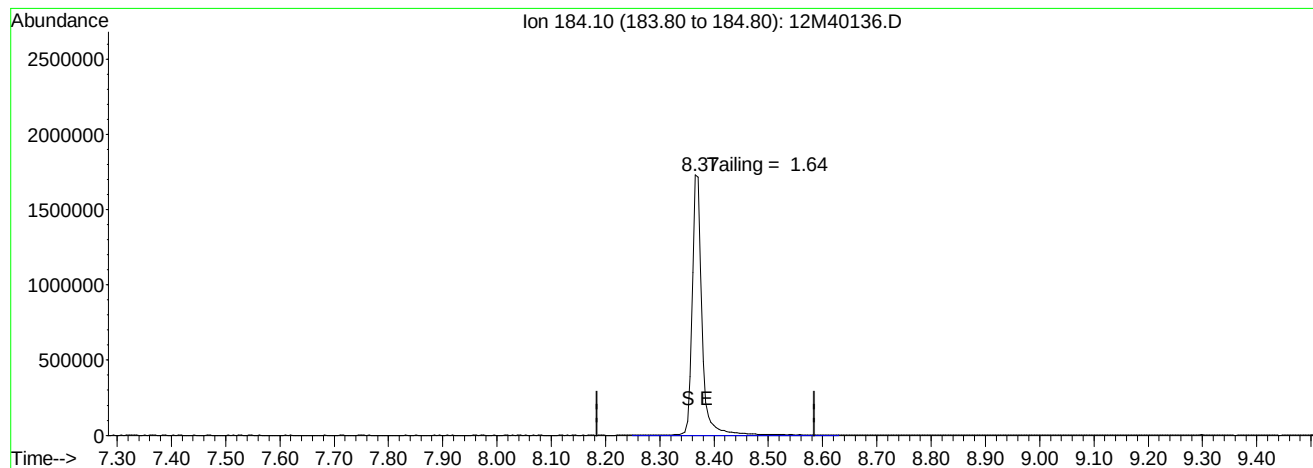
Ion	Exp%	Act%
265.80	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M40136.D DFTPP.M Mon Jun 25 11:21:41 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\062412\12M40136.D Vial: 1
Acq On : 24 Jun 2012 9:46 am Operator: MDC
Sample : WG401464-01 50ppm DFTPP STD Inst : MSD12
Misc : 1,1 STD50659 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 24 10:01 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP
Last Update : Fri Jun 08 11:05:50 2012
Response via : Single Level Calibration



TIC: 12M40136.D

(2) Benzidine

8.37min 0.00ug/ml

response 2167361

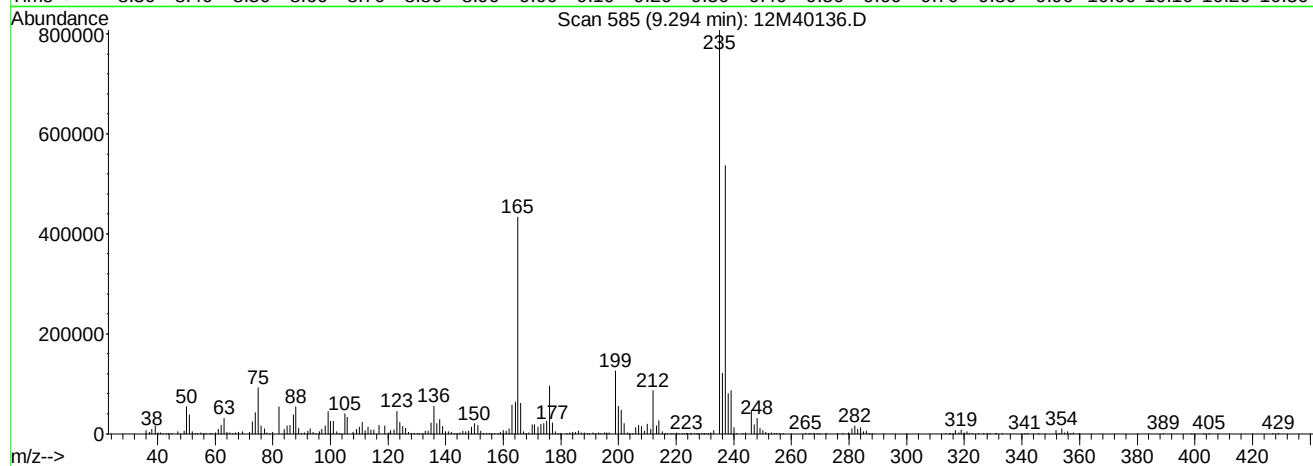
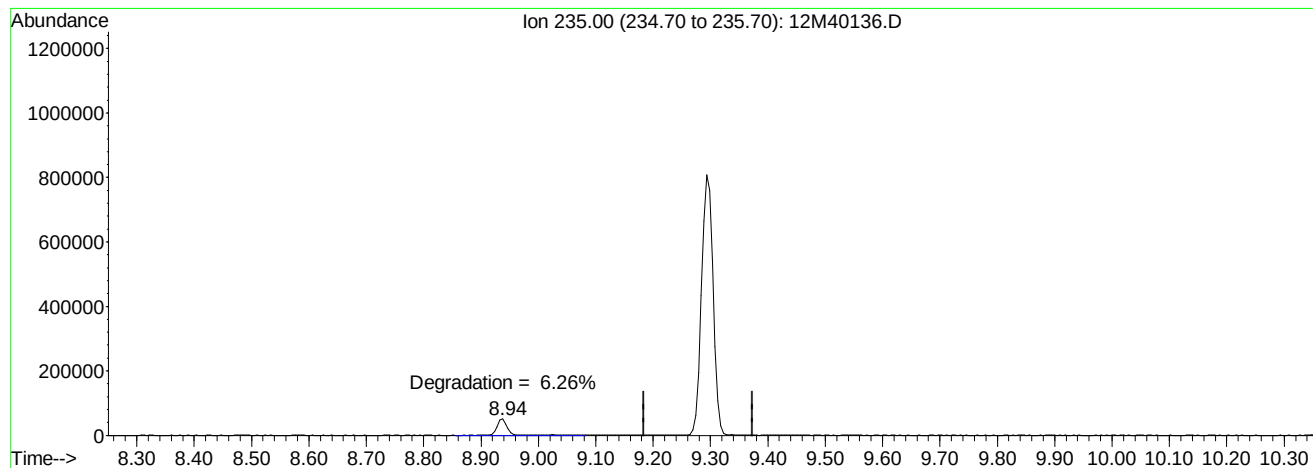
Ion	Exp%	Act%
184.10	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M40136.D DFTPP.M Mon Jun 25 11:21:47 2012

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\062412\12M40136.D Vial: 1
 Acq On : 24 Jun 2012 9:46 am Operator: MDC
 Sample : WG401464-01 50ppm DFTPP STD Inst : MSD12
 Misc : 1,1 STD50659 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 24 10:01 2012 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
 Title : DFTPP
 Last Update : Fri Jun 08 11:05:50 2012
 Response via : Single Level Calibration



TIC: 12M40136.D

(3) DDT

9.29min 0.00ug/ml

response 1123905

Ion	Exp%	Act%
235.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M40136.D DFTPP.M Mon Jun 25 11:21:54 2012

Data File : I:\MSDCHEM\1\DATA\062412\12M40144.D Vial: 8
 Acq On : 24 Jun 2012 1:42 pm Operator: MDC
 Sample : WG400920-02 BLK 06/18 Inst : MSD12
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 25 11:23:36 2012 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
 Last Update : Mon Jun 25 11:23:21 2012
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.337	152	216437	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	817549	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	437586	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.958	188	763581	40.0000	ug/ml	0.000
113) Chrysene-d12	15.510	240	698461	40.0000	ug/ml	0.000
128) Perylene-d12	17.877	264	668850	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.087	112	520827	75.3292119	ug/ml	-0.01
Spiked Amount 100.000	Range 21 - 100		Recovery =	75.33%		
12) Phenol-d5	6.957	99	686557	82.1768732	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	82.18%		
31) Nitrobenzene-d5	7.898	82	305164	44.0655984	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	88.13%		
59) 2-Fluorobiphenyl	9.693	172	556859	37.9386425	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	75.88%		
86) 2,4,6-Tribromophenol	11.226	330	175429	93.9752697	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	93.98%		
117) p-Terphenyl-d14	13.918	244	672552	51.9810086	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	103.96%		
Target Compounds					Qvalue	

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M40144.D MEGAMIX.M Mon Jun 25 11:31:12 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40144.D

Vial: 8

Acq On : 24 Jun 2012 1:42 pm

Operator: MDC

Sample : WG400920-02 BLK 06/18

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

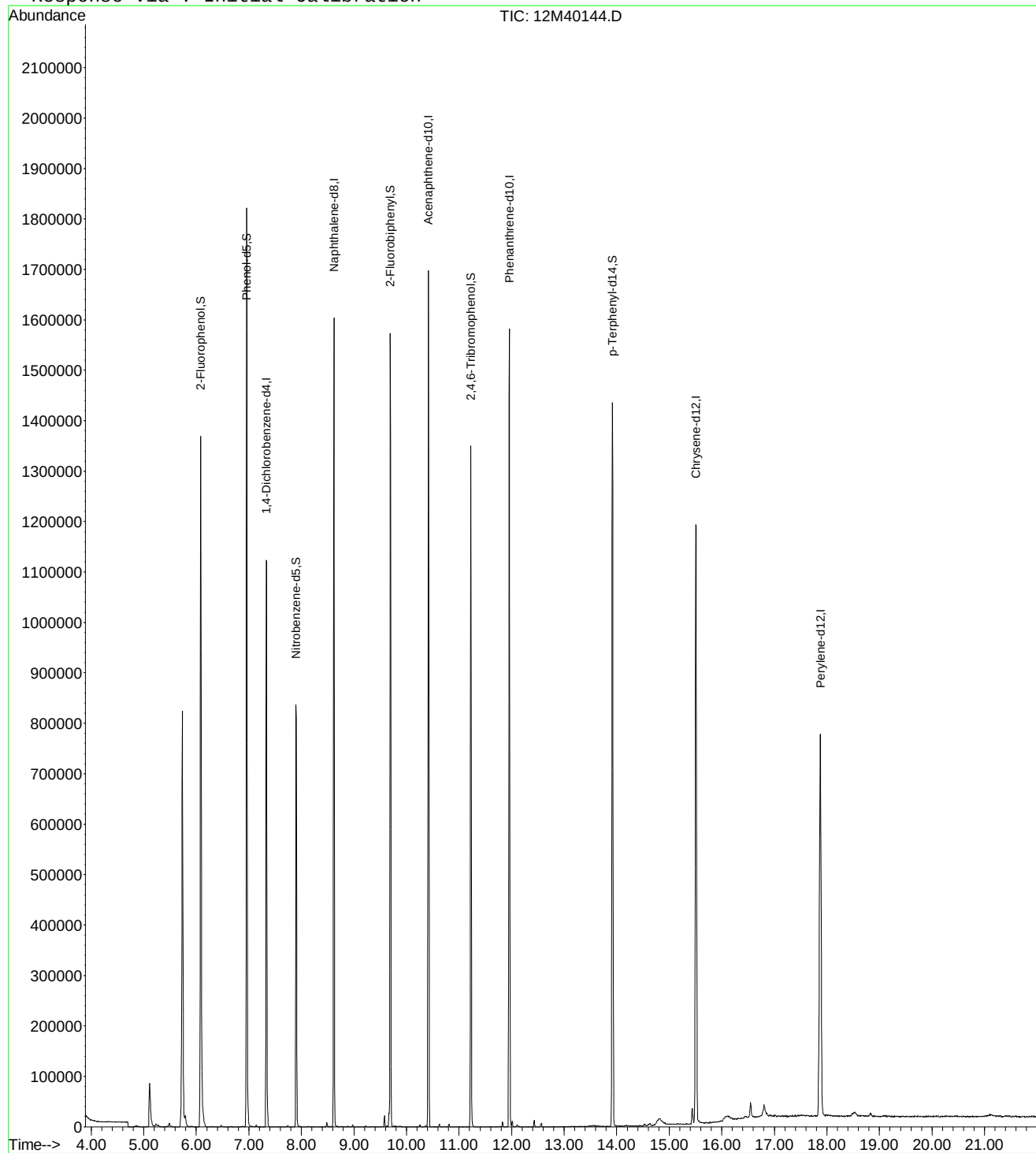
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration



12M40144.D MEGAMIX.M

Mon Jun 25 11:31:13 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\062412\12M40145.D

Vial: 9

Acq On : 24 Jun 2012 2:13 pm

Operator: MDC

Sample : WG400920-03 LCS 06/18

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23:36 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.337	152	237548	40.0000	ug/ml	0.000
30) Naphthalene-d8	8.619	136	1010584	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.419	164	498412	40.0000	ug/ml	0.000
87) Phenanthrene-d10	11.958	188	889934	40.0000	ug/ml	0.000
113) Chrysene-d12	15.516	240	846742	40.0000	ug/ml	0.000
128) Perylene-d12	17.877	264	833014	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.087	112	487033	64.1812912	ug/ml	-0.01
Spiked Amount 100.000	Range 21 - 100		Recovery =	64.18%		
12) Phenol-d5	6.963	99	644529	70.2903334	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	70.29%		
31) Nitrobenzene-d5	7.903	82	296212	34.6027325	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	69.21%		
59) 2-Fluorobiphenyl	9.693	172	630789	37.7307627	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	75.46%		
86) 2,4,6-Tribromophenol	11.226	330	214864	101.0533647	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	101.05%		
117) p-Terphenyl-d14	13.918	244	792781	50.5432455	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	101.09%		
Target Compounds						
3) n-Nitrosodimethylamine	4.55	74	182930	40.8119	ug/ml	86
4) Pyridine	4.55	79	244011	30.9665	ug/ml	93
11) Aniline	7.03	93	379713	32.9625	ug/ml	94
13) Phenol	6.97	94	365449	38.5920	ug/ml	89
14) bis(2-Chloroethyl)ether	7.06	63	214220	40.0459	ug/ml	91
16) 2-Chlorophenol	7.16	128	298057	37.2744	ug/ml	97
17) 1,3-Dichlorobenzene	7.30	146	214964	23.5787	ug/ml	99
18) 1,4-Dichlorobenzene	7.35	146	226933	24.6426	ug/ml	98
19) Benzyl Alcohol	7.45	108	209280	41.8878	ug/ml	96
20) 1,2-Dichlorobenzene	7.55	146	218355	25.1610	ug/ml	98
21) 2-Methylphenol	7.56	107	249372	39.9451	ug/ml	97
22) bis(2-Chloroisopropyl)ethe	7.60	45	470529	45.5326	ug/ml	91
23) 3-,4-Methylphenol	7.69	107	329481	41.1505	ug/ml	98
25) n-Nitrosodipropylamine	7.74	70	227013	47.0593	ug/ml#	65
26) Acetophenone	7.74	105	376459	39.3619	ug/ml	96
27) n-Nitrosomorpholine	7.74	56	16654	3.6962	ug/ml#	43
28) o-Toluidine	7.74	106	29113	2.3853	ug/ml#	1
29) Hexachloroethane	7.85	117	76308	23.6095	ug/ml	99
32) Nitrobenzene	7.92	77	313793	36.4382	ug/ml	96
34) Isophorone	8.14	82	619411	38.5253	ug/ml	98
35) 2-Nitrophenol	8.24	139	173931	34.4940	ug/ml	93
36) 2,4-Dimethylphenol	8.23	122	276163	33.7923	ug/ml	96
38) bis(2-Chloroethoxy)methane	8.33	93	348657	28.2360	ug/ml	88
39) Benzoic Acid	8.28	105	50095	30.3271	ug/ml#	58
40) 2,4-Dichlorophenol	8.47	162	257130	34.6359	ug/ml	97
42) 1,2,4-Trichlorobenzene	8.57	180	206603	24.0579	ug/ml	98
43) Naphthalene	8.64	128	849798	32.2719	ug/ml	100
44) 4-Chloroaniline	8.68	127	374081	34.6469	ug/ml	98
47) Hexachlorobutadiene	8.80	225	109087	24.7746	ug/ml	99
49) p-Phenylenediamine	9.13	108	23738	20.0913	ug/ml#	1
50) 4-Chloro-3-Methylphenol	9.13	107	304580	41.6557	ug/ml	96
52) 2-Methylnaphthalene	9.33	142	553296	31.1247	ug/ml	99
53) 1-Methylnaphthalene	9.45	142	534538	32.2360	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M40145.D MEGAMIX.M Mon Jun 25 11:31:18 2012

Page 1

Data File : I:\MSDCHEM\1\DATA\062412\12M40145.D

Vial: 9

Acq On : 24 Jun 2012 2:13 pm

Operator: MDC

Sample : WG400920-03 LCS 06/18

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23:36 2012

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration

DataAcq Meth : BNAARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
56) Hexachlorocyclopentadiene	9.55	237	36631	16.5593	ug/ml	98
57) 2,4,6-Trichlorophenol	9.62	196	201936	44.3456	ug/ml	99
58) 2,4,5-Trichlorophenol	9.67	196	226960	48.6594	ug/ml	99
60) Isosafrole	9.83	162	561541	89.8966	ug/ml#	35
61) 2-Chloronaphthalene	9.83	162	561541	39.3023	ug/ml	99
62) 1-Chloronaphthalene	9.83	162	561541	41.0970	ug/ml	100
63) 2-Nitroaniline	9.93	65	216210	55.0282	ug/ml	91
65) Dimethylphthalate	10.11	163	721475	44.6789	ug/ml	100
66) 1,3-Dinitrobenzene	10.16	168	132170	45.2983	ug/ml	93
67) 2,6-Dinitrotoluene	10.20	165	187107	47.6570	ug/ml	93
68) Acenaphthylene	10.27	152	1002441	43.4085	ug/ml	100
69) 3-Nitroaniline	10.35	138	213765	60.5717	ug/ml	98
70) 2,4-Dinitrophenol	10.46	184	82065	54.6666	ug/ml	41
71) Acenaphthene	10.45	154	629032	43.9474	ug/ml	98
72) 4-Nitrophenol	10.47	65	173220	62.9461	ug/ml	91
73) 2,4-Dinitrotoluene	10.60	165	258850	53.9002	ug/ml	98
75) Dibenzofuran	10.61	168	863975	44.2934	ug/ml	98
76) 2,3,4,6-Tetrachlorophenol	10.72	232	188744	53.7168	ug/ml	97
77) 1-Naphthylamine	10.71	143	3774	Below Cal	#	1
78) 2-Naphthylamine	10.76	143	4759	Below Cal	#	1
79) Diethylphthalate	10.81	149	786575	50.5278	ug/ml	99
81) Fluorene	10.96	166	768678	46.6880	ug/ml	100
82) 4-Chlorophenyl Phenyl Ethe	10.92	204	355420	45.0954	ug/ml	98
83) 4-Nitroaniline	10.98	138	237453	60.8340	ug/ml	94
84) 5-Nitro-o-Toluidine	11.02	152	9394	2.0893	ug/ml#	1
85) 1,2-Diphenylhydrazine	11.09	77	756497	52.6647	ug/ml	97
88) 4,6-Dinitro-2-Methylphenol	11.02	198	158814	62.1294	ug/ml	95
89) n-Nitrosodiphenylamine	11.04	169	698302	49.1137	ug/ml	100
91) Sym-Trinitrobenzene	11.42	75	33342	11.2016	ug/ml#	62
94) Phorate	11.42	75	33342	3.7739	ug/ml#	39
95) 4-Bromophenyl Phenyl Ether	11.42	248	206063	44.8984	ug/ml	98
96) Hexachlorobenzene	11.62	284	233345	49.5895	ug/ml	98
99) Pentachlorophenol	11.80	266	166508	60.9195	ug/ml	97
101) Pentachloronitrobenzene	11.80	237	5197	3.0313	ug/ml#	13
102) Disulfoton	11.98	88	93520	11.6962	ug/ml#	4
103) Phenanthrene	11.98	178	1202119	51.7526	ug/ml	99
104) Anthracene	12.04	178	1204422	50.1930	ug/ml	99
105) Carbazole	12.19	167	1179648	55.2649	ug/ml	99
107) Di-n-Butyl Phthalate	12.57	149	1365152	52.5871	ug/ml	100
112) Fluoranthene	13.46	202	1335386	54.1759	ug/ml	100
114) Benzidine	13.57	184	309069	104.5946	ug/ml	100
115) Pyrene	13.77	202	1372359	53.2364	ug/ml	100
121) Butyl Benzyl Phthalate	14.60	149	669291	59.0003	ug/ml	99
122) 3,3'-Dimethylbenzidine	14.64	212	7606	Below Cal	#	75
124) bis(2-Ethylhexyl)phthalate	15.44	149	928286	58.7414	ug/ml	100
125) 3,3'-Dichlorobenzidine	15.41	252	415667	61.0936	ug/ml	99
126) Benzo[a]anthracene	15.48	228	1256941	54.9010	ug/ml	100
127) Chrysene	15.55	228	1200014	56.3878	ug/ml	100
129) Di-n-Octyl Phthalate	16.33	149	1565196	58.1979	ug/ml	96
131) Benzo[b]fluoranthene	17.17	252	1319550	54.2185	ug/ml	94
132) Benzo[k]fluoranthene	17.21	252	1186002	55.6575	ug/ml	99
133) Benzo[a]pyrene	17.78	252	1183740	54.1324	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	20.39	276	1323799	59.2347	ug/ml	95
136) Dibenz[ah]anthracene	20.39	278	905759	48.1876	ug/ml	97

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

12M40145.D MEGAMIX.M Mon Jun 25 11:31:18 2012

Page 2

Data File : I:\MSDCHEM\1\DATA\062412\12M40145.D Vial: 9
Acq On : 24 Jun 2012 2:13 pm Operator: MDC
Sample : WG400920-03 LCS 06/18 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 25 11:23:36 2012 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 Initial Calibration 06/07/12
Last Update : Mon Jun 25 11:23:21 2012
Response via : Initial Calibration
DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
137) Benzo[ghi]perylene	21.15	276	1173678	63.2990	ug/ml	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed
12M40145.D MEGAMIX.M Mon Jun 25 11:31:18 2012

Page 3

Data File : I:\MSDCHEM\1\DATA\062412\12M40145.D

Vial: 9

Acq On : 24 Jun 2012 2:13 pm

Operator: MDC

Sample : WG400920-03 LCS 06/18

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 11:23 2012

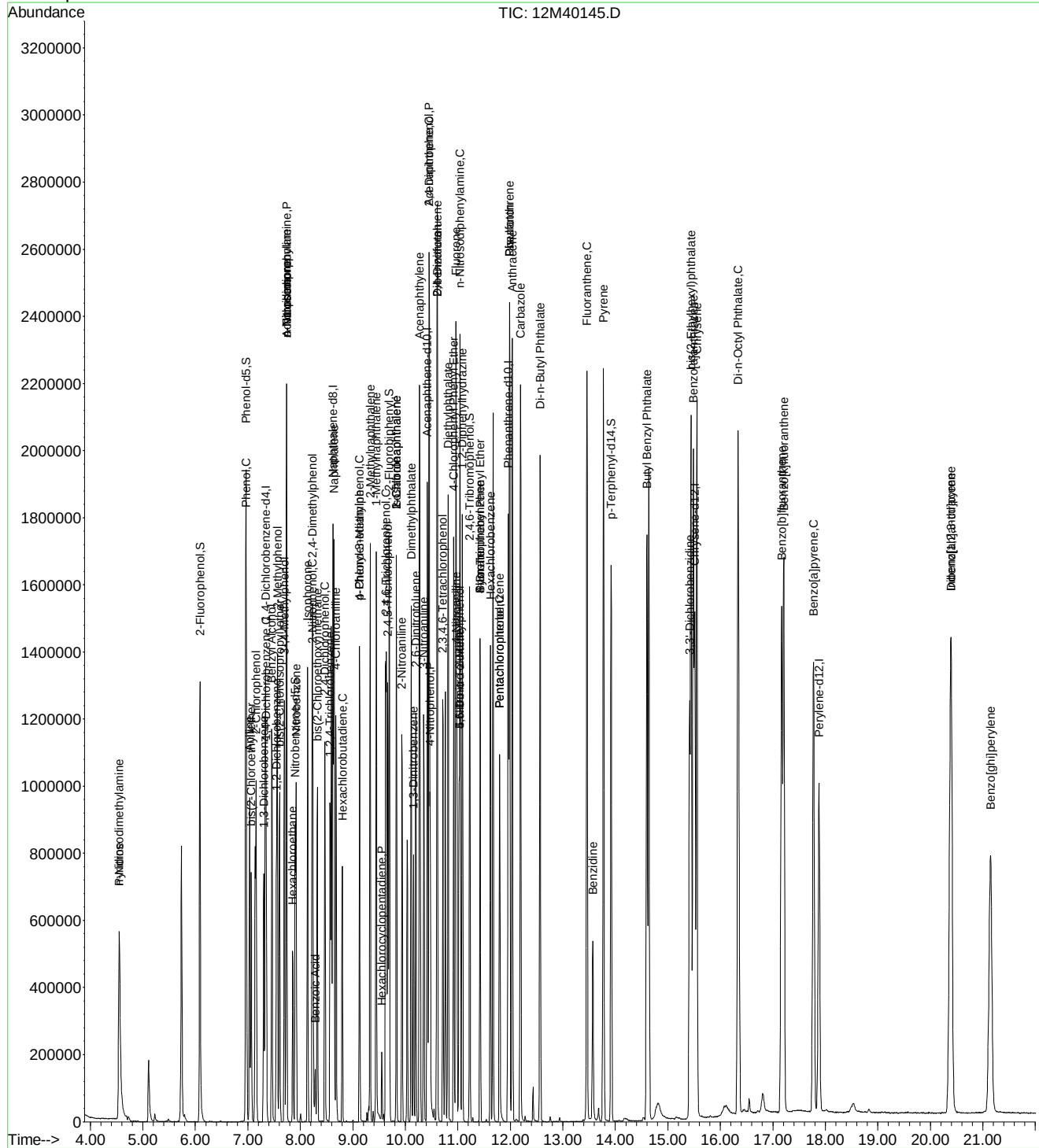
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 Initial Calibration 06/07/12

Last Update : Mon Jun 25 11:23:21 2012

Response via : Initial Calibration



2.2.2 Semivolatiles GC/MS Data (827-PAHL)

2.2.2.1 Summary Data



Login Number: L12060445
Department: Semivolatiles
Analyst: Cassie A. Augenstein

METHOD

Preparation 3510C

Analysis SW-846 8270C

HOLDING TIMES

Sample Preparation: Samples 10 and 11 were re-extracted out of hold.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes in the re-extract: Dibenz[ah]anthracene, Benzo[ghi]perylene. Please see the applicable QC report for a detailed presentation of the failures.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Fluoranthene, Chrysene. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: Recoveries out of range were observed for the following surrogates: 2-Fluorobiphenyl, Nitrobenzene-d5. Please see the applicable QC report for a detailed presentation of the failures.

Samples 10 and 11 were re-extracted and yielded acceptable recoveries.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations

in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 48738

Approved By: Mike Cochran



Certificate of Analysis

Sample #: L12060445-01

PrePrep Method: N/A

Instrument: HPMS7

Client ID: 40MW7GW601212

Prep Method: 3510C

Prep Date: 06/18/2012 11:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/01/2012 16:20

Workgroup #: WG400971

Analyst: CAA

Run Date: 06/20/2012 15:13

Collect Date: 06/12/2012 10:25

Dilution: 1

File ID: 7M55227

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0568	0.0284
Acenaphthylene	208-96-8		U	0.0568	0.0284
Acenaphthene	83-32-9		U	0.0568	0.0284
Fluorene	86-73-7		U	0.0568	0.0284
Phenanthrene	85-01-8		U	0.0568	0.0284
Anthracene	120-12-7		U	0.0568	0.0284
Fluoranthene	206-44-0	0.0327	J	0.0568	0.0284
Pyrene	129-00-0		U	0.0568	0.0284
Benzo(a)anthracene	56-55-3		U	0.0568	0.0284
Chrysene	218-01-9	0.0832		0.0568	0.0284
Benzo(b)fluoranthene	205-99-2		U	0.0568	0.0284
Benzo(k)fluoranthene	207-08-9		U	0.0568	0.0284
Benzo(a)pyrene	50-32-8		U	0.0568	0.0284
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0568	0.0284
Dibenzo(a,h)anthracene	53-70-3		U	0.0568	0.0284
Benzo(g,h,i)perylene	191-24-2		U	0.0568	0.0284
1-Methylnaphthalene	90-12-0		U	0.0568	0.0284
2-Methylnaphthalene	91-57-6		U	0.0568	0.0284
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	95.6	35	114		
2-Fluorobiphenyl	99.7	50	110		
p-Terphenyl-d14	108	33	141		
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-03	PrePrep Method: N/A	Instrument: HPMS7
Client ID: LFMW01GW061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 15:41
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: 7M55228
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0562	0.0281
Acenaphthylene	208-96-8		U	0.0562	0.0281
Acenaphthene	83-32-9		U	0.0562	0.0281
Fluorene	86-73-7		U	0.0562	0.0281
Phenanthrene	85-01-8		U	0.0562	0.0281
Anthracene	120-12-7		U	0.0562	0.0281
Fluoranthene	206-44-0		U	0.0562	0.0281
Pyrene	129-00-0		U	0.0562	0.0281
Benzo(a)anthracene	56-55-3		U	0.0562	0.0281
Chrysene	218-01-9	0.0308	J	0.0562	0.0281
Benzo(b)fluoranthene	205-99-2		U	0.0562	0.0281
Benzo(k)fluoranthene	207-08-9		U	0.0562	0.0281
Benzo(a)pyrene	50-32-8		U	0.0562	0.0281
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0562	0.0281
Dibenzo(a,h)anthracene	53-70-3		U	0.0562	0.0281
Benzo(g,h,i)perylene	191-24-2		U	0.0562	0.0281
1-Methylnaphthalene	90-12-0		U	0.0562	0.0281
2-Methylnaphthalene	91-57-6		U	0.0562	0.0281
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	91.0	35	114		
2-Fluorobiphenyl	93.2	50	110		
p-Terphenyl-d14	113	33	141		
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW6GW061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 16:10
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 7M55229
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0562	0.0281
Acenaphthylene	208-96-8		U	0.0562	0.0281
Acenaphthene	83-32-9		U	0.0562	0.0281
Fluorene	86-73-7		U	0.0562	0.0281
Phenanthrene	85-01-8	0.236		0.0562	0.0281
Anthracene	120-12-7		U	0.0562	0.0281
Fluoranthene	206-44-0	0.606		0.0562	0.0281
Pyrene	129-00-0	0.476		0.0562	0.0281
Benzo(a)anthracene	56-55-3	0.211		0.0562	0.0281
Chrysene	218-01-9	0.890		0.0562	0.0281
Benzo(b)fluoranthene	205-99-2	0.261		0.0562	0.0281
Benzo(k)fluoranthene	207-08-9	0.170		0.0562	0.0281
Benzo(a)pyrene	50-32-8	0.0793		0.0562	0.0281
Indeno(1,2,3-cd)pyrene	193-39-5	0.0391	J	0.0562	0.0281
Dibenzo(a,h)anthracene	53-70-3		U	0.0562	0.0281
Benzo(g,h,i)perylene	191-24-2	0.0475	J	0.0562	0.0281
1-Methylnaphthalene	90-12-0		U	0.0562	0.0281
2-Methylnaphthalene	91-57-6		U	0.0562	0.0281
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	90.7	35	114		
2-Fluorobiphenyl	92.2	50	110		
p-Terphenyl-d14	120	33	141		
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW6MSGW061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 16:38
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 7M55230
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	0.990		0.0568	0.0284
Acenaphthylene	208-96-8	1.02		0.0568	0.0284
Acenaphthene	83-32-9	1.01		0.0568	0.0284
Fluorene	86-73-7	1.05		0.0568	0.0284
Phenanthrene	85-01-8	1.10		0.0568	0.0284
Anthracene	120-12-7	1.09		0.0568	0.0284
Fluoranthene	206-44-0	1.25		0.0568	0.0284
Pyrene	129-00-0	1.30		0.0568	0.0284
Benzo(a)anthracene	56-55-3	1.19		0.0568	0.0284
Chrysene	218-01-9	1.34		0.0568	0.0284
Benzo(b)fluoranthene	205-99-2	1.32		0.0568	0.0284
Benzo(k)fluoranthene	207-08-9	1.25		0.0568	0.0284
Benzo(a)pyrene	50-32-8	1.29		0.0568	0.0284
Indeno(1,2,3-cd)pyrene	193-39-5	1.14		0.0568	0.0284
Dibenzo(a,h)anthracene	53-70-3	1.17		0.0568	0.0284
Benzo(g,h,i)perylene	191-24-2	1.16		0.0568	0.0284
1-Methylnaphthalene	90-12-0	0.998		0.0568	0.0284
2-Methylnaphthalene	91-57-6	1.05		0.0568	0.0284
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	89.9	35	114		
2-Fluorobiphenyl	94.0	50	110		
p-Terphenyl-d14	119	33	141		

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW6MSDGW061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 17:06
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 7M55231
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	0.967		0.0500	0.0250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Acenaphthylene	208-96-8	1.00		0.0500	0.0250
Acenaphthene	83-32-9	0.982		0.0500	0.0250
Fluorene	86-73-7	1.03		0.0500	0.0250
Phenanthrene	85-01-8	1.06		0.0500	0.0250
Anthracene	120-12-7	1.07		0.0500	0.0250
Fluoranthene	206-44-0	1.14		0.0500	0.0250
Pyrene	129-00-0	1.16		0.0500	0.0250
Benzo(a)anthracene	56-55-3	1.05		0.0500	0.0250
Chrysene	218-01-9	1.16		0.0500	0.0250
Benzo(b)fluoranthene	205-99-2	1.13		0.0500	0.0250
Benzo(k)fluoranthene	207-08-9	1.10		0.0500	0.0250
Benzo(a)pyrene	50-32-8	1.14		0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5	0.981		0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3	0.988		0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2	0.999		0.0500	0.0250
1-Methylnaphthalene	90-12-0	0.972		0.0500	0.0250
2-Methylnaphthalene	91-57-6	1.02		0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	100	35	114		
2-Fluorobiphenyl	104	50	110		
p-Terphenyl-d14	119	33	141		

Sample #: L12060445-08

Client ID: 40DUPGW061212

Matrix: Water

Workgroup #: WG400971

Collect Date: 06/12/2012 15:02

Sample Tag: 01

PrePrep Method: N/A

Prep Method: 3510C

Analytical Method: 8270C

Analyst: CAA

Dilution: 1

Units: ug/L

Instrument: HPMS7

Prep Date: 06/18/2012 11:00

Cal Date: 06/01/2012 16:20

Run Date: 06/20/2012 17:34

File ID: 7M55232

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0510	0.0255
Acenaphthylene	208-96-8		U	0.0510	0.0255
Acenaphthene	83-32-9		U	0.0510	0.0255
Fluorene	86-73-7		U	0.0510	0.0255
Phenanthrene	85-01-8		U	0.0510	0.0255
Anthracene	120-12-7		U	0.0510	0.0255
Fluoranthene	206-44-0	0.0265	J	0.0510	0.0255
Pyrene	129-00-0		U	0.0510	0.0255
Benzo(a)anthracene	56-55-3		U	0.0510	0.0255
Chrysene	218-01-9	0.0301	J	0.0510	0.0255

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	0.0510	0.0255
Benzo(k)fluoranthene	207-08-9		U	0.0510	0.0255
Benzo(a)pyrene	50-32-8		U	0.0510	0.0255
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0510	0.0255
Dibenzo(a,h)anthracene	53-70-3		U	0.0510	0.0255
Benzo(g,h,i)perylene	191-24-2		U	0.0510	0.0255
1-Methylnaphthalene	90-12-0		U	0.0510	0.0255
2-Methylnaphthalene	91-57-6		U	0.0510	0.0255
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	90.4	35	114		
2-Fluorobiphenyl	95.1	50	110		
p-Terphenyl-d14	118	33	141		
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40FB061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 18:02
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: 7M55233
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0549	0.0275
Acenaphthylene	208-96-8		U	0.0549	0.0275
Acenaphthene	83-32-9		U	0.0549	0.0275
Fluorene	86-73-7		U	0.0549	0.0275
Phenanthrene	85-01-8	0.0354	J	0.0549	0.0275
Anthracene	120-12-7		U	0.0549	0.0275
Fluoranthene	206-44-0	0.0631		0.0549	0.0275
Pyrene	129-00-0	0.0462	J	0.0549	0.0275
Benzo(a)anthracene	56-55-3		U	0.0549	0.0275
Chrysene	218-01-9	0.0988		0.0549	0.0275
Benzo(b)fluoranthene	205-99-2		U	0.0549	0.0275
Benzo(k)fluoranthene	207-08-9		U	0.0549	0.0275
Benzo(a)pyrene	50-32-8		U	0.0549	0.0275
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0549	0.0275
Dibenzo(a,h)anthracene	53-70-3		U	0.0549	0.0275
Benzo(g,h,i)perylene	191-24-2		U	0.0549	0.0275
1-Methylnaphthalene	90-12-0		U	0.0549	0.0275
2-Methylnaphthalene	91-57-6		U	0.0549	0.0275
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	106	35	114		
2-Fluorobiphenyl	106	50	110		
p-Terphenyl-d14	128	33	141		
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40EQR061212	Prep Method: 3510C	Prep Date: 06/22/2012 10:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG401489	Analyst: CAA	Run Date: 06/25/2012 11:16
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: 7M55309
Sample Tag: RE01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0549	0.0275
Acenaphthylene	208-96-8		U	0.0549	0.0275
Acenaphthene	83-32-9		U	0.0549	0.0275
Fluorene	86-73-7		U	0.0549	0.0275
Phenanthrene	85-01-8		U	0.0549	0.0275
Anthracene	120-12-7		U	0.0549	0.0275
Fluoranthene	206-44-0		U	0.0549	0.0275
Pyrene	129-00-0		U	0.0549	0.0275
Benzo(a)anthracene	56-55-3		U	0.0549	0.0275
Chrysene	218-01-9		U	0.0549	0.0275
Benzo(b)fluoranthene	205-99-2		U	0.0549	0.0275
Benzo(k)fluoranthene	207-08-9		U	0.0549	0.0275
Benzo(a)pyrene	50-32-8		U	0.0549	0.0275
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0549	0.0275
Dibenzo(a,h)anthracene	53-70-3		UQ	0.0549	0.0275
Benzo(g,h,i)perylene	191-24-2		UQ	0.0549	0.0275
1-Methylnaphthalene	90-12-0		U	0.0549	0.0275
2-Methylnaphthalene	91-57-6		U	0.0549	0.0275
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	81.8	35	114		
2-Fluorobiphenyl	79.2	50	110		
p-Terphenyl-d14	92.7	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				
UQ	Undetected; the analyte was analyzed for, but not detected.				

Certificate of Analysis

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40EQR061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 18:31
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: 7M55234
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		UQ	0.0538	0.0269
Acenaphthylene	208-96-8		UQ	0.0538	0.0269
Acenaphthene	83-32-9		UQ	0.0538	0.0269
Fluorene	86-73-7		UQ	0.0538	0.0269
Phenanthrene	85-01-8	0.0286		0.0538	0.0269
Anthracene	120-12-7		UQ	0.0538	0.0269
Fluoranthene	206-44-0	0.0345		0.0538	0.0269
Pyrene	129-00-0		UQ	0.0538	0.0269
Benzo(a)anthracene	56-55-3		UQ	0.0538	0.0269
Chrysene	218-01-9	0.0496		0.0538	0.0269
Benzo(b)fluoranthene	205-99-2		UQ	0.0538	0.0269
Benzo(k)fluoranthene	207-08-9		UQ	0.0538	0.0269
Benzo(a)pyrene	50-32-8		UQ	0.0538	0.0269
Indeno(1,2,3-cd)pyrene	193-39-5		UQ	0.0538	0.0269
Dibenzo(a,h)anthracene	53-70-3		UQ	0.0538	0.0269
Benzo(g,h,i)perylene	191-24-2		UQ	0.0538	0.0269
1-Methylnaphthalene	90-12-0		UQ	0.0538	0.0269
2-Methylnaphthalene	91-57-6		UQ	0.0538	0.0269
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	115	35	114	*	
2-Fluorobiphenyl	117	50	110	*	
p-Terphenyl-d14	123	33	141		
UQ	Undetected; the analyte was analyzed for, but not detected.				

Certificate of Analysis

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW5GW061212	Prep Method: 3510C	Prep Date: 06/18/2012 11:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 06/01/2012 16:20
Workgroup #: WG400971	Analyst: CAA	Run Date: 06/20/2012 18:59
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: 7M55235
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		UQ	0.0526	0.0263
Acenaphthylene	208-96-8		UQ	0.0526	0.0263
Acenaphthene	83-32-9		UQ	0.0526	0.0263
Fluorene	86-73-7		UQ	0.0526	0.0263
Phenanthrene	85-01-8	0.0299		0.0526	0.0263
Anthracene	120-12-7		UQ	0.0526	0.0263
Fluoranthene	206-44-0	0.0532	Q	0.0526	0.0263
Pyrene	129-00-0	0.0390		0.0526	0.0263
Benzo(a)anthracene	56-55-3		UQ	0.0526	0.0263
Chrysene	218-01-9	0.0805	Q	0.0526	0.0263
Benzo(b)fluoranthene	205-99-2		UQ	0.0526	0.0263
Benzo(k)fluoranthene	207-08-9		UQ	0.0526	0.0263
Benzo(a)pyrene	50-32-8		UQ	0.0526	0.0263
Indeno(1,2,3-cd)pyrene	193-39-5		UQ	0.0526	0.0263
Dibenzo(a,h)anthracene	53-70-3		UQ	0.0526	0.0263
Benzo(g,h,i)perylene	191-24-2		UQ	0.0526	0.0263
1-Methylnaphthalene	90-12-0		UQ	0.0526	0.0263
2-Methylnaphthalene	91-57-6		UQ	0.0526	0.0263
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	110	35	114		
2-Fluorobiphenyl	115	50	110	*	
p-Terphenyl-d14	124	33	141		
Q	One or more quality control criteria failed. See narrative.				
UQ	Undetected; the analyte was analyzed for, but not detected.				

Certificate of Analysis

Sample #: L12060445-11

PrePrep Method: N/A

Instrument: HPMS7

Client ID: 40MW5GW061212

Prep Method: 3510C

Prep Date: 06/22/2012 10:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 06/01/2012 16:20

Workgroup #: WG401489

Analyst: CAA

Run Date: 06/25/2012 11:44

Collect Date: 06/12/2012 17:51

Dilution: 1

File ID: 7M55310

Sample Tag: RE01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0521	0.0260
Acenaphthylene	208-96-8		U	0.0521	0.0260
Acenaphthene	83-32-9		U	0.0521	0.0260
Fluorene	86-73-7		U	0.0521	0.0260
Phenanthrene	85-01-8		U	0.0521	0.0260
Anthracene	120-12-7		U	0.0521	0.0260
Fluoranthene	206-44-0		U	0.0521	0.0260
Pyrene	129-00-0		U	0.0521	0.0260
Benzo(a)anthracene	56-55-3		U	0.0521	0.0260
Chrysene	218-01-9		U	0.0521	0.0260
Benzo(b)fluoranthene	205-99-2		U	0.0521	0.0260
Benzo(k)fluoranthene	207-08-9		U	0.0521	0.0260
Benzo(a)pyrene	50-32-8		U	0.0521	0.0260
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0521	0.0260
Dibenzo(a,h)anthracene	53-70-3		UQ	0.0521	0.0260
Benzo(g,h,i)perylene	191-24-2		UQ	0.0521	0.0260
1-Methylnaphthalene	90-12-0		U	0.0521	0.0260
2-Methylnaphthalene	91-57-6		U	0.0521	0.0260
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	80.3	35	114		
2-Fluorobiphenyl	73.5	50	110		
p-Terphenyl-d14	79.5	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				
UQ	Undetected; the analyte was analyzed for, but not detected.				

Certificate of Analysis

2.2.2.2 QC Summary Data

Example 8270 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

$$RF = [(Ax) (Cis)] / [(Ais) (Cx)]$$

where:

Ax = Area of the characteristic ion for the compound being measured:	1261197
Cis = Concentration of the specific internal standard (ug/mL)	40
Ais = Area of the characteristic ion of the specific internal standard	608044
Cx = Concentration of the compound in the standard being measured (ug/mL)	50
RF = Calculated Response Factor	1.65935

Example

2.0 Calculating the concentration (C) of a compound in water using the data from the prep log and quantitation report: *

$$Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Vi)]$$

where:

Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Vi = Initial volume of sample extracted from prep log (mL)	1021
Cx = Concentration of the compound in the sample being measured (ug/mL)	0.016947
Cx = Concentration of the compound in the sample being measured (ug/L)	16.947

Example

3.0 Calculating the concentration (C) of a compound in soil using the data from the prep log and quantitation report: *

$$Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Wi)]$$

where:

Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Wi = Initial weight of sample extracted (g) from prep log	30
Cx = Concentration of the compound in the sample being measured (ug/g)	0.576763
Cx = Concentration of the compound in the sample being measured (ug/kg)	576.7627

Example

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	1153.525 ug/kg

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, $y = mx + b$

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve plot

b = intercept from curve plot

Step 2: Calculate y from Quantitation Report

y = 16790/784838 = 0.02139

Step 3: Solve for x

$$x = (y - b)/m = [(0.02139 - (-0.0435))/0.0783] = 0.829$$

Step 4: Solve for analyte concentration Cx

$$Cx = Cis (x) = (25.0)(0.829) = 20.72 \text{ ug/L}$$

Example Spreadsheet Calculation:

Slope from curve, m:	0.0783
Intercept from curve, b:	-0.0435
Area of analyte, Ax:	16790
Area of Internal Standard, Ais:	784484
Concentration of IS, Cis	25.00 ug/L
Response Ratio (y) :	0.021403
Amount Ratio:	0.828897
Concentration (Cx):	20.72241 ug/L

5.0 Concentration from Quadratic Regression**Step 1 - Retrieve Curve Data from Plot, $y = Ax^2 + Bx + C$**

Where:

$$Ax^2 + Bx + (C - y) = 0$$

A, B, C = constants from the ICAL quadratic regression

y = Response ratio = Area of analyte/Area of internal standard (IS)

x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

$$Ax^2 + Bx + C - y = 0$$

$$x = \frac{b \pm \sqrt{b^2 - 4a(c - y)}}{2a} \quad (\text{Two possible solutions})$$

Step 4: Solve for analyte concentration Cx

$$Cx = (Cis)(\text{Amount ratio})$$

Example Spreadsheet Calculation:

Value of A from plot:	0.0259
Value of B from plot:	0.0596
Value of C from plot:	-0.0165
Area of analyte from quantitation report:	203233
Area of IS from quantitation report:	1425653
Response ratio, y:	0.142554
C - y:	-0.15905
Root 1 - Computed amount ratio, X1:	-3.88278
Root 2 - Computed amount ratio, X2:	1.581623 use this solution
Concentration of IS, Cis:	40.00
Concentration of analyte, Cx:	63.26 ug/L

Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG400887
Analyst: CPD
Spike Analyst: CPD
Method: 3510C
Run Date: 06/18/2012 11:00
SOP: EXA01 Revision 15
Spike Witness: CAF
Surr Solution: STD50786

Methylene Chloride Lot #: COA16205
Sodium Sulfate, Anhydrous, Granular (Lot # COA16124

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L12060409-01	SAMP		N	827-PAHL	1000 mL	.25 mL			1 mL	Colored
2	L12060410-01	SAMP		N	827-PAHL	980 mL	.25 mL			1 mL	Colored
3	L12060445-01	SAMP		N	827-PAHL	880 mL	.25 mL			1 mL	Transparent
4	L12060445-03	SAMP		N	827-PAHL	890 mL	.25 mL			1 mL	Transparent
5	L12060445-05	RS01		N	827-PAHL	890 mL	.25 mL			1 mL	Transparent
6	L12060445-06	MS01	L12060445-05	N	827-PAHL	880 mL	.25 mL	1 mL	STD50386	1 mL	Transparent
7	L12060445-07	SD01	L12060445-05	N	827-PAHL	1000 mL	.25 mL	1 mL	STD50386	1 mL	Transparent
8	L12060445-08	SAMP		N	827-PAHL	980 mL	.25 mL			1 mL	Transparent
9	L12060445-09	SAMP		N	827-PAHL	910 mL	.25 mL			1 mL	Transparent
10	L12060445-10	SAMP		N	827-PAHL	930 mL	.25 mL			1 mL	Transparent
11	L12060445-11	SAMP		N	827-PAHL	950 mL	.25 mL			1 mL	Transparent
12	WG400887-01	REF	L12060445-05	N	827-PAHL	890 mL	.25 mL			1 mL	Transparent
13	WG400887-02	BLANK		N	827-PAHL	1000 mL	.25 mL			1 mL	Transparent
14	WG400887-03	LCS		N	827-PAHL	1000 mL	.25 mL	1 mL	STD50386	1 mL	Transparent
15	WG400887-04	MS	L12060445-05	N	827-PAHL	880 mL	.25 mL	1 mL	STD50386	1 mL	Transparent
16	WG400887-05	MSD	L12060445-05	N	827-PAHL	1000 mL	.25 mL	1 mL	STD50386	1 mL	Transparent

Analyst: *Leanne Davis*

Reviewer: *R. H. H. H.*



Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG401346
Analyst: CPD
Spike Analyst: CPD
Method: 3510C
Run Date: 06/22/2012 10:00
SOP: EXA01 Revision 15
Spike Witness: CAF
Surr Solution: STD50786

Methylene Chloride Lot #: COA16205
Sodium Sulfate, Anhydrous, Granular (Lot # COA16124

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L12060445-10	SAMP		N	827-PAHL	910 mL	.25 mL			1 mL	Transparent
2	L12060445-11	SAMP		N	827-PAHL	960 mL	.25 mL			1 mL	Transparent
3	L12060600-27	SAMP		N	827-PAHL	950 mL	.25 mL			1 mL	Transparent
4	L12060601-21	SAMP		N	827-PAHL	820 mL	.25 mL			1 mL	Transparent
5	L12060609-03	SAMP		N	827-PAHL	1000 mL	.25 mL			1 mL	Transparent
6	L12060649-01	SAMP		N	827-PAHL	870 mL	.25 mL			1 mL	Transparent
7	L12060649-02	SAMP		N	827-PAHL	1000 mL	.25 mL			1 mL	Transparent
8	L12060649-04	SAMP		N	827-PAHL	950 mL	.25 mL			1 mL	Transparent
9	L12060649-05	SAMP		N	827-PAHL	900 mL	.25 mL			1 mL	Colored
10	L12060649-06	SAMP		N	827-PAHL	1000 mL	.25 mL			1 mL	Colored
11	L12060649-08	SAMP		N	827-PAHL	940 mL	.25 mL			1 mL	Transparent
12	WG401346-01	BLANK		N	827-PAHL	1000 mL	.25 mL			1 mL	Transparent
13	WG401346-02	LCS		N	827-PAHL	1000 mL	.25 mL	1 mL	STD50386	1 mL	Transparent
14	WG401346-03	LCS2		N	827-PAHL	1000 mL	.25 mL	1 mL	STD50386	1 mL	Transparent

Due to insufficient sample volume, this preparation batch failed to include the method prescribed MS and MSD.

Analyst: _____

Leanne Davis

Reviewer: _____

R. H. H. H.

Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS7 Dataset: 060112
 Analyst1: CAA Analyst2: NA
 Method: 8270L SOP: MSS03 Rev: 10

Maintenance Log ID: 41973 Syringe Filter Lot#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA
 Workgroups: WG399573, WG399410
 Internal STD: STD52041 Surrogate STD: NA Calibration STD: _____
 CCV STD: _____ LCS STD: _____ MS/MSD STD: _____

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	7M55106	WG399609-01 5PPM DFTPP STD	1	1	STD50659	06/01/12 13:15
2	7M55107	WG399609-02 1PPM PAHL STD	1	1	STD49560	06/01/12 13:33
3	7M55108	WG399609-03 10PPM PAHL STD	1	1	STD52037	06/01/12 14:01
4	7M55109	WG399609-04 5PPM PAHL STD	1	1	STD52037	06/01/12 14:29
5	7M55110	WG399609-05 2.5PPM PAHL STD	1	1	STD52037	06/01/12 14:57
6	7M55111	WG399609-06 0.5PPM PAHL STD	1	1	STD52037	06/01/12 15:25
7	7M55112	WG399609-07 0.1PPM PAHL STD	1	1	STD52037	06/01/12 15:52
8	7M55113	WG399609-08 0.05PPM PAHL STD	1	1	STD52037	06/01/12 16:20
9	7M55114	WG399609-09 1PPM PAHL Alt Src STD	1	1	STD49584	06/01/12 16:47
10	7M55115	WG399257-01 BLK 05/30	1	1		06/01/12 17:15
11	7M55116	WG399257-02 LCS 05/30	1	1		06/01/12 17:42
12	7M55117	WG399257-03 LCS DUP 05/30	1	1		06/01/12 18:10
13	7M55118	WG399377-02 BLK 05/31	7	1	SOIL	06/01/12 18:37
14	7M55119	WG399377-03 LCS 05/31	7	1	SOIL	06/01/12 19:05
15	7M55120	L12050751-01	1	1		06/01/12 19:33
16	7M55121	L12050796-01	1	1		06/01/12 20:00
17	7M55122	L12050796-03 10X	1	10		06/01/12 20:28
18	7M55123	L12050883-01	7	1	SOIL	06/01/12 20:56
19	7M55124	L12050883-02	7	1	SOIL	06/01/12 21:23
20	7M55125	L12050883-03	7	1	SOIL	06/01/12 21:50
21	7M55126	L12050883-04	7	1	SOIL	06/01/12 22:18
22	7M55127	L12050883-05	7	1	SOIL	06/01/12 22:45
23	7M55128	L12050883-06	7	1	SOIL	06/01/12 23:13
24	7M55129	L12050883-07	7	1	SOIL	06/01/12 23:40
25	7M55130	L12050883-08	7	1	SOIL	06/02/12 00:08
26	7M55131	L12050883-09	7	1	SOIL	06/02/12 00:35
27	7M55132	L12050883-13	7	1	SOIL	06/02/12 01:03

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2				
			WG399609-02 1PPM PAHL STD - A few compounds fail low, run ICAL.	
15				
			L12050751-01 - SS TPH low, needs re-extracted.	

Page: 1

Approved: 05-JUN-12

Eiv C. Zuma



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS7 Dataset: 060112
 Analyst1: CAA Analyst2: NA
 Method: 8270L SOP: MSS03 Rev: 10

Maintenance Log ID: 41973 Syringe Filter Lot#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA
 Workgroups: WG399573, WG399410
 Internal STD: STD52041 Surrogate STD: NA
 CCV STD: _____ LCS STD: _____

Comments

Seq.	Rerun	Dil.	Reason	Analytes
17				
			L12050796-03 10X - Sample was analyzed at a dilution due to extract appearance and viscosity.	
24	X	1		
			L12050883-07 - Istd low causing surrogates to fail high.	

Page: 2

Approved: 05-JUN-12




Microbac Laboratories Inc. Instrument Run Log

Instrument: HPMS7 Dataset: 061912
 Analyst1: CAA Analyst2: NA
 Method: 8270L SOP: MSS03 Rev: 19

Maintenance Log ID: 42188 Syringe Filter Lot#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA
 Workgroups: WG400971, WG400840
 Internal STD: STD52041 Surrogate STD: NA Calibration STD: _____
 CCV STD: _____ LCS STD: _____ MS/MSD STD: _____

Comments: Samples were analyzed at a dilution due to extract appearance and viscosity.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	7M55194	WG400995-01 5PPM DFTPP STD	1	1	STD50659	06/19/12 08:21
2	7M55195	WG400995-02 1PPM PAHL STD	1	1	STD52037	06/19/12 08:38
3	7M55196	WG400887-02 BLK 06/18	1	1		06/19/12 09:06
4	7M55197	WG400887-03 LCS 06/18	1	1		06/19/12 09:33
5	7M55198	WG400672-01 BLK 06/14	7	1	SOIL	06/19/12 10:01
6	7M55199	WG400672-02 LCS 06/14	7	1	SOIL	06/19/12 10:29
7	7M55200	WG400672-03 LCS DUP 06/14	7	1	SOIL	06/19/12 10:57
8	7M55201	L12060410-01	1	1		06/19/12 11:25
9	7M55202	L12060409-01 5X	1	5		06/19/12 11:53
10	7M55203	L12060419-14	7	1	SOIL	06/19/12 12:21
11	7M55204	L12060419-20	7	1	SOIL	06/19/12 12:49
12	7M55205	L12060419-13	7	1	SOIL	06/19/12 13:17
13	7M55206	L12060419-12	7	1	SOIL	06/19/12 13:46
14	7M55207	L12060419-11	7	1	SOIL	06/19/12 14:14
15	7M55208	L12060419-10	7	1	SOIL	06/19/12 14:42
16	7M55209	L12060420-03	7	1	SOIL	06/19/12 15:11
17	7M55210	L12060420-05	7	1	SOIL	06/19/12 15:40
18	7M55211	L12060420-06	7	1	SOIL	06/19/12 16:09
19	7M55212	L12060420-07	7	1	SOIL	06/19/12 16:37
20	7M55213	L12060419-17 5X	7	5	SOIL	06/19/12 17:05
21	7M55214	L12060419-19 5X	7	5	SOIL	06/19/12 17:34
22	7M55215	L12060420-02 5X	7	5	SOIL	06/19/12 18:02
23	7M55216	L12060419-16 5X	7	5	SOIL	06/19/12 18:30
24	7M55217	L12060419-18 5X	7	5	SOIL	06/19/12 18:58
25	7M55218	L12060420-04 10X	7	10	SOIL	06/19/12 19:26
26	7M55219	L12060419-15 10X	7	10	SOIL	06/19/12 19:54
27	7M55220	L12060420-01 10X	7	10	SOIL	06/19/12 20:22

Comments

Seq.	Rerun	Dil.	Reason	Analytes
5				
			WG400672-01 BLK 06/14 - Fluoranthene >MDL but <RL.	
9				
			L12060409-01 5X - All SS low, Similar in 8270 extraction - SMI.	

Page: 1

Approved: 20-JUN-12




Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS7 Dataset: 061912
 Analyst1: CAA Analyst2: NA
 Method: 8270L SOP: MSS03 Rev: 19

Maintenance Log ID: 42188 Syringe Filter Lot#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA
 Workgroups: WG400971, WG400840
 Internal STD: STD52041 Surrogate STD: NA
 CCV STD: _____ LCS STD: _____

Comments

Seq.	Rerun	Dil.	Reason	Analytes
11				
			L12060419-20 - Istd 1 low RR at 10x, SS NBZ, TPH high.	
13	X	10	Internal standard failure	
			L12060419-12	
14	X	10	Internal standard failure	
			L12060419-11	
15	X	10	Internal standard failure	
			L12060419-10	
16	X	10	Over Calibration Range	Many
			L12060420-03 - SS NBZ low.	
17	X	10	Over Calibration Range	Many
			L12060420-05	
18	X	10	Over Calibration Range	Many
			L12060420-06	
22	X	50	Over Calibration Range	#14
			L12060420-02 5X	
24				
			L12060419-18 5X - SS TPH high.	
27	X	100	Over Calibration Range	#12, 14, 16, 18
			L12060420-01 10X	

Page: 2

Approved: 20-JUN-12




Microbac Laboratories Inc. Instrument Run Log

Instrument: HPMS7 Dataset: 062012
 Analyst1: CAA Analyst2: NA
 Method: 8270L SOP: MSS03 Rev: 10

Maintenance Log ID: 42210 Syringe Filter Lot#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA
 Workgroups: WG400837, WG400971, WG400840
 Internal STD: STD52041 Surrogate STD: NA Calibration STD: _____
 CCV STD: _____ LCS STD: _____ MS/MSD STD: _____

Comments: Samples were analyzed at a dilution due to extract appearance and viscosity.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	7M55221	WG401191-01 5PPM DFTPP STD	1	1	STD50659	06/20/12 12:47
2	7M55222	WG401191-01 5PPM DFTPP STD	1	1	STD50659	06/20/12 13:02
3	7M55223	WG401191-02 1PPM PAHL STD	1	1	STD52037	06/20/12 13:20
4	7M55224	WG400673-01 BLK 06/14	7	1	SOIL	06/20/12 13:48
5	7M55225	WG400673-02 LCS 06/14	7	1	SOIL	06/20/12 14:17
6	7M55226	WG400673-03 LCS DUP 06/14	7	1	SOIL	06/20/12 14:45
7	7M55227	L12060445-01	1	1		06/20/12 15:13
8	7M55228	L12060445-03	1	1		06/20/12 15:41
29	7M55229	L12060445-05 REF	1	1		06/20/12 16:10
30	7M55230	L12060445-06 MS	1	1		06/20/12 16:38
31	7M55231	L12060445-07 MSD	1	1		06/20/12 17:06
12	7M55232	L12060445-08	1	1		06/20/12 17:34
13	7M55233	L12060445-09	1	1		06/20/12 18:02
14	7M55234	L12060445-10	1	1		06/20/12 18:31
15	7M55235	L12060445-11	1	1		06/20/12 18:59
16	7M55236	L12060420-17	7	1	SOIL	06/20/12 19:27
17	7M55237	L12060420-10	7	1	SOIL	06/20/12 19:54
18	7M55238	L12060420-11	7	1	SOIL	06/20/12 20:23
19	7M55239	L12060420-19	7	1	SOIL	06/20/12 20:51
20	7M55240	L12060420-12 5X	7	5	SOIL	06/20/12 21:18
21	7M55241	L12060420-08 5X	7	5	SOIL	06/20/12 21:46
22	7M55242	L12060420-09 10X	7	10	SOIL	06/20/12 22:13
23	7M55243	L12060420-18 10X	7	10	SOIL	06/20/12 22:41
24	7M55244	L12060419-20 10X	7	10	SOIL	06/20/12 23:09
25	7M55245	L12060419-12 10X	7	10	SOIL	06/20/12 23:36
26	7M55246	L12060419-11 10X	7	10	SOIL	06/21/12 00:03
27	7M55247	L12060419-10 10X	7	10	SOIL	06/21/12 00:31
28	7M55248	L12060420-03 10X	7	10	SOIL	06/21/12 00:58

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			
			WG401191-01 5PPM DFTPP STD - Not enough standard to inject.	

Page: 1

Approved: 22-JUN-12




Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS7 Dataset: 062012
 Analyst1: CAA Analyst2: NA
 Method: 8270L SOP: MSS03 Rev: 10

Maintenance Log ID: 42210 Syringe Filter Lot#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA
 Workgroups: WG400837, WG400971, WG400840
 Internal STD: STD52041 Surrogate STD: NA
 CCV STD: _____ LCS STD: _____

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4				
			WG400673-01 BLK 06/14 - Fluoranthene >MDL but <RL.	
14				
			L12060445-10 - SS FBP, NBZ high, needs re-extracted.	
15				
			L12060445-11 - SS FBP high, needs re-extracted.	
16				
			L12060420-17 - SS TPH high - SMI.	
17	X	10	Over Calibration Range	#14, 16
			L12060420-10	
18	X	10	Internal standard failure	
			L12060420-11 - Istd 1, 2, 3 low RR at 10x.	
19	X	10	Internal standard failure	Istd 1 low.
			L12060420-19 - RR at 10x - SMI, not reported.	
22	X	100	Over Calibration Range	#14, 16
			L12060420-09 10X	
23	X	100	Over Calibration Range	Many
			L12060420-18 10X - SS TPH high - SMI.	
25				
			L12060419-12 10X - SS TPH high - SMI.	
26				
			L12060419-11 10X - SS NBZ high - SMI.	
27				
			L12060419-10 10X - SS NBZ high - SMI.	
28				
			L12060420-03 10X - SS NBZ low, needs re-extracted.	

Page: 2

Approved: 22-JUN-12




Microbac Laboratories Inc. Instrument Run Log

Instrument: <u>HPMS7</u>	Dataset: <u>062512</u>	
Analyst1: <u>CAA</u>	Analyst2: <u>NA</u>	
Method: <u>8270L</u>	SOP: <u>MSS03</u>	Rev: <u>10</u>
Method: <u>OVAP</u>	SOP: <u>MSS03</u>	Rev: <u>1</u>

Maintenance Log ID: 42249 Syringe Filter Lot#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG401371, WG401489

Internal STD: STD52041 Surrogate STD: NA Calibration STD: _____

CCV STD: _____ LCS STD: _____ MS/MSD STD: _____

Comments: L12060600-27, L12060601-21, L12060609-03, L12060649-01, 04, 06, 08 need re-extracted due to LCS/LCS DUP.
All other L12060600 samples need re-extracted due to blank contamination.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	7M55303	WG401478-01 5PPM DFTPP STD	1	1	STD50659	06/25/12 08:52
2	7M55304	WG401478-01 5PPM DFTPP STD	1	1	STD50659	06/25/12 09:07
3	7M55305	WG401478-02 1PPM PAHL STD	1	1	STD52037	06/25/12 09:24
4	7M55306	WG401346-01 BLK 06/22	1	1		06/25/12 09:52
5	7M55307	WG401346-02 LCS 06/22	1	1		06/25/12 10:20
6	7M55308	WG401346-03 LCS DUP 06/22	1	1		06/25/12 10:48
7	7M55309	L12060445-10 RE	1	1		06/25/12 11:16
8	7M55310	L12060445-11 RE	1	1		06/25/12 11:44
9	7M55311	L12060600-27	1	1		06/25/12 12:12
10	7M55312	L12060649-01	1	1		06/25/12 12:40
11	7M55313	L12060649-02	1	1		06/25/12 13:07
12	7M55314	L12060649-04	1	1		06/25/12 13:35
13	7M55315	L12060649-05	1	1		06/25/12 14:03
14	7M55316	L12060649-06	1	1		06/25/12 14:32
15	7M55317	L12060649-08	1	1		06/25/12 15:00
16	7M55318	L12060600-08	7	1	SOIL	06/25/12 15:27
17	7M55319	L12060600-09	7	1	SOIL	06/25/12 15:55
18	7M55320	L12060600-10	7	1	SOIL	06/25/12 16:23
19	7M55321	L12060600-13	7	1	SOIL	06/25/12 16:51
20	7M55322	L12060600-14	7	1	SOIL	06/25/12 17:18
21	7M55323	L12060600-15	7	1	SOIL	06/25/12 17:46
22	7M55324	L12060600-16	7	1	SOIL	06/25/12 18:14
23	7M55325	L12060600-17	7	1	SOIL	06/25/12 18:42
24	7M55326	L12060600-18	7	1	SOIL	06/25/12 19:10
25	7M55327	L12060600-19	7	1	SOIL	06/25/12 19:37
26	7M55328	L12060600-20	7	1	SOIL	06/25/12 20:05
27	7M55329	L12060600-25	7	1	SOIL	06/25/12 20:32
28	7M55330	L12060600-26	7	1	SOIL	06/25/12 21:00

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			
			WG401478-01 5PPM DFTPP STD - Tune failed.	

Page: 1

Approved: 26-JUN-12




Microbac Laboratories Inc.
Instrument Run Log

Instrument: <u>HPMS7</u>	Dataset: <u>062512</u>	
Analyst1: <u>CAA</u>	Analyst2: <u>NA</u>	
Method: <u>8270L</u>	SOP: <u>MSS03</u>	Rev: <u>10</u>
Method: <u>OVAP</u>	SOP: <u>MSS03</u>	Rev: <u>1</u>

Maintenance Log ID: 42249 Syringe Filter Lot#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG401371, WG401489

Internal STD: STD52041 Surrogate STD: NA

CCV STD: _____ LCS STD: _____

Comments

Seq.	Rerun	Dil.	Reason	Analytes
5				
			WG401346-02 LCS 06/22 - 2 analytes low.	
6				
			WG401346-03 LCS DUP 06/22 - 2 analytes low.	
11				
			L12060649-02 - QNS for re-extract.	
13				
			L12060649-05 - QNS for re-extract.	
24	X	1	Internal standard failure	Istd 1, 3, 4 low.
			L12060600-18	

Page: 2

Approved: 26-JUN-12




Microbac Laboratories Inc.

Data Checklist

Date: 01-JUN-2012

Analyst: CAA

Analyst: NA

Method: 8270L

Instrument: HPMS7

Curve Workgroup: NA

Runlog ID: 47107

Analytical Workgroups: L12050751, L12050796, L12050883

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	NA
% D/% Drift	NA
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
05-JUN-2012

Cassio D. Augenstein

Secondary Reviewer:
05-JUN-2012

Eir C. Zuma



Microbac Laboratories Inc.

Data Checklist

Date: 19-JUN-2012

Analyst: CAA

Analyst: NA

Method: 8270L

Instrument: HPMS7

Curve Workgroup: NA

Runlog ID: 47408

Analytical Workgroups: L12060410, L12060409, L12060419, L12060420

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
20-JUN-2012

Cassio D. Augenstein

Secondary Reviewer:
20-JUN-2012

Eir C. Zimm

CHECKLIST1 - Modified 03/05/2008

Generated: JUN-20-2012 16:09:30



Microbac Laboratories Inc.

Data Checklist

Date: 20-JUN-2012

Analyst: CAA

Analyst: NA

Method: 8270L

Instrument: HPMS7

Curve Workgroup: NA

Runlog ID: 47438

Analytical Workgroups: L12060445, L12060420, L12060419

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
22-JUN-2012

Cassio D. Augenstein

Secondary Reviewer:
22-JUN-2012

Eir C. Zuma

CHECKLIST1 - Modified 03/05/2008

Generated: JUN-22-2012 09:12:31



Microbac Laboratories Inc.

Data Checklist

Date: 25-JUN-2012

Analyst: CAA

Analyst: NA

Method: 8270L

Instrument: HPMS7

Curve Workgroup: NA

Runlog ID: 47500

Analytical Workgroups: L12060445, L12060600, L1206049

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	CAA
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
26-JUN-2012

Cassio D. Augenstein

Secondary Reviewer:
26-JUN-2012

Michael Cohen

CHECKLIST1 - Modified 03/05/2008

Generated: JUN-26-2012 11:29:12



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8270C

AAB#: WG400971

Login Number: L12060445

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
40MW7GW061212	01	06/12/12					06/18/12	6	7		06/20/12	2.2	40	
LFMW01GW061212	03	06/12/12					06/18/12	5.9	7		06/20/12	2.2	40	
40MW6GW061212	05	06/12/12					06/18/12	5.8	7		06/20/12	2.2	40	
40MW6MSGW061212	06	06/12/12					06/18/12	5.8	7		06/20/12	2.2	40	
40MW6MSDGW061212	07	06/12/12					06/18/12	5.8	7		06/20/12	2.3	40	
40DUPGW061212	08	06/12/12					06/18/12	5.8	7		06/20/12	2.3	40	
40FB061212	09	06/12/12					06/18/12	5.8	7		06/20/12	2.3	40	
40EQR061212	10	06/12/12					06/18/12	5.8	7		06/20/12	2.3	40	
40MW5GW061212	11	06/12/12					06/18/12	5.7	7		06/20/12	2.3	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2463339
Report generated 06/26/2012 12:56



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8270C
Login Number: L12060445

AAB#: WG401489

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
40EQR061212	10	06/12/12					06/22/12	9.7	7	*	06/25/12	3.1	40	
40MW5GW061212	11	06/12/12					06/22/12	9.7	7	*	06/25/12	3.1	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2463339
Report generated 06/26/2012 12:56



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12060445
Instrument Id: HPMS7
Workgroup (AAB#): WG400971

Method: 8270L
CAL ID: HPMS7 - 01-JUN-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3
L12060445-01	1.00	01	99.7	95.6	108
L12060445-03	1.00	01	93.2	91.0	113
L12060445-05	1.00	01	92.2	90.7	120
L12060445-06	1.00	01	94.0	89.9	119
L12060445-07	1.00	01	104	100	119
L12060445-08	1.00	01	95.1	90.4	118
L12060445-09	1.00	01	106	106	128
L12060445-10	1.00	01	117	115	123
L12060445-11	1.00	01	115	110	124
WG400887-02	1.00	01	72.1	71.2	103
WG400887-03	1.00	01	81.9	80.2	107

Surrogates	Surrogate Limits
1 - 2-Fluorobiphenyl	50 - 110
2 - Nitrobenzene-d5	35 - 114
3 - p-Terphenyl-d14	33 - 141

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12060445
Instrument Id: HPMS7
Workgroup (AAB#): WG401489

Method: 8270L
CAL ID: HPMS7 - 01-JUN-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3
L12060445-10	1.00	RE01	79.2	81.8	92.7
L12060445-11	1.00	RE01	73.5	80.3	79.5
WG401346-01	1.00	01	86.0	87.4	107
WG401346-02	1.00	01	68.1	71.4	79.6
WG401346-03	1.00	01	68.4	68.9	75.4

Surrogates	Surrogate Limits
1 - 2-Fluorobiphenyl	50 - 110
2 - Nitrobenzene-d5	35 - 114
3 - p-Terphenyl-d14	33 - 141

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected



METHOD BLANK SUMMARY

Login Number: L12060445
 Blank File ID: 7M55196
 Prep Date: 06/18/12 11:00
 Analyzed Date: 06/19/12 09:06
 Analyst: CAA

Work Group: WG400971
 Blank Sample ID: WG400887-02
 Instrument ID: HPMS7
 Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG400887-03	7M55197	06/19/12 09:33	01
40MW7GW061212	L12060445-01	7M55227	06/20/12 15:13	01
LFMW01GW061212	L12060445-03	7M55228	06/20/12 15:41	01
40MW6GW061212	L12060445-05	7M55229	06/20/12 16:10	01
40MW6MSGW061212	L12060445-06	7M55230	06/20/12 16:38	01
40MW6MSDGW061212	L12060445-07	7M55231	06/20/12 17:06	01
40DUPGW061212	L12060445-08	7M55232	06/20/12 17:34	01
40FB061212	L12060445-09	7M55233	06/20/12 18:02	01
40EQR061212	L12060445-10	7M55234	06/20/12 18:31	01
40MW5GW061212	L12060445-11	7M55235	06/20/12 18:59	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2463340
 Report generated 06/26/2012 12:56



METHOD BLANK SUMMARY

Login Number: L12060445
Blank File ID: 7M55306
Prep Date: 06/22/12 10:00
Analyzed Date: 06/25/12 09:52
Analyst: CAA

Work Group: WG401489
Blank Sample ID: WG401346-01
Instrument ID: HPMS7
Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG401346-02	7M55307	06/25/12 10:20	01
LCS2	WG401346-03	7M55308	06/25/12 10:48	01
40EQR061212	L12060445-10	7M55309	06/25/12 11:16	RE01
40MW5GW061212	L12060445-11	7M55310	06/25/12 11:44	RE01

Report Name: BLANK_SUMMARY
PDF File ID: 2463340
Report generated 06/26/2012 12:56



METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/18/12 11:00 Sample ID: WG400887-02
 Instrument ID: HPMS7 Run Date: 06/19/12 09:06 Prep Method: 3510C
 File ID: 7M55196 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG400971 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS7 - 01-JUN-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Naphthalene	0.0250	0.0500	0.0250	1	U
Acenaphthylene	0.0250	0.0500	0.0250	1	U
Acenaphthene	0.0250	0.0500	0.0250	1	U
Fluorene	0.0250	0.0500	0.0250	1	U
Phenanthrene	0.0250	0.0500	0.0250	1	U
Anthracene	0.0250	0.0500	0.0250	1	U
Fluoranthene	0.0250	0.0500	0.0250	1	U
Pyrene	0.0250	0.0500	0.0250	1	U
Benzo(a)anthracene	0.0250	0.0500	0.0250	1	U
Chrysene	0.0250	0.0500	0.0250	1	U
Benzo(b)fluoranthene	0.0250	0.0500	0.0250	1	U
Benzo(k)fluoranthene	0.0250	0.0500	0.0250	1	U
Benzo(a)pyrene	0.0250	0.0500	0.0250	1	U
Indeno(1,2,3-cd)pyrene	0.0250	0.0500	0.0250	1	U
Dibenzo(a,h)anthracene	0.0250	0.0500	0.0250	1	U
Benzo(g,h,i)perylene	0.0250	0.0500	0.0250	1	U
1-Methylnaphthalene	0.0250	0.0500	0.0250	1	U
2-Methylnaphthalene	0.0250	0.0500	0.0250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	71.2	35 - 114	PASS
2-Fluorobiphenyl	72.1	50 - 110	PASS
p-Terphenyl-d14	103	33 - 141	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2463341

26-JUN-2012 12:56



METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/22/12 10:00 Sample ID: WG401346-01
 Instrument ID: HPMS7 Run Date: 06/25/12 09:52 Prep Method: 3510C
 File ID: 7M55306 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG401489 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS7 - 01-JUN-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Naphthalene	0.0250	0.0500	0.0250	1	U
Acenaphthylene	0.0250	0.0500	0.0250	1	U
Acenaphthene	0.0250	0.0500	0.0250	1	U
Fluorene	0.0250	0.0500	0.0250	1	U
Phenanthrene	0.0250	0.0500	0.0250	1	U
Anthracene	0.0250	0.0500	0.0250	1	U
Fluoranthene	0.0250	0.0500	0.0250	1	U
Pyrene	0.0250	0.0500	0.0250	1	U
Benzo(a)anthracene	0.0250	0.0500	0.0250	1	U
Chrysene	0.0250	0.0500	0.0250	1	U
Benzo(b)fluoranthene	0.0250	0.0500	0.0250	1	U
Benzo(k)fluoranthene	0.0250	0.0500	0.0250	1	U
Benzo(a)pyrene	0.0250	0.0500	0.0250	1	U
Indeno(1,2,3-cd)pyrene	0.0250	0.0500	0.0250	1	U
Dibenzo(a,h)anthracene	0.0250	0.0500	0.0250	1	U
Benzo(g,h,i)perylene	0.0250	0.0500	0.0250	1	U
1-Methylnaphthalene	0.0250	0.0500	0.0250	1	U
2-Methylnaphthalene	0.0250	0.0500	0.0250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	87.4	35 - 114	PASS
2-Fluorobiphenyl	86.0	50 - 110	PASS
p-Terphenyl-d14	107	33 - 141	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2463341

26-JUN-2012 12:56



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445	Run Date: 06/19/2012	Sample ID: WG400887-03
Instrument ID: HPMS7	Run Time: 09:33	Prep Method: 3510C
File ID: 7M55197	Analyst: CAA	Method: 8270C
Workgroup (AAB#): WG400971	Matrix: Water	Units: ug/L
QC Key: D0D4	Lot#: STD50386	Cal ID: HPMS7 - 01-JUN-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Naphthalene	1.00	0.770	77.0	40 - 100	
Acenaphthylene	1.00	0.773	77.3	50 - 105	
Acenaphthene	1.00	0.718	71.8	45 - 110	
Fluorene	1.00	0.796	79.6	50 - 110	
Phenanthrene	1.00	0.871	87.1	50 - 115	
Anthracene	1.00	0.874	87.4	55 - 110	
Fluoranthene	1.00	1.01	101	55 - 115	
Pyrene	1.00	1.06	106	50 - 130	
Benzo(a)anthracene	1.00	0.962	96.2	55 - 110	
Chrysene	1.00	1.07	107	55 - 110	
Benzo(b)fluoranthene	1.00	1.03	103	45 - 120	
Benzo(k)fluoranthene	1.00	1.08	108	45 - 125	
Benzo(a)pyrene	1.00	1.08	108	55 - 110	
Indeno(1,2,3-cd)pyrene	1.00	0.944	94.4	45 - 125	
Dibenzo(a,h)anthracene	1.00	0.931	93.1	40 - 125	
Benzo(g,h,i)perylene	1.00	0.950	95.0	40 - 125	
1-Methylnaphthalene	1.00	0.746	74.6	31 - 111	
2-Methylnaphthalene	1.00	0.792	79.2	45 - 105	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	80.2	35 - 114	PASS
2-Fluorobiphenyl	81.9	50 - 110	PASS
p-Terphenyl-d14	107	33 - 141	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2463342
Report generated: 06/26/2012 12:56



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445 Analyst: CAA Prep Method: 3510C
Instrument ID: HPMS7 Matrix: Water Method: 8270C
Workgroup (AAB#): WG401489 Units: ug/L
QC Key: DOD4 Lot #: STD50386
Sample ID: WG401346-02 LCS File ID: 7M55307 Run Date: 06/25/2012 10:20
Sample ID: WG401346-03 LCS2 File ID: 7M55308 Run Date: 06/25/2012 10:48

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Naphthalene	1.00	0.671	67.1	1.00	0.660	66.0	1.60	40 - 100	30	
Acenaphthylene	1.00	0.652	65.2	1.00	0.659	65.9	1.09	50 - 105	30	
Acenaphthene	1.00	0.655	65.5	1.00	0.664	66.4	1.24	45 - 110	30	
Fluorene	1.00	0.663	66.3	1.00	0.677	67.7	2.07	50 - 110	30	
Phenanthrene	1.00	0.689	68.9	1.00	0.703	70.3	2.02	50 - 115	30	
Anthracene	1.00	0.699	69.9	1.00	0.714	71.4	2.11	55 - 110	30	
Fluoranthene	1.00	0.735	73.5	1.00	0.749	74.9	1.90	55 - 115	30	
Pyrene	1.00	0.750	75.0	1.00	0.772	77.2	2.79	50 - 130	30	
Benzo(a)anthracene	1.00	0.683	68.3	1.00	0.697	69.7	1.95	55 - 110	30	
Chrysene	1.00	0.775	77.5	1.00	0.768	76.8	0.991	55 - 110	30	
Benzo(b)fluoranthene	1.00	0.772	77.2	1.00	0.752	75.2	2.61	45 - 120	30	
Benzo(k)fluoranthene	1.00	0.691	69.1	1.00	0.705	70.5	2.00	45 - 125	30	
Benzo(a)pyrene	1.00	0.747	74.7	1.00	0.746	74.6	0.0907	55 - 110	30	
Indeno(1,2,3-cd)pyrene	1.00	0.546	54.6	1.00	0.545	54.5	0.269	45 - 125	30	
Dibenzo(a,h)anthracene	1.00	0.377	37.7	1.00	0.394	39.4	4.45	40 - 125	30	*
Benzo(g,h,i)perylene	1.00	0.377	37.7	1.00	0.395	39.5	4.62	40 - 125	30	*
1-Methylnaphthalene	1.00	0.647	64.7	1.00	0.649	64.9	0.367	31 - 111	30	
2-Methylnaphthalene	1.00	0.677	67.7	1.00	0.675	67.5	0.347	45 - 105	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
Nitrobenzene-d5	71.4	68.9	35 - 114	PASS
2-Fluorobiphenyl	68.1	68.4	50 - 110	PASS
p-Terphenyl-d14	79.6	75.4	33 - 141	PASS

* EXCEEDS %REC LIMIT
EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2468031
Report generated: 06/26/2012 12:56



MS/MSD REPORT

Loginnum: L12060445Cal ID: HPMS7- 01-JUN-12Worknum: WG400971Instrument ID: HPMS7

Contract #:

Prep Method: 3510CParent ID: L12060445-05File ID: 7M55229Dil: 1Method: 8270CSample ID: L12060445-06 MSFile ID: 7M55230Dil: 1Matrix: WaterSample ID: L12060445-07 MSDFile ID: 7M55231Dil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Naphthalene	U	1.14	0.990	87.1	1.00	0.967	96.7	2.35	40 - 100	30	
Acenaphthylene	U	1.14	1.02	89.6	1.00	1.00	100	1.74	50 - 105	30	
Acenaphthene	U	1.14	1.01	88.8	1.00	0.982	98.2	2.73	45 - 110	30	
Fluorene	U	1.14	1.05	92.4	1.00	1.03	103	2.42	50 - 110	30	
Phenanthrene	0.236	1.14	1.10	76.3	1.00	1.06	82.4	4.03	50 - 115	30	
Anthracene	U	1.14	1.09	95.6	1.00	1.07	107	1.93	55 - 110	30	
Fluoranthene	0.606	1.14	1.25	56.8	1.00	1.14	53	9.69	55 - 115	30	*
Pyrene	0.476	1.14	1.30	72.2	1.00	1.16	68.3	11.2	50 - 130	30	
Benzo(a)anthracene	0.211	1.14	1.19	85.8	1.00	1.05	83.9	12.2	55 - 110	30	
Chrysene	0.890	1.14	1.34	39.8	1.00	1.16	27.1	14.5	55 - 110	30	*
Benzo(b)fluoranthene	0.261	1.14	1.32	93.4	1.00	1.13	86.7	15.9	45 - 120	30	
Benzo(k)fluoranthene	0.170	1.14	1.25	94.7	1.00	1.10	93.5	12.0	45 - 125	30	
Benzo(a)pyrene	0.0793	1.14	1.29	107	1.00	1.14	106	12.5	55 - 110	30	
Indeno(1,2,3-cd)pyrene	0.0391	1.14	1.14	96.9	1.00	0.981	94.2	15.0	45 - 125	30	
Dibenzo(a,h)anthracene	U	1.14	1.17	103	1.00	0.988	98.8	17.3	40 - 125	30	
Benzo(g,h,i)perylene	0.0475	1.14	1.16	97.9	1.00	0.999	95.2	14.9	40 - 125	30	
1-Methylnaphthalene	U	1.14	0.998	87.8	1.00	0.972	97.2	2.58	31 - 111	30	
2-Methylnaphthalene	U	1.14	1.05	92.1	1.00	1.02	102	2.23	45 - 105	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 2463343

Report generated 06/26/2012 12:56



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12060445

Instrument: HPMS7

Analyst: CAA

Workgroup: WG399609

Tune ID: WG399609-01

Run Date: 06/01/2012

Run Time: 13:15

File ID: 7M55106

Cal ID: HPMS7 - 01-JUN-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	52.8	218313	PASS
68.0	69.0	0	2.00	0.303	609	PASS
69.0	198	0	100	48.7	201266	PASS
70.0	69.0	0	2.00	0.337	678	PASS
127	198	40.0	60.0	55.4	229136	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	413500	PASS
199	198	5.00	9.00	6.82	28200	PASS
275	198	10.0	30.0	26.3	108904	PASS
365	198	1.00	100	2.85	11799	PASS
441	443	0.0100	100	75.9	42133	PASS
442	198	40.0	100	68.9	284992	PASS
443	442	17.0	23.0	19.5	55512	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG399609-02	STD-CCV	01	06/01/2012 13:33	
WG399609-03	STD	01	06/01/2012 14:01	
WG399609-04	STD	01	06/01/2012 14:29	
WG399609-05	STD	01	06/01/2012 14:57	
WG399609-06	STD	01	06/01/2012 15:25	
WG399609-07	STD	01	06/01/2012 15:52	
WG399609-08	STD	01	06/01/2012 16:20	
WG399609-09	SSCV	01	06/01/2012 16:47	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2463348
Report generated 06/26/2012 12:57



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12060445

Instrument: HPMS7

Analyst: CAA

Workgroup: WG400995

Tune ID: WG400995-01

Run Date: 06/19/2012

Run Time: 08:21

File ID: 7M55194

Cal ID: HPMS7 - 01-JUN-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	48.0	159294	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	46.0	152672	PASS
70.0	69.0	0	2.00	1.08	1653	PASS
127	198	40.0	60.0	53.7	178312	PASS
197	198	0	1.00	0.373	1240	PASS
198	198	100	100	100	332202	PASS
199	198	5.00	9.00	6.95	23085	PASS
275	198	10.0	30.0	25.2	83682	PASS
365	198	1.00	100	3.39	11249	PASS
441	443	0.0100	100	70.0	31565	PASS
442	198	40.0	100	67.6	224458	PASS
443	442	17.0	23.0	20.1	45069	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG400995-02	CCV	01	06/19/2012 08:38	
WG400887-02	BLANK	01	06/19/2012 09:06	
WG400887-03	LCS	01	06/19/2012 09:33	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2463348
Report generated 06/26/2012 12:57



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12060445
Instrument: HPMS7
Analyst: CAA
Workgroup: WG401191

Tune ID: WG401191-01
Run Date: 06/20/2012
Run Time: 13:02
File ID: 7M55222
Cal ID: HPMS7 - 01-JUN-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	45.4	170346	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	43.5	163148	PASS
70.0	69.0	0	2.00	0.603	984	PASS
127	198	40.0	60.0	50.9	190805	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	374954	PASS
199	198	5.00	9.00	6.15	23048	PASS
275	198	10.0	30.0	24.8	93061	PASS
365	198	1.00	100	3.00	11240	PASS
441	443	0.0100	100	79.2	41165	PASS
442	198	40.0	100	72.9	273301	PASS
443	442	17.0	23.0	19.0	51984	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG401191-02	CCV	01	06/20/2012 13:20	
L12060445-01	40MW7GW061212	01	06/20/2012 15:13	
L12060445-03	LFMW01GW061212	01	06/20/2012 15:41	
L12060445-05	40MW6GW061212	01	06/20/2012 16:10	
L12060445-06	40MW6MSGW061212	01	06/20/2012 16:38	
L12060445-07	40MW6MSDGW061212	01	06/20/2012 17:06	
L12060445-08	40DUPGW061212	01	06/20/2012 17:34	
L12060445-09	40FB061212	01	06/20/2012 18:02	
L12060445-10	40EQR061212	01	06/20/2012 18:31	
L12060445-11	40MW5GW061212	01	06/20/2012 18:59	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2463348
Report generated 06/26/2012 12:57



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12060445

Instrument: HPMS7

Analyst: CAA

Workgroup: WG401478

Tune ID: WG401478-01

Run Date: 06/25/2012

Run Time: 09:07

File ID: 7M55304

Cal ID: HPMS7 - 01-JUN-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	46.5	144072	PASS
68.0	69.0	0	2.00	1.43	1920	PASS
69.0	198	0	100	43.4	134396	PASS
70.0	69.0	0	2.00	0.0908	122	PASS
127	198	40.0	60.0	51.1	158352	PASS
197	198	0	1.00	0.0998	309	PASS
198	198	100	100	100	309610	PASS
199	198	5.00	9.00	6.73	20836	PASS
275	198	10.0	30.0	25.9	80217	PASS
365	198	1.00	100	2.95	9136	PASS
441	443	0.0100	100	74.1	36872	PASS
442	198	40.0	100	80.0	247744	PASS
443	442	17.0	23.0	20.1	49752	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG401478-02	CCV	01	06/25/2012 09:24	
WG401346-01	BLANK	01	06/25/2012 09:52	
WG401346-02	LCS	01	06/25/2012 10:20	
WG401346-03	LCS2	01	06/25/2012 10:48	
L12060445-10	40EQR061212	RE01	06/25/2012 11:16	
L12060445-11	40MW5GW061212	RE01	06/25/2012 11:44	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2463348
Report generated 06/26/2012 12:57



Login Number: L12060445
Analytical Method: 8270C
ICAL Workgroup: WG399609

Instrument ID: HPMS7
Initial Calibration Date: 01-JUN-12 16:20
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Acenaphthene	CCC	0.9997	3.29		
Benzo[a]pyrene	CCC	1.130	2.20		
Fluoranthene	CCC	1.269	2.66		
1-Methylnaphthalene		0.6818	3.35		
2-Methylnaphthalene		0.6914	2.44		
Acenaphthylene		1.732	2.88		
Anthracene		1.155	2.78		
Benzo[a]anthracene		1.159	2.68		
Benzo[b]fluoranthene		1.166	1.97		
Benzo[ghi]perylene		1.171	1.25		
Benzo[k]fluoranthene		1.106	3.67		
Chrysene		1.143	3.77		
Dibenz[ah]anthracene		1.073	7.59		
Fluorene		1.213	2.39		
Indeno[1,2,3-cd]pyrene		1.338	4.45		
Naphthalene		1.108	4.21		
Phenanthrene		1.145	2.92		
Pyrene		1.356	5.15		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
PDF File ID: 2463344
Report generated 06/26/2012 12:56



Login Number:L12060445
Analytical Method:8270C

Instrument ID:HPMS7
Initial Calibration Date:01-JUN-12 16:20
Column ID:F

Analyte	WG399609-02			WG399609-03			WG399609-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	1.00	127980.000	1.046	10.0	1126137.00	0.9654	5.00	511226.000	0.9632
Benzo[a]pyrene	1.00	212689.000	1.155	10.0	1991013.00	1.121	5.00	948637.000	1.136
Fluoranthene	1.00	233815.000	1.288	10.0	2077136.00	1.197	5.00	1015513.00	1.276
1-Methylnaphthalene	1.00	140367.000	0.6945	10.0	1245355.00	0.6353	5.00	600455.000	0.6752
2-Methylnaphthalene	1.00	142435.000	0.7047	10.0	1286740.00	0.6564	5.00	617699.000	0.6946
Acenaphthylene	1.00	216575.000	1.770	10.0	1907694.00	1.635	5.00	936689.000	1.765
Anthracene	1.00	213476.000	1.176	10.0	1901582.00	1.096	5.00	929008.000	1.167
Benzo[a]anthracene	1.00	214184.000	1.161	10.0	1993948.00	1.102	5.00	958292.000	1.135
Benzo[b]fluoranthene	1.00	222961.000	1.211	10.0	2038109.00	1.147	5.00	968509.000	1.160
Benzo[ghi]perylene	1.00	217845.000	1.183	10.0	2073775.00	1.167	5.00	983732.000	1.178
Benzo[k]fluoranthene	1.00	217153.000	1.179	10.0	1858854.00	1.046	5.00	902825.000	1.081
Chrysene	1.00	214702.000	1.164	10.0	1928034.00	1.066	5.00	936191.000	1.108
Dibenz[ah]anthracene	1.00	197712.000	1.074	10.0	2048626.00	1.153	5.00	960962.000	1.151
Fluorene	1.00	151357.000	1.237	10.0	1350877.00	1.158	5.00	656284.000	1.237
Indeno[1,2,3-cd]pyrene	1.00	248943.000	1.352	10.0	2462757.00	1.386	5.00	1162427.00	1.392
Naphthalene	1.00	226893.000	1.123	10.0	1986013.00	1.013	5.00	974090.000	1.095
Phenanthrene	1.00	211378.000	1.165	10.0	1864198.00	1.075	5.00	907710.000	1.140
Pyrene	1.00	253695.000	1.375	10.0	2238684.00	1.237	5.00	1099600.00	1.302

INT_CAL - Modified 03/06/2008
PDF File ID: 2463344
Report generated 06/26/2012 12:56



Login Number: L12060445
Analytical Method: 8270C

Instrument ID: HPMS7
Initial Calibration Date: 01-JUN-12 16:20
Column ID: F

Analyte	WG399609-05			WG399609-06			WG399609-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	2.50	265614.000	1.007	0.500	54861.0000	1.038	0.100	10443.0000	0.9817
Benzo[a]pyrene	2.50	458496.000	1.143	0.500	90803.0000	1.159	0.100	16926.0000	1.105
Fluoranthene	2.50	498269.000	1.281	0.500	100588.000	1.301	0.100	19778.0000	1.279
1-Methylnaphthalene	2.50	295528.000	0.6782	0.500	60519.0000	0.7038	0.100	11911.0000	0.6964
2-Methylnaphthalene	2.50	302792.000	0.6949	0.500	60766.0000	0.7067	0.100	11903.0000	0.6959
Acenaphthylene	2.50	463720.000	1.758	0.500	93480.0000	1.769	0.100	18336.0000	1.724
Anthracene	2.50	457856.000	1.177	0.500	91766.0000	1.187	0.100	17764.0000	1.149
Benzo[a]anthracene	2.50	468557.000	1.164	0.500	92722.0000	1.174	0.100	18471.0000	1.185
Benzo[b]fluoranthene	2.50	460667.000	1.149	0.500	92623.0000	1.182	0.100	17855.0000	1.166
Benzo[ghi]perylene	2.50	474800.000	1.184	0.500	92660.0000	1.182	0.100	17741.0000	1.158
Benzo[k]fluoranthene	2.50	447033.000	1.115	0.500	87711.0000	1.119	0.100	16793.0000	1.096
Chrysene	2.50	456200.000	1.134	0.500	92812.0000	1.175	0.100	18216.0000	1.169
Dibenz[ah]anthracene	2.50	455657.000	1.136	0.500	83578.0000	1.066	0.100	15146.0000	0.9886
Fluorene	2.50	322537.000	1.223	0.500	65184.0000	1.233	0.100	12840.0000	1.207
Indeno[1,2,3-cd]pyrene	2.50	555870.000	1.386	0.500	104642.000	1.335	0.100	19592.0000	1.279
Naphthalene	2.50	479409.000	1.100	0.500	98241.0000	1.143	0.100	19540.0000	1.143
Phenanthrene	2.50	445073.000	1.144	0.500	90740.0000	1.174	0.100	17827.0000	1.153
Pyrene	2.50	537315.000	1.335	0.500	109364.000	1.385	0.100	22049.0000	1.415

INT_CAL - Modified 03/06/2008
PDF File ID: 2463344
Report generated 06/26/2012 12:56



Login Number: L12060445
Analytical Method: 8270C

Instrument ID: HPMS7
Initial Calibration Date: 01-JUN-12 16:20
Column ID: F

Analyte	WG399609-08		
	CONC	RESP	RF
Acenaphthene	0.0500	5577.00000	0.9969
Benzo[a]pyrene	0.0500	8681.00000	1.094
Fluoranthene	0.0500	10214.0000	1.264
1-Methylnaphthalene	0.0500	6162.00000	0.6893
2-Methylnaphthalene	0.0500	6136.00000	0.6863
Acenaphthylene	0.0500	9516.00000	1.701
Anthracene	0.0500	9142.00000	1.131
Benzo[a]anthracene	0.0500	9676.00000	1.191
Benzo[b]fluoranthene	0.0500	9136.00000	1.151
Benzo[ghi]perylene	0.0500	9100.00000	1.146
Benzo[k]fluoranthene	0.0500	8782.00000	1.106
Chrysene	0.0500	9631.00000	1.185
Dibenz[ah]anthracene	0.0500	7507.00000	0.9457
Fluorene	0.0500	6684.00000	1.195
Indeno[1,2,3-cd]pyrene	0.0500	9826.00000	1.238
Naphthalene	0.0500	10219.0000	1.143
Phenanthrene	0.0500	9422.00000	1.166
Pyrene	0.0500	11710.0000	1.441

INT_CAL - Modified 03/06/2008
PDF File ID: 2463344
Report generated 06/26/2012 12:56



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L12060445</u>	Run Date: <u>06/01/2012</u>	Sample ID: <u>WG399609-09</u>
Instrument ID: <u>HPMS7</u>	Run Time: <u>16:47</u>	Method: <u>8270C</u>
File ID: <u>7M55114</u>	Analyst: <u>CAA</u>	QC Key: <u>D0D4</u>
ICal Workgroup: <u>WG399609</u>	Cal ID: <u>HPMS7 - 01-JUN-12</u>	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1000	ug/L	1.00	0.300	30	
Fluoranthene	CCC	1000	1000	ug/L	1.28	0.500	30	
Benzo[a]pyrene	CCC	1000	1010	ug/L	1.15	1.40	30	
Naphthalene		1000	990	ug/L	1.10	1.00	30	
Acenaphthylene		1000	995	ug/L	1.72	0.500	30	
Fluorene		1000	999	ug/L	1.21	0.200	30	
Phenanthrene		1000	992	ug/L	1.14	0.800	30	
Anthracene		1000	1010	ug/L	1.17	1.30	30	
Pyrene		1000	1040	ug/L	1.41	4.30	30	
Benzo[a]anthracene		1000	985	ug/L	1.14	1.50	30	
Chrysene		1000	950	ug/L	1.09	5.00	30	
Benzo[b]fluoranthene		1000	1020	ug/L	1.18	1.60	30	
Benzo[k]fluoranthene		1000	962	ug/L	1.06	3.80	30	
Indeno[1,2,3-cd]pyrene		1000	1000	ug/L	1.34	0	30	
Dibenz[ah]anthracene		1000	999	ug/L	1.07	0.100	30	
Benzo[ghi]perylene		1000	995	ug/L	1.17	0.500	30	
1-Methylnaphthalene		1000	981	ug/L	0.669	1.90	30	
2-Methylnaphthalene		1000	1030	ug/L	0.711	2.80	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2463347
Report generated 06/26/2012 12:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/19/2012</u>	Sample ID: <u>WG400995-02</u>
Instrument ID: <u>HPMS7</u>	Run Time: <u>08:38</u>	Method: <u>8270C</u>
File ID: <u>7M55195</u>	Analyst: <u>CAA</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400971</u>	Cal ID: <u>HPMS7 - 01-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1020	ug/L	1.02	1.90	20	
Fluoranthene	CCC	1000	1030	ug/L	1.30	2.78	20	
Benzo[a]pyrene	CCC	1000	1060	ug/L	1.20	6.09	20	
Naphthalene		1000	1020	ug/L	1.13	2.32	20	
Acenaphthylene		1000	1020	ug/L	1.76	1.70	20	
Fluorene		1000	1020	ug/L	1.24	2.39	20	
Phenanthrene		1000	1040	ug/L	1.19	4.00	20	
Anthracene		1000	1050	ug/L	1.21	5.08	20	
Pyrene		1000	1110	ug/L	1.51	11.3	20	
Benzo[a]anthracene		1000	1050	ug/L	1.22	4.98	20	
Chrysene		1000	1060	ug/L	1.21	5.82	20	
Benzo[b]fluoranthene		1000	1100	ug/L	1.28	9.93	20	
Benzo[k]fluoranthene		1000	1150	ug/L	1.28	15.4	20	
Indeno[1,2,3-cd]pyrene		1000	1010	ug/L	1.35	1.23	20	
Dibenz[ah]anthracene		1000	1030	ug/L	1.11	3.22	20	
Benzo[ghi]perylene		1000	987	ug/L	1.16	1.31	20	
1-Methylnaphthalene		1000	1020	ug/L	0.698	2.36	20	
2-Methylnaphthalene		1000	1030	ug/L	0.715	3.36	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2463349
Report generated 06/26/2012 12:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/20/2012</u>	Sample ID: <u>WG401191-02</u>
Instrument ID: <u>HPMS7</u>	Run Time: <u>13:20</u>	Method: <u>8270C</u>
File ID: <u>7M55223</u>	Analyst: <u>CAA</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400971</u>	Cal ID: <u>HPMS7 - 01-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1010	ug/L	1.01	1.38	20	
Fluoranthene	CCC	1000	1020	ug/L	1.29	1.99	20	
Benzo[a]pyrene	CCC	1000	1040	ug/L	1.18	4.21	20	
Naphthalene		1000	1010	ug/L	1.12	0.830	20	
Acenaphthylene		1000	1040	ug/L	1.81	4.33	20	
Fluorene		1000	1060	ug/L	1.29	6.00	20	
Phenanthrene		1000	1000	ug/L	1.15	0.300	20	
Anthracene		1000	1040	ug/L	1.20	3.60	20	
Pyrene		1000	1050	ug/L	1.42	5.03	20	
Benzo[a]anthracene		1000	1020	ug/L	1.18	2.08	20	
Chrysene		1000	1030	ug/L	1.17	2.61	20	
Benzo[b]fluoranthene		1000	1040	ug/L	1.21	4.08	20	
Benzo[k]fluoranthene		1000	1040	ug/L	1.15	3.69	20	
Indeno[1,2,3-cd]pyrene		1000	988	ug/L	1.32	1.25	20	
Dibenz[ah]anthracene		1000	1020	ug/L	1.10	2.10	20	
Benzo[ghi]perylene		1000	952	ug/L	1.12	4.77	20	
1-Methylnaphthalene		1000	1030	ug/L	0.703	3.04	20	
2-Methylnaphthalene		1000	1030	ug/L	0.709	2.57	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2463349
Report generated 06/26/2012 12:57



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401478-02
 Instrument ID: HPMS7 Run Time: 09:24 Method: 8270C
 File ID: 7M55305 Analyst: CAA QC Key: D0D4
 Workgroup (AAB#): WG401489 Cal ID: HPMS7 - 01-JUN-12
 Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1020	ug/L	1.02	2.40	20	
Fluoranthene	CCC	1000	1040	ug/L	1.32	3.94	20	
Benzo[a]pyrene	CCC	1000	1050	ug/L	1.19	5.44	20	
Naphthalene		1000	1020	ug/L	1.13	2.38	20	
Acenaphthylene		1000	1020	ug/L	1.77	2.19	20	
Fluorene		1000	1010	ug/L	1.22	0.790	20	
Phenanthrene		1000	1020	ug/L	1.17	2.21	20	
Anthracene		1000	1060	ug/L	1.22	5.85	20	
Pyrene		1000	1040	ug/L	1.41	4.21	20	
Benzo[a]anthracene		1000	1020	ug/L	1.18	2.10	20	
Chrysene		1000	1060	ug/L	1.21	5.68	20	
Benzo[b]fluoranthene		1000	1010	ug/L	1.18	1.33	20	
Benzo[k]fluoranthene		1000	1100	ug/L	1.22	10.2	20	
Indeno[1,2,3-cd]pyrene		1000	980	ug/L	1.31	2.04	20	
Dibenz[ah]anthracene		1000	1010	ug/L	1.09	1.20	20	
Benzo[ghi]perylene		1000	938	ug/L	1.10	6.18	20	
1-Methylnaphthalene		1000	1040	ug/L	0.709	3.96	20	
2-Methylnaphthalene		1000	1030	ug/L	0.709	2.61	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2463349
Report generated 06/26/2012 12:57



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12060445
Instrument ID: HPMS7
Workgroup (AAB#): WG400971

ICAL CCV Number: WG399609-02
CAL ID: HPMS7 - 01-JUN-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG399609-02	NA	NA	122334	184534	202124	184165	181486
Upper Limit	NA	NA	244668	369068	404248	368330	362972
Lower Limit	NA	NA	61167	92267	101062	92083	90743
<u>L12060445-01</u>	<u>1.00</u>	<u>01</u>	<u>113640</u>	<u>175311</u>	<u>184955</u>	<u>161575</u>	<u>170842</u>
<u>L12060445-03</u>	<u>1.00</u>	<u>01</u>	<u>123728</u>	<u>188423</u>	<u>198660</u>	<u>175374</u>	<u>183936</u>
<u>L12060445-05</u>	<u>1.00</u>	<u>01</u>	<u>114916</u>	<u>173823</u>	<u>184436</u>	<u>158800</u>	<u>169876</u>
<u>L12060445-06</u>	<u>1.00</u>	<u>01</u>	<u>115190</u>	<u>173583</u>	<u>185771</u>	<u>161029</u>	<u>170431</u>
<u>L12060445-07</u>	<u>1.00</u>	<u>01</u>	<u>131025</u>	<u>199767</u>	<u>211574</u>	<u>184694</u>	<u>193023</u>
<u>L12060445-08</u>	<u>1.00</u>	<u>01</u>	<u>111309</u>	<u>170397</u>	<u>179751</u>	<u>157100</u>	<u>167640</u>
<u>L12060445-09</u>	<u>1.00</u>	<u>01</u>	<u>133285</u>	<u>199591</u>	<u>211262</u>	<u>183916</u>	<u>199490</u>
<u>L12060445-10</u>	<u>1.00</u>	<u>01</u>	<u>142440</u>	<u>218683</u>	<u>228281</u>	<u>201730</u>	<u>211152</u>
<u>L12060445-11</u>	<u>1.00</u>	<u>01</u>	<u>77139</u>	<u>114104</u>	<u>124541</u>	<u>104738</u>	<u>116883</u>
WG400887-02	1.00	01	97163	139976	154876	133113	142518
WG400887-03	1.00	01	91388	133907	147971	125674	131670

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12060445
Instrument ID: HPMS7
Workgroup (AAB#): WG401489

ICAL CCV Number: WG399609-02
CAL ID: HPMS7 - 01-JUN-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG399609-02	NA	NA	122334	184534	202124	184165	181486
Upper Limit	NA	NA	244668	369068	404248	368330	362972
Lower Limit	NA	NA	61167	92267	101062	92083	90743
L12060445-10	1.00	RE01	88836	129025	137151	118485	125031
L12060445-11	1.00	RE01	86507	128406	135678	117287	123217
WG401346-01	1.00	01	89755	128089	138619	117782	125846
WG401346-02	1.00	01	102310	151578	161665	141328	145229
WG401346-03	1.00	01	89073	132318	140501	121398	127833

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2463350
Report generated 06/26/2012 12:57



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12060445
Instrument ID: HPMS7
Workgroup (AAB#): WG400971

ICAL CCV Number: WG399609-02
CAL ID: HPMS7 - 01-JUN-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG399609-02	NA	NA	8.15	13.38	5.96	15.56	10.01
Upper Limit	NA	NA	8.65	13.88	6.46	16.06	10.51
Lower Limit	NA	NA	7.65	12.88	5.46	15.06	9.51
L12060445-01	1.00	01	8.14	13.38	5.96	15.56	10.01
L12060445-03	1.00	01	8.15	13.38	5.96	15.56	10.01
L12060445-05	1.00	01	8.15	13.39	5.96	15.56	10.01
L12060445-06	1.00	01	8.15	13.38	5.96	15.56	10.01
L12060445-07	1.00	01	8.15	13.38	5.96	15.56	10.01
L12060445-08	1.00	01	8.14	13.38	5.96	15.56	10.01
L12060445-09	1.00	01	8.15	13.39	5.96	15.56	10.01
L12060445-10	1.00	01	8.15	13.38	5.96	15.56	10.01
L12060445-11	1.00	01	8.14	13.38	5.96	15.56	10.01
WG400887-02	1.00	01	8.15	13.38	5.96	15.55	10.01
WG400887-03	1.00	01	8.14	13.38	5.96	15.55	10.01

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12060445
Instrument ID: HPMS7
Workgroup (AAB#): WG401489

ICAL CCV Number: WG399609-02
CAL ID: HPMS7 - 01-JUN-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG399609-02	NA	NA	8.15	13.38	5.96	15.56	10.01
Upper Limit	NA	NA	8.65	13.88	6.46	16.06	10.51
Lower Limit	NA	NA	7.65	12.88	5.46	15.06	9.51
L12060445-10	1.00	RE01	8.14	13.38	5.96	15.56	10.01
L12060445-11	1.00	RE01	8.15	13.39	5.96	15.56	10.01
WG401346-01	1.00	01	8.14	13.38	5.96	15.56	10.01
WG401346-02	1.00	01	8.14	13.39	5.95	15.56	10.01
WG401346-03	1.00	01	8.14	13.38	5.96	15.56	10.01

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits



2.2.2.3 Sample Data

Data File : C:\MSDCHEM\1\DATA\062012\7M55227.D Vial: 6
 Acq On : 20 Jun 2012 3:13 pm Operator: CAA
 Sample : L12060445-01 Inst : HPMS7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 21 07:05:51 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Thu Jun 21 07:05:37 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	184955	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	113640	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	170842	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	175311	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	161575	1.00	ug/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	179828	2.3888	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	95.60%	
7) 2-Fluorobiphenyl	7.26	172	348803	2.4929	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	99.60%	
17) p-Terphenyl-d14	12.00	244	361510	2.7036	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	108.00%	
Target Compounds						
					Qvalue	
14) Fluoranthene	11.56	202	6236	0.0288	ug/ml	99
16) Pyrene	11.85	202	5048	0.0212	ug/ml	100
19) Chrysene	13.41	228	14661	0.0732	ug/ml	96
21) Benzo[b]fluoranthene	14.88	252	3895m	0.0207	ug/ml	

 (#) = qualifier out of range (m) = manual integration
 7M55227.D SIMPAHL.M Thu Jun 21 07:29:30 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062012\7M55227.D

Acq On : 20 Jun 2012 3:13 pm

Sample : L12060445-01

Misc : 1,1

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:07 2012

Vial: 6

Operator: CAA

Inst : HPMS7

Multiplr: 1.00

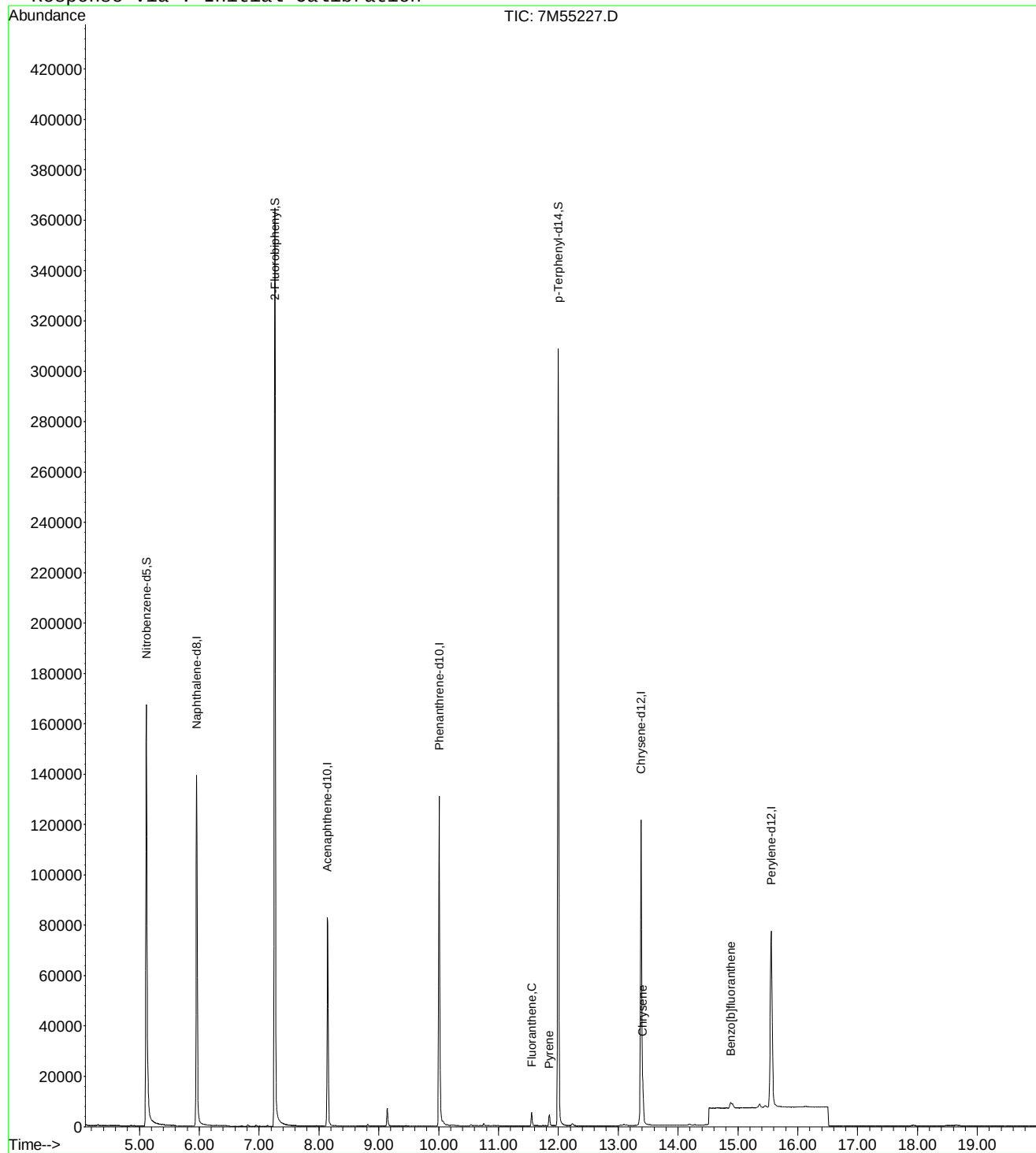
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

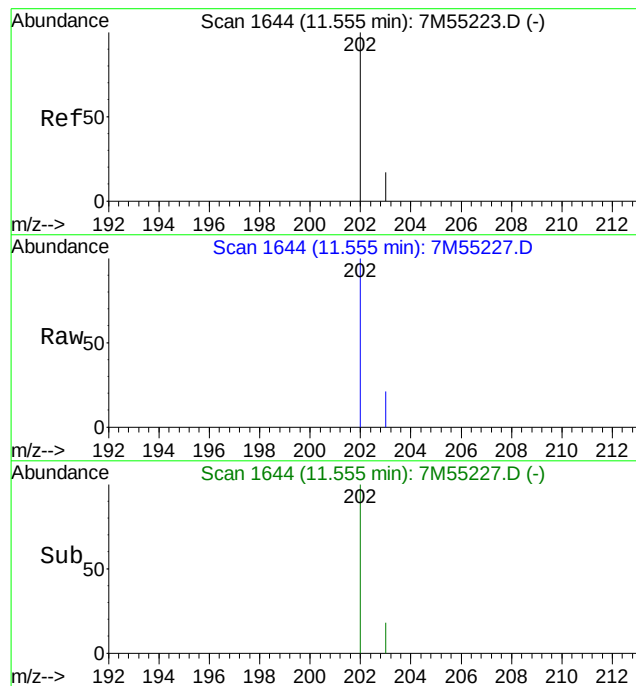
Response via : Initial Calibration



7M55227.D SIMPAHL.M

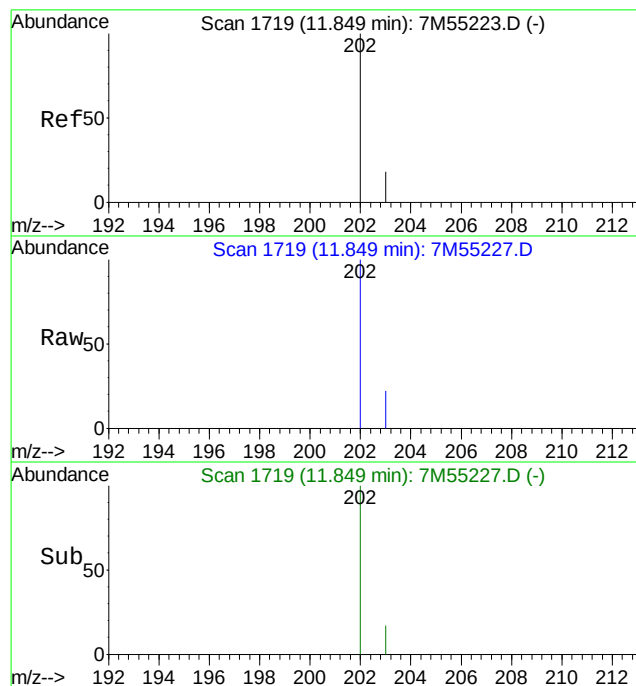
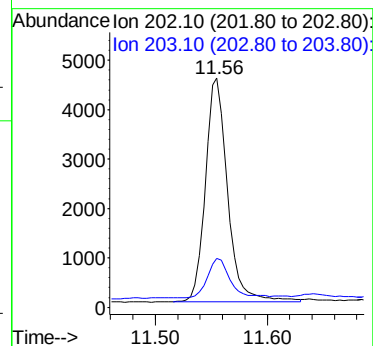
Thu Jun 21 07:29:31 2012

Page 2



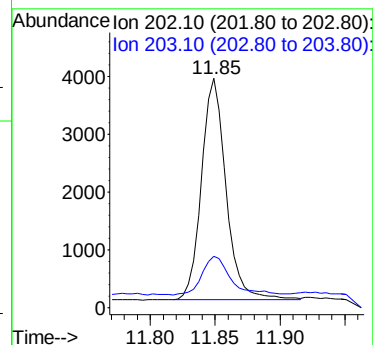
#14
Fluoranthene
Concen: 0.03 ug/ml
RT: 11.56 min Scan# 1644
Delta R.T. -0.00 min
Lab File: 7M55227.D
Acq: 20 Jun 2012 3:13 pm

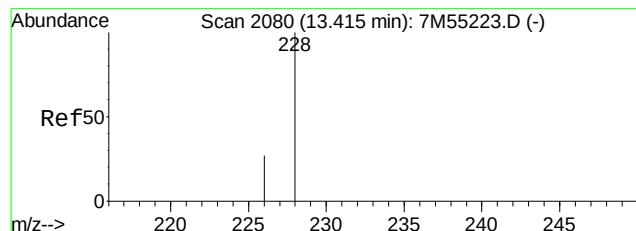
Tgt Ion	Ratio	Resp	Lower	Upper
202	100	6236		
203	18.1		10.6	24.6



#16
Pyrene
Concen: 0.02 ug/ml
RT: 11.85 min Scan# 1719
Delta R.T. -0.00 min
Lab File: 7M55227.D
Acq: 20 Jun 2012 3:13 pm

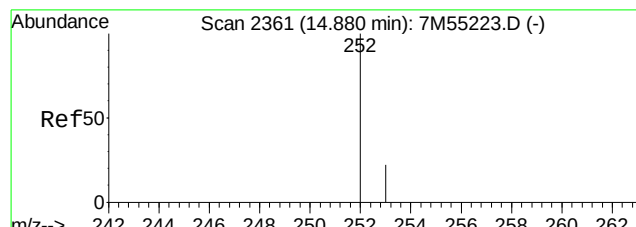
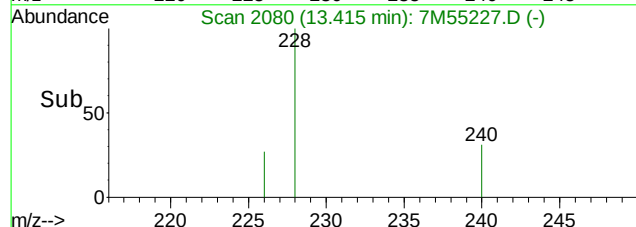
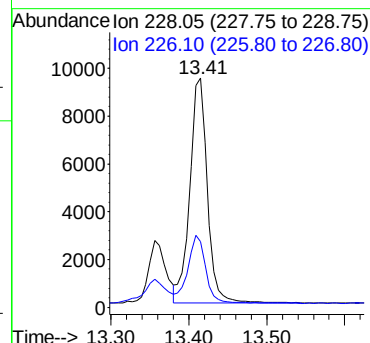
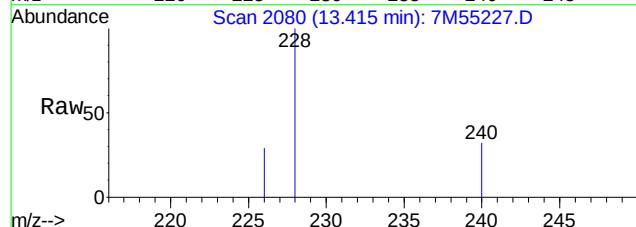
Tgt Ion	Ratio	Resp	Lower	Upper
202	100	5048		
203	18.1		10.9	25.3





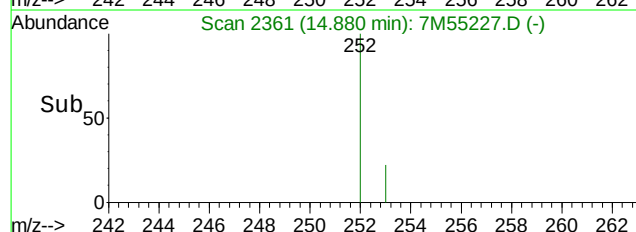
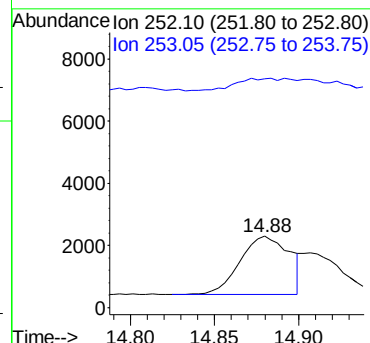
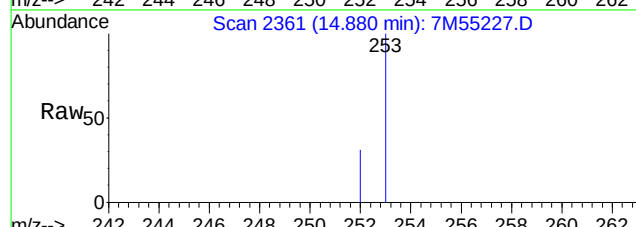
#19
 Chrysene
 Concen: 0.07 ug/ml
 RT: 13.41 min Scan# 2080
 Delta R.T. 0.00 min
 Lab File: 7M55227.D
 Acq: 20 Jun 2012 3:13 pm

Tgt Ion	Ratio	Lower	Upper
228	100		
226	30.9	17.2	40.0



#21
 Benzo[b]fluoranthene
 Concen: 0.02 ug/ml m
 RT: 14.88 min Scan# 2361
 Delta R.T. -0.00 min
 Lab File: 7M55227.D
 Acq: 20 Jun 2012 3:13 pm

Tgt Ion	Ratio	Lower	Upper
252	100		
253	16.7	12.7	29.5



Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55227.D

Vial: 6

Acq On : 20 Jun 2012 3:13 pm

Operator: CAA

Sample : L12060445-01

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:05 2012

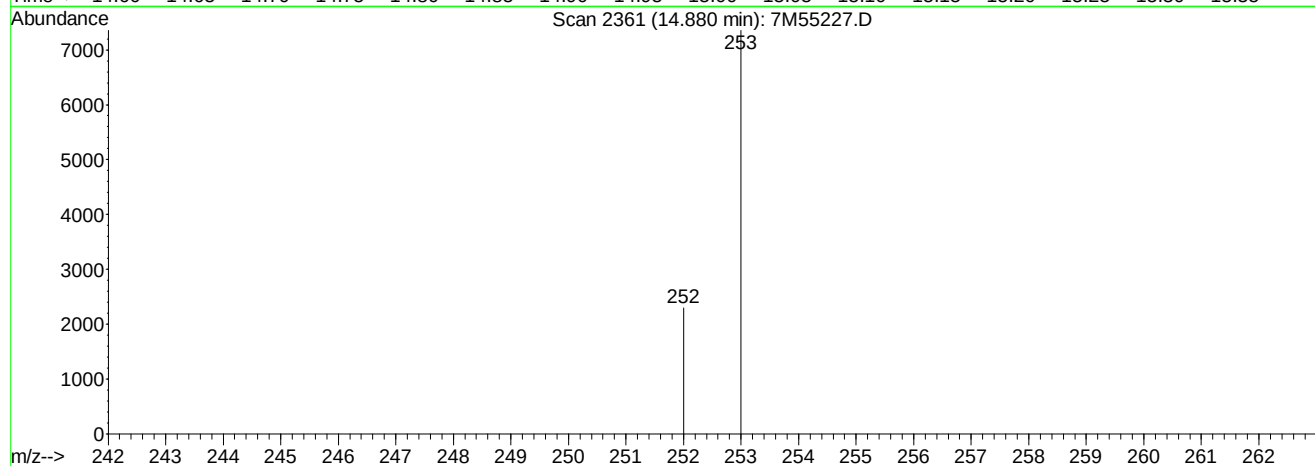
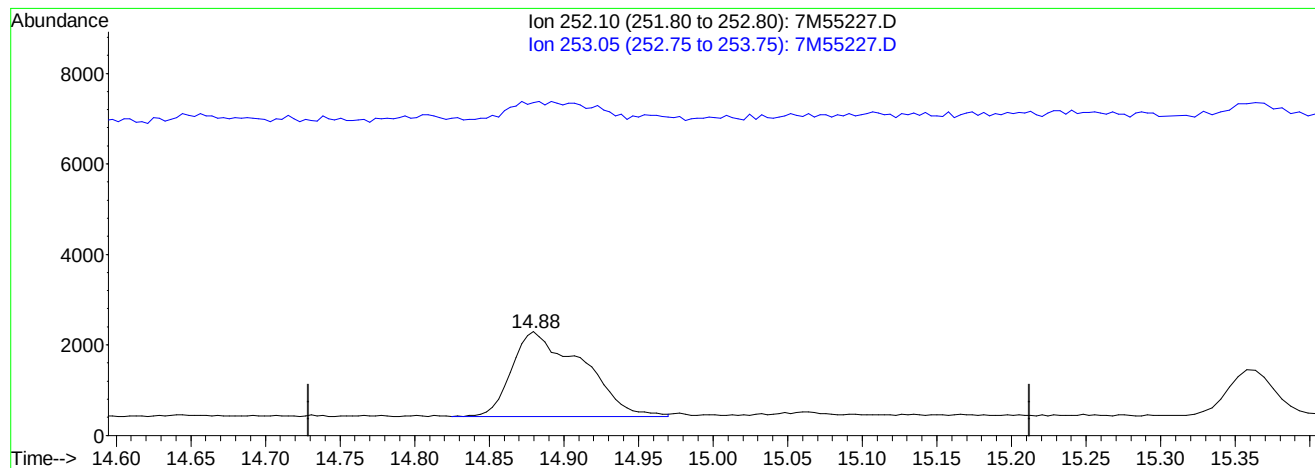
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55227.D

(21) Benzo[b]fluoranthene

14.88min 0.03ug/ml

response 6169

Ion	Exp%	Act%
252.10	100	100
253.05	21.10	10.52#
0.00	0.00	0.00
0.00	0.00	0.00

7M55227.D SIMPAHL.M

Thu Jun 21 07:07:17 2012

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55227.D

Vial: 6

Acq On : 20 Jun 2012 3:13 pm

Operator: CAA

Sample : L12060445-01

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:07 2012

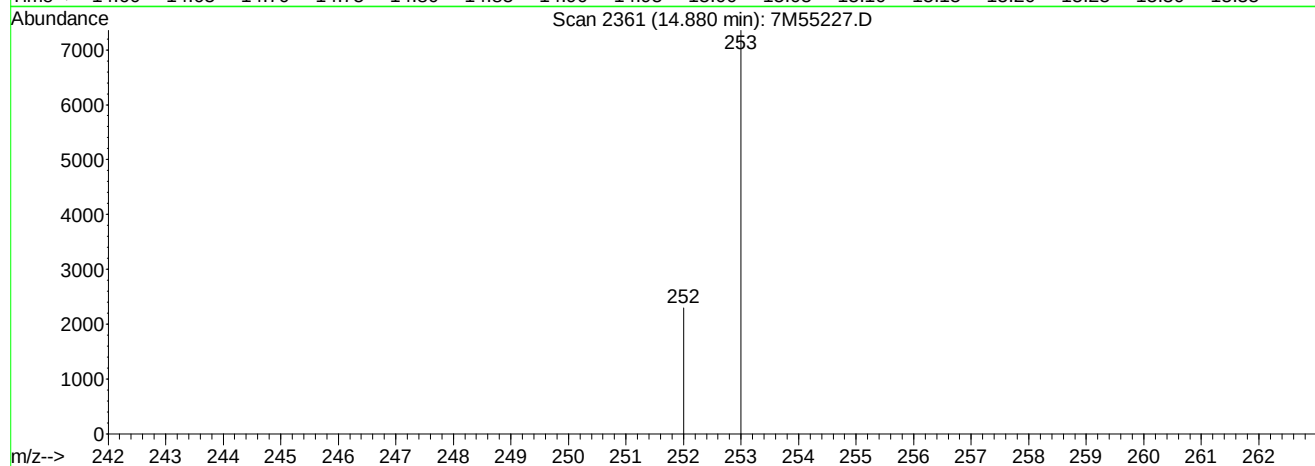
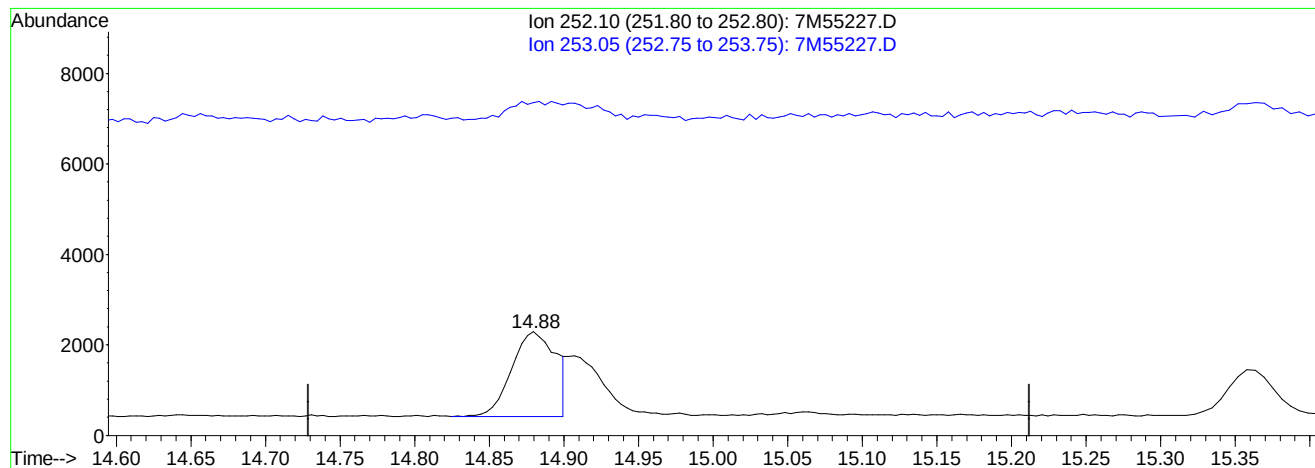
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55227.D

(21) Benzo[b]fluoranthene

14.88min 0.02ug/ml mint

response 3895

Ion	Exp%	Act%
252.10	100	100
253.05	21.10	16.66
0.00	0.00	0.00
0.00	0.00	0.00

7M55227.D SIMPAHL.M

Thu Jun 21

Analyst: 06/22/2012 08:07

Supervisor: 06/22/2012 08:37

Cassidy Augustus 2012

Eir C. Funn

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55227.D

Vial: 6

Acq On : 20 Jun 2012 3:13 pm

Operator: CAA

Sample : L12060445-01

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:07 2012

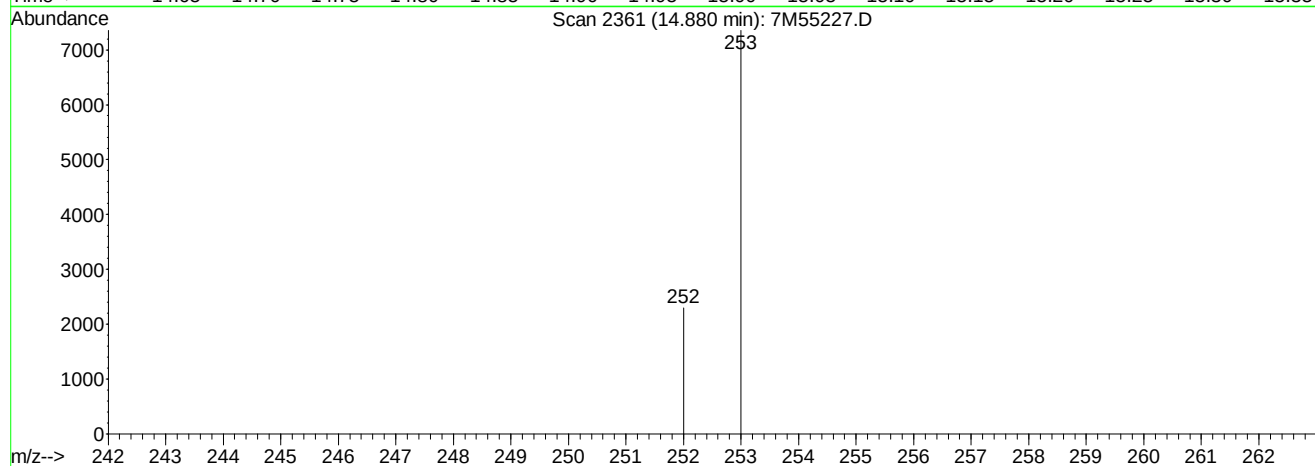
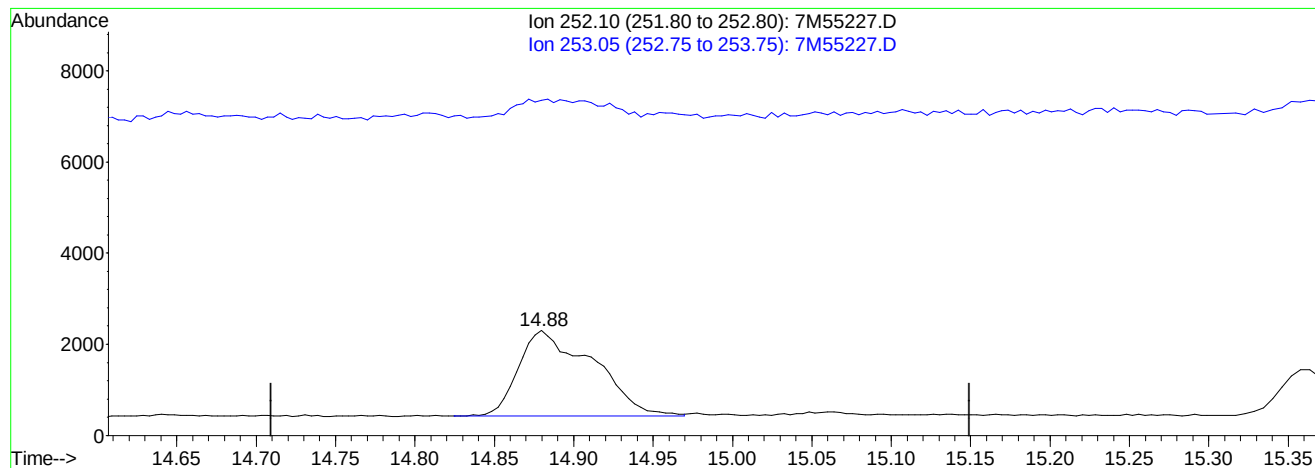
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55227.D

(22) Benzo[k]fluoranthene

14.88min 0.03ug/ml

response 6169

Ion	Exp%	Act%
252.10	100	100
253.05	20.20	10.52#
0.00	0.00	0.00
0.00	0.00	0.00

7M55227.D SIMPAHL.M

Thu Jun 21 07:07:28 2012

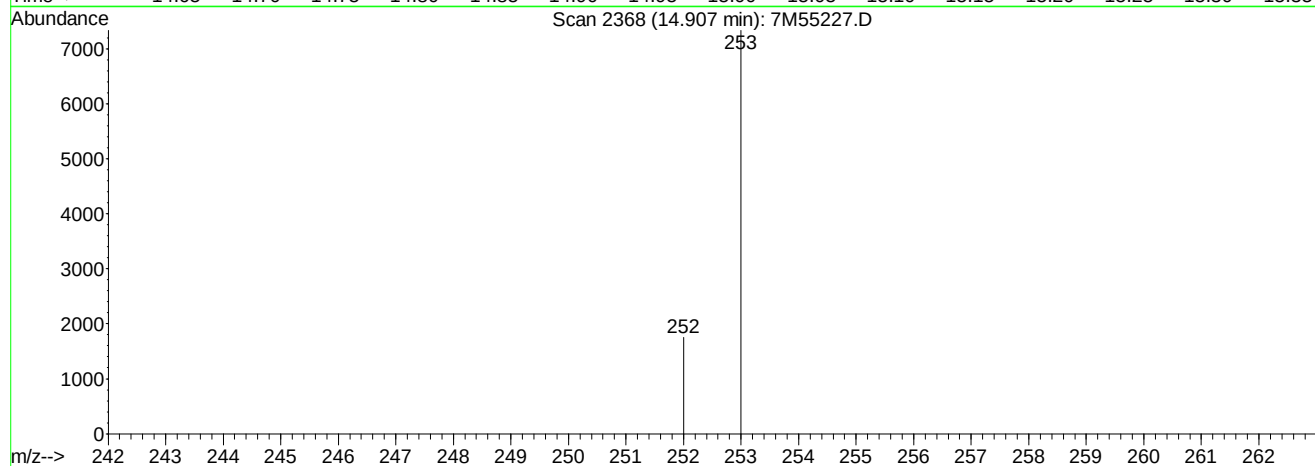
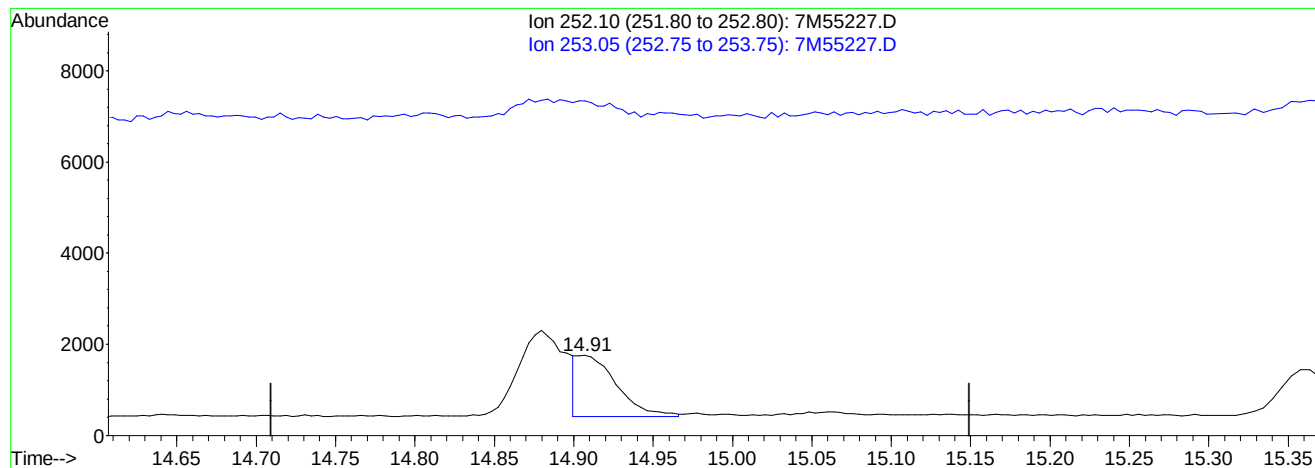
Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55227.D
 Acq On : 20 Jun 2012 3:13 pm
 Sample : L12060445-01
 Misc : 1,1
 MS Integration Params: RTEINT.P
 Quant Time: Jun 21 7:07 2012

Vial: 6
 Operator: CAA
 Inst : HPMS7
 Multiplr: 1.00

Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Thu Jun 21 07:05:37 2012
 Response via : Multiple Level Calibration



TIC: 7M55227.D

(22) Benzo[k]fluoranthene

14.91min 0.01ug/ml mint

response 2325

Ion	Exp%	Act%
252.10	100	100
253.05	20.20	27.91
0.00	0.00	0.00
0.00	0.00	0.00

7M55227.D SIMPAHL.M

Thu Jun 21

Analyst: 06/22/2012 08:07

Supervisor: 06/22/2012 08:38

Cassidy Augustin 2012

Erin C. Funn

#3 - Improperly integrated isomers and/or coeluting compounds

Data File : C:\MSDCHEM\1\DATA\062012\7M55228.D Vial: 7
 Acq On : 20 Jun 2012 3:41 pm Operator: CAA
 Sample : L12060445-03 Inst : HPMS7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 21 07:05:51 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Thu Jun 21 07:05:37 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	198660	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	123728	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	183936	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	188423	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	175374	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	184040	2.2761	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	91.20%	
7) 2-Fluorobiphenyl	7.26	172	354864	2.3294	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	93.20%	
17) p-Terphenyl-d14	12.00	244	406333	2.8274	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	113.20%	

Target Compounds						Qvalue
19) Chrysene	13.41	228	5904	0.0274	ug/ml	81

 (#) = qualifier out of range (m) = manual integration
 7M55228.D SIMPAHL.M Thu Jun 21 07:29:32 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062012\7M55228.D

Vial: 7

Acq On : 20 Jun 2012 3:41 pm

Operator: CAA

Sample : L12060445-03

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:05 2012

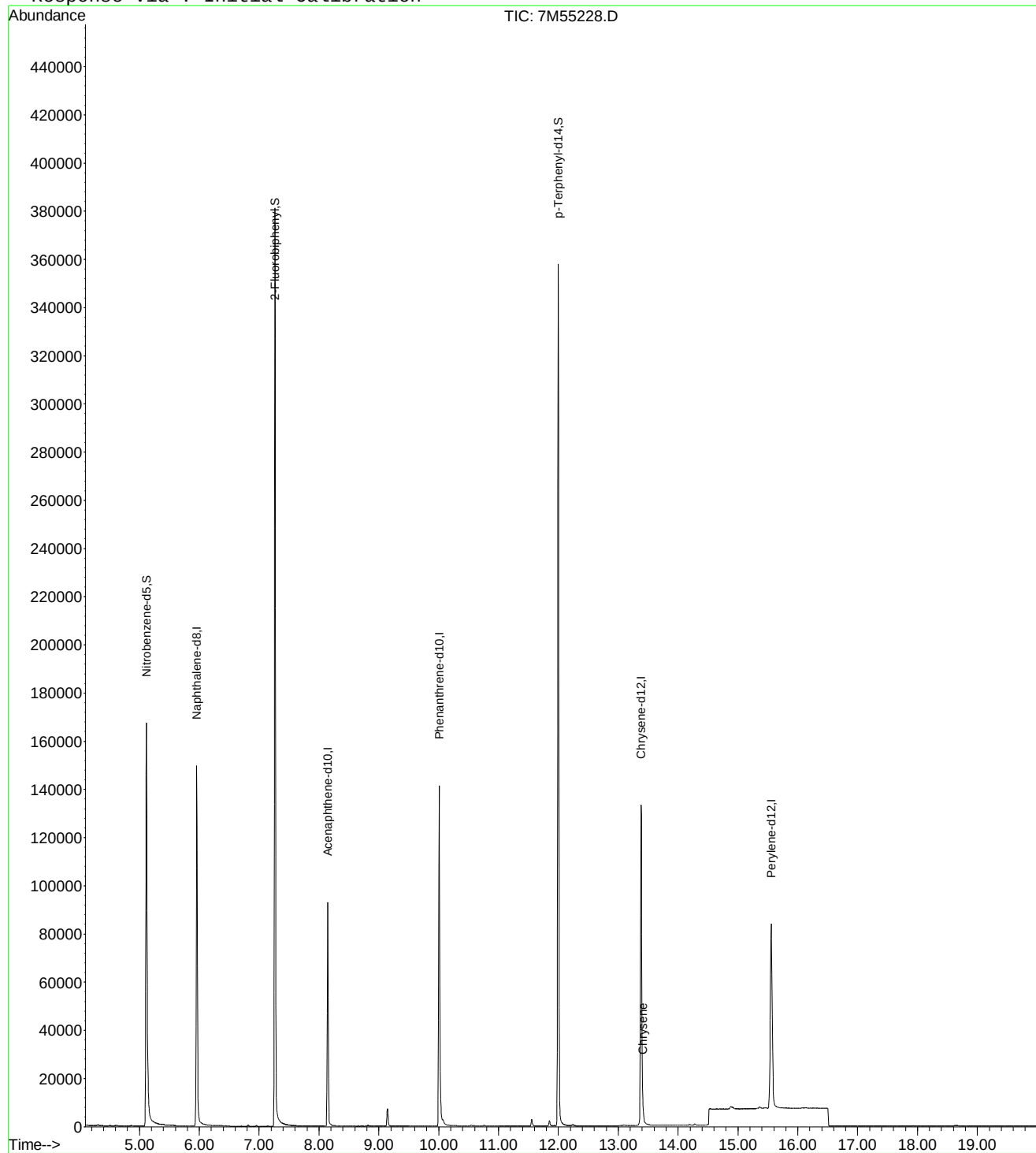
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

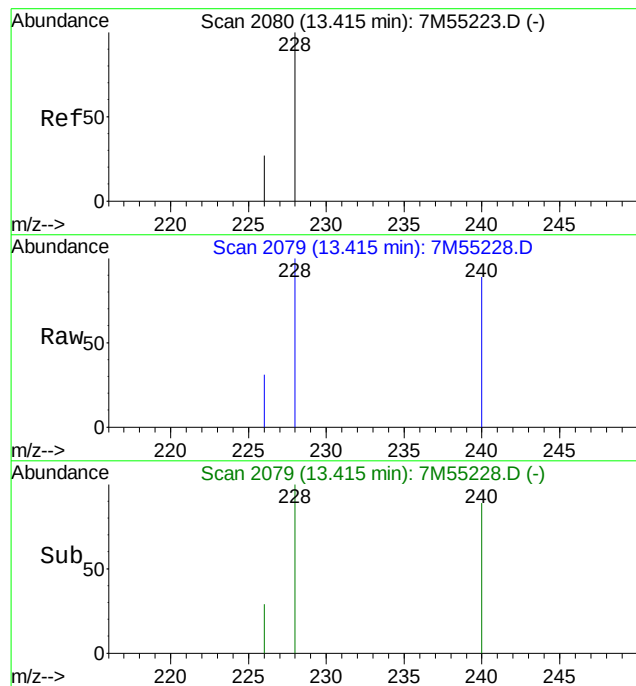
Response via : Initial Calibration



7M55228.D SIMPAHL.M

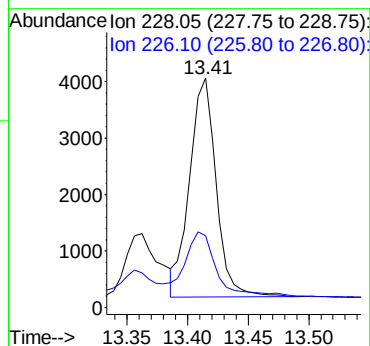
Thu Jun 21 07:29:32 2012

Page 2



#19
 Chrysene
 Concen: 0.03 ug/ml
 RT: 13.41 min Scan# 2079
 Delta R.T. 0.00 min
 Lab File: 7M55228.D
 Acq: 20 Jun 2012 3:41 pm

Tgt Ion: 228 Resp: 5904
 Ion Ratio Lower Upper
 228 100
 226 38.8 17.2 40.0



Data File : C:\MSDCHEM\1\DATA\062012\7M55229.D Vial: 8
 Acq On : 20 Jun 2012 4:10 pm Operator: CAA
 Sample : L12060445-05 REF Inst : HPMS7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 21 07:05:52 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Thu Jun 21 07:05:37 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	184436	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	114916	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	169876	1.00	ug/ml	0.00
15) Chrysene-d12	13.39	240	173823	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	158800	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	170274	2.2682	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	90.80%	
7) 2-Fluorobiphenyl	7.26	172	326200	2.3055	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	92.40%	
17) p-Terphenyl-d14	12.00	244	396660	2.9919	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	119.60%	

Target Compounds						Qvalue
12) Phenanthrene	10.04	178	40895	0.2102	ug/ml	100
14) Fluoranthene	11.56	202	116225	0.5390	ug/ml	99
16) Pyrene	11.85	202	99793	0.4235	ug/ml	96
18) Benzo[a]anthracene	13.36	228	37790	0.1876	ug/ml	96
19) Chrysene	13.41	228	157358	0.7921	ug/ml	99
21) Benzo[b]fluoranthene	14.88	252	42975m	0.2320	ug/ml	
22) Benzo[k]fluoranthene	14.90	252	26593m	0.1514	ug/ml	
23) Benzo[a]pyrene	15.46	252	12669	0.0706	ug/ml	96
24) Indeno[1,2,3-cd]pyrene	17.93	276	7396	0.0348	ug/ml	100
26) Benzo[ghi]perylene	18.65	276	7869	0.0423	ug/ml	96

 (#) = qualifier out of range (m) = manual integration
 7M55229.D SIMPAHL.M Thu Jun 21 07:29:32 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062012\7M55229.D

Vial: 8

Acq On : 20 Jun 2012 4:10 pm

Operator: CAA

Sample : L12060445-05 REF

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:08 2012

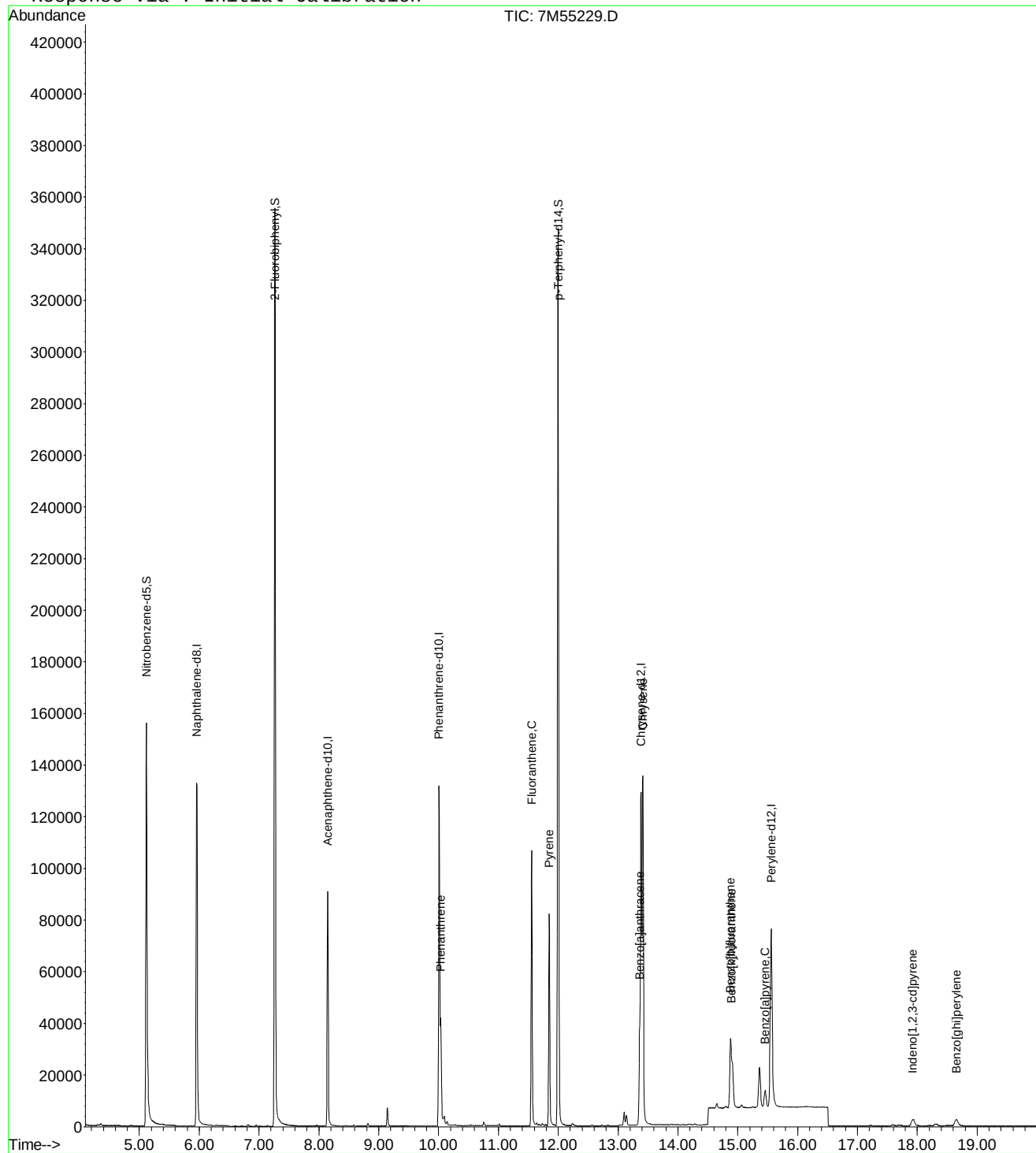
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

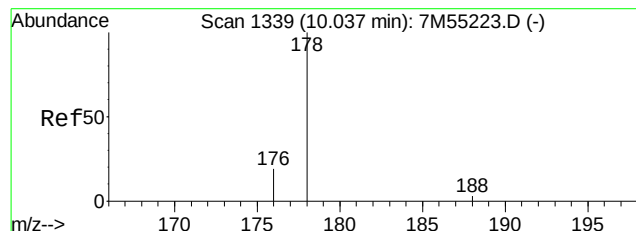
Response via : Initial Calibration



7M55229.D SIMPAHL.M

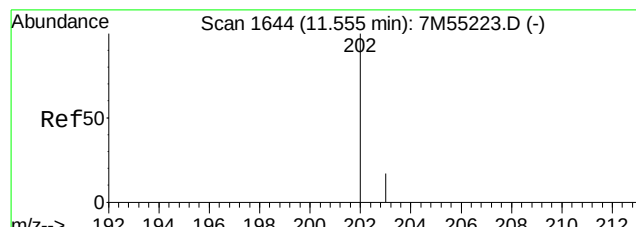
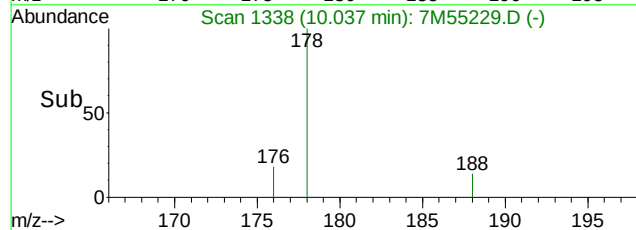
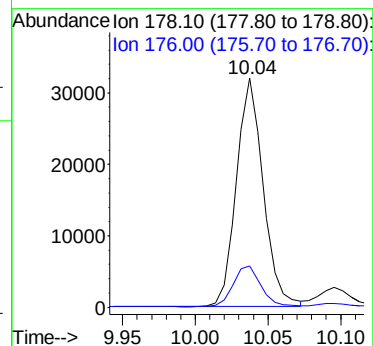
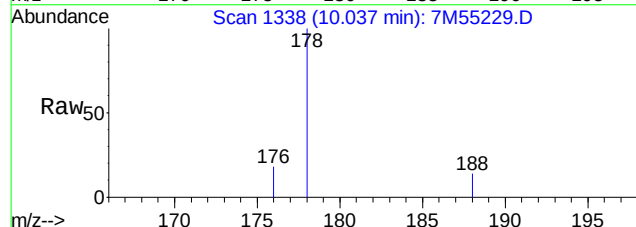
Thu Jun 21 07:29:33 2012

Page 2



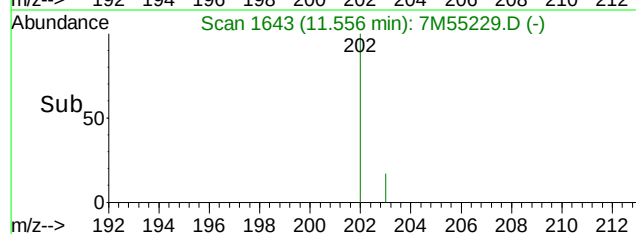
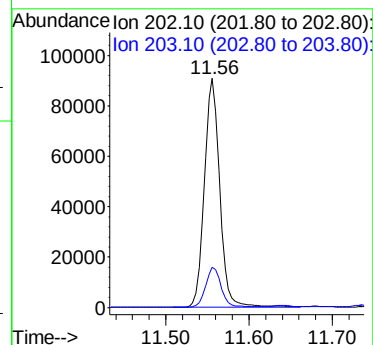
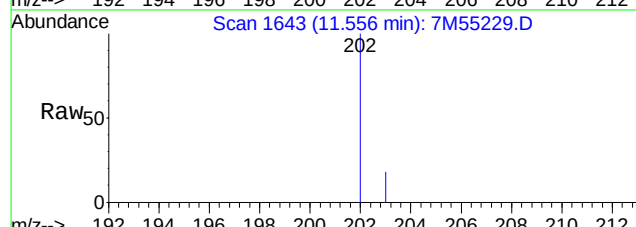
#12
Phenanthrene
Concen: 0.21 ug/ml
RT: 10.04 min Scan# 1338
Delta R.T. -0.00 min
Lab File: 7M55229.D
Acq: 20 Jun 2012 4:10 pm

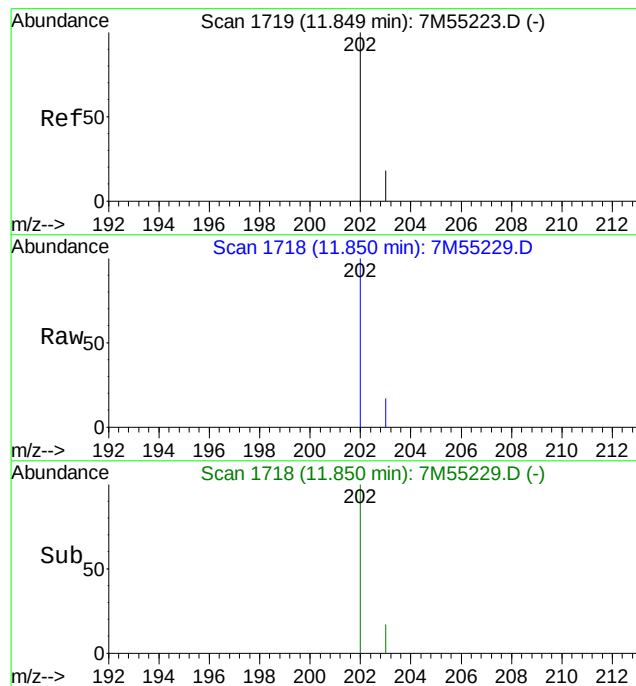
Tgt Ion	Ratio	Lower	Upper
178	100		
176	18.5	11.1	25.9



#14
Fluoranthene
Concen: 0.54 ug/ml
RT: 11.56 min Scan# 1643
Delta R.T. -0.00 min
Lab File: 7M55229.D
Acq: 20 Jun 2012 4:10 pm

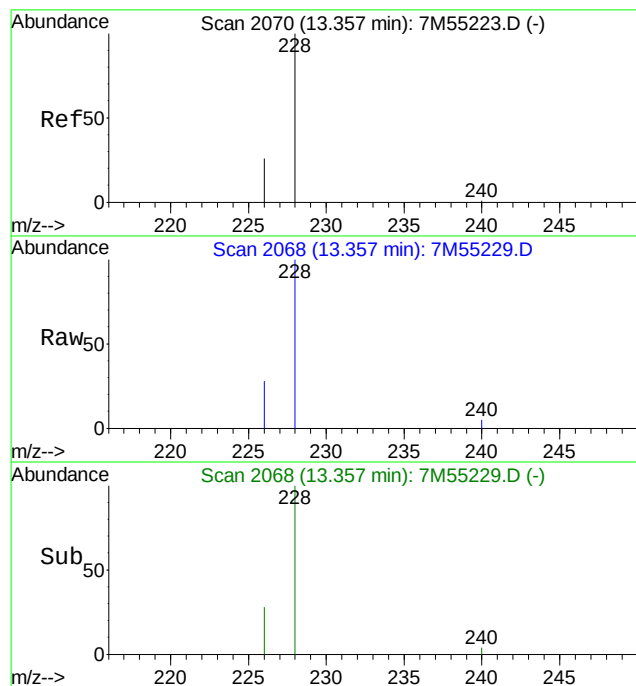
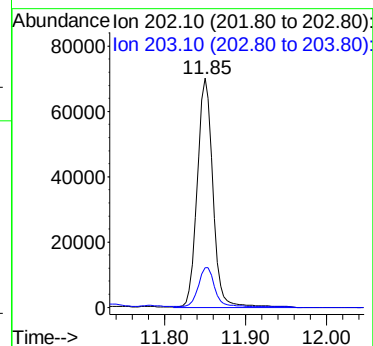
Tgt Ion	Ratio	Lower	Upper
202	100		
203	17.4	10.6	24.6





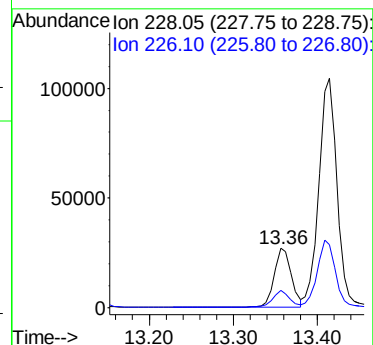
#16
Pyrene
Concen: 0.42 ug/ml
RT: 11.85 min Scan# 1718
Delta R.T. -0.00 min
Lab File: 7M55229.D
Acq: 20 Jun 2012 4:10 pm

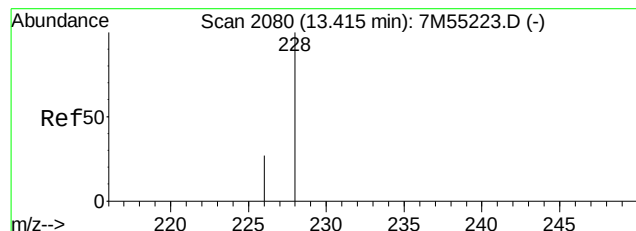
Tgt Ion:202 Resp: 99793
Ion Ratio Lower Upper
202 100
203 16.4 10.9 25.3



#18
Benzo[a]anthracene
Concen: 0.19 ug/ml
RT: 13.36 min Scan# 2068
Delta R.T. -0.00 min
Lab File: 7M55229.D
Acq: 20 Jun 2012 4:10 pm

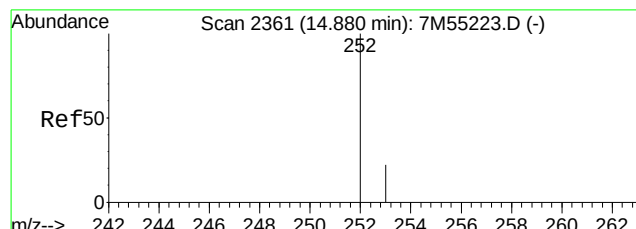
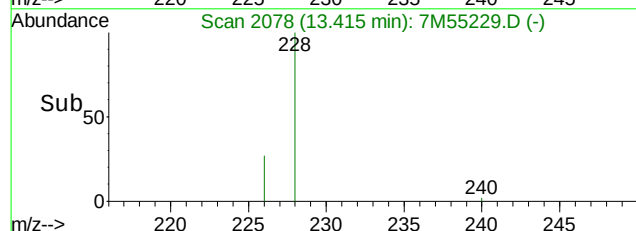
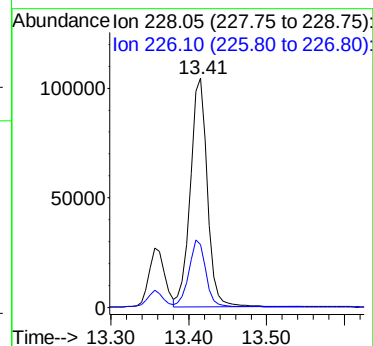
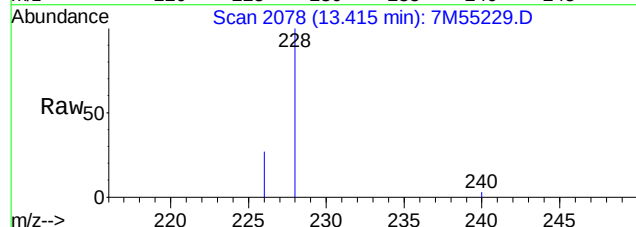
Tgt Ion:228 Resp: 37790
Ion Ratio Lower Upper
228 100
226 28.0 15.6 36.4





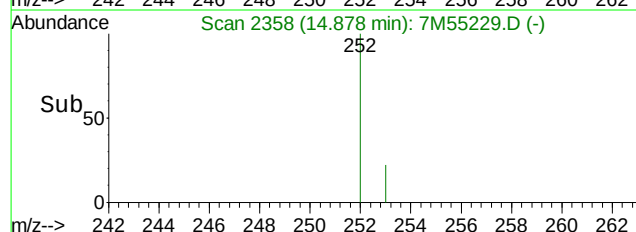
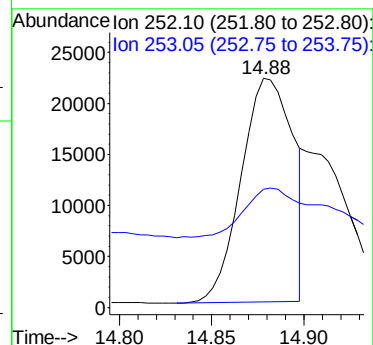
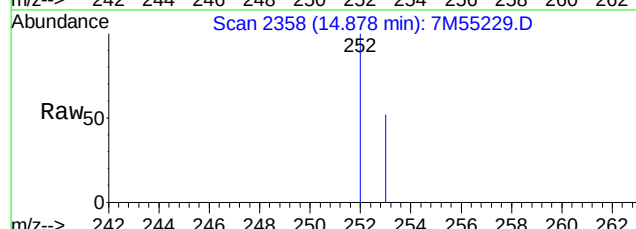
#19
 Chrysene
 Concen: 0.79 ug/ml
 RT: 13.41 min Scan# 2078
 Delta R.T. 0.00 min
 Lab File: 7M55229.D
 Acq: 20 Jun 2012 4:10 pm

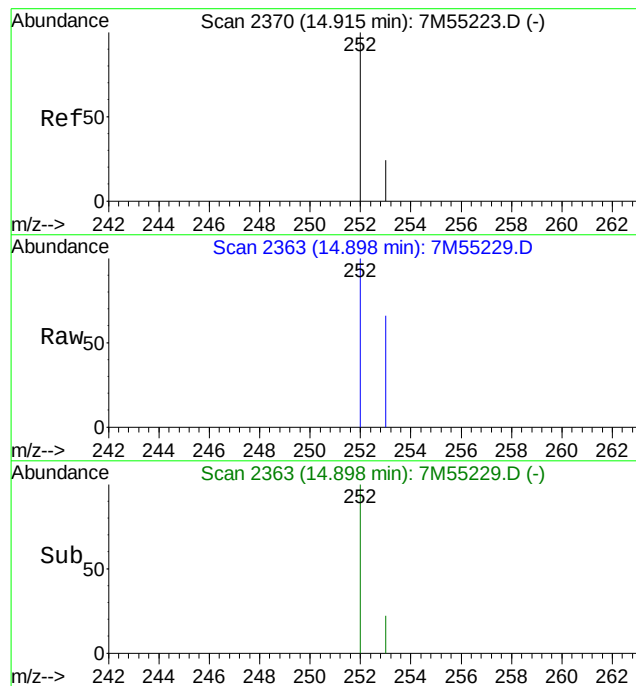
Tgt Ion	Ratio	Lower	Upper
228	100		
226	28.9	17.2	40.0



#21
 Benzo[b]fluoranthene
 Concen: 0.23 ug/ml m
 RT: 14.88 min Scan# 2358
 Delta R.T. -0.00 min
 Lab File: 7M55229.D
 Acq: 20 Jun 2012 4:10 pm

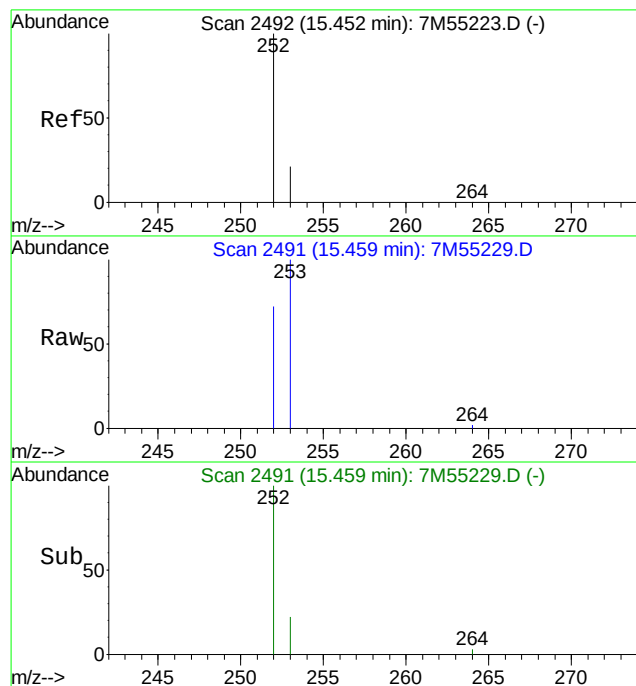
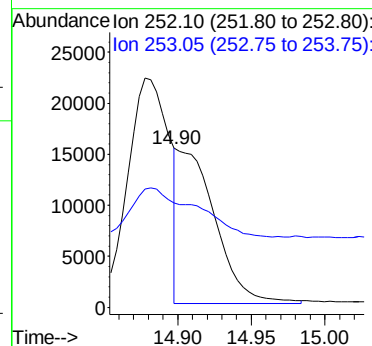
Tgt Ion	Ratio	Lower	Upper
252	100		
253	36.0	12.7	29.5#





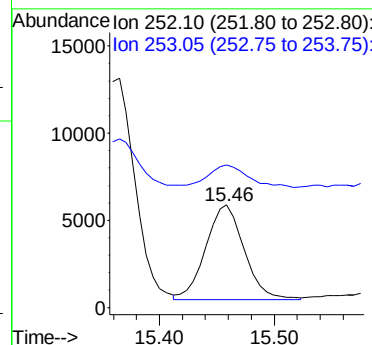
#22
Benzo[k]fluoranthene
Concen: 0.15 ug/ml m
RT: 14.90 min Scan# 2363
Delta R.T. -0.02 min
Lab File: 7M55229.D
Acq: 20 Jun 2012 4:10 pm

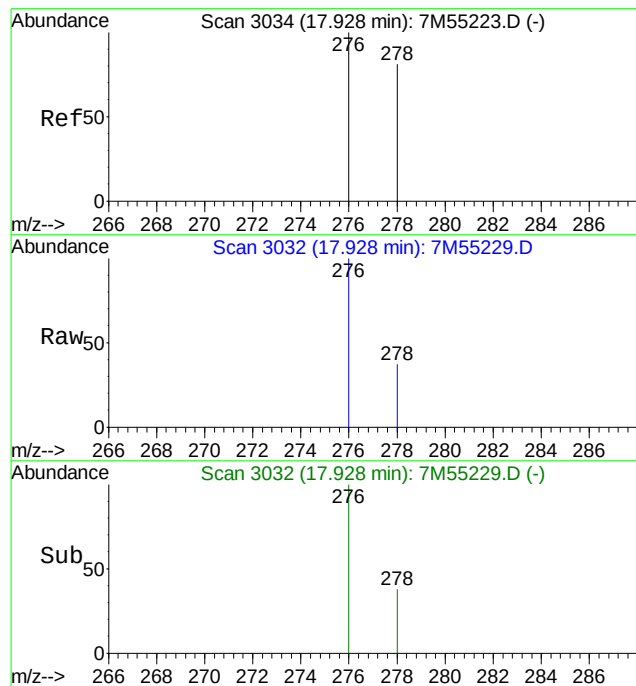
Tgt Ion	Ratio	Lower	Upper
252	100		
253	58.3	12.1	28.3#



#23
Benzo[a]pyrene
Concen: 0.07 ug/ml
RT: 15.46 min Scan# 2491
Delta R.T. -0.00 min
Lab File: 7M55229.D
Acq: 20 Jun 2012 4:10 pm

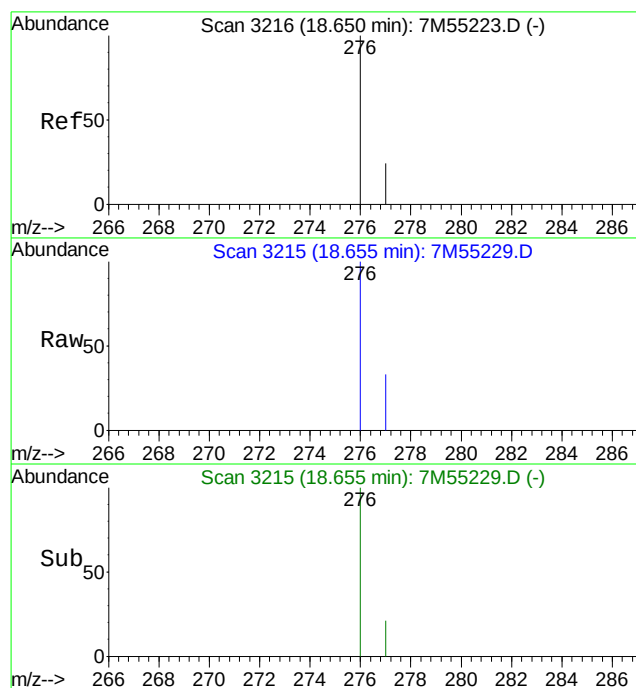
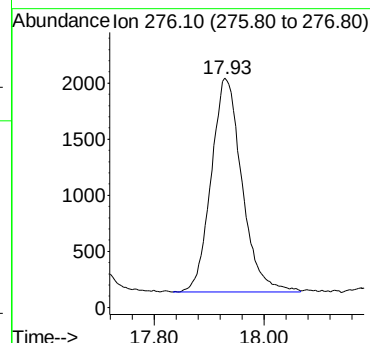
Tgt Ion	Ratio	Lower	Upper
252	100		
253	24.2	13.3	31.1





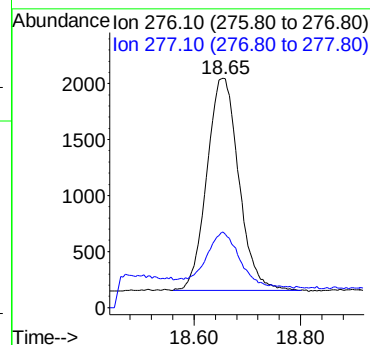
#24
 Indeno[1,2,3-cd]pyrene
 Concen: 0.03 ug/ml
 RT: 17.93 min Scan# 3032
 Delta R.T. -0.01 min
 Lab File: 7M55229.D
 Acq: 20 Jun 2012 4:10 pm

Tgt Ion:276 Resp: 7396



#26
 Benzo[ghi]perylene
 Concen: 0.04 ug/ml
 RT: 18.65 min Scan# 3215
 Delta R.T. -0.00 min
 Lab File: 7M55229.D
 Acq: 20 Jun 2012 4:10 pm

Tgt Ion:276 Resp: 7869
 Ion Ratio Lower Upper
 276 100
 277 25.5 14.2 33.2



Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55229.D

Vial: 8

Acq On : 20 Jun 2012 4:10 pm

Operator: CAA

Sample : L12060445-05 REF

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:05 2012

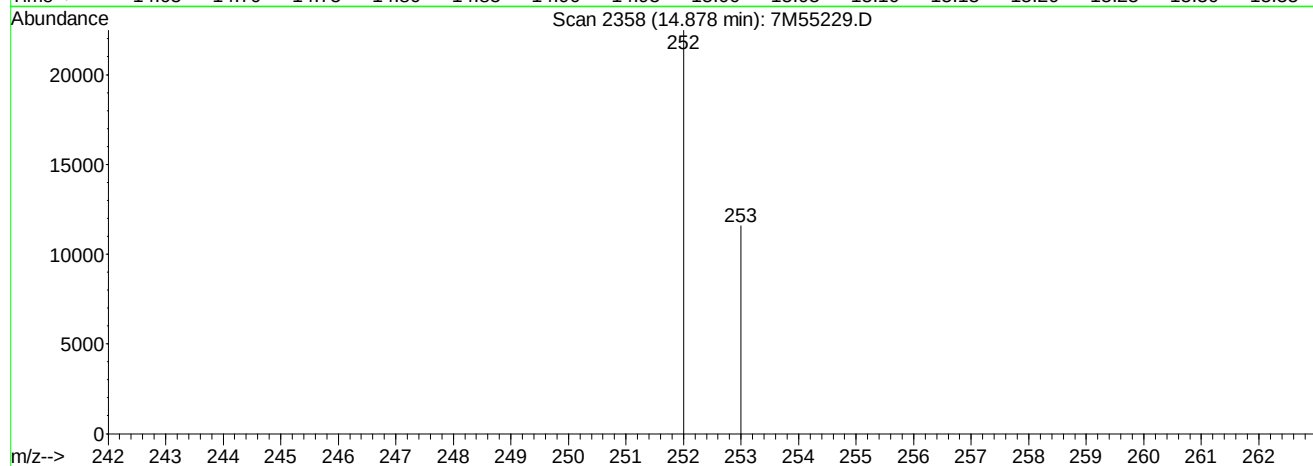
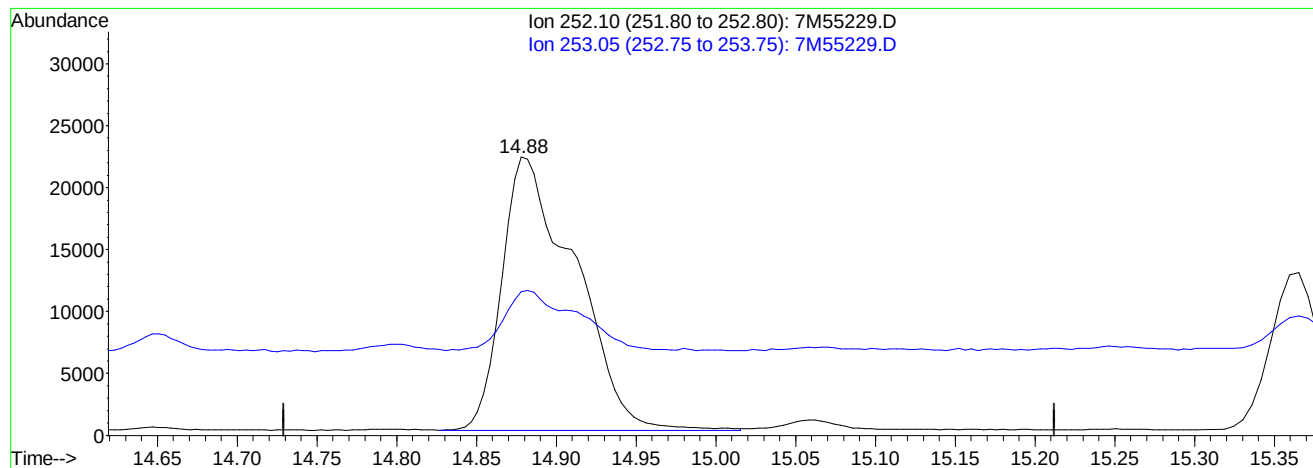
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55229.D

(21) Benzo[b]fluoranthene

14.88min 0.38ug/ml

response 70286

Ion	Exp%	Act%
252.10	100	100
253.05	21.10	22.04
0.00	0.00	0.00
0.00	0.00	0.00

7M55229.D SIMPAHL.M

Thu Jun 21 07:07:44 2012

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55229.D

Vial: 8

Acq On : 20 Jun 2012 4:10 pm

Operator: CAA

Sample : L12060445-05 REF

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:07 2012

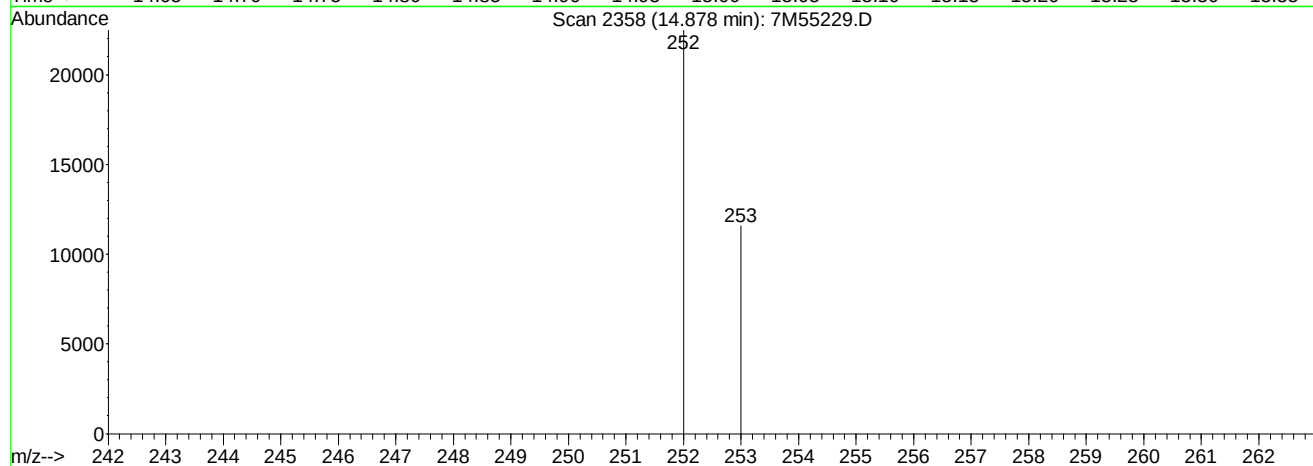
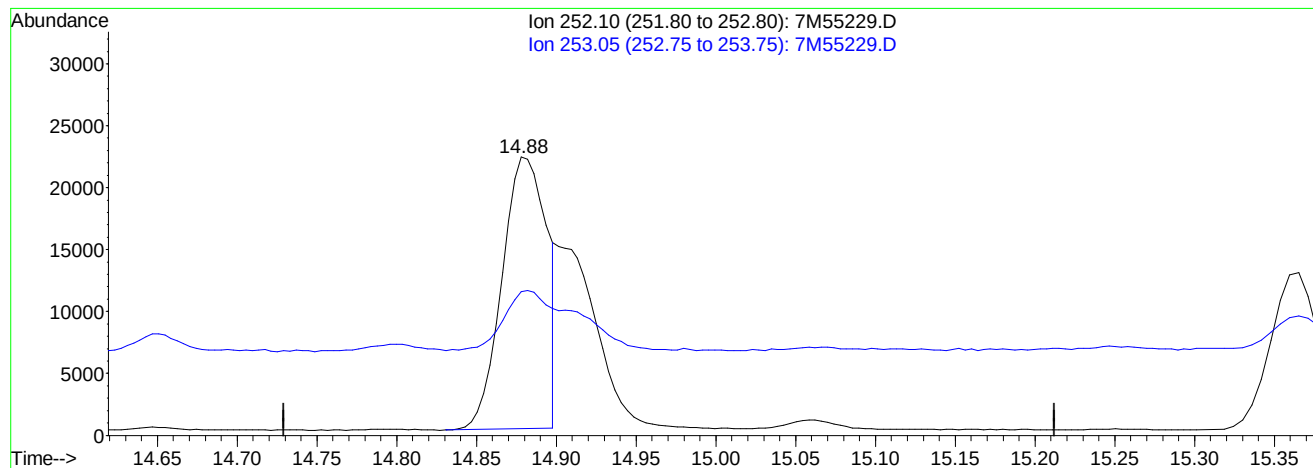
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55229.D

(21) Benzo[b]fluoranthene

14.88min 0.23ug/ml mint

response 42975

Ion	Exp%	Act%
252.10	100	100
253.05	21.10	36.05#
0.00	0.00	0.00
0.00	0.00	0.00

7M55229.D SIMPAHL.M

Thu Jun 21

Analyst: 06/22/2012 08:07

Supervisor: 06/22/2012 08:38

Cassidy Augustin 2012

E. C. Funn

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55229.D

Vial: 8

Acq On : 20 Jun 2012 4:10 pm

Operator: CAA

Sample : L12060445-05 REF

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:07 2012

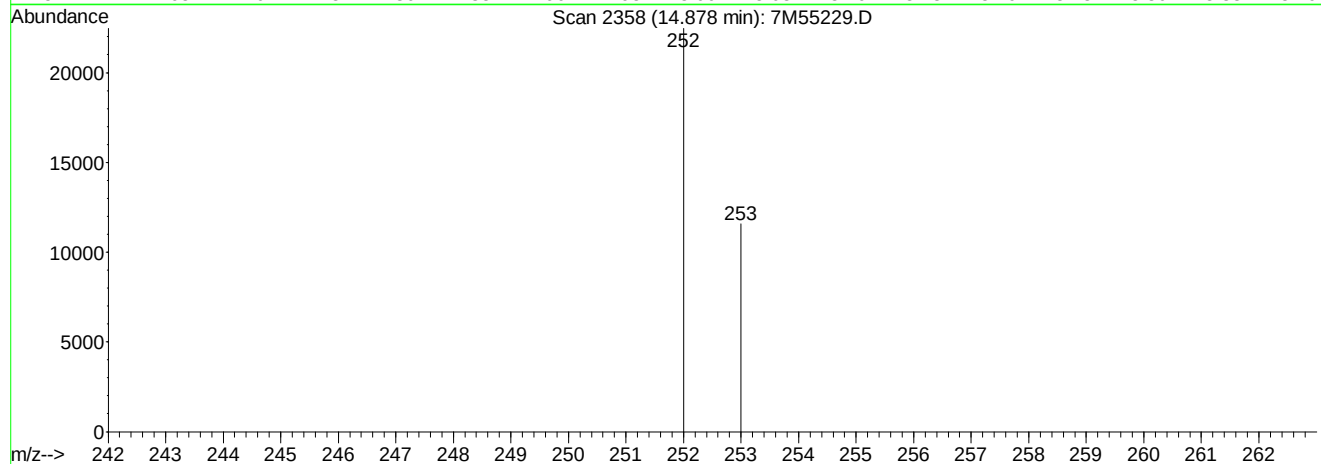
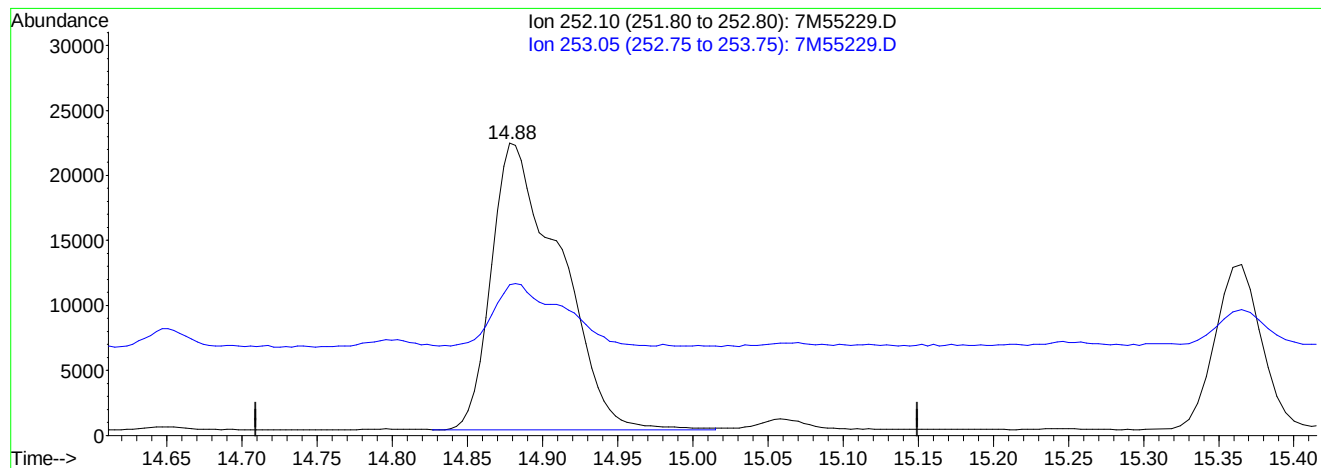
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55229.D

(22) Benzo[k]fluoranthene

14.88min 0.40ug/ml

response 70286

Ion	Exp%	Act%
252.10	100	100
253.05	20.20	22.04
0.00	0.00	0.00
0.00	0.00	0.00

7M55229.D SIMPAHL.M

Thu Jun 21 07:07:58 2012

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55229.D

Vial: 8

Acq On : 20 Jun 2012 4:10 pm

Operator: CAA

Sample : L12060445-05 REF

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:08 2012

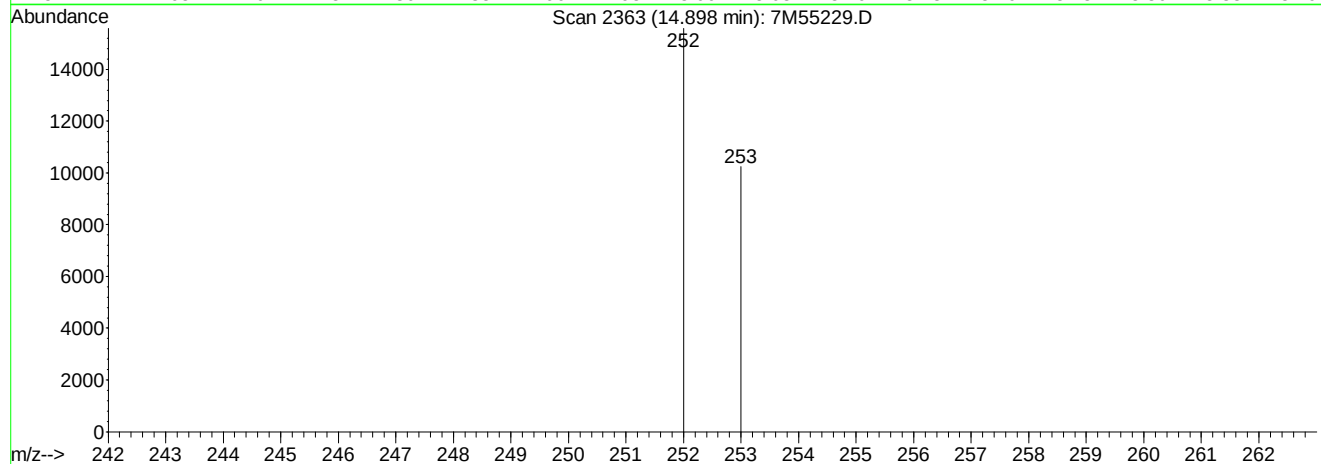
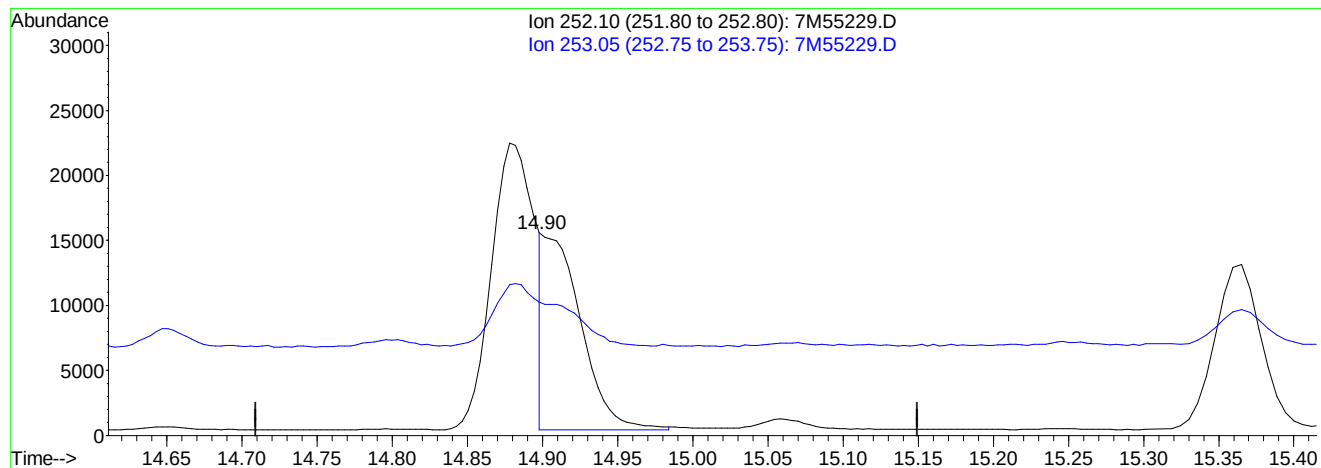
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55229.D

(22) Benzo[k]fluoranthene

14.90min 0.15ug/ml mint

response 26593

Ion	Exp%	Act%
252.10	100	100
253.05	20.20	58.26#
0.00	0.00	0.00
0.00	0.00	0.00

7M55229.D SIMPAHL.M

Thu Jun 21

Analyst: 06/22/2012 08:07

Supervisor: 06/22/2012 08:38

Cassidy Augustin 2012

E. C. Funn

#3 - Improperly integrated isomers and/or coeluting compounds

Data File : C:\MSDCHEM\1\DATA\062012\7M55230.D

Vial: 9

Acq On : 20 Jun 2012 4:38 pm

Operator: CAA

Sample : L12060445-06 MS

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 07:05:52 2012

Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Initial Calibration

DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	185771	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	115190	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	170431	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	173583	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	161029	1.00	ug/ml	0.00

System Monitoring Compounds

2) Nitrobenzene-d5	5.12	82	170022	2.2486	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	90.00%	
7) 2-Fluorobiphenyl	7.26	172	333336	2.3503	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	94.00%	
17) p-Terphenyl-d14	12.00	244	393748	2.9741	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	118.80%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
3) Naphthalene	5.98	128	179364	0.8710	ug/ml	100
4) 2-Methylnaphthalene	6.81	142	118287	0.9210	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	111198	0.8779	ug/ml	100
8) Acenaphthylene	7.95	152	178665	0.8957	ug/ml	99
9) Acenaphthene	8.18	154	102254	0.8879	ug/ml	99
10) Fluorene	8.81	166	129127	0.9243	ug/ml	100
12) Phenanthrene	10.04	178	189535	0.9712	ug/ml	100
13) Anthracene	10.10	178	188152	0.9561	ug/ml	99
14) Fluoranthene	11.55	202	238136	1.1007	ug/ml	100
16) Pyrene	11.85	202	268369	1.1404	ug/ml	98
18) Benzo[a]anthracene	13.36	228	209948	1.0438	ug/ml	99
19) Chrysene	13.41	228	234302	1.1810	ug/ml	100
21) Benzo[b]fluoranthene	14.88	252	218547	1.1636	ug/ml	100
22) Benzo[k]fluoranthene	14.91	252	195283	1.0964	ug/ml	95
23) Benzo[a]pyrene	15.45	252	206770	1.1361	ug/ml	99
24) Indeno[1,2,3-cd]pyrene	17.92	276	216260	1.0035	ug/ml	100
25) Dibenzo[ah]anthracene	17.92	278	178735	1.0340	ug/ml	100
26) Benzo[ghi]perylene	18.64	276	192495	1.0206	ug/ml	100

 (#) = qualifier out of range (m) = manual integration
 7M55230.D SIMPAHL.M Thu Jun 21 07:15:10 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062012\7M55230.D

Acq On : 20 Jun 2012 4:38 pm

Sample : L12060445-06 MS

Misc : 1,1

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:05 2012

Vial: 9

Operator: CAA

Inst : HPMS7

Multiplr: 1.00

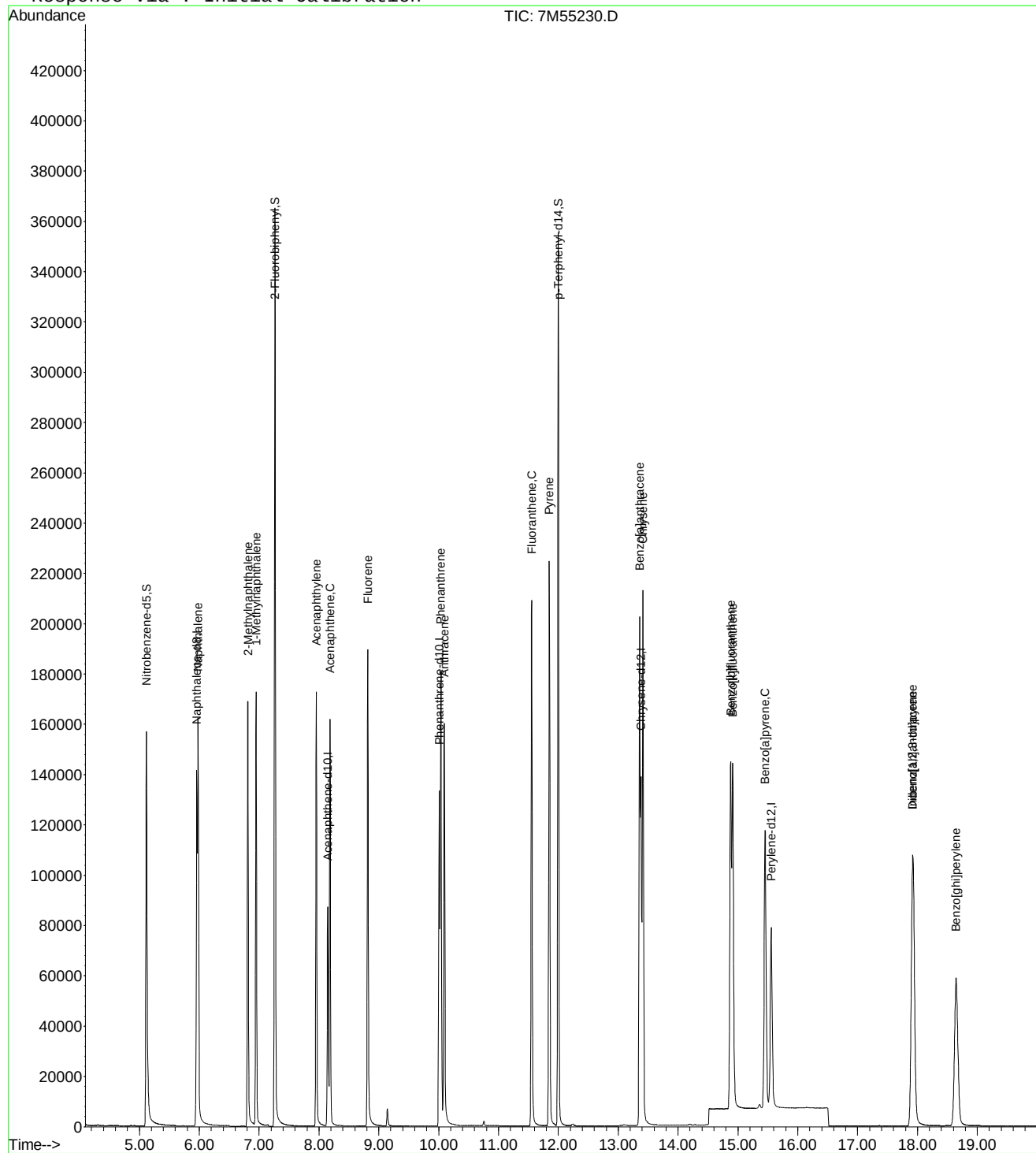
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Initial Calibration



7M55230.D SIMPAHL.M

Thu Jun 21 07:15:10 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\062012\7M55231.D

Vial: 10

Acq On : 20 Jun 2012 5:06 pm

Operator: CAA

Sample : L12060445-07 MSD

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 07:05:52 2012

Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Initial Calibration

DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	211574	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	131025	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	193023	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	199767	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	184694	1.00	ug/ml	0.00

System Monitoring Compounds

2) Nitrobenzene-d5	5.12	82	216187	2.5104	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	100.40%	
7) 2-Fluorobiphenyl	7.26	172	419543	2.6006	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	104.00%	
17) p-Terphenyl-d14	11.99	244	452462	2.9696	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	118.80%	

Target Compounds

						Qvalue
3) Naphthalene	5.98	128	226731	0.9668	ug/ml	100
4) 2-Methylnaphthalene	6.81	142	149706	1.0235	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	140242	0.9722	ug/ml	100
8) Acenaphthylene	7.96	152	226947	1.0002	ug/ml	99
9) Acenaphthene	8.18	154	128607	0.9818	ug/ml	99
10) Fluorene	8.81	166	162914	1.0252	ug/ml	100
12) Phenanthrene	10.04	178	234293	1.0600	ug/ml	99
13) Anthracene	10.09	178	237518	1.0657	ug/ml	99
14) Fluoranthene	11.55	202	278145	1.1352	ug/ml	100
16) Pyrene	11.85	202	313852	1.1589	ug/ml	99
18) Benzo[a]anthracene	13.36	228	242949	1.0495	ug/ml	100
19) Chrysene	13.41	228	265049	1.1609	ug/ml	99
21) Benzo[b]fluoranthene	14.88	252	242878	1.1275	ug/ml	96
22) Benzo[k]fluoranthene	14.91	252	225741	1.1050	ug/ml	95
23) Benzo[a]pyrene	15.45	252	237816	1.1392	ug/ml	99
24) Indeno[1,2,3-cd]pyrene	17.92	276	242553	0.9813	ug/ml	100
25) Dibenz[ah]anthracene	17.92	278	195912	0.9881	ug/ml	100
26) Benzo[ghi]perylene	18.65	276	216160	0.9993	ug/ml	100

 (#) = qualifier out of range (m) = manual integration
 7M55231.D SIMPAHL.M Thu Jun 21 07:15:11 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062012\7M55231.D

Vial: 10

Acq On : 20 Jun 2012 5:06 pm

Operator: CAA

Sample : L12060445-07 MSD

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:05 2012

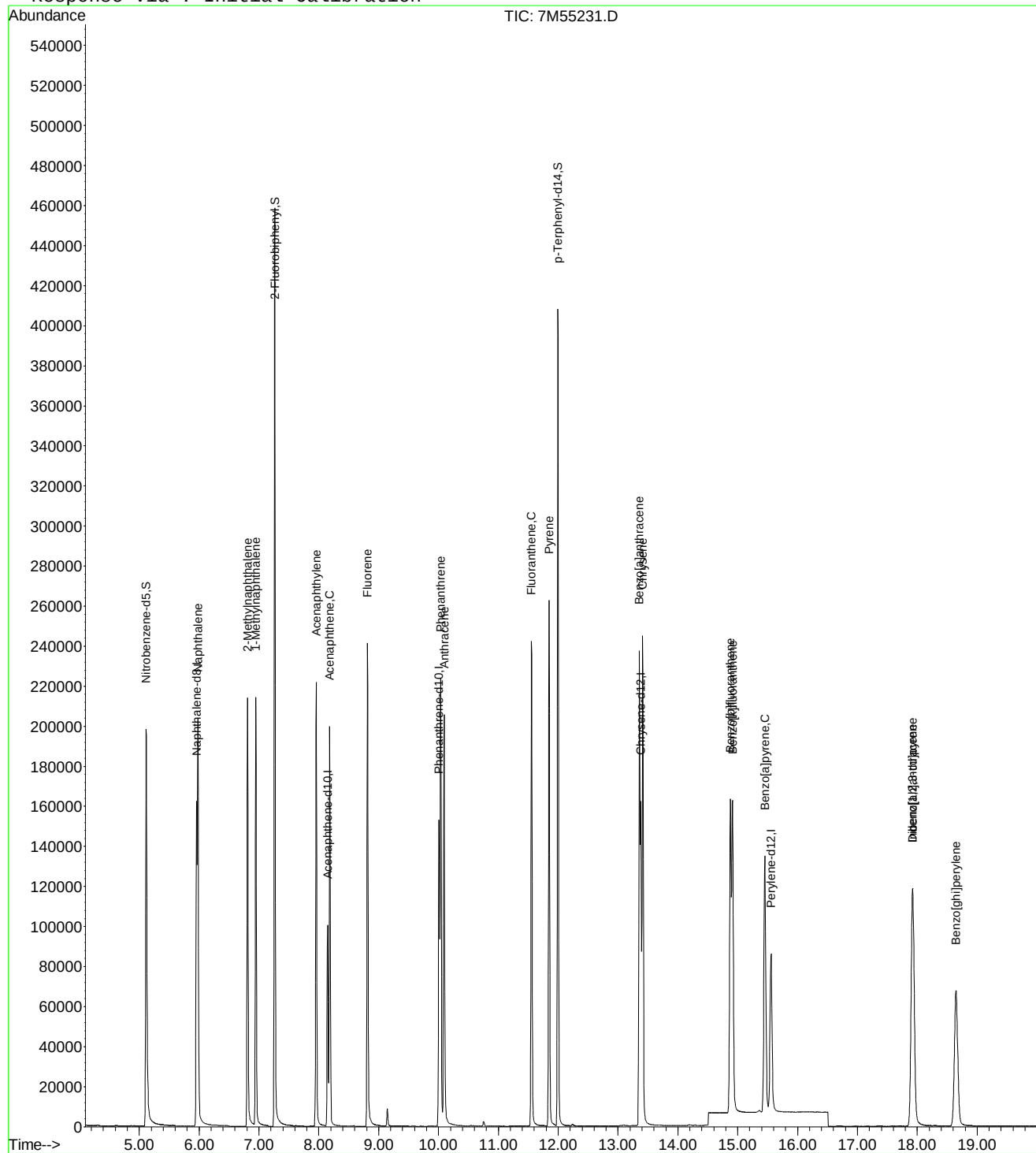
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Initial Calibration



7M55231.D SIMPAHL.M

Thu Jun 21 07:15:11 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\062012\7M55232.D Vial: 11
 Acq On : 20 Jun 2012 5:34 pm Operator: CAA
 Sample : L12060445-08 Inst : HPMS7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 21 07:05:52 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Thu Jun 21 07:05:37 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	179751	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	111309	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	167640	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	170397	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	157100	1.00	ug/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	165427	2.2611	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	90.40%	
7) 2-Fluorobiphenyl	7.26	172	325849	2.3776	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	95.20%	
17) p-Terphenyl-d14	11.99	244	382541	2.9434	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	117.60%	
Target Compounds						
					Qvalue	
14) Fluoranthene	11.56	202	5517	0.0259	ug/ml	100
19) Chrysene	13.41	228	5749	0.0295	ug/ml	87

 (#) = qualifier out of range (m) = manual integration
 7M55232.D SIMPAHL.M Thu Jun 21 07:29:34 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062012\7M55232.D

Acq On : 20 Jun 2012 5:34 pm

Sample : L12060445-08

Misc : 1,1

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:05 2012

Vial: 11

Operator: CAA

Inst : HPMS7

Multiplr: 1.00

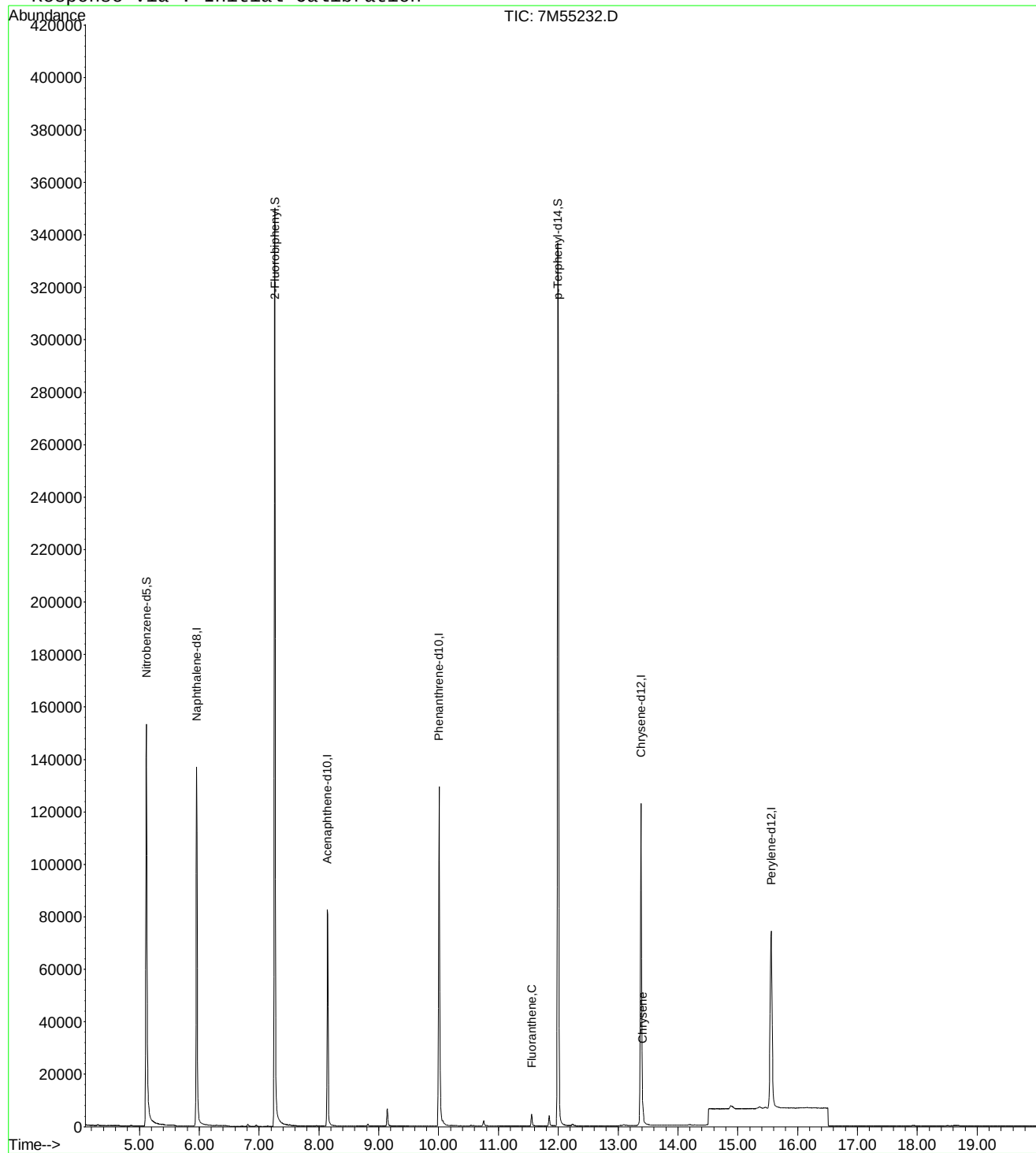
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

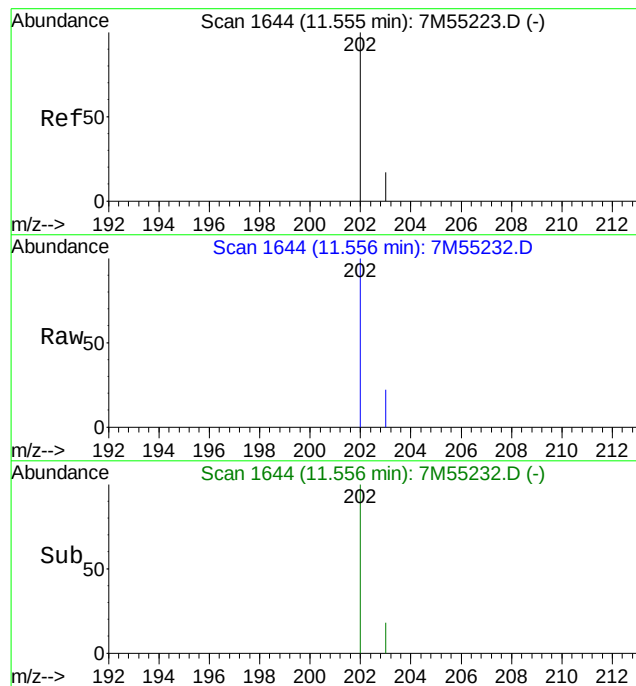
Response via : Initial Calibration



7M55232.D SIMPAHL.M

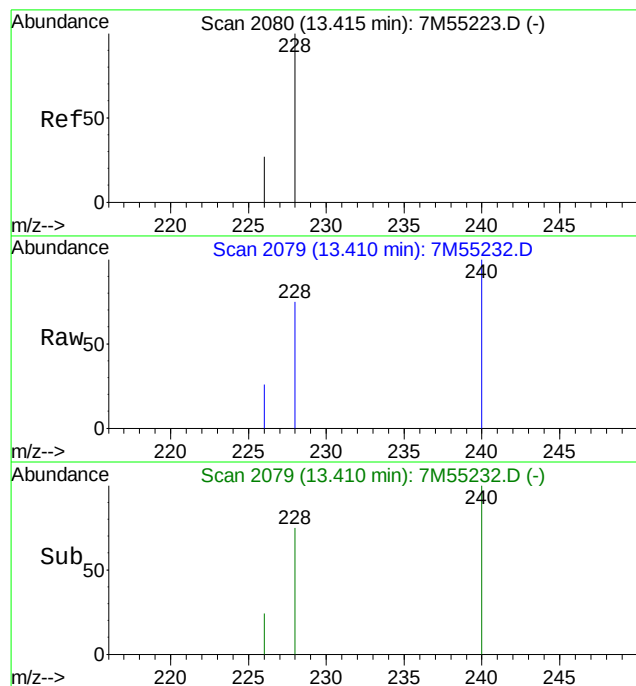
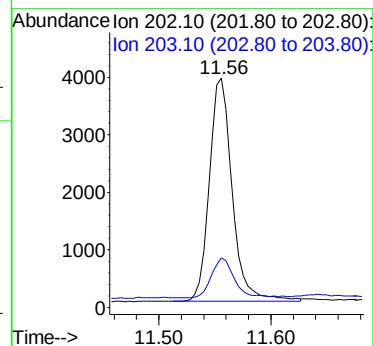
Thu Jun 21 07:29:34 2012

Page 2



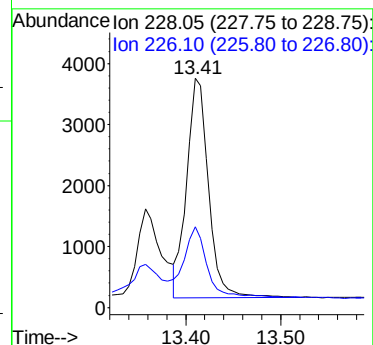
#14
 Fluoranthene
 Concen: 0.03 ug/ml
 RT: 11.56 min Scan# 1644
 Delta R.T. -0.00 min
 Lab File: 7M55232.D
 Acq: 20 Jun 2012 5:34 pm

Tgt Ion:	202	Resp:	5517
Ion Ratio	Lower	Upper	
202	100		
203	17.8	10.6	24.6



#19
 Chrysene
 Concen: 0.03 ug/ml
 RT: 13.41 min Scan# 2079
 Delta R.T. -0.00 min
 Lab File: 7M55232.D
 Acq: 20 Jun 2012 5:34 pm

Tgt Ion:	228	Resp:	5749
Ion Ratio	Lower	Upper	
228	100		
226	35.3	17.2	40.0



Data File : C:\MSDCHEM\1\DATA\062012\7M55233.D Vial: 12
 Acq On : 20 Jun 2012 6:02 pm Operator: CAA
 Sample : L12060445-09 Inst : HPMS7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 21 07:05:52 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Thu Jun 21 07:05:37 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	211262	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	133285	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	199490	1.00	ug/ml	0.00
15) Chrysene-d12	13.39	240	199591	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	183916	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	226818	2.6378	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	105.60%	
7) 2-Fluorobiphenyl	7.26	172	434228	2.6460	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	106.00%	
17) p-Terphenyl-d14	12.00	244	485281	3.1878	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	127.60%	

Target Compounds						Qvalue
12) Phenanthrene	10.04	178	7352	0.0322	ug/ml	100
14) Fluoranthene	11.56	202	14547	0.0574	ug/ml	99
16) Pyrene	11.85	202	11369	0.0420	ug/ml	99
18) Benzo[a]anthracene	13.36	228	5480	0.0237	ug/ml#	73
19) Chrysene	13.41	228	20515	0.0899	ug/ml	95
21) Benzo[b]fluoranthene	14.88	252	5185m	0.0242	ug/ml	

 (#) = qualifier out of range (m) = manual integration
 7M55233.D SIMPAHL.M Thu Jun 21 07:29:35 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062012\7M55233.D

Acq On : 20 Jun 2012 6:02 pm

Sample : L12060445-09

Misc : 1,1

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:08 2012

Vial: 12

Operator: CAA

Inst : HPMS7

Multiplr: 1.00

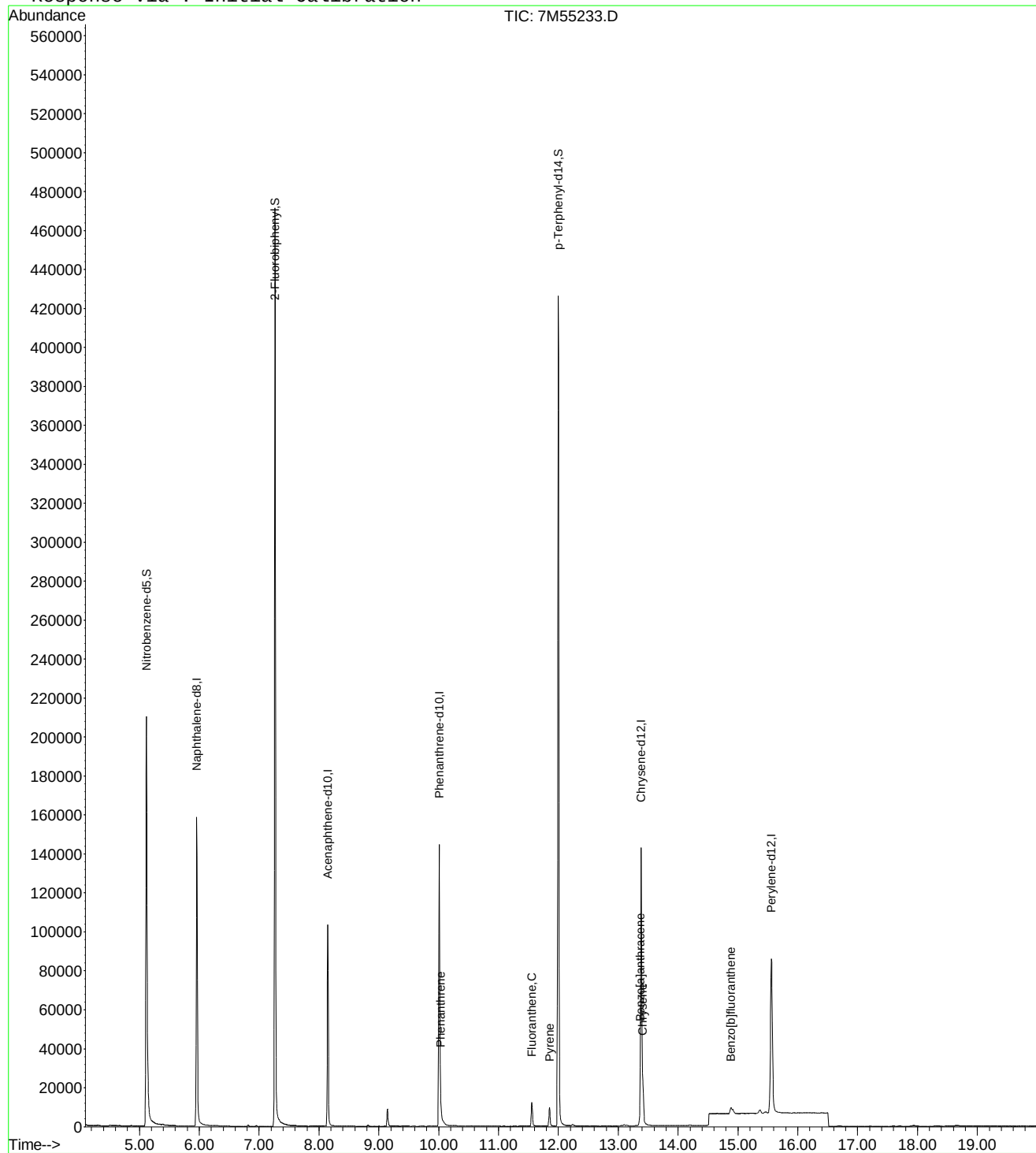
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

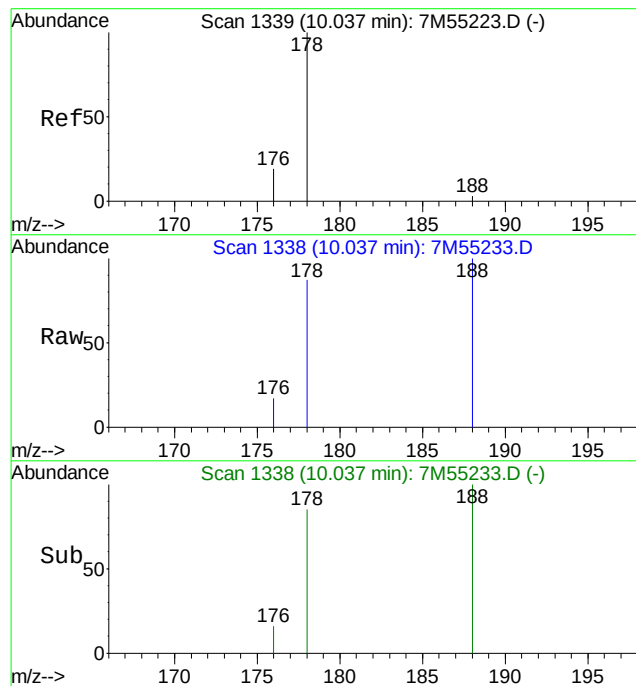
Response via : Initial Calibration



7M55233.D SIMPAHL.M

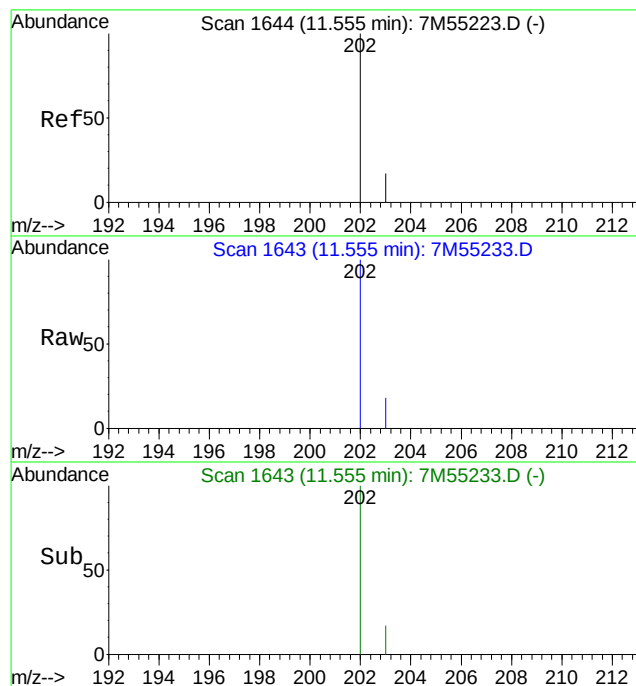
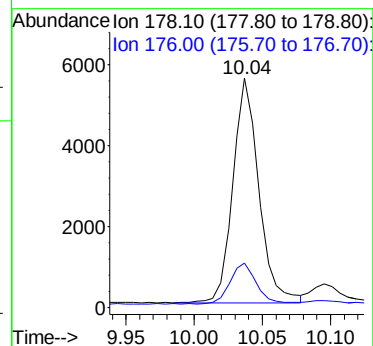
Thu Jun 21 07:29:35 2012

Page 2



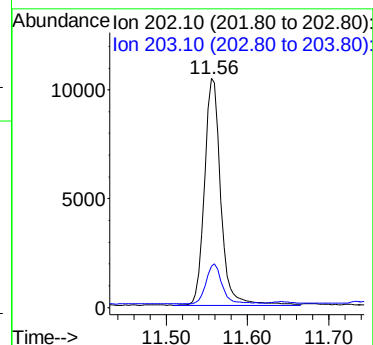
#12
Phenanthrene
Concen: 0.03 ug/ml
RT: 10.04 min Scan# 1338
Delta R.T. -0.00 min
Lab File: 7M55233.D
Acq: 20 Jun 2012 6:02 pm

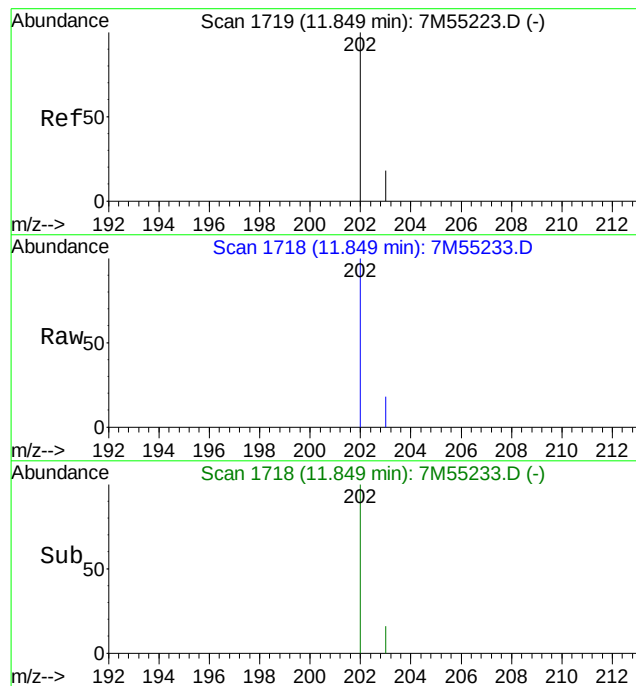
Tgt Ion:178 Resp: 7352
Ion Ratio Lower Upper
178 100
176 18.5 11.1 25.9



#14
Fluoranthene
Concen: 0.06 ug/ml
RT: 11.56 min Scan# 1643
Delta R.T. -0.00 min
Lab File: 7M55233.D
Acq: 20 Jun 2012 6:02 pm

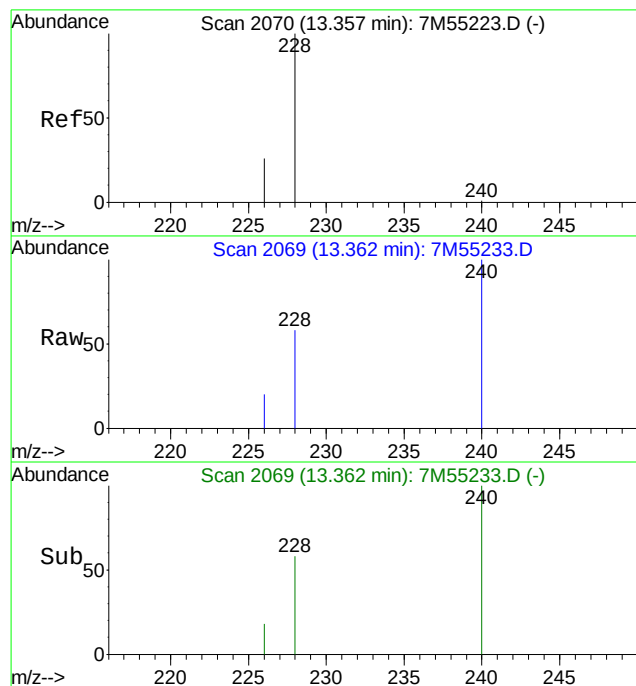
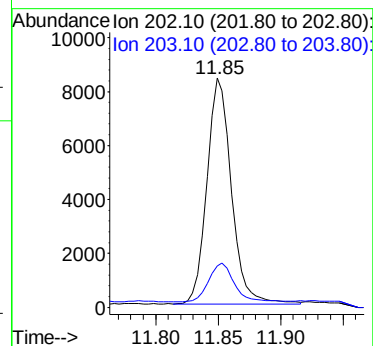
Tgt Ion:202 Resp: 14547
Ion Ratio Lower Upper
202 100
203 17.3 10.6 24.6





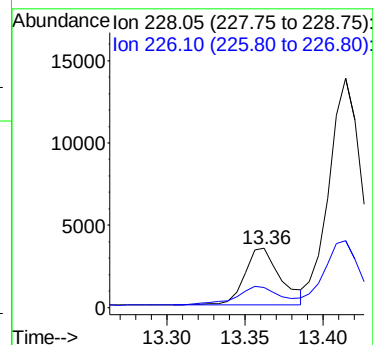
#16
Pyrene
Concen: 0.04 ug/ml
RT: 11.85 min Scan# 1718
Delta R.T. -0.00 min
Lab File: 7M55233.D
Acq: 20 Jun 2012 6:02 pm

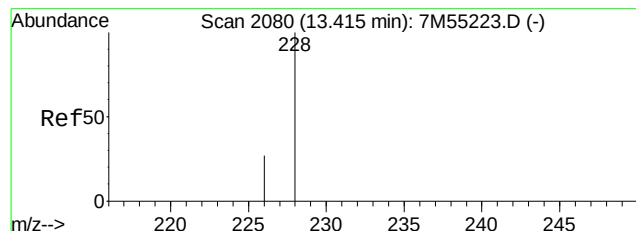
Tgt Ion	Ratio	Lower	Upper
202	100		
203	17.7	10.9	25.3



#18
Benzo[a]anthracene
Concen: 0.02 ug/ml
RT: 13.36 min Scan# 2069
Delta R.T. 0.00 min
Lab File: 7M55233.D
Acq: 20 Jun 2012 6:02 pm

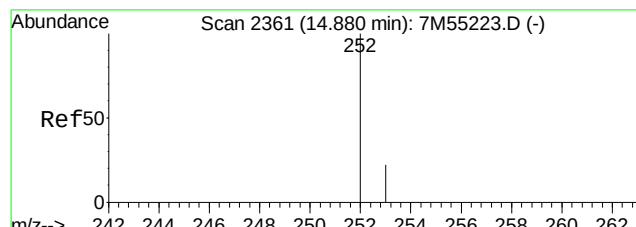
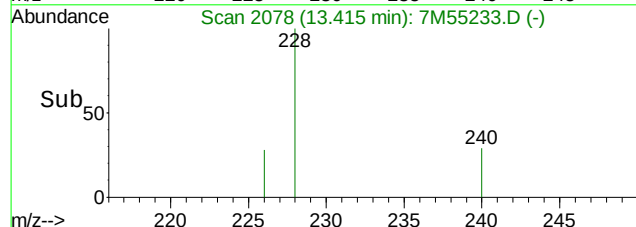
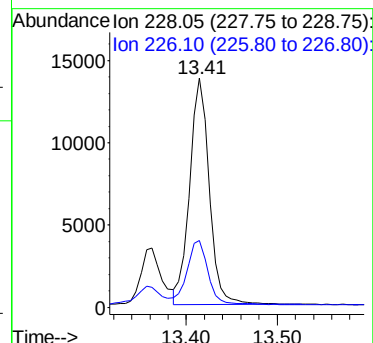
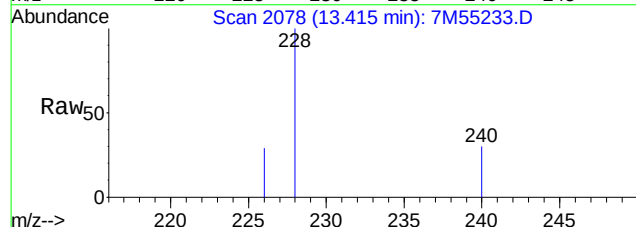
Tgt Ion	Ratio	Lower	Upper
228	100		
226	39.8	15.6	36.4#





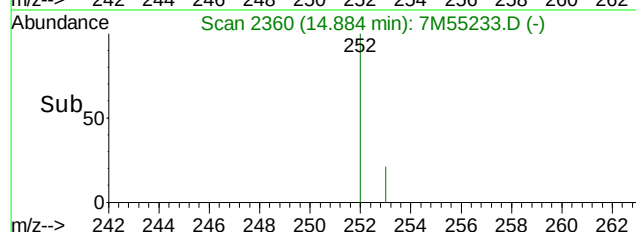
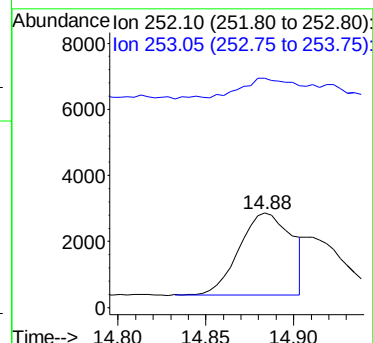
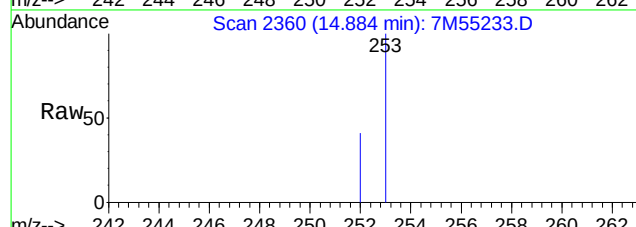
#19
Chrysene
Concen: 0.09 ug/ml
RT: 13.41 min Scan# 2078
Delta R.T. 0.00 min
Lab File: 7M55233.D
Acq: 20 Jun 2012 6:02 pm

Tgt Ion: 228 Resp: 20515
Ion Ratio Lower Upper
228 100
226 31.0 17.2 40.0



#21
Benzo[b]fluoranthene
Concen: 0.02 ug/ml m
RT: 14.88 min Scan# 2360
Delta R.T. 0.00 min
Lab File: 7M55233.D
Acq: 20 Jun 2012 6:02 pm

Tgt Ion: 252 Resp: 5185
Ion Ratio Lower Upper
252 100
253 23.4 12.7 29.5



Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55233.D

Vial: 12

Acq On : 20 Jun 2012 6:02 pm

Operator: CAA

Sample : L12060445-09

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:05 2012

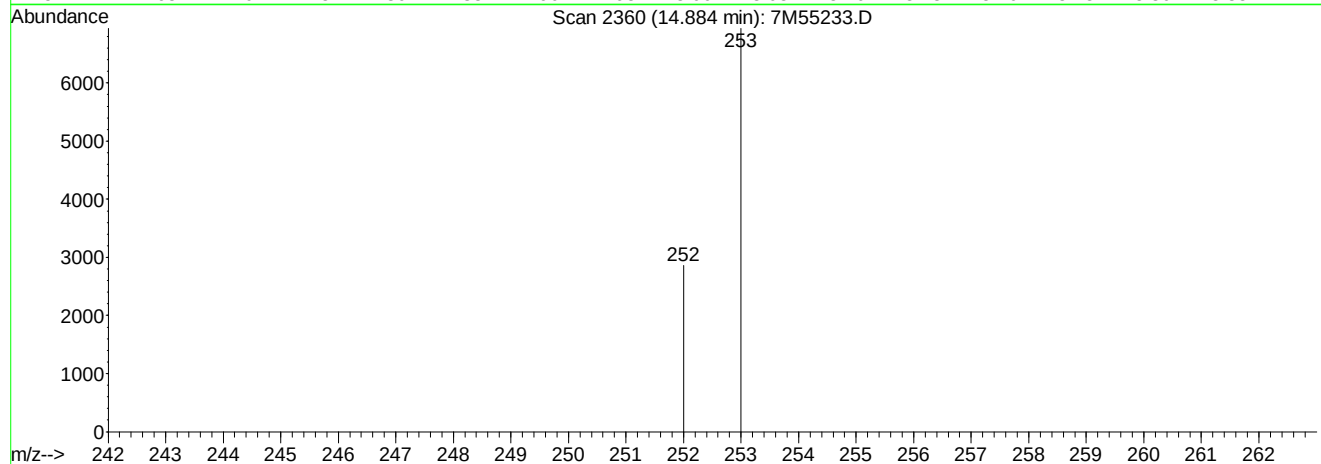
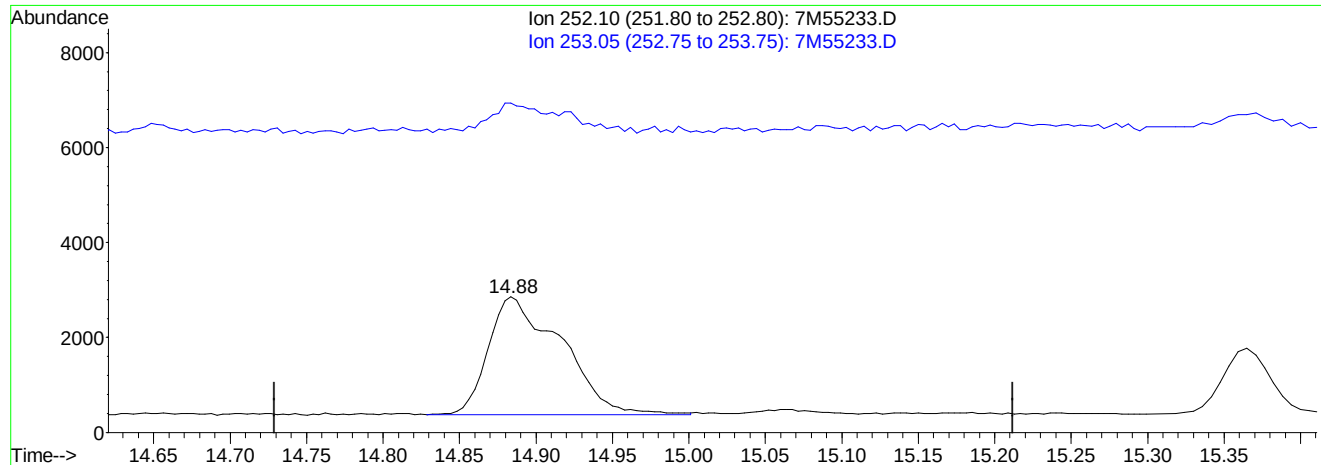
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55233.D

(21) Benzo[b]fluoranthene

14.88min 0.04ug/ml

response 8280

Ion	Exp%	Act%
252.10	100	100
253.05	21.10	14.63
0.00	0.00	0.00
0.00	0.00	0.00

7M55233.D SIMPAHL.M

Thu Jun 21 07:08:29 2012

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55233.D

Vial: 12

Acq On : 20 Jun 2012 6:02 pm

Operator: CAA

Sample : L12060445-09

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:08 2012

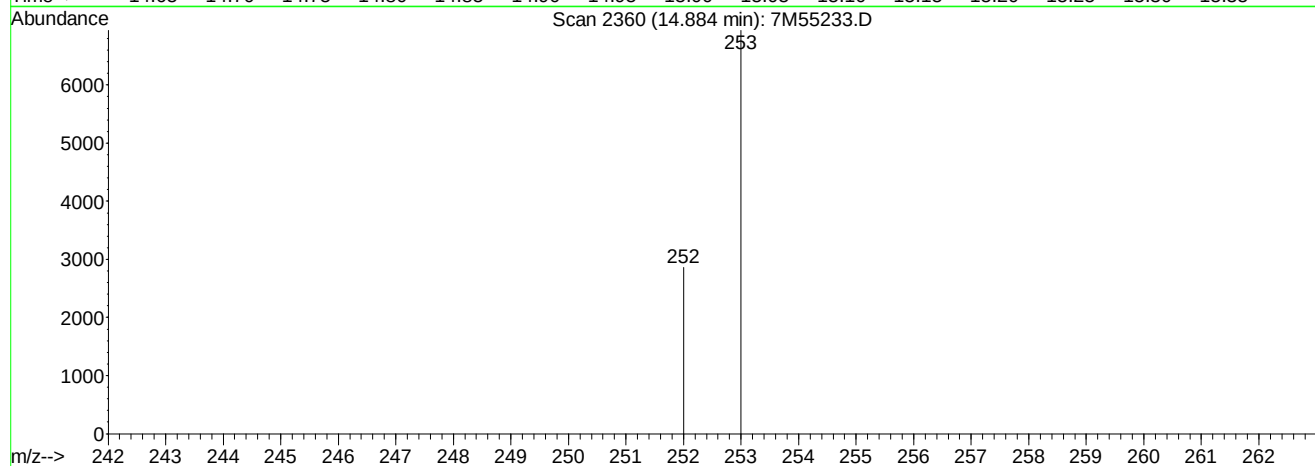
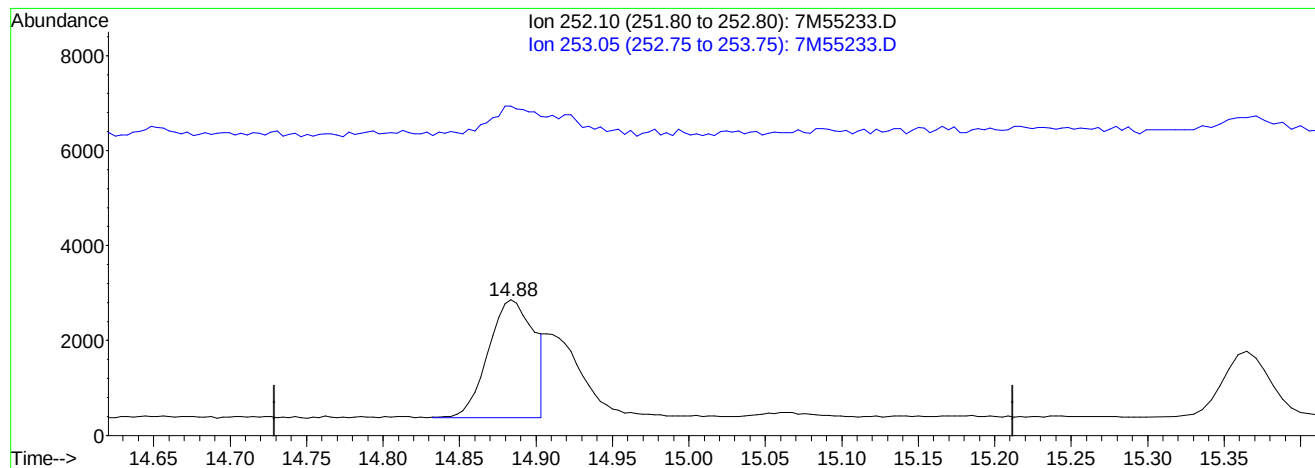
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55233.D

(21) Benzo[b]fluoranthene

14.88min 0.02ug/ml mint

response 5185

Ion	Exp%	Act%
252.10	100	100
253.05	21.10	23.36
0.00	0.00	0.00
0.00	0.00	0.00

7M55233.D SIMPAHL.M

Thu Jun 21

Analyst: 06/22/2012 08:07

Supervisor: 06/22/2012 08:39

Cassidy Augustus 2012

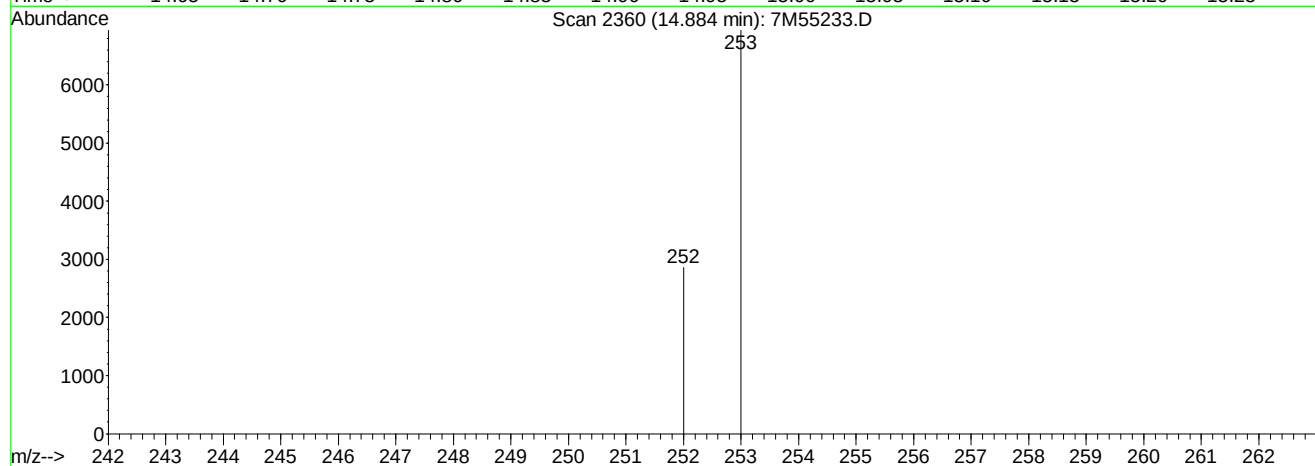
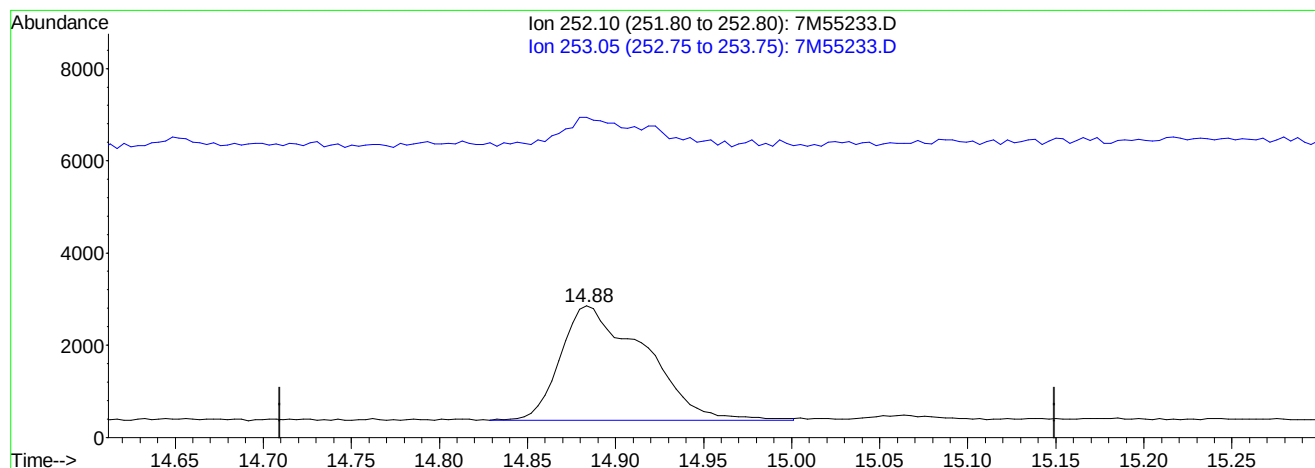
Eir C. Funn

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55233.D Vial: 12
 Acq On : 20 Jun 2012 6:02 pm Operator: CAA
 Sample : L12060445-09 Inst : HPMS7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 21 7:08 2012 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Thu Jun 21 07:05:37 2012
 Response via : Multiple Level Calibration



TIC: 7M55233.D

(22) Benzo[k]fluoranthene

14.88min 0.04ug/ml

response 8280

Ion	Exp%	Act%
252.10	100	100
253.05	20.20	14.63
0.00	0.00	0.00
0.00	0.00	0.00

7M55233.D SIMPAHL.M Thu Jun 21 07:08:48 2012

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55233.D

Vial: 12

Acq On : 20 Jun 2012 6:02 pm

Operator: CAA

Sample : L12060445-09

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:08 2012

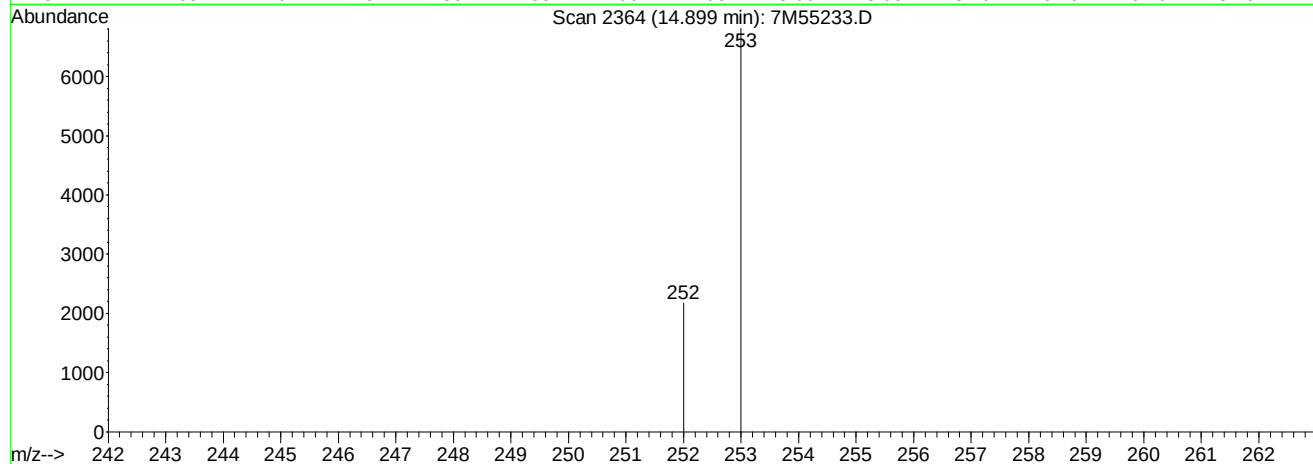
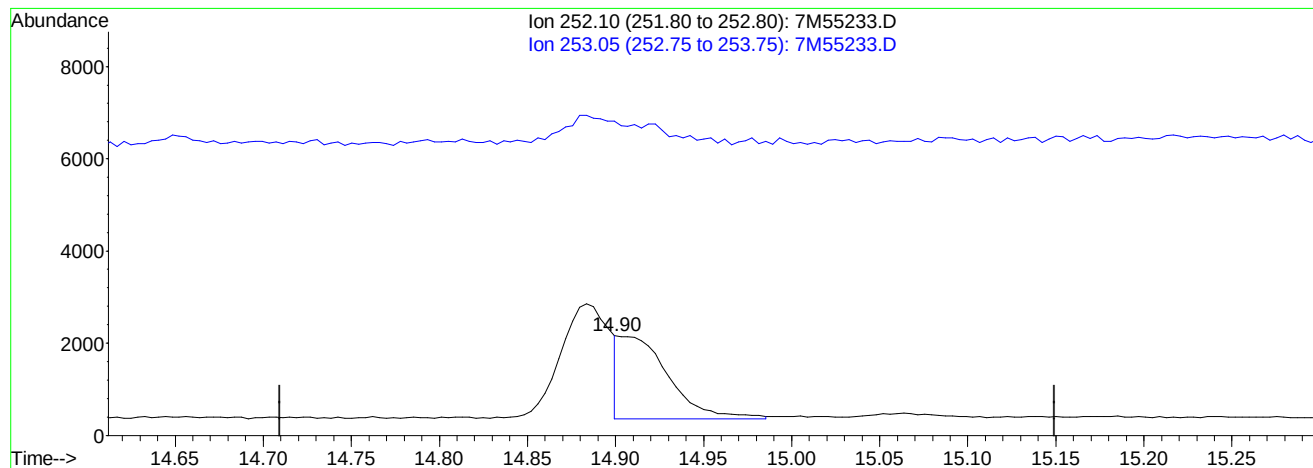
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55233.D

(22) Benzo[k]fluoranthene

14.90min 0.02ug/ml mint

response 3490

Ion	Exp%	Act%
252.10	100	100
253.05	20.20	34.70#
0.00	0.00	0.00
0.00	0.00	0.00

7M55233.D SIMPAHL.M

Thu Jun 21

Analyst: 06/22/2012 08:07

Supervisor: 06/22/2012 08:39

Cassidy Augustin 2012

#3 - Improperly integrated isomers and/or coeluting compounds

Data File : C:\MSDCHEM\1\DATA\062012\7M55234.D Vial: 13
 Acq On : 20 Jun 2012 6:31 pm Operator: CAA
 Sample : L12060445-10 Inst : HPMS7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 21 07:05:53 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Thu Jun 21 07:05:37 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	228281	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	142440	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	211152	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	218683	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	201730	1.00	ug/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	266791	2.8713	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	114.80%#	
7) 2-Fluorobiphenyl	7.26	172	511452	2.9163	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	116.80%#	
17) p-Terphenyl-d14	12.00	244	512302	3.0715	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	122.80%	
Target Compounds						
					Qvalue	
12) Phenanthrene	10.04	178	6421	0.0266	ug/ml	99
14) Fluoranthene	11.56	202	8611	0.0321	ug/ml	100
16) Pyrene	11.85	202	6700	0.0226	ug/ml	99
19) Chrysene	13.41	228	11532	0.0461	ug/ml	95

 (#) = qualifier out of range (m) = manual integration
 7M55234.D SIMPAHL.M Thu Jun 21 07:29:37 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062012\7M55234.D

Vial: 13

Acq On : 20 Jun 2012 6:31 pm

Operator: CAA

Sample : L12060445-10

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:09 2012

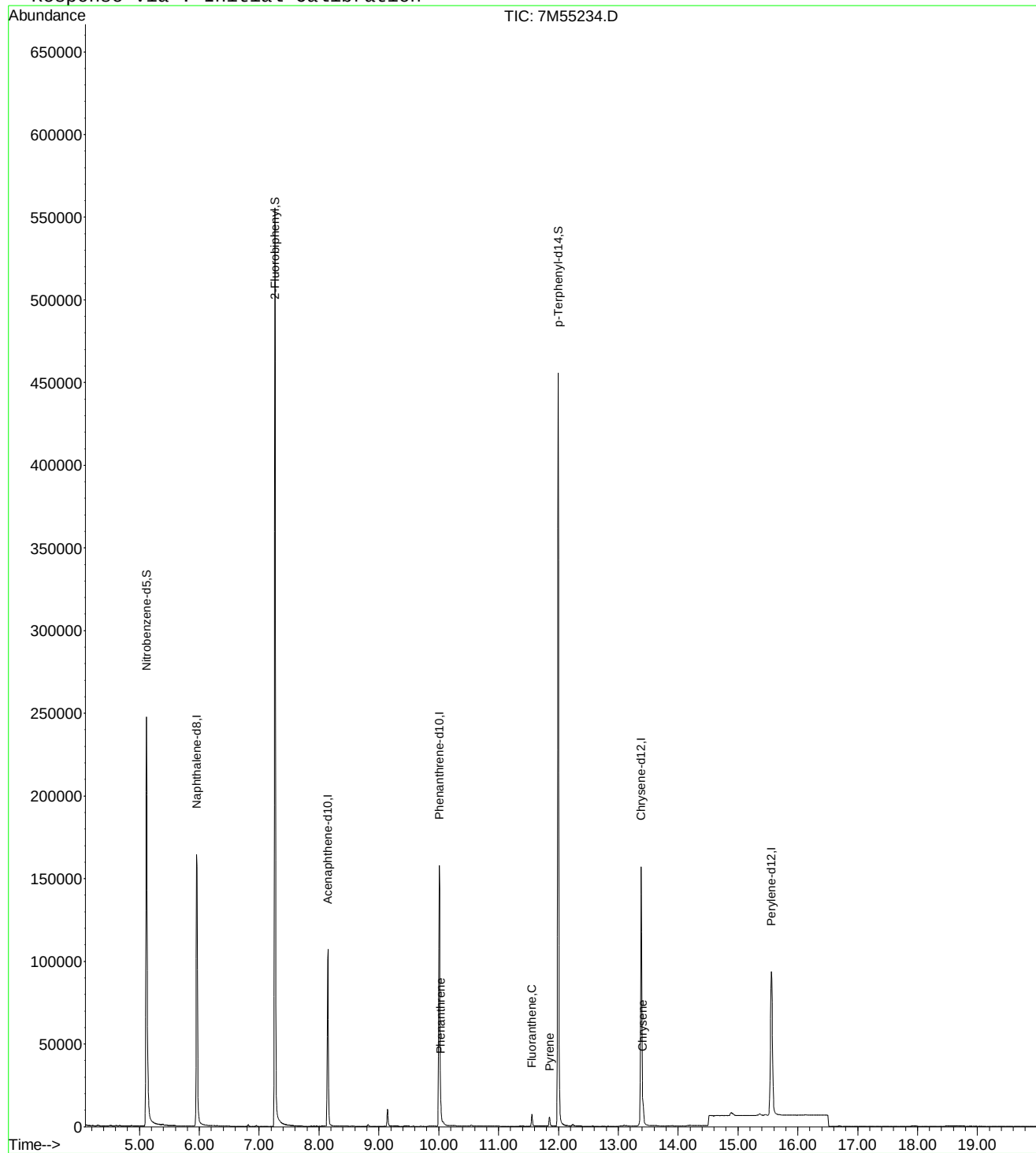
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

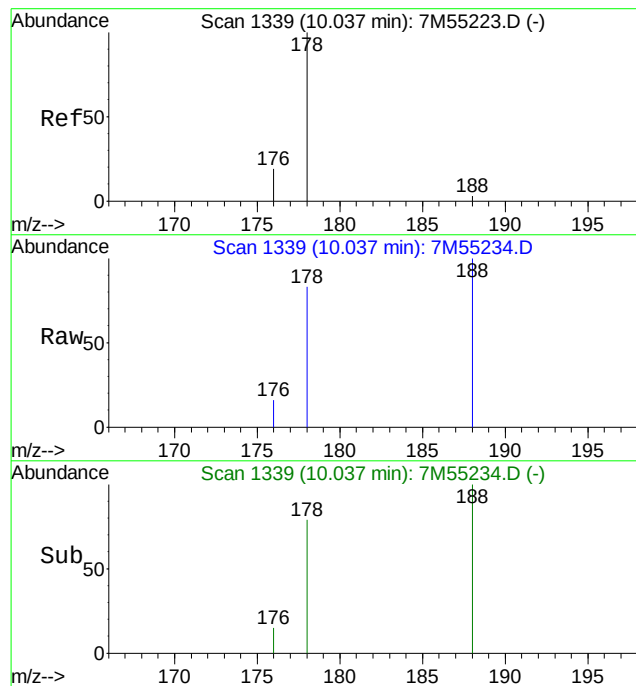
Response via : Initial Calibration



7M55234.D SIMPAHL.M

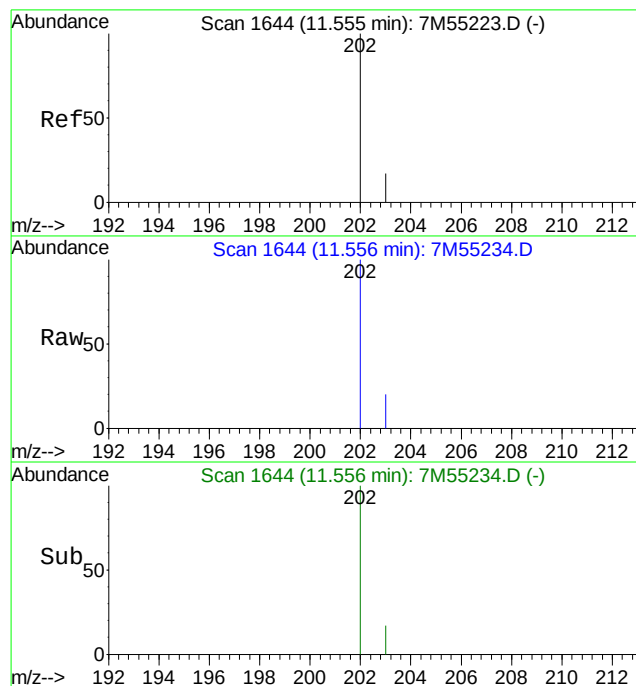
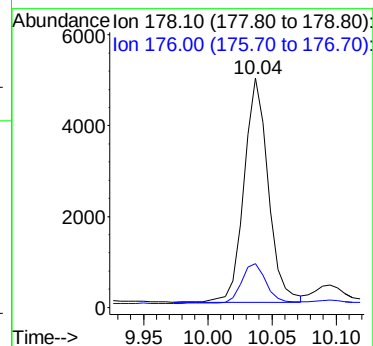
Thu Jun 21 07:29:37 2012

Page 2



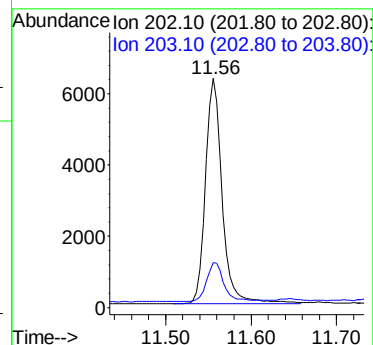
#12
Phenanthrene
Concen: 0.03 ug/ml
RT: 10.04 min Scan# 1339
Delta R.T. -0.00 min
Lab File: 7M55234.D
Acq: 20 Jun 2012 6:31 pm

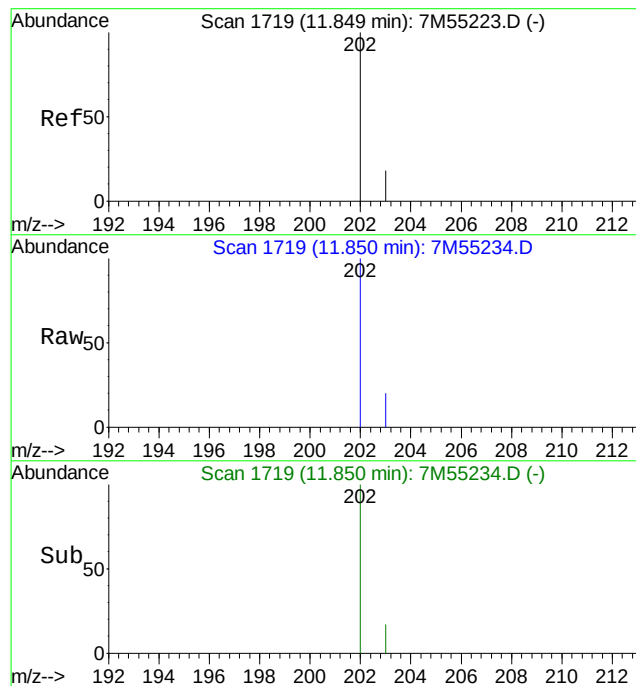
Tgt Ion:178 Resp: 6421
Ion Ratio Lower Upper
178 100
176 18.2 11.1 25.9



#14
Fluoranthene
Concen: 0.03 ug/ml
RT: 11.56 min Scan# 1644
Delta R.T. -0.00 min
Lab File: 7M55234.D
Acq: 20 Jun 2012 6:31 pm

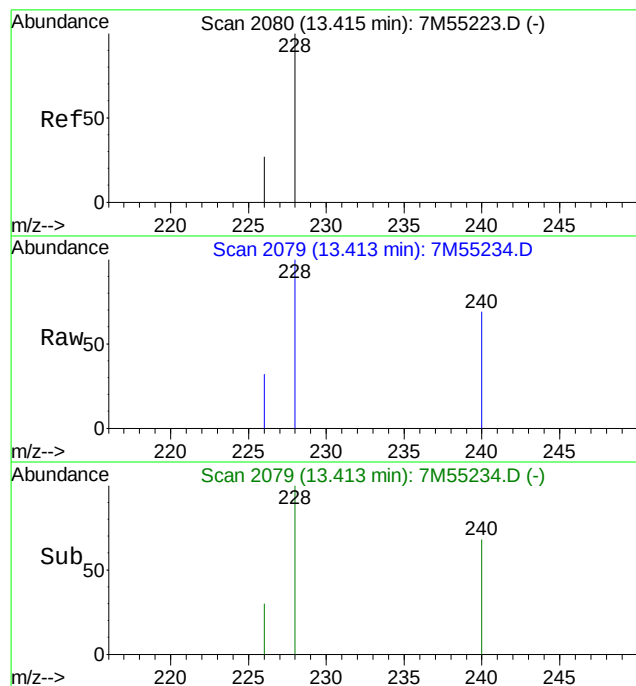
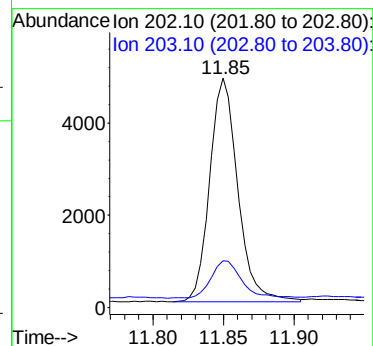
Tgt Ion:202 Resp: 8611
Ion Ratio Lower Upper
202 100
203 17.7 10.6 24.6





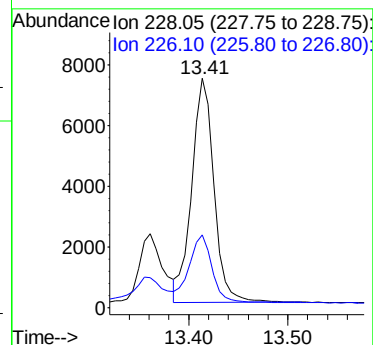
#16
 Pyrene
 Concen: 0.02 ug/ml
 RT: 11.85 min Scan# 1719
 Delta R.T. -0.00 min
 Lab File: 7M55234.D
 Acq: 20 Jun 2012 6:31 pm

Tgt Ion:	202	Resp:	6700
Ion Ratio	Lower	Upper	
202	100		
203	17.7	10.9	25.3



#19
 Chrysene
 Concen: 0.05 ug/ml
 RT: 13.41 min Scan# 2079
 Delta R.T. -0.00 min
 Lab File: 7M55234.D
 Acq: 20 Jun 2012 6:31 pm

Tgt Ion:	228	Resp:	11532
Ion Ratio	Lower	Upper	
228	100		
226	31.4	17.2	40.0



Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55234.D

Vial: 13

Acq On : 20 Jun 2012 6:31 pm

Operator: CAA

Sample : L12060445-10

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:05 2012

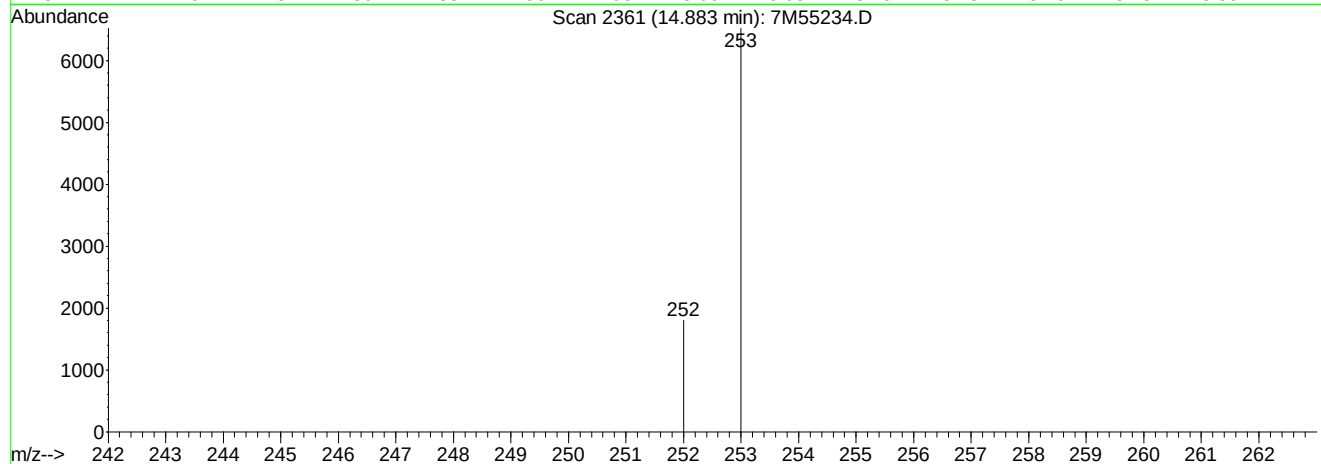
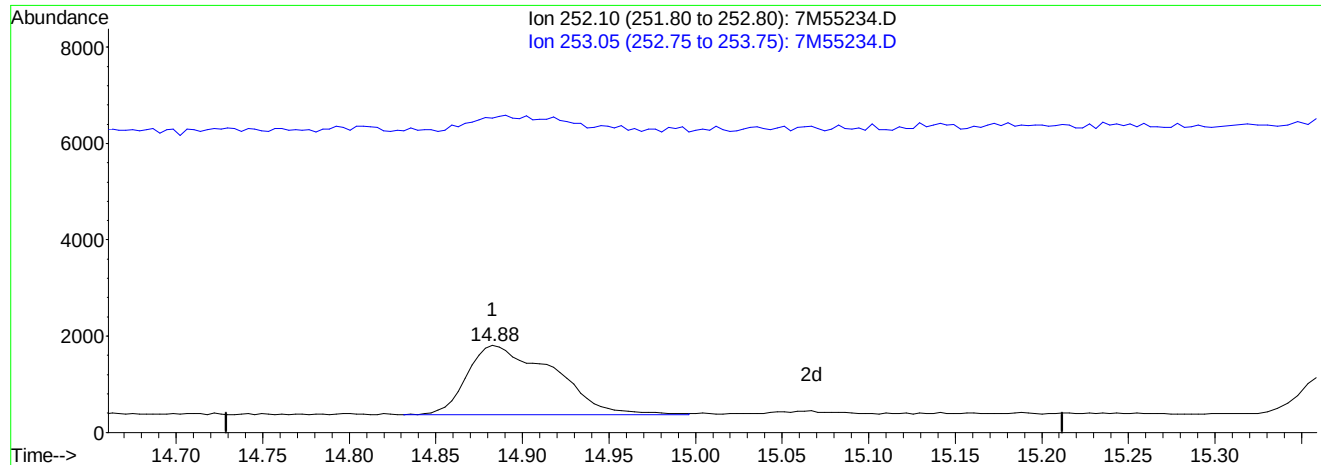
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55234.D

(21) Benzo[b]fluoranthene

14.88min 0.02ug/ml

response 5062

Ion	Exp%	Act%
252.10	100	100
253.05	21.10	12.37#
0.00	0.00	0.00
0.00	0.00	0.00

7M55234.D SIMPAHL.M

Thu Jun 21 07:09:01 2012

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55234.D

Vial: 13

Acq On : 20 Jun 2012 6:31 pm

Operator: CAA

Sample : L12060445-10

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:09 2012

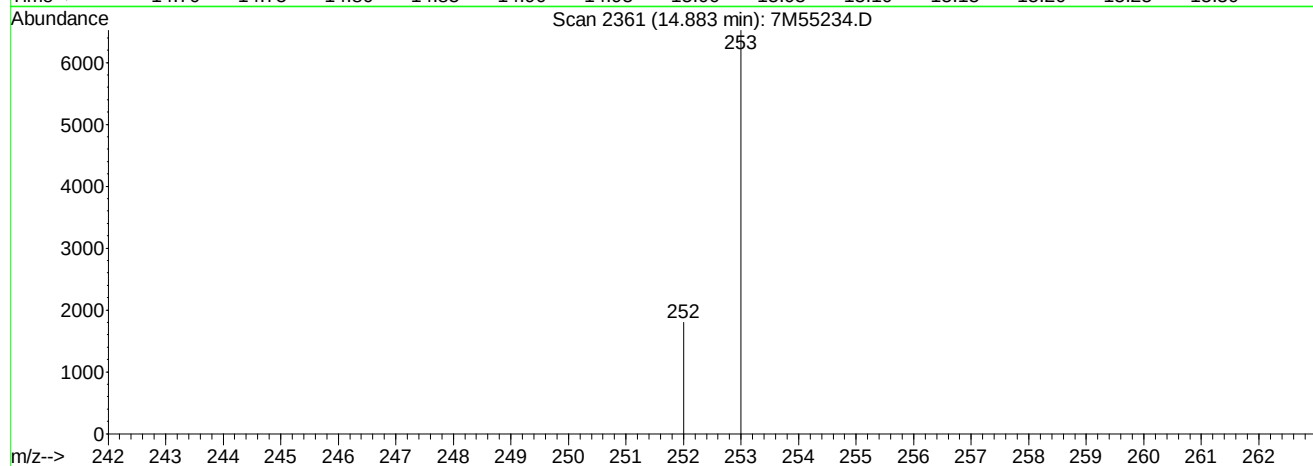
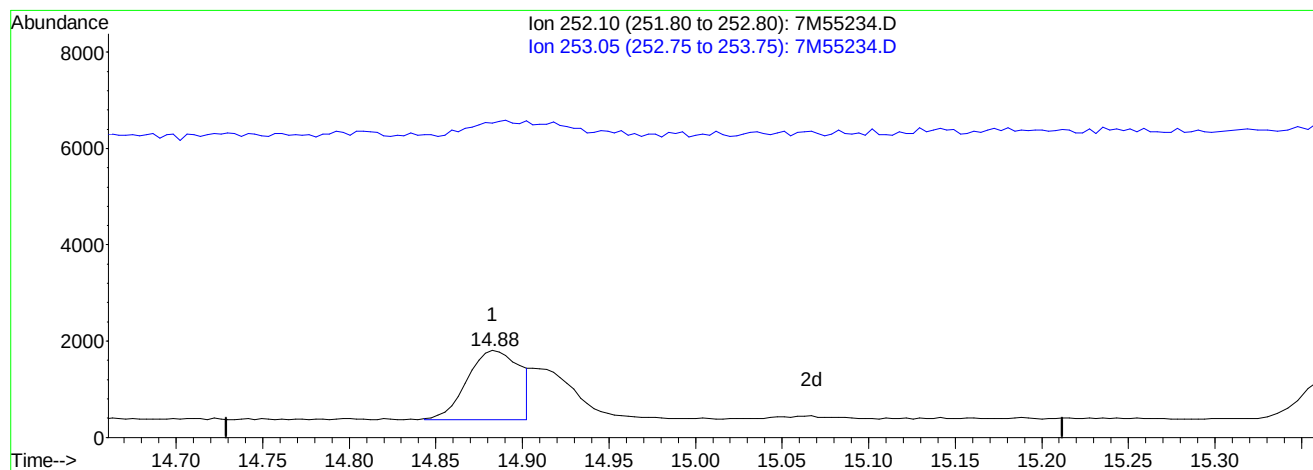
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55234.D

(21) Benzo[b]fluoranthene

14.88min 0.01ug/ml mint

response 3055

Ion	Exp%	Act%
252.10	100	100
253.05	21.10	20.49
0.00	0.00	0.00
0.00	0.00	0.00

7M55234.D SIMPAHL.M

Thu Jun 21

Analyst: 06/22/2012 08:07

Supervisor: 06/22/2012 08:39

Cassidy August 2012

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55234.D

Vial: 13

Acq On : 20 Jun 2012 6:31 pm

Operator: CAA

Sample : L12060445-10

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:09 2012

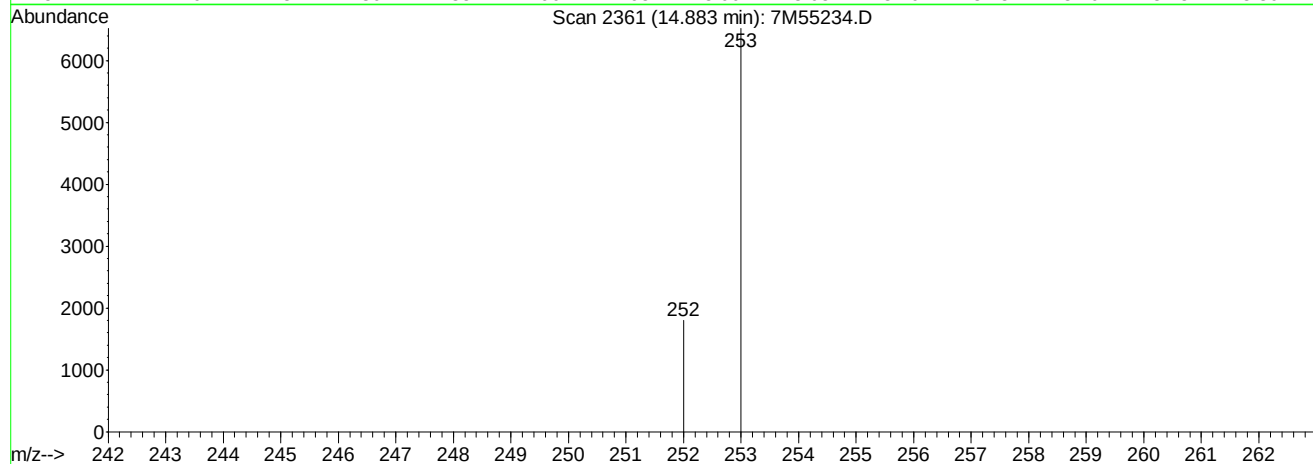
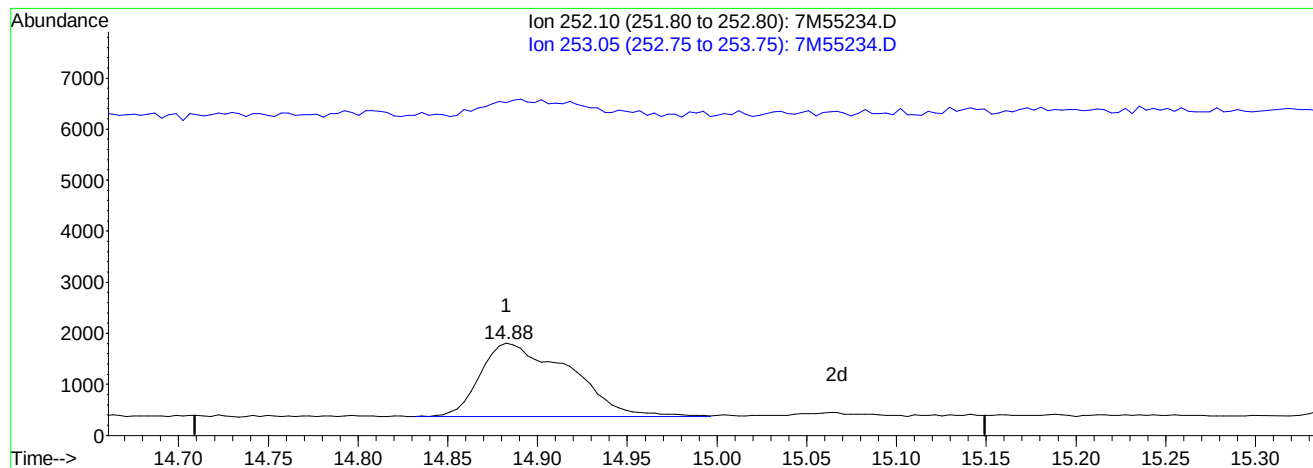
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55234.D

(22) Benzo[k]fluoranthene

14.88min 0.02ug/ml

response 5062

Ion	Exp%	Act%
252.10	100	100
253.05	20.20	12.37
0.00	0.00	0.00
0.00	0.00	0.00

7M55234.D SIMPAHL.M

Thu Jun 21 07:09:10 2012

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55234.D

Vial: 13

Acq On : 20 Jun 2012 6:31 pm

Operator: CAA

Sample : L12060445-10

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:09 2012

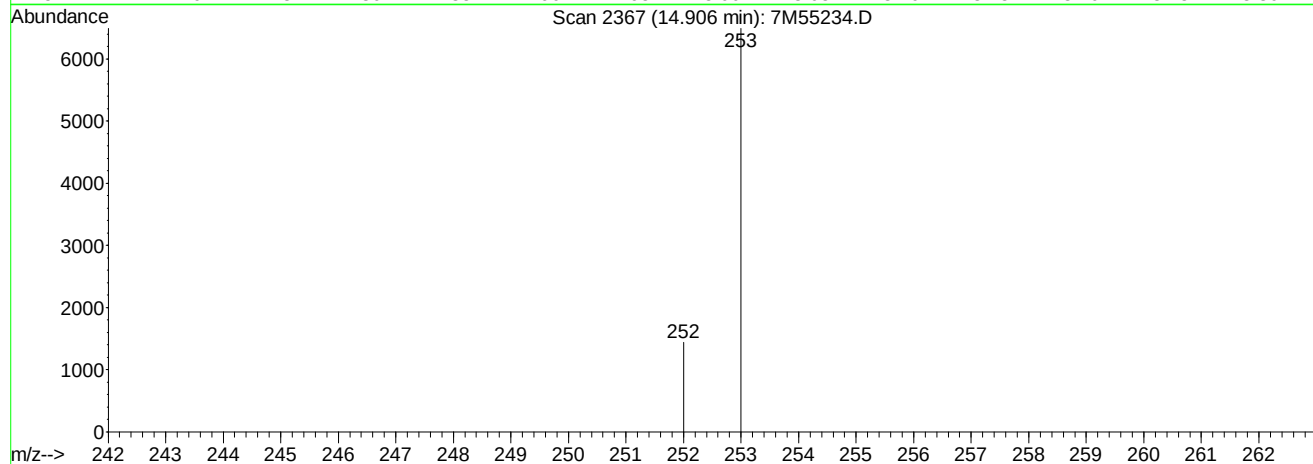
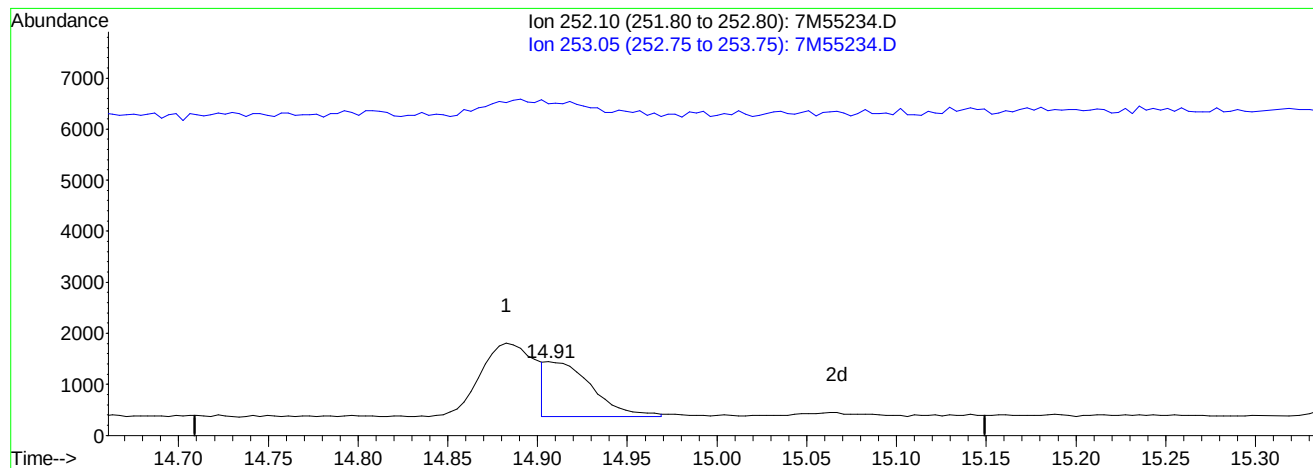
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55234.D

(22) Benzo[k]fluoranthene

14.91min 0.01ug/ml mint

response 1895

Ion	Exp%	Act%
252.10	100	100
253.05	20.20	33.03#
0.00	0.00	0.00
0.00	0.00	0.00

7M55234.D SIMPAHL.M

Thu Jun 21

Analyst: 06/22/2012 08:07

Supervisor: 06/22/2012 08:39

Cassidy Augustin 2012

#3 - Improperly integrated isomers and/or coeluting compounds

Data File : C:\MSDCHEM\1\DATA\062512\7M55309.D Vial: 6
Acq On : 25 Jun 2012 11:16 am Operator: CAA
Sample : L12060445-10 RE Inst : HPMS7
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 26 09:08:32 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
Title : OVD MSS03 SIMPAHL ICAL 06/01/12
Last Update : Tue Jun 26 09:08:20 2012
Response via : Initial Calibration
DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	137151	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	88836	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	125031	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	129025	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	118485	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.11	82	114139	2.0446	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	81.60%	
7) 2-Fluorobiphenyl	7.26	172	216682	1.9810	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	79.20%	
17) p-Terphenyl-d14	11.99	244	228174	2.3186	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	92.80%	

Target Compounds	Qvalue
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(#) = qualifier out of range (m) = manual integration
7M55309.D SIMPAHL.M Tue Jun 26 09:20:39 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062512\7M55309.D

Vial: 6

Acq On : 25 Jun 2012 11:16 am

Operator: CAA

Sample : L12060445-10 RE

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 26 9:08 2012

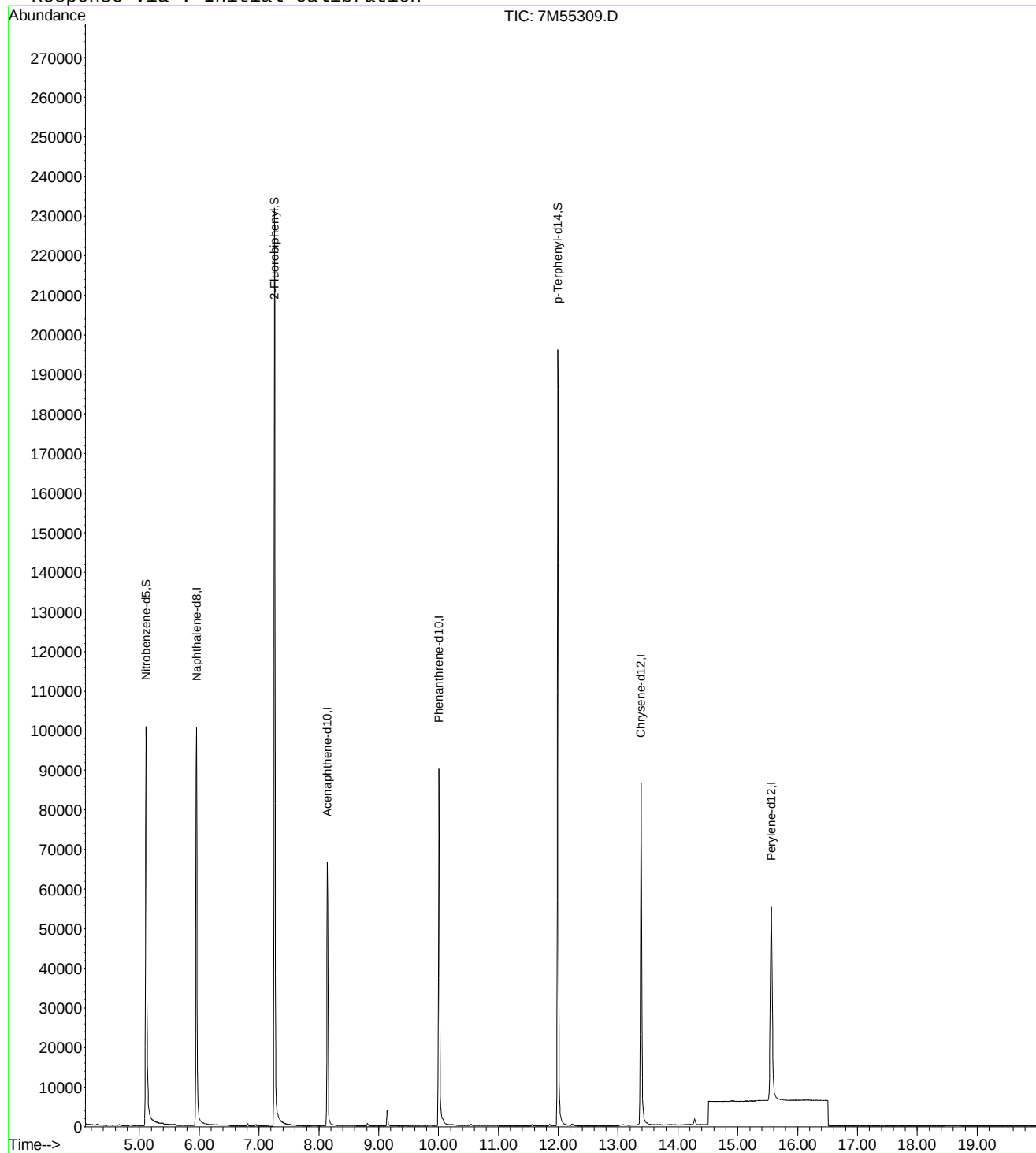
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Tue Jun 26 09:08:20 2012

Response via : Initial Calibration



7M55309.D SIMPAHL.M

Tue Jun 26 09:20:39 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\062012\7M55235.D Vial: 14
 Acq On : 20 Jun 2012 6:59 pm Operator: CAA
 Sample : L12060445-11 Inst : HPMS7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 21 07:05:53 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Thu Jun 21 07:05:37 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	124541	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	77139	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	116883	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	114104	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	104738	1.00	ug/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	139695	2.7558	ug/ml	0.00
Spiked Amount 2.500	Range 35 - 114		Recovery	=	110.40%	
7) 2-Fluorobiphenyl	7.26	172	272593	2.8701	ug/ml	0.00
Spiked Amount 2.500	Range 43 - 116		Recovery	=	114.80%	
17) p-Terphenyl-d14	11.99	244	269541	3.0971	ug/ml	0.00
Spiked Amount 2.500	Range 33 - 141		Recovery	=	124.00%	
Target Compounds						
					Qvalue	
12) Phenanthrene	10.04	178	3802	0.0284	ug/ml	100
14) Fluoranthene	11.55	202	7494	0.0505	ug/ml	99
16) Pyrene	11.85	202	5731	0.0370	ug/ml	99
19) Chrysene	13.41	228	9972	0.0765	ug/ml	96
21) Benzo[b]fluoranthene	14.88	252	2585m	0.0212	ug/ml	

 (#) = qualifier out of range (m) = manual integration
 7M55235.D SIMPAHL.M Thu Jun 21 07:29:38 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062012\7M55235.D

Vial: 14

Acq On : 20 Jun 2012 6:59 pm

Operator: CAA

Sample : L12060445-11

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:09 2012

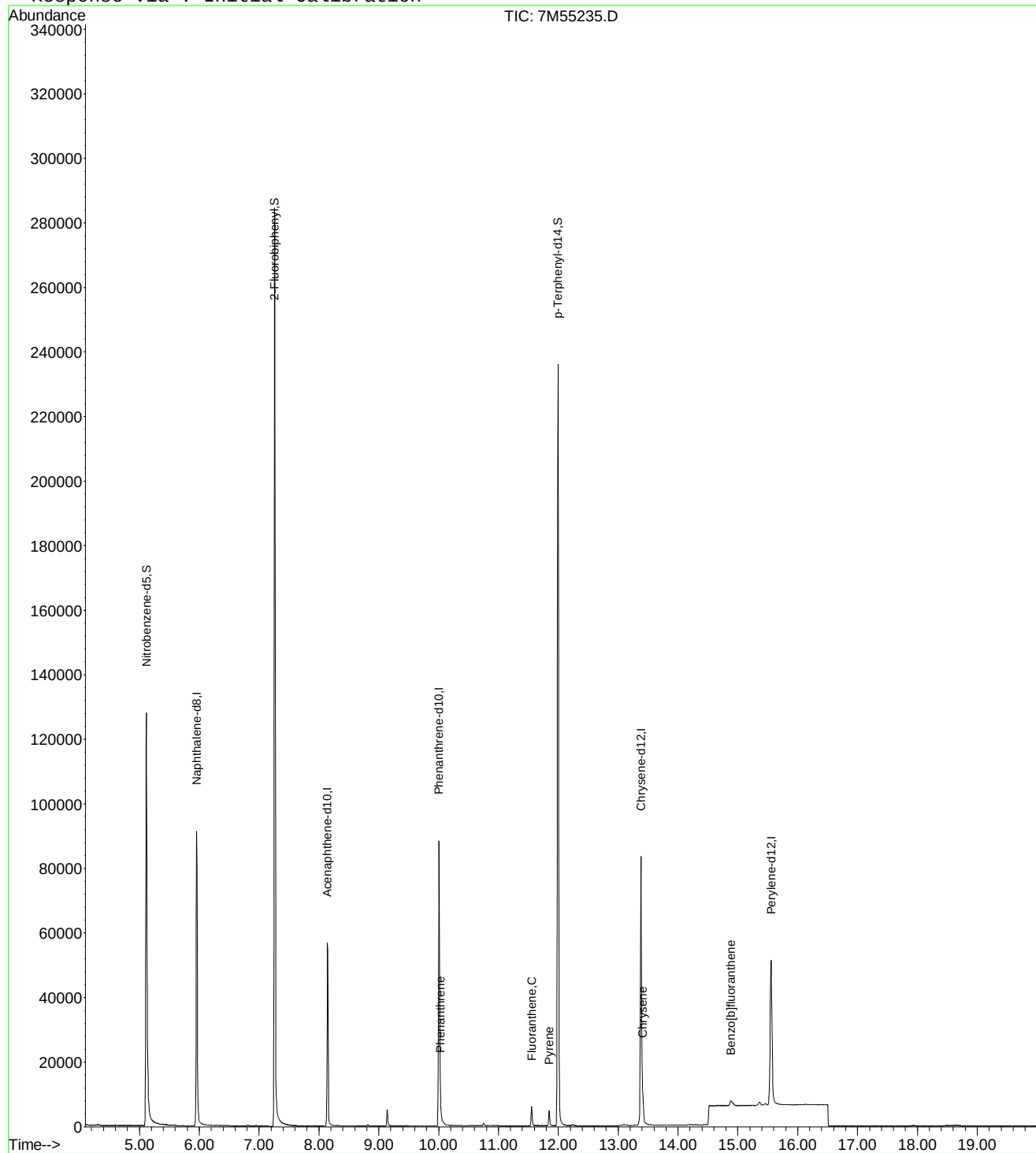
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

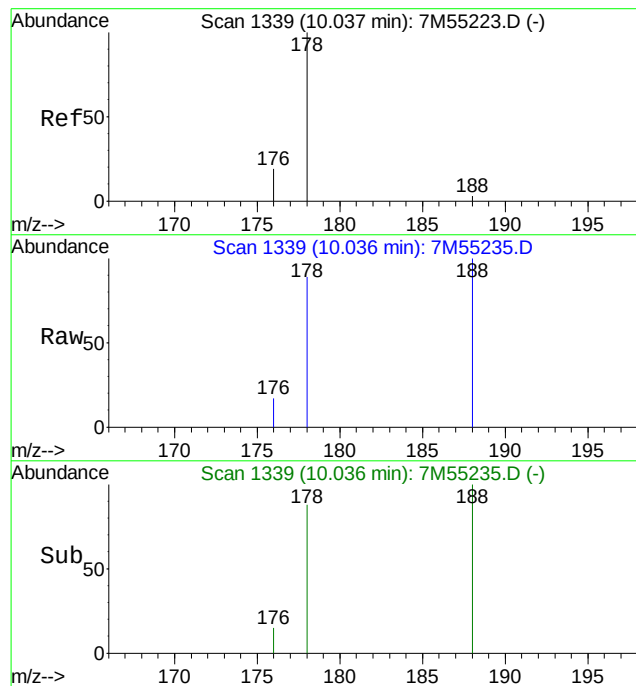
Response via : Initial Calibration



7M55235.D SIMPAHL.M

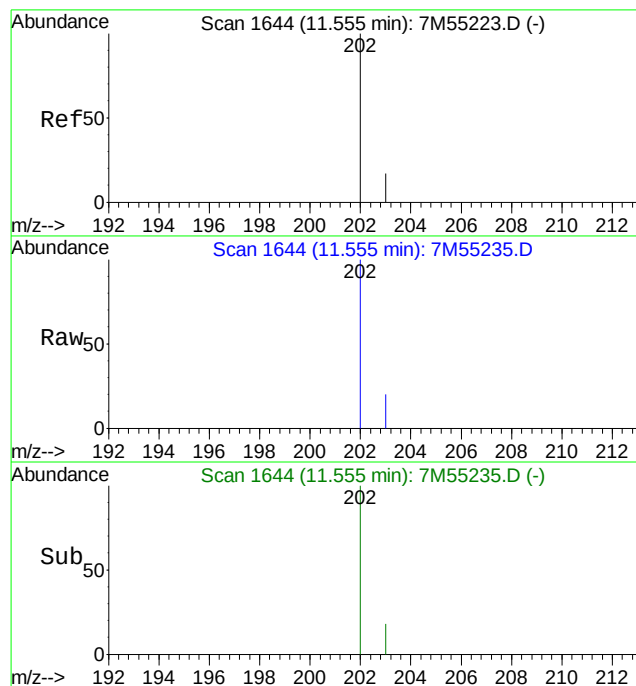
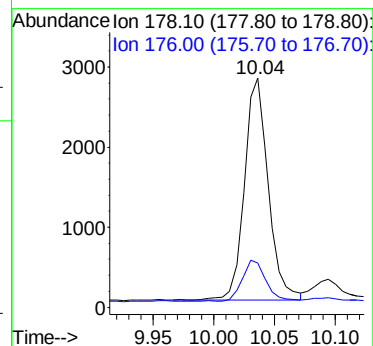
Thu Jun 21 07:29:38 2012

Page 2



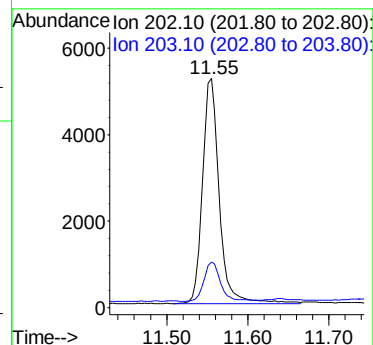
#12
Phenanthrene
Concen: 0.03 ug/ml
RT: 10.04 min Scan# 1339
Delta R.T. -0.00 min
Lab File: 7M55235.D
Acq: 20 Jun 2012 6:59 pm

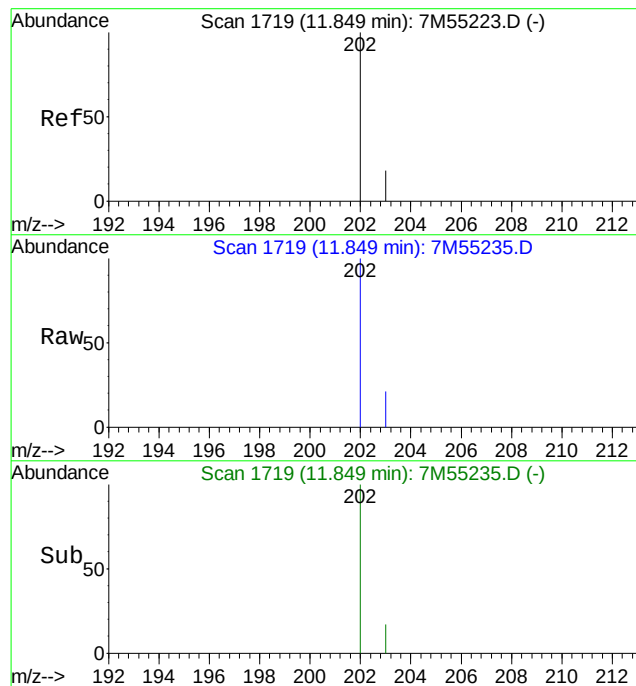
Tgt Ion:178 Resp: 3802
Ion Ratio Lower Upper
178 100
176 18.4 11.1 25.9



#14
Fluoranthene
Concen: 0.05 ug/ml
RT: 11.55 min Scan# 1644
Delta R.T. -0.01 min
Lab File: 7M55235.D
Acq: 20 Jun 2012 6:59 pm

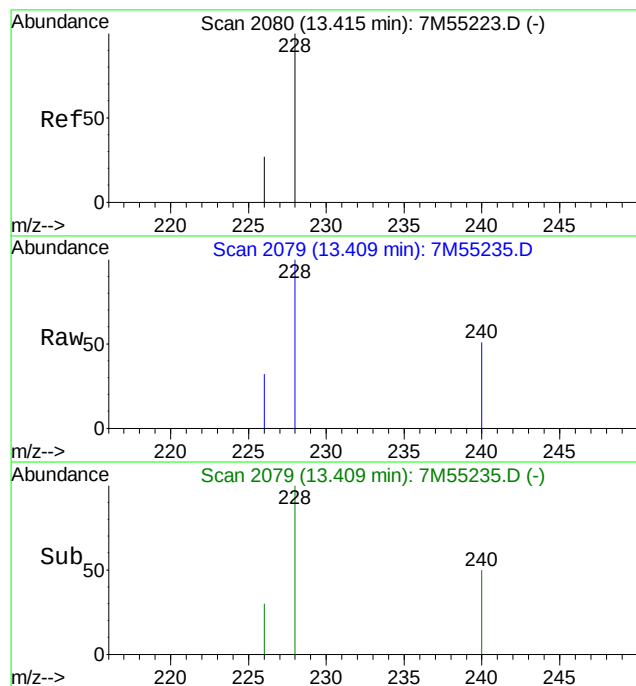
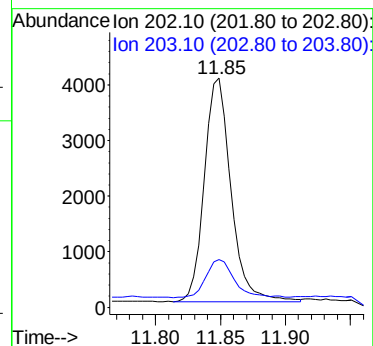
Tgt Ion:202 Resp: 7494
Ion Ratio Lower Upper
202 100
203 17.0 10.6 24.6





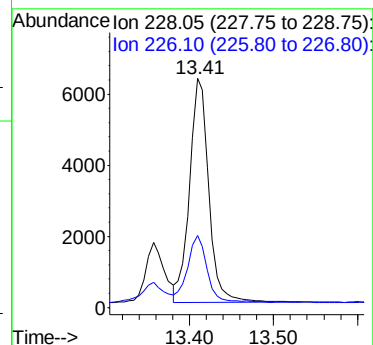
#16
Pyrene
Concen: 0.04 ug/ml
RT: 11.85 min Scan# 1719
Delta R.T. -0.00 min
Lab File: 7M55235.D
Acq: 20 Jun 2012 6:59 pm

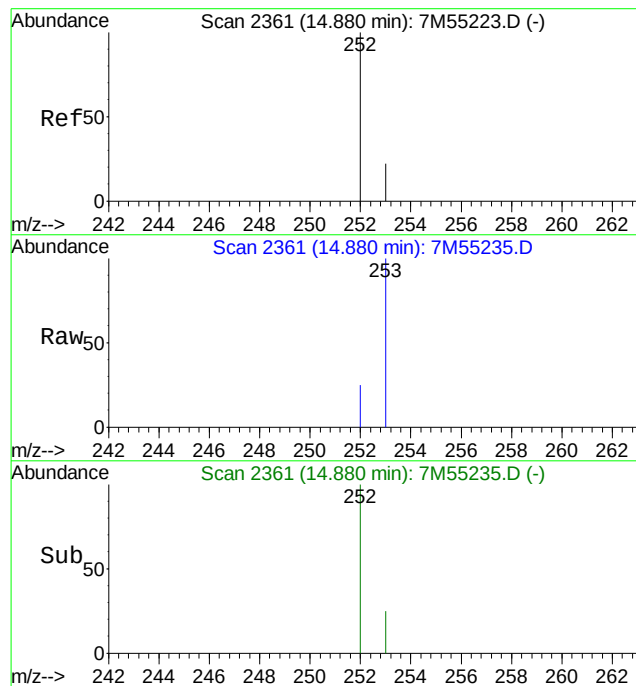
Tgt Ion: 202 Resp: 5731
Ion Ratio Lower Upper
202 100
203 17.5 10.9 25.3



#19
Chrysene
Concen: 0.08 ug/ml
RT: 13.41 min Scan# 2079
Delta R.T. -0.00 min
Lab File: 7M55235.D
Acq: 20 Jun 2012 6:59 pm

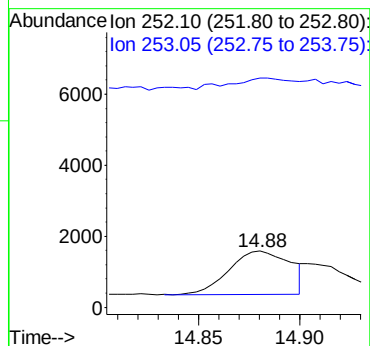
Tgt Ion: 228 Resp: 9972
Ion Ratio Lower Upper
228 100
226 30.6 17.2 40.0





#21
 Benzo[b]fluoranthene
 Concen: 0.02 ug/ml m
 RT: 14.88 min Scan# 2361
 Delta R.T. -0.00 min
 Lab File: 7M55235.D
 Acq: 20 Jun 2012 6:59 pm

Tgt Ion:	252	Resp:	2585
Ion Ratio	Lower	Upper	
252	100		
253	13.6	12.7	29.5



Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55235.D

Vial: 14

Acq On : 20 Jun 2012 6:59 pm

Operator: CAA

Sample : L12060445-11

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:05 2012

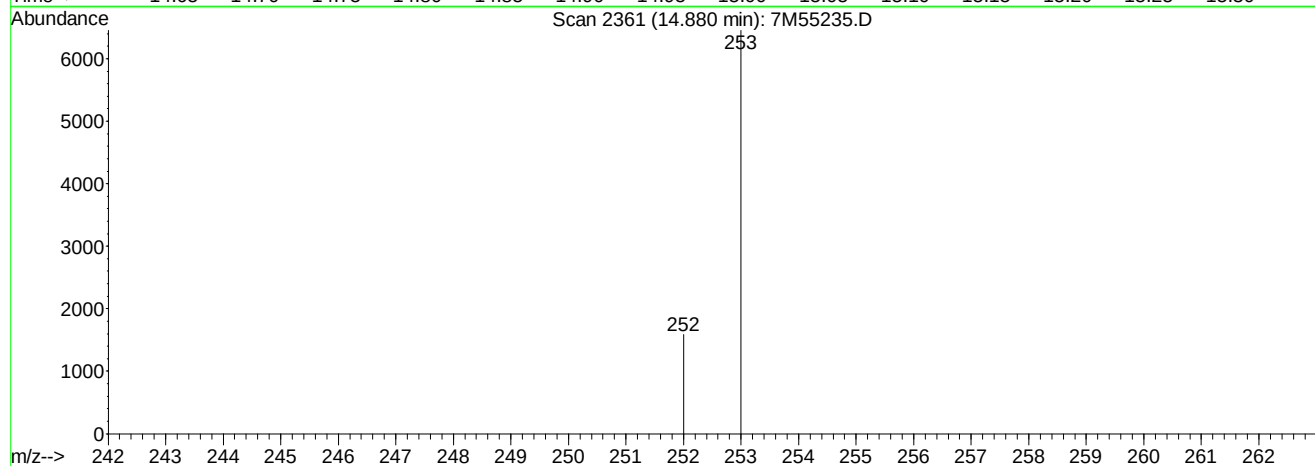
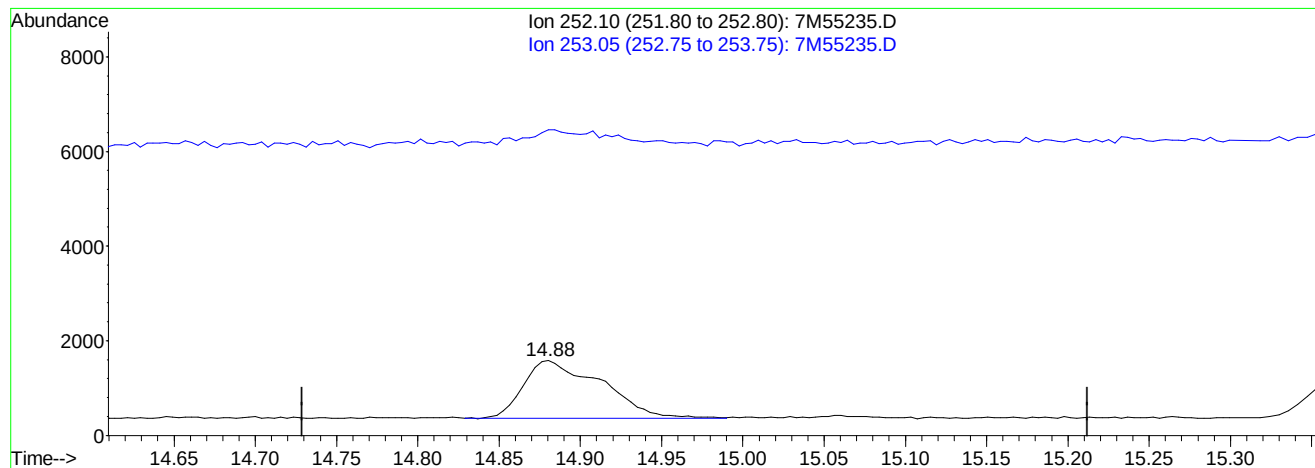
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55235.D

(21) Benzo[b]fluoranthene

14.88min 0.03ug/ml

response 4144

Ion	Exp%	Act%
252.10	100	100
253.05	21.10	8.47#
0.00	0.00	0.00
0.00	0.00	0.00

7M55235.D SIMPAHL.M

Thu Jun 21 07:09:28 2012

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55235.D

Vial: 14

Acq On : 20 Jun 2012 6:59 pm

Operator: CAA

Sample : L12060445-11

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:09 2012

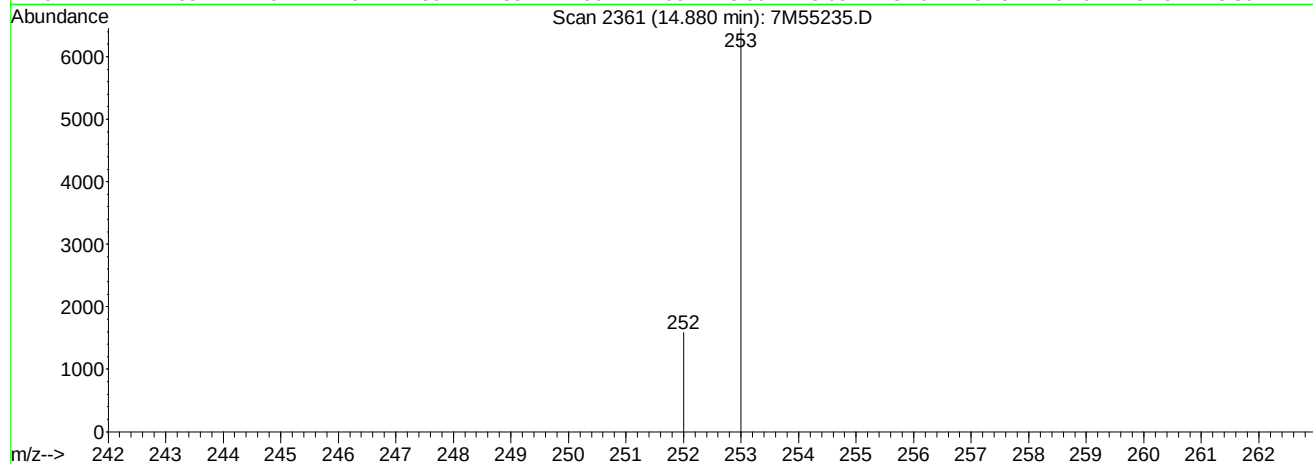
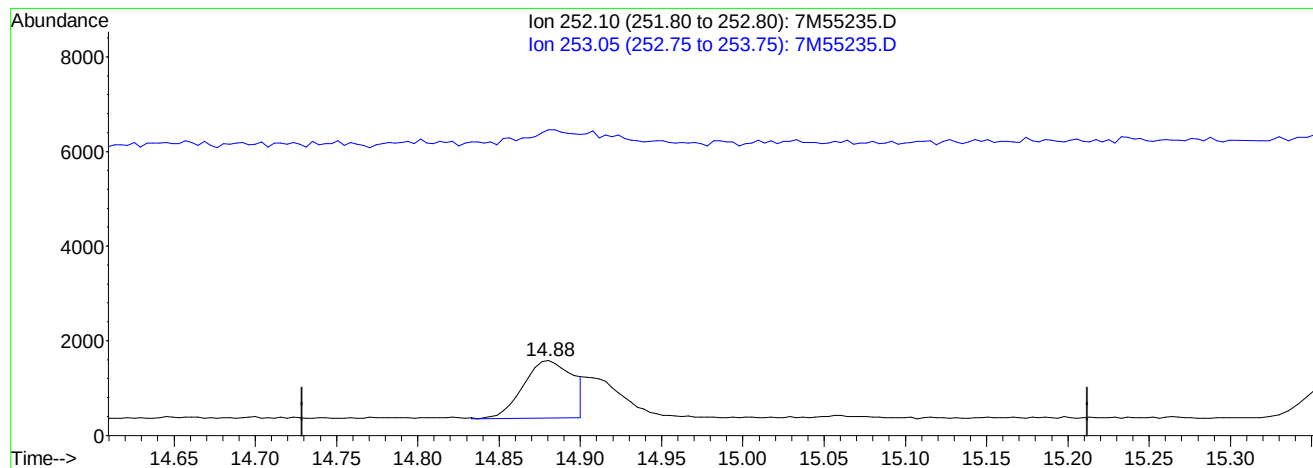
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55235.D

(21) Benzo[b]fluoranthene

14.88min 0.02ug/ml mint

response 2585

Ion	Exp%	Act%
252.10	100	100
253.05	21.10	13.58
0.00	0.00	0.00
0.00	0.00	0.00

7M55235.D SIMPAHL.M

Thu Jun 21

Analyst: 06/22/2012 08:07

Supervisor: 06/22/2012 08:39

Cassidy Augustus 2012

Eir C. Funn

#3 - Improperly integrated isomers and/or coeluting compounds

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55235.D

Vial: 14

Acq On : 20 Jun 2012 6:59 pm

Operator: CAA

Sample : L12060445-11

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:09 2012

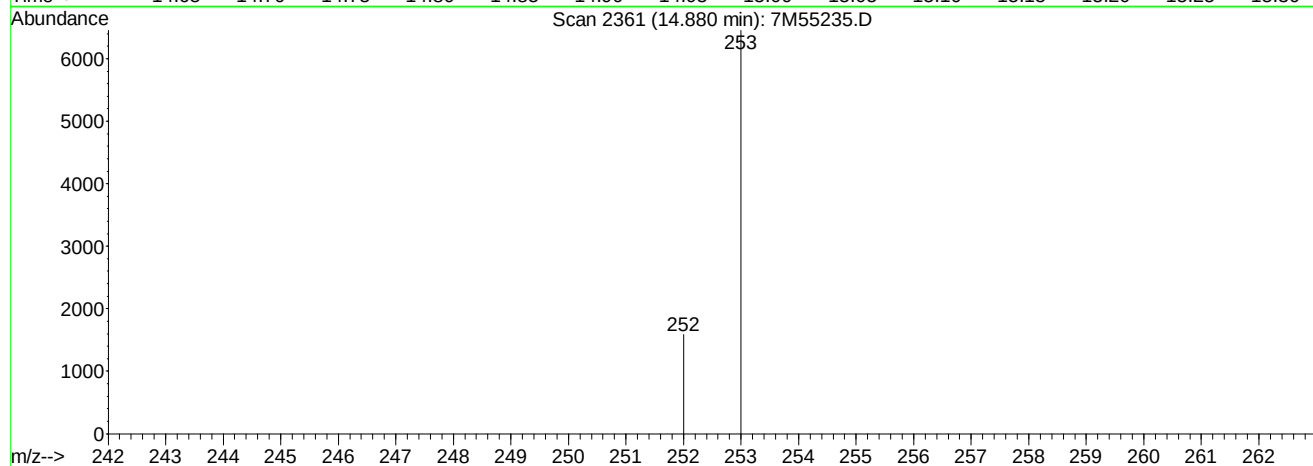
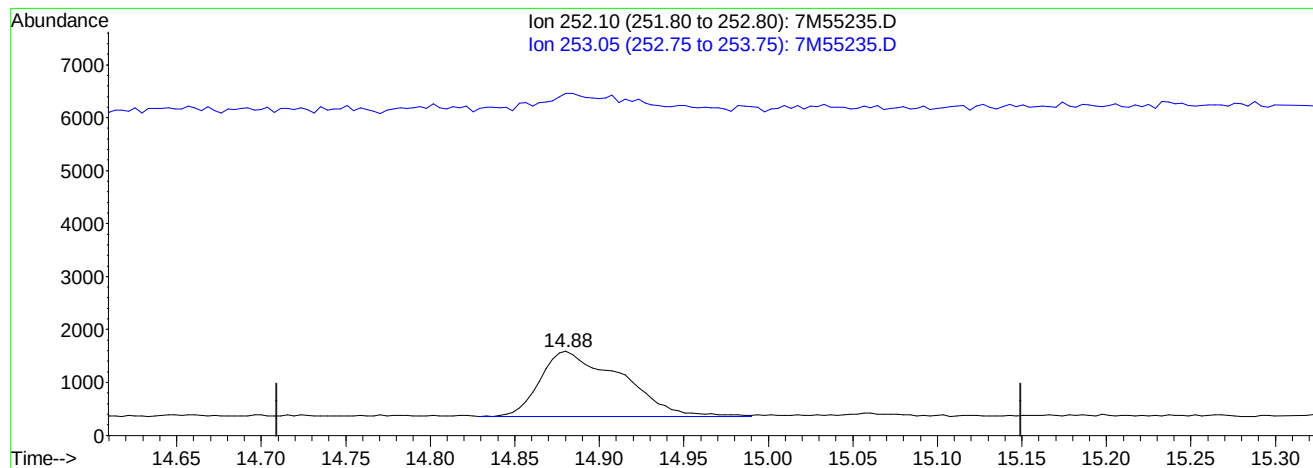
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55235.D

(22) Benzo[k]fluoranthene

14.88min 0.04ug/ml

response 4144

Ion	Exp%	Act%
252.10	100	100
253.05	20.20	8.47#
0.00	0.00	0.00
0.00	0.00	0.00

7M55235.D SIMPAHL.M

Thu Jun 21 07:09:39 2012

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062012\7M55235.D

Vial: 14

Acq On : 20 Jun 2012 6:59 pm

Operator: CAA

Sample : L12060445-11

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 21 7:09 2012

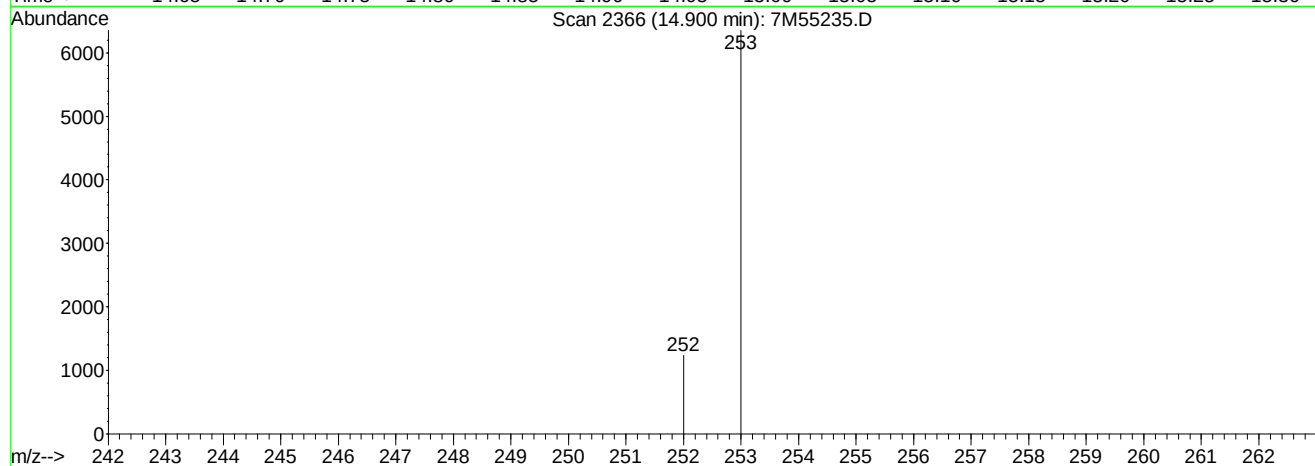
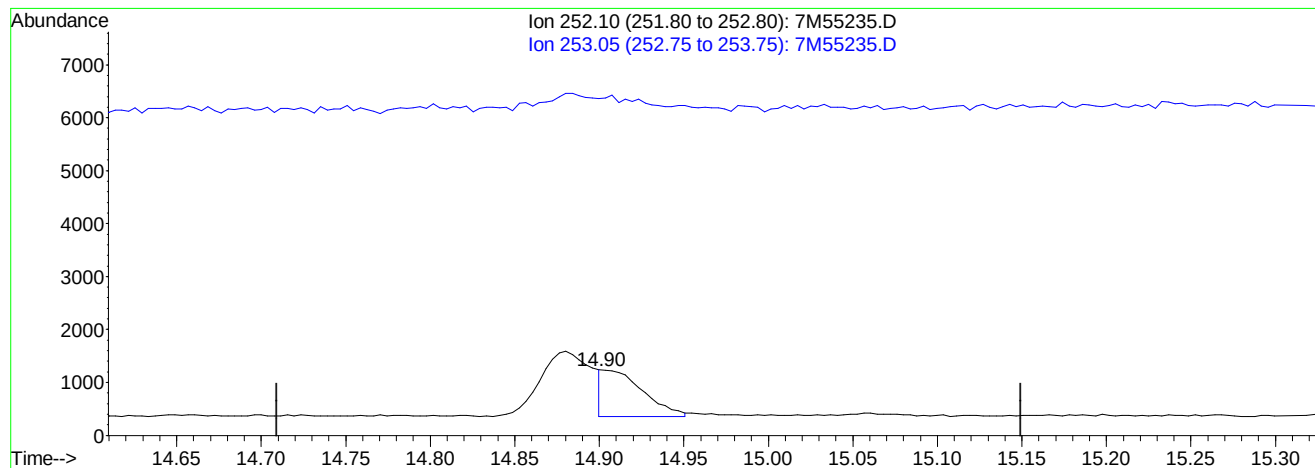
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Thu Jun 21 07:05:37 2012

Response via : Multiple Level Calibration



TIC: 7M55235.D

(22) Benzo[k]fluoranthene

14.90min 0.01ug/ml mint

response 1435

Ion	Exp%	Act%
252.10	100	100
253.05	20.20	24.46
0.00	0.00	0.00
0.00	0.00	0.00

7M55235.D SIMPAHL.M

Thu Jun 21

Analyst: 06/22/2012 08:07

Supervisor: 06/22/2012 08:39

Cassidy August 7 2012

#3 - Improperly integrated isomers and/or coeluting compounds

Data File : C:\MSDCHEM\1\DATA\062512\7M55310.D Vial: 7
 Acq On : 25 Jun 2012 11:44 am Operator: CAA
 Sample : L12060445-11 RE Inst : HPMS7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 26 09:08:33 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Tue Jun 26 09:08:20 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	135678	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	86507	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	123217	1.00	ug/ml	0.00
15) Chrysene-d12	13.39	240	128406	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	117287	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.11	82	110879	2.0078	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	80.40%	
7) 2-Fluorobiphenyl	7.26	172	195613	1.8366	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	73.60%	
17) p-Terphenyl-d14	11.99	244	194695	1.9880	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	79.60%	

Target Compounds	Qvalue
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 (#) = qualifier out of range (m) = manual integration
 7M55310.D SIMPAHL.M Tue Jun 26 09:20:40 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062512\7M55310.D

Vial: 7

Acq On : 25 Jun 2012 11:44 am

Operator: CAA

Sample : L12060445-11 RE

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 26 9:08 2012

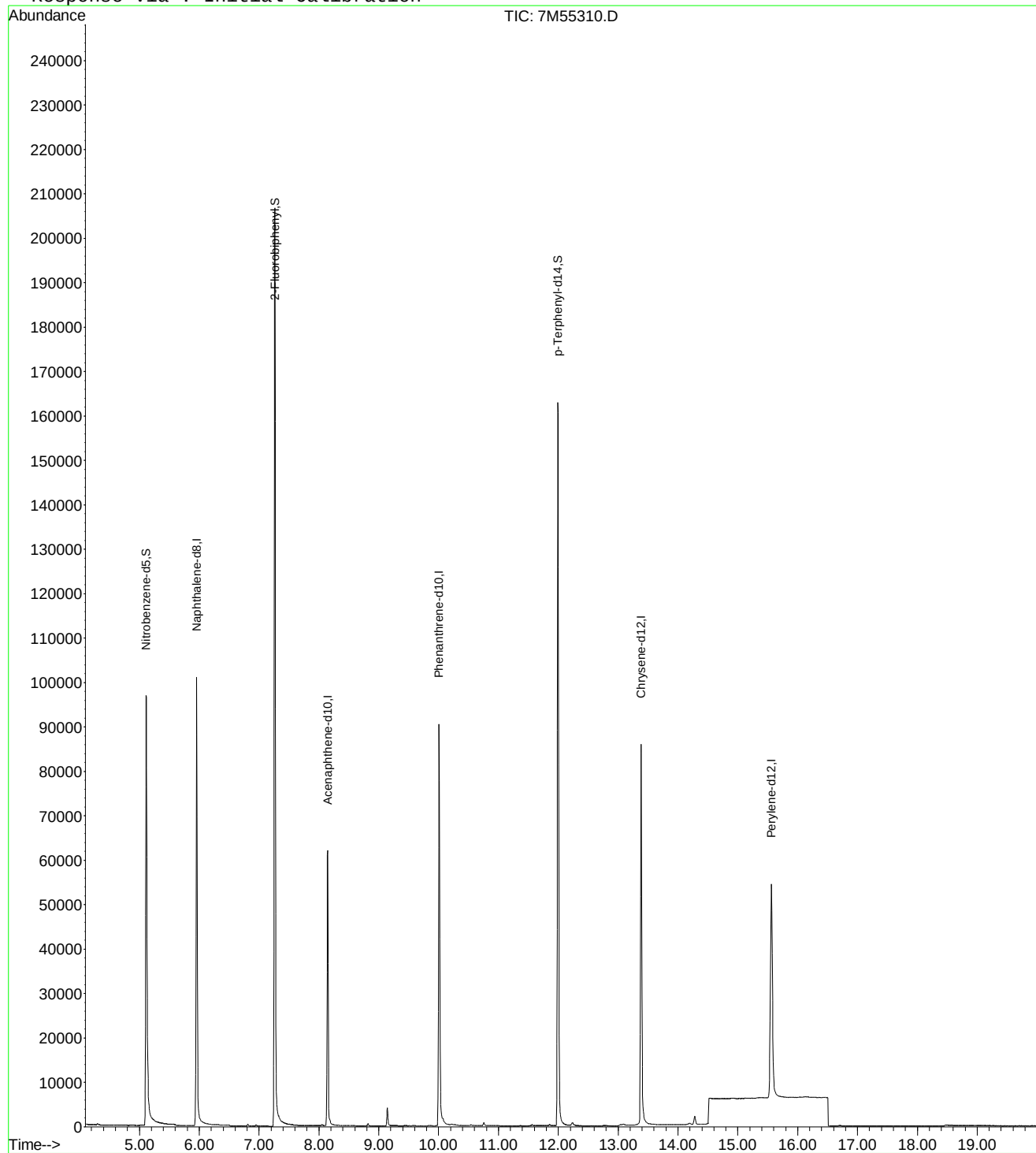
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Tue Jun 26 09:08:20 2012

Response via : Initial Calibration



7M55310.D SIMPAHL.M

Tue Jun 26 09:20:40 2012

Page 2

2.2.2.4 Standards Data

Data File : C:\MSDCHEM\1\DATA\060112\7M55107.D Vial: 2
 Acq On : 1 Jun 2012 1:33 pm Operator: CAA
 Sample : WG399609-02 1PPM PAHL STD Inst : HPMS7
 Misc : 1,1 STD49560 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 02 10:45:32 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Sat Jun 02 10:45:29 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	202124	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	122334	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	181486	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	184534	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	184165	1.00	ug/ml	-0.02

System Monitoring Compounds						
2) Nitrobenzene-d5		5.12	82	84138	0.9967 ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	40.00%
7) 2-Fluorobiphenyl		7.26	172	154516	0.7637 ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	30.40%#
17) p-Terphenyl-d14		12.00	244	142148	0.8303 ug/ml	-0.01
Spiked Amount	2.500	Range	33 - 141	Recovery	=	33.20%

Target Compounds						Qvalue
3) Naphthalene		5.98	128	226893	0.9482 ug/ml	99
4) 2-Methylnaphthalene		6.81	142	142435	0.9768 ug/ml	100
5) 1-Methylnaphthalene		6.95	142	140367	0.9429 ug/ml	100
8) Acenaphthylene		7.96	152	216575	0.8007 ug/ml	99
9) Acenaphthene		8.19	154	127980	0.8270 ug/ml	93
10) Fluorene		8.82	166	151357	0.8231 ug/ml	99
12) Phenanthrene		10.04	178	211378	0.9363 ug/ml	99
13) Anthracene		10.10	178	213476	0.9414 ug/ml	100
14) Fluoranthene		11.56	202	233815	0.9886 ug/ml	100
16) Pyrene		11.85	202	253695	0.8553 ug/ml	100
18) Benzo[a]anthracene		13.36	228	214184	0.8946 ug/ml	99
19) Chrysene		13.41	228	214702	0.9015 ug/ml	100
21) Benzo[b]fluoranthene		14.88	252	222961	0.8776 ug/ml	89
22) Benzo[k]fluoranthene		14.92	252	217153	0.9033 ug/ml	87
23) Benzo[a]pyrene		15.46	252	212689	0.8992 ug/ml	99
24) Indeno[1,2,3-cd]pyrene		17.94	276	248943	0.9616 ug/ml	100
25) Dibenzo[ah]anthracene		17.93	278	197712	0.9024 ug/ml	100
26) Benzo[ghi]perylene		18.66	276	217845	0.9543 ug/ml	100

 (#) = qualifier out of range (m) = manual integration
 7M55107.D SIMPAHL.M Mon Jun 04 09:45:00 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\060112\7M55107.D

Vial: 2

Acq On : 1 Jun 2012 1:33 pm

Operator: CAA

Sample : WG399609-02 1PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD49560

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 2 10:45 2012

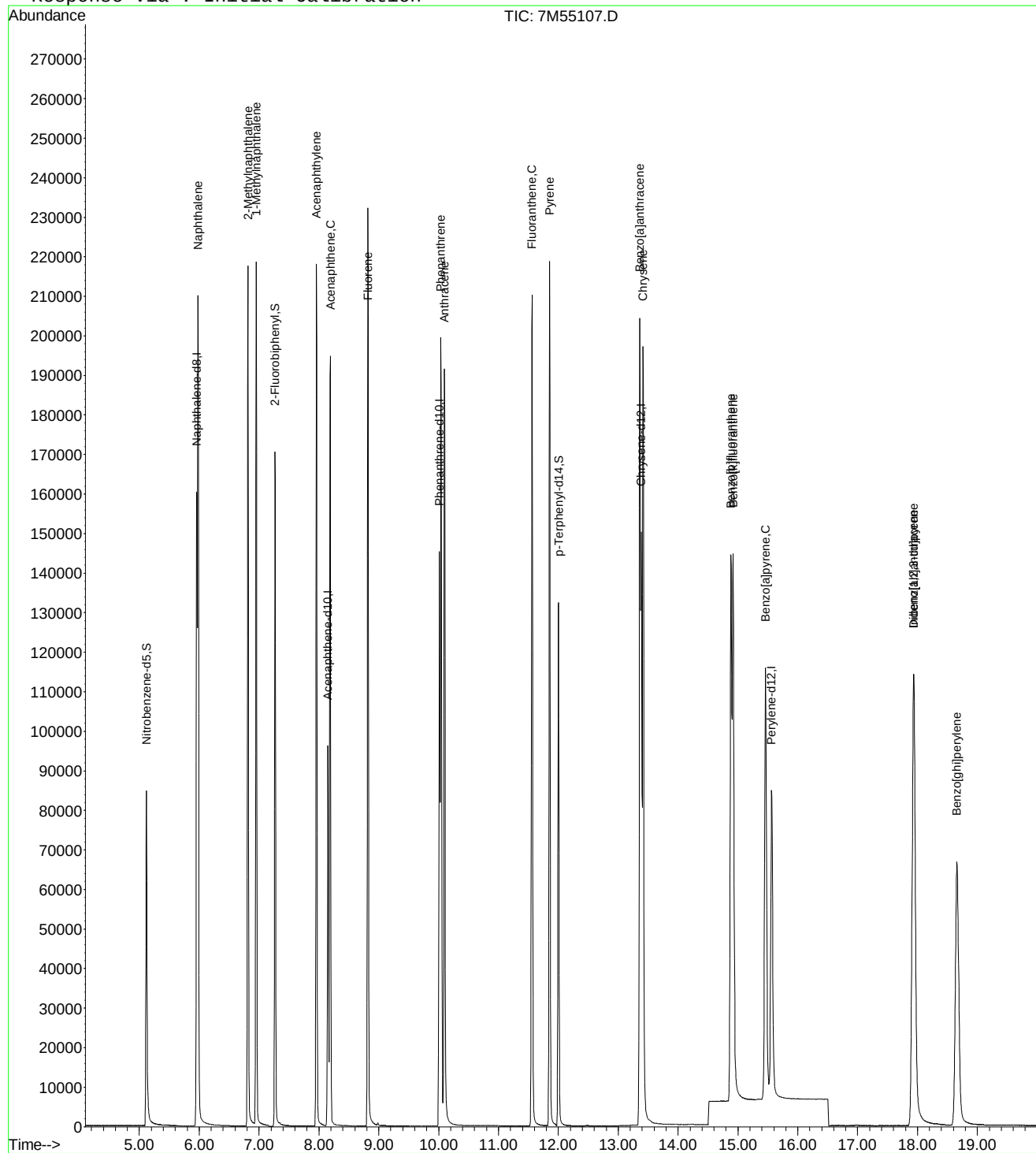
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Sat Jun 02 10:47:13 2012

Response via : Initial Calibration



7M55107.D SIMPAHL.M

Mon Jun 04 09:45:00 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\060112\7M55108.D Vial: 3
 Acq On : 1 Jun 2012 2:01 pm Operator: CAA
 Sample : WG399609-03 10PPM PAHL STD Inst : HPMS7
 Misc : 1,1 STD52037 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 02 10:45:52 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Sat Jun 02 10:45:47 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	196038	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	116652	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	173501	1.00	ug/ml	0.00
15) Chrysene-d12	13.39	240	180917	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	177686	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	810336	9.8973	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	396.00%#	
7) 2-Fluorobiphenyl	7.27	172	1354921	7.2421	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	289.60%#	
17) p-Terphenyl-d14	12.00	244	1285606	7.9466	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	318.00%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Naphthalene	5.98	128	1986013	8.5708	ug/ml	98
4) 2-Methylnaphthalene	6.81	142	1286740	9.1466	ug/ml	99
5) 1-Methylnaphthalene	6.95	142	1245355	8.7676	ug/ml	99
8) Acenaphthylene	7.96	152	1907694	7.5037	ug/ml	97
9) Acenaphthene	8.19	154	1126137	7.7605	ug/ml	100
10) Fluorene	8.82	166	1350877	7.8905	ug/ml	100
12) Phenanthrene	10.04	178	1864198	8.6902	ug/ml	97
13) Anthracene	10.10	178	1901582	8.8366	ug/ml	98
14) Fluoranthene	11.56	202	2077136	9.1824	ug/ml	97
16) Pyrene	11.85	202	2238684	7.9736	ug/ml	98
18) Benzo[a]anthracene	13.36	228	1993948	8.6140	ug/ml	97
19) Chrysene	13.41	228	1928034	8.3481	ug/ml	97
21) Benzo[b]fluoranthene	14.89	252	2038109	8.4095	ug/ml	94
22) Benzo[k]fluoranthene	14.92	252	1858854	8.0628	ug/ml	92
23) Benzo[a]pyrene	15.46	252	1991013	8.8421	ug/ml	99
24) Indeno[1,2,3-cd]pyrene	17.95	276	2462757	9.9472	ug/ml	100
25) Dibenz[ah]anthracene	17.95	278	2048626	9.8663	ug/ml	100
26) Benzo[ghi]perylene	18.67	276	2073775	9.4736	ug/ml	99

 (#) = qualifier out of range (m) = manual integration
 7M55108.D SIMPAHL.M Mon Jun 04 09:45:01 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\060112\7M55108.D

Vial: 3

Acq On : 1 Jun 2012 2:01 pm

Operator: CAA

Sample : WG399609-03 10PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD52037

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 2 10:45 2012

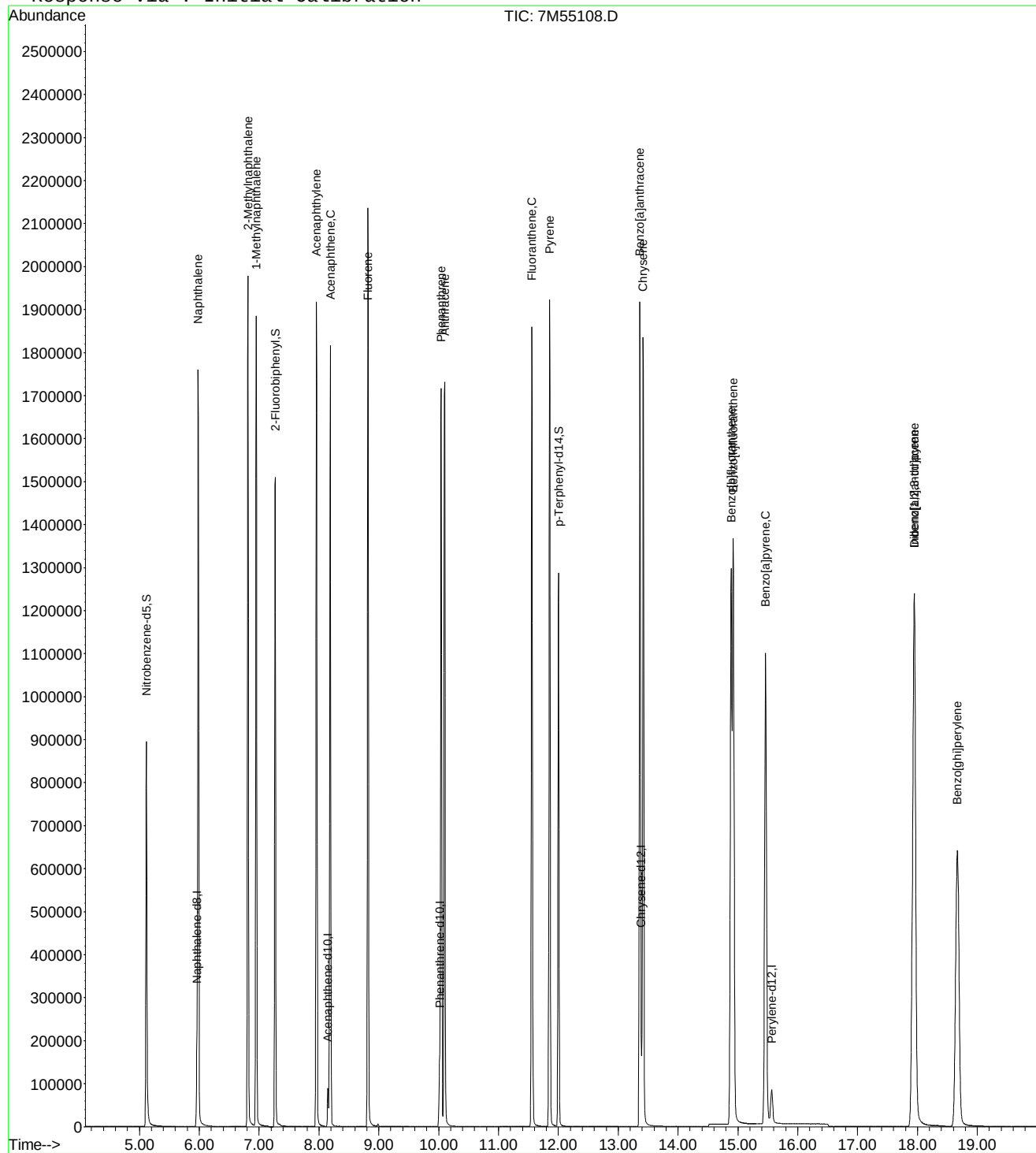
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Sat Jun 02 10:47:13 2012

Response via : Initial Calibration



7M55108.D SIMPAHL.M

Mon Jun 04 09:45:01 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\060112\7M55109.D Vial: 4
 Acq On : 1 Jun 2012 2:29 pm Operator: CAA
 Sample : WG399609-04 5PPM PAHL STD Inst : HPMS7
 Misc : 1,1 STD52037 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 02 10:46:08 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Sat Jun 02 10:46:04 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	177866	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	106149	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	159196	1.00	ug/ml	0.00
15) Chrysene-d12	13.39	240	168923	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	166995	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	380470	5.0971	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	204.00%#	
7) 2-Fluorobiphenyl	7.27	172	657301	3.9937	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	159.60%#	
17) p-Terphenyl-d14	12.00	244	621919	4.1864	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	167.60%#	

Target Compounds						Qvalue
3) Naphthalene	5.98	128	974090	4.6305	ug/ml	99
4) 2-Methylnaphthalene	6.81	142	617699	4.8433	ug/ml	99
5) 1-Methylnaphthalene	6.95	142	600455	4.6594	ug/ml	99
8) Acenaphthylene	7.96	152	936689	4.1827	ug/ml	99
9) Acenaphthene	8.19	154	511226	3.9608	ug/ml	94
10) Fluorene	8.82	166	656284	4.3192	ug/ml	100
12) Phenanthrene	10.04	178	907710	4.6498	ug/ml	98
13) Anthracene	10.10	178	929008	4.7433	ug/ml	99
14) Fluoranthene	11.56	202	1015513	4.8311	ug/ml	99
16) Pyrene	11.85	202	1099600	4.2480	ug/ml	100
18) Benzo[a]anthracene	13.36	228	958292	4.4622	ug/ml	99
19) Chrysene	13.42	228	936191	4.3585	ug/ml	99
21) Benzo[b]fluoranthene	14.88	252	968509	4.3004	ug/ml	95
22) Benzo[k]fluoranthene	14.92	252	902825	4.2125	ug/ml	94
23) Benzo[a]pyrene	15.46	252	948637	4.5122	ug/ml	100
24) Indeno[1,2,3-cd]pyrene	17.94	276	1162427	4.9776	ug/ml	100
25) Dibenz[ah]anthracene	17.93	278	960962	4.9227	ug/ml	100
26) Benzo[ghi]perylene	18.66	276	983732	4.8779	ug/ml	99

 (#) = qualifier out of range (m) = manual integration
 7M55109.D SIMPAHL.M Mon Jun 04 09:45:01 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\060112\7M55109.D

Vial: 4

Acq On : 1 Jun 2012 2:29 pm

Operator: CAA

Sample : WG399609-04 5PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD52037

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 2 10:46 2012

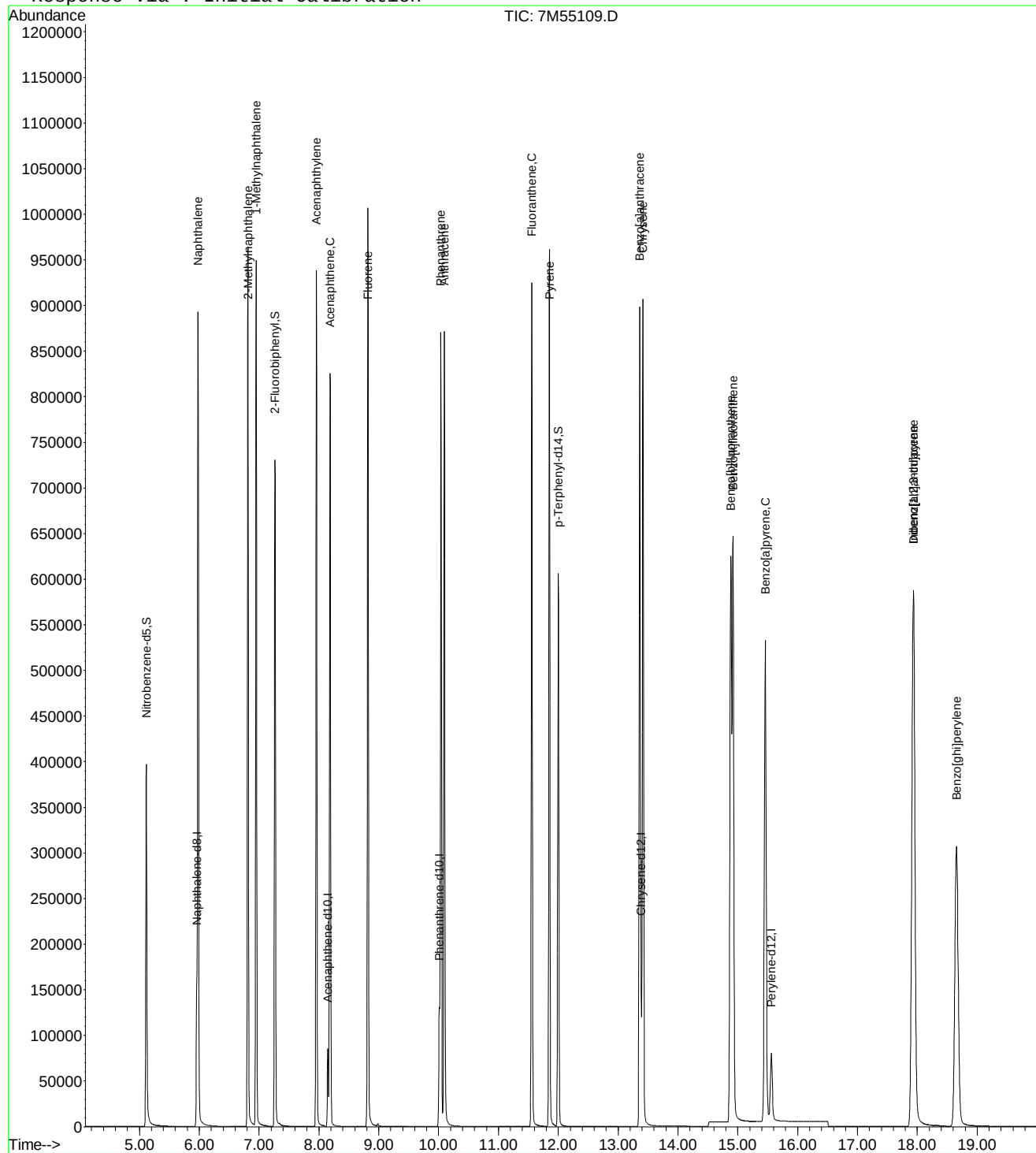
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Sat Jun 02 10:47:13 2012

Response via : Initial Calibration



7M55109.D SIMPAHL.M

Mon Jun 04 09:45:02 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\060112\7M55110.D

Vial: 5

Acq On : 1 Jun 2012 2:57 pm

Operator: CAA

Sample : WG399609-05 2.5PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD52037

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 02 10:46:22 2012

Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Sat Jun 02 10:46:18 2012

Response via : Initial Calibration

DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	174299	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	105515	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	155648	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	160986	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	160420	1.00	ug/ml	0.00

System Monitoring Compounds

2) Nitrobenzene-d5	5.11	82	182257	2.4843	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	99.20%	
7) 2-Fluorobiphenyl	7.26	172	326658	2.0696	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	82.80%	
17) p-Terphenyl-d14	12.00	244	301471	2.1724	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	86.80%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
3) Naphthalene	5.98	128	479409	2.3275	ug/ml	99
4) 2-Methylnaphthalene	6.81	142	302792	2.4403	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	295528	2.3702	ug/ml	99
8) Acenaphthylene	7.96	152	463720	2.1452	ug/ml	100
9) Acenaphthene	8.18	154	265614	2.1325	ug/ml	99
10) Fluorene	8.82	166	322537	2.1927	ug/ml	100
12) Phenanthrene	10.04	178	445073	2.3459	ug/ml	99
13) Anthracene	10.10	178	457856	2.4125	ug/ml	100
14) Fluoranthene	11.56	202	498269	2.4288	ug/ml	100
16) Pyrene	11.85	202	537315	2.2168	ug/ml	100
18) Benzo[a]anthracene	13.36	228	468557	2.3262	ug/ml	100
19) Chrysene	13.41	228	456200	2.2543	ug/ml	99
21) Benzo[b]fluoranthene	14.88	252	460667	2.2080	ug/ml	96
22) Benzo[k]fluoranthene	14.92	252	447033	2.2310	ug/ml	95
23) Benzo[a]pyrene	15.46	252	458496	2.2974	ug/ml	100
24) Indeno[1,2,3-cd]pyrene	17.94	276	555870	2.4788	ug/ml	100
25) Dibenz[ah]anthracene	17.94	278	455657	2.4411	ug/ml	100
26) Benzo[ghi]perylene	18.66	276	474800	2.4592	ug/ml	100

 (#) = qualifier out of range (m) = manual integration
 7M55110.D SIMPAHL.M Mon Jun 04 09:45:02 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\060112\7M55110.D

Vial: 5

Acq On : 1 Jun 2012 2:57 pm

Operator: CAA

Sample : WG399609-05 2.5PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD52037

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 2 10:46 2012

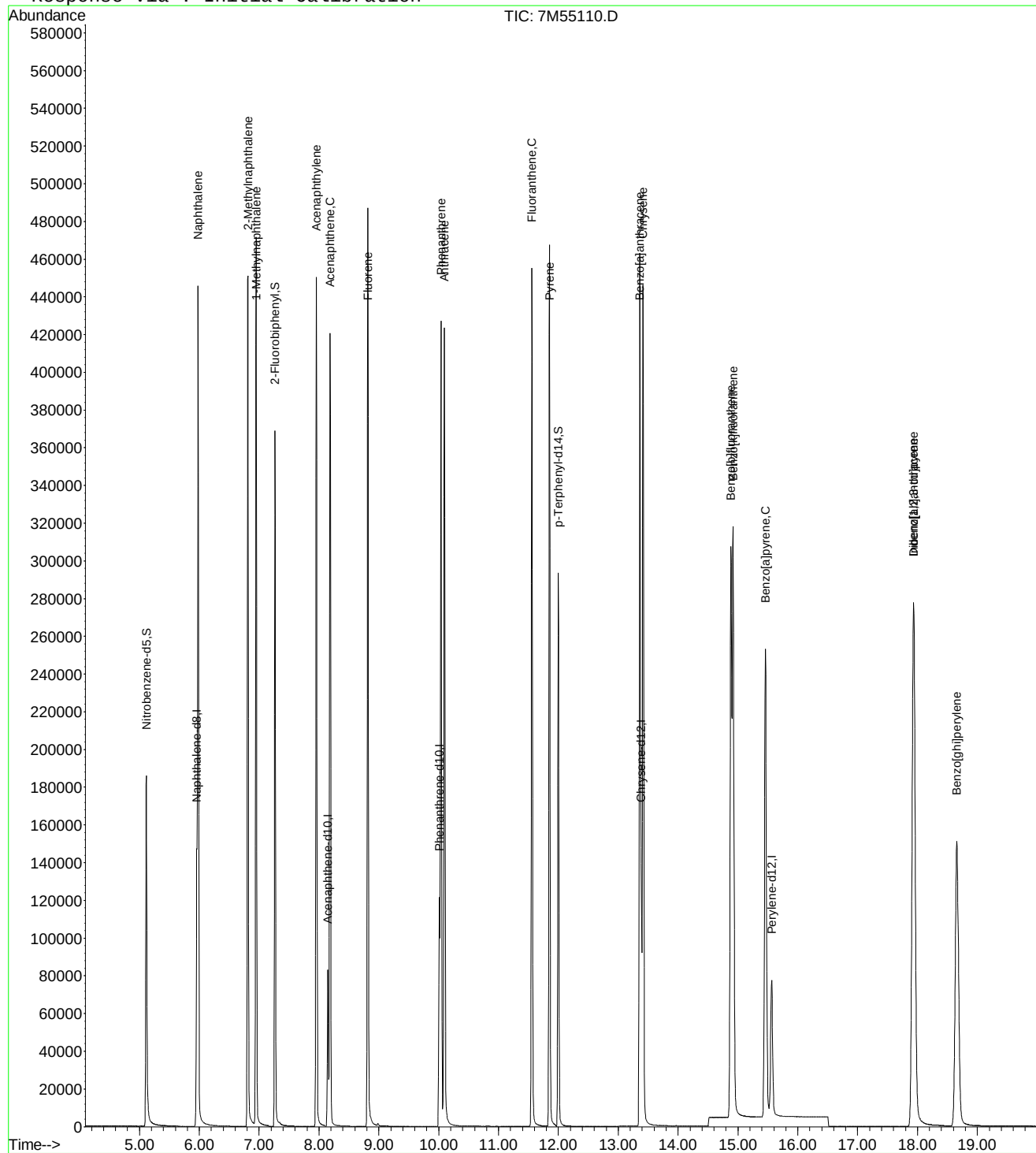
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Sat Jun 02 10:47:13 2012

Response via : Initial Calibration



7M55110.D SIMPAHL.M

Mon Jun 04 09:45:02 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\060112\7M55111.D

Vial: 6

Acq On : 1 Jun 2012 3:25 pm

Operator: CAA

Sample : WG399609-06 0.5PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD52037

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 02 10:46:35 2012

Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Sat Jun 02 10:46:31 2012

Response via : Initial Calibration

DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	171974	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	105719	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	154645	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	157944	1.00	ug/ml	0.00
20) Perylene-d12	15.55	264	156748	1.00	ug/ml	0.00

System Monitoring Compounds

2) Nitrobenzene-d5	5.11	82	35073	0.4846	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	19.20%#
7) 2-Fluorobiphenyl	7.26	172	66402	0.4364	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	17.60%#
17) p-Terphenyl-d14	11.99	244	60948	0.4584	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	18.40%#

Target Compounds

					Qvalue	
3) Naphthalene	5.98	128	98241	0.4856	ug/ml	100
4) 2-Methylnaphthalene	6.81	142	60766	0.4920	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	60519	0.4897	ug/ml	100
8) Acenaphthylene	7.96	152	93480	0.4493	ug/ml	100
9) Acenaphthene	8.18	154	54861	0.4586	ug/ml	100
10) Fluorene	8.81	166	65184	0.4633	ug/ml	100
12) Phenanthrene	10.03	178	90740	0.4880	ug/ml	100
13) Anthracene	10.09	178	91766	0.4910	ug/ml	100
14) Fluoranthene	11.55	202	100588	0.4872	ug/ml	100
16) Pyrene	11.85	202	109364	0.4671	ug/ml	99
18) Benzo[a]anthracene	13.36	228	92722	0.4748	ug/ml	99
19) Chrysene	13.41	228	92812	0.4727	ug/ml	100
21) Benzo[b]fluoranthene	14.87	252	92623	0.4669	ug/ml	100
22) Benzo[k]fluoranthene	14.91	252	87711	0.4554	ug/ml	97
23) Benzo[a]pyrene	15.45	252	90803	0.4726	ug/ml	98
24) Indeno[1,2,3-cd]pyrene	17.92	276	104642	0.4818	ug/ml	100
25) Dibenzo[ah]anthracene	17.92	278	83578	0.4647	ug/ml	100
26) Benzo[ghi]perylene	18.64	276	92660	0.4947	ug/ml	99

 (#) = qualifier out of range (m) = manual integration
 7M55111.D SIMPAHL.M Mon Jun 04 09:45:03 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\060112\7M55111.D

Vial: 6

Acq On : 1 Jun 2012 3:25 pm

Operator: CAA

Sample : WG399609-06 0.5PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD52037

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 2 10:46 2012

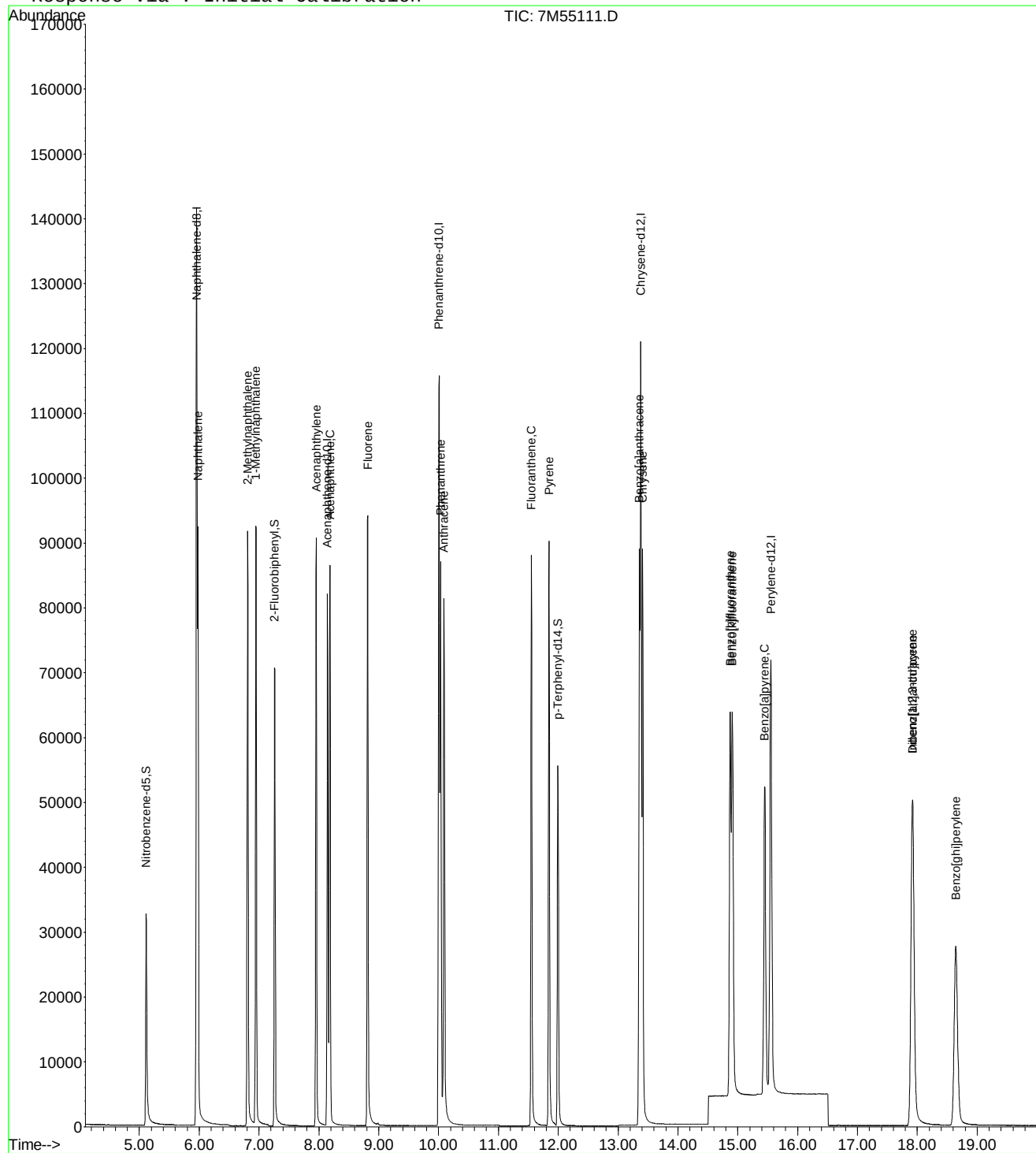
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Sat Jun 02 10:47:13 2012

Response via : Initial Calibration



7M55111.D SIMPAHL.M

Mon Jun 04 09:45:03 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\060112\7M55112.D Vial: 7
 Acq On : 1 Jun 2012 3:52 pm Operator: CAA
 Sample : WG399609-07 0.1PPM PAHL STD Inst : HPMS7
 Misc : 1,1 STD52037 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 02 10:46:50 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Sat Jun 02 10:46:45 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	171033	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	106377	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	154611	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	155872	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	153200	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	6723	0.0933	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	3.60%#
7) 2-Fluorobiphenyl	7.26	172	13150	0.0893	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	3.60%#
17) p-Terphenyl-d14	12.00	244	12382	0.0970	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	4.00%#

Target Compounds						Qvalue
3) Naphthalene	5.98	128	19540	0.0979	ug/ml	99
4) 2-Methylnaphthalene	6.81	142	11903	0.0982	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	11911	0.0987	ug/ml	99
8) Acenaphthylene	7.95	152	18336	0.0899	ug/ml	99
9) Acenaphthene	8.18	154	10443	0.0885	ug/ml	96
10) Fluorene	8.81	166	12840	0.0912	ug/ml	100
12) Phenanthrene	10.04	178	17827	0.0965	ug/ml	100
13) Anthracene	10.10	178	17764	0.0960	ug/ml	99
14) Fluoranthene	11.56	202	19778	0.0965	ug/ml	99
16) Pyrene	11.85	202	22049	0.0974	ug/ml	94
18) Benzo[a]anthracene	13.36	228	18471	0.0971	ug/ml	98
19) Chrysene	13.41	228	18216	0.0956	ug/ml	100
21) Benzo[b]fluoranthene	14.88	252	17855	0.0938	ug/ml	99
22) Benzo[k]fluoranthene	14.91	252	16793	0.0911	ug/ml	96
23) Benzo[a]pyrene	15.45	252	16926	0.0914	ug/ml	99
24) Indeno[1,2,3-cd]pyrene	17.93	276	19592	0.0918	ug/ml	100
25) Dibenz[ah]anthracene	17.93	278	15146	0.0864	ug/ml	100
26) Benzo[ghi]perylene	18.65	276	17741	0.0960	ug/ml	99

 (#) = qualifier out of range (m) = manual integration
 7M55112.D SIMPAHL.M Mon Jun 04 09:45:04 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\060112\7M55112.D

Vial: 7

Acq On : 1 Jun 2012 3:52 pm

Operator: CAA

Sample : WG399609-07 0.1PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD52037

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 2 10:46 2012

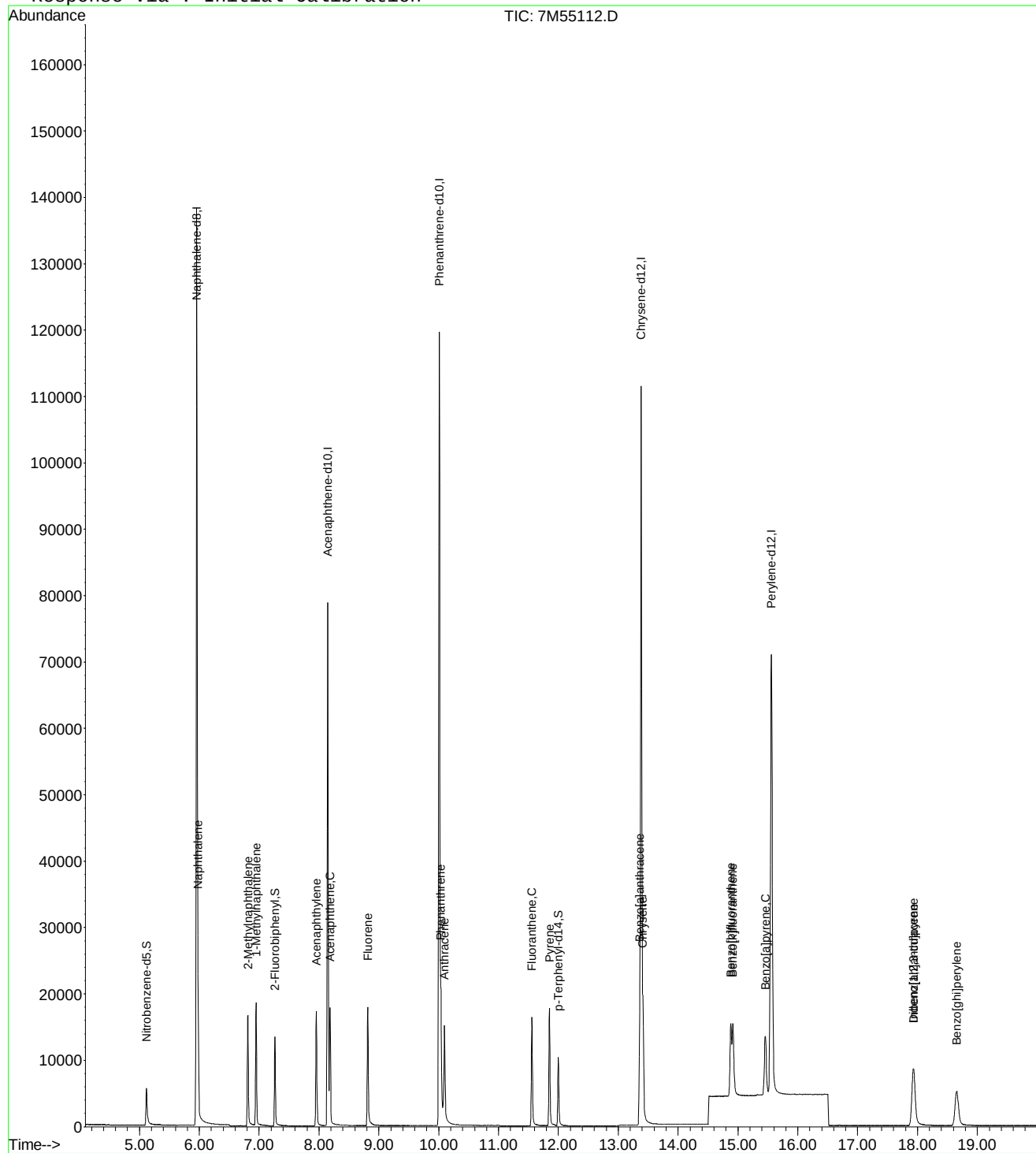
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Sat Jun 02 10:47:13 2012

Response via : Initial Calibration



7M55112.D SIMPAHL.M

Mon Jun 04 09:45:04 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\060112\7M55113.D Vial: 8
 Acq On : 1 Jun 2012 4:20 pm Operator: CAA
 Sample : WG399609-08 0.05PPM PAHL STD Inst : HPMS7
 Misc : 1,1 STD52037 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 02 10:47:03 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Sat Jun 02 10:46:58 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	178803	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	111889	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.00	188	161649	1.00	ug/ml	-0.01
15) Chrysene-d12	13.38	240	162518	1.00	ug/ml	0.00
20) Perylene-d12	15.54	264	158764	1.00	ug/ml	-0.02

System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	3330	0.0453	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	2.00%#
7) 2-Fluorobiphenyl	7.26	172	6853	0.0469	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	2.00%#
17) p-Terphenyl-d14	11.99	244	6554	0.0519	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	2.00%#

Target Compounds						Qvalue
3) Naphthalene	5.98	128	10219	0.0506	ug/ml	100
4) 2-Methylnaphthalene	6.81	142	6136	0.0491	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	6162	0.0497	ug/ml	99
8) Acenaphthylene	7.95	152	9516	0.0471	ug/ml	100
9) Acenaphthene	8.18	154	5577	0.0479	ug/ml	98
10) Fluorene	8.81	166	6684	0.0483	ug/ml	99
12) Phenanthrene	10.03	178	9422	0.0505	ug/ml	100
13) Anthracene	10.09	178	9142	0.0483	ug/ml	99
14) Fluoranthene	11.55	202	10214	0.0488	ug/ml	99
16) Pyrene	11.84	202	11710	0.0520	ug/ml	94
18) Benzo[a]anthracene	13.36	228	9676	0.0506	ug/ml	98
19) Chrysene	13.41	228	9631	0.0507	ug/ml	99
21) Benzo[b]fluoranthene	14.87	252	9136	0.0484	ug/ml	93
22) Benzo[k]fluoranthene	14.91	252	8782	0.0487	ug/ml	99
23) Benzo[a]pyrene	15.45	252	8681	0.0474	ug/ml	97
24) Indeno[1,2,3-cd]pyrene	17.92	276	9826	0.0453	ug/ml	100
25) Dibenzo[ah]anthracene	17.91	278	7507	0.0426	ug/ml	100
26) Benzo[ghi]perylene	18.64	276	9100	0.0483	ug/ml	99

 (#) = qualifier out of range (m) = manual integration
 7M55113.D SIMPAHL.M Mon Jun 04 09:45:05 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\060112\7M55113.D

Vial: 8

Acq On : 1 Jun 2012 4:20 pm

Operator: CAA

Sample : WG399609-08 0.05PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD52037

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 2 10:47 2012

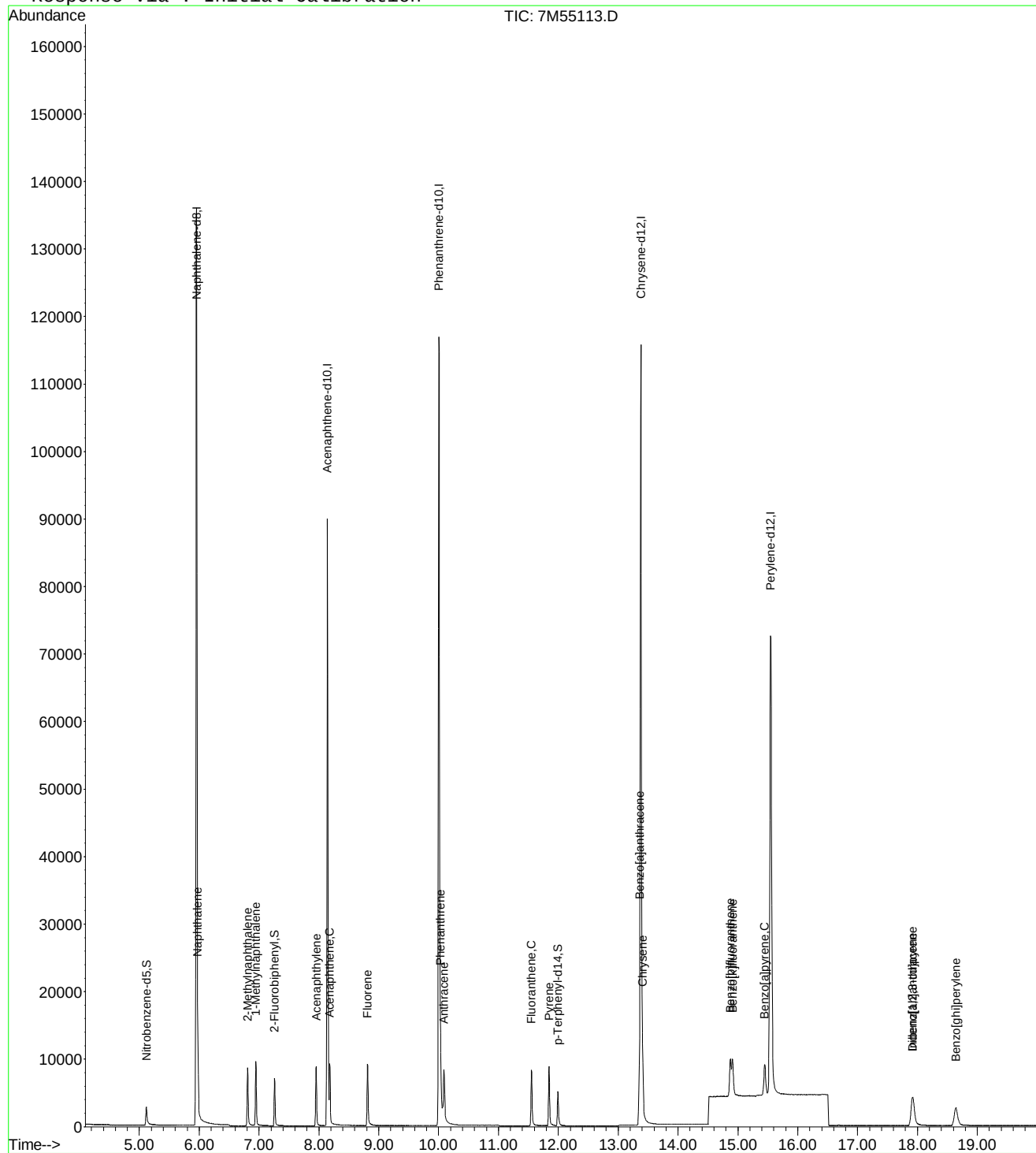
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Sat Jun 02 10:47:13 2012

Response via : Initial Calibration



7M55113.D SIMPAHL.M

Mon Jun 04 09:45:05 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\060112\7M55114.D Vial: 9
 Acq On : 1 Jun 2012 4:47 pm Operator: CAA
 Sample : WG399609-09 1PPM PAHL Alt Src STD Inst : HPMS7
 Misc : 1,1 STD49584 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 02 10:47:30 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Sat Jun 02 10:47:13 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	193725	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	119946	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	174638	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	175903	1.00	ug/ml	0.00
20) Perylene-d12	15.55	264	172607	1.00	ug/ml	-0.01

System Monitoring Compounds						
2) Nitrobenzene-d5	5.13	82	16	0.0002	ug/ml	0.01
Spiked Amount	2.500	Range 35 - 114	Recovery	=	0.00%#	
7) 2-Fluorobiphenyl	7.16	172	23	0.0002	ug/ml	-0.10
Spiked Amount	2.500	Range 43 - 116	Recovery	=	0.00%#	
17) p-Terphenyl-d14	12.00	244	264	0.0020	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	0.00%#	

Target Compounds						Qvalue
3) Naphthalene	5.98	128	212539	0.9898	ug/ml	100
4) 2-Methylnaphthalene	6.81	142	137710	1.0282	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	129588	0.9811	ug/ml	99
8) Acenaphthylene	7.96	152	206748	0.9954	ug/ml	100
9) Acenaphthene	8.18	154	120314	1.0033	ug/ml	100
10) Fluorene	8.81	166	145256	0.9985	ug/ml	100
12) Phenanthrene	10.03	178	198304	0.9916	ug/ml	100
13) Anthracene	10.09	178	204216	1.0127	ug/ml	100
14) Fluoranthene	11.55	202	222706	1.0046	ug/ml	100
16) Pyrene	11.85	202	248724	1.0430	ug/ml	99
18) Benzo[a]anthracene	13.36	228	200813	0.9852	ug/ml	100
19) Chrysene	13.41	228	191026	0.9502	ug/ml	99
21) Benzo[b]fluoranthene	14.87	252	204530	1.0159	ug/ml	100
22) Benzo[k]fluoranthene	14.91	252	183658	0.9620	ug/ml	96
23) Benzo[a]pyrene	15.45	252	197771	1.0137	ug/ml	99
24) Indeno[1,2,3-cd]pyrene	17.92	276	230933	0.9997	ug/ml	100
25) Dibenz[ah]anthracene	17.92	278	185029	0.9986	ug/ml	100
26) Benzo[ghi]perylene	18.64	276	201097	0.9947	ug/ml	100

 (#) = qualifier out of range (m) = manual integration
 7M55114.D SIMPAHL.M Mon Jun 04 09:45:15 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\060112\7M55114.D

Vial: 9

Acq On : 1 Jun 2012 4:47 pm

Operator: CAA

Sample : WG399609-09 1PPM PAHL Alt Src STD

Inst : HPMS7

Misc : 1,1 STD49584

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 2 10:47 2012

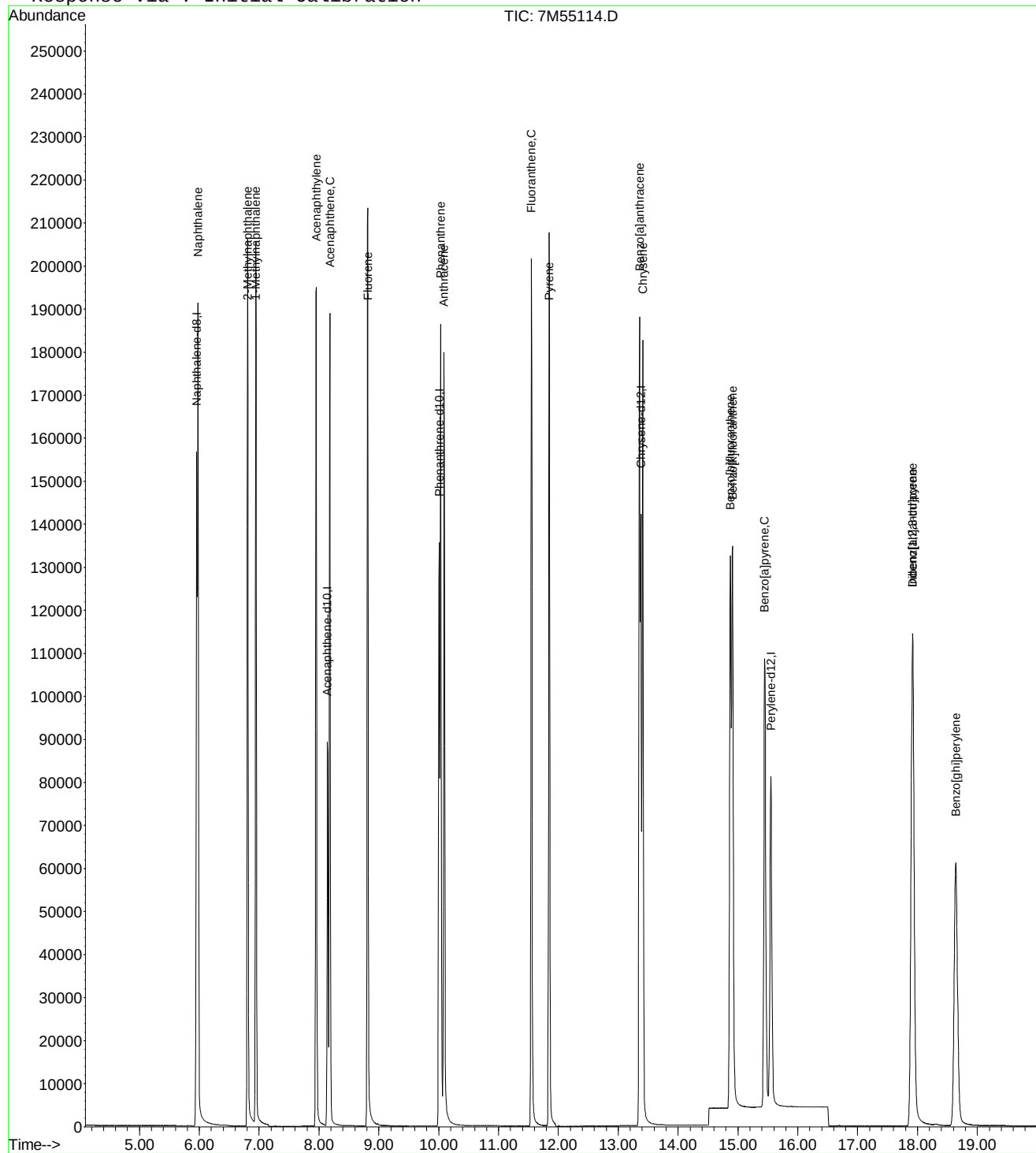
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Sat Jun 02 10:47:13 2012

Response via : Initial Calibration



7M55114.D SIMPAHL.M

Mon Jun 04 09:45:15 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\061912\7M55195.D Vial: 2
 Acq On : 19 Jun 2012 8:38 am Operator: CAA
 Sample : WG400995-02 1PPM PAHL STD Inst : HPMS7
 Misc : 1,1 STD52037 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 19 09:00:51 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Fri Jun 15 10:54:54 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	164606	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	100500	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	144257	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	138033	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	126963	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5		5.11	82	67006	1.0001 ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	40.00%
7) 2-Fluorobiphenyl		7.26	172	126778	1.0246 ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	40.80%#
17) p-Terphenyl-d14		12.00	244	108265	1.0284 ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	41.20%

Target Compounds						Qvalue
3) Naphthalene		5.98	128	186693	1.0232 ug/ml	100
4) 2-Methylnaphthalene		6.81	142	117630	1.0336 ug/ml	100
5) 1-Methylnaphthalene		6.95	142	114881	1.0236 ug/ml	99
8) Acenaphthylene		7.96	152	176986	1.0170 ug/ml	100
9) Acenaphthene		8.18	154	102383	1.0190 ug/ml	99
10) Fluorene		8.81	166	124793	1.0239 ug/ml	100
12) Phenanthrene		10.04	178	171800	1.0400 ug/ml	100
13) Anthracene		10.10	178	175031	1.0508 ug/ml	99
14) Fluoranthene		11.56	202	188207	1.0278 ug/ml	100
16) Pyrene		11.85	202	208224	1.1127 ug/ml	100
18) Benzo[a]anthracene		13.36	228	167914	1.0498 ug/ml	100
19) Chrysene		13.42	228	166933	1.0582 ug/ml	100
21) Benzo[b]fluoranthene		14.88	252	162786	1.0993 ug/ml	100
22) Benzo[k]fluoranthene		14.91	252	162029	1.1538 ug/ml	99
23) Benzo[a]pyrene		15.45	252	152243	1.0609 ug/ml	99
24) Indeno[1,2,3-cd]pyrene		17.92	276	172002	1.0123 ug/ml	100
25) Dibenz[ah]anthracene		17.92	278	140680	1.0322 ug/ml	100
26) Benzo[ghi]perylene		18.65	276	146759	0.9869 ug/ml	100

(#) = qualifier out of range (m) = manual integration
 7M55195.D SIMPAHL.M Wed Jun 20 13:06:45 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\061912\7M55195.D

Vial: 2

Acq On : 19 Jun 2012 8:38 am

Operator: CAA

Sample : WG400995-02 1PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD52037

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 19 9:00 2012

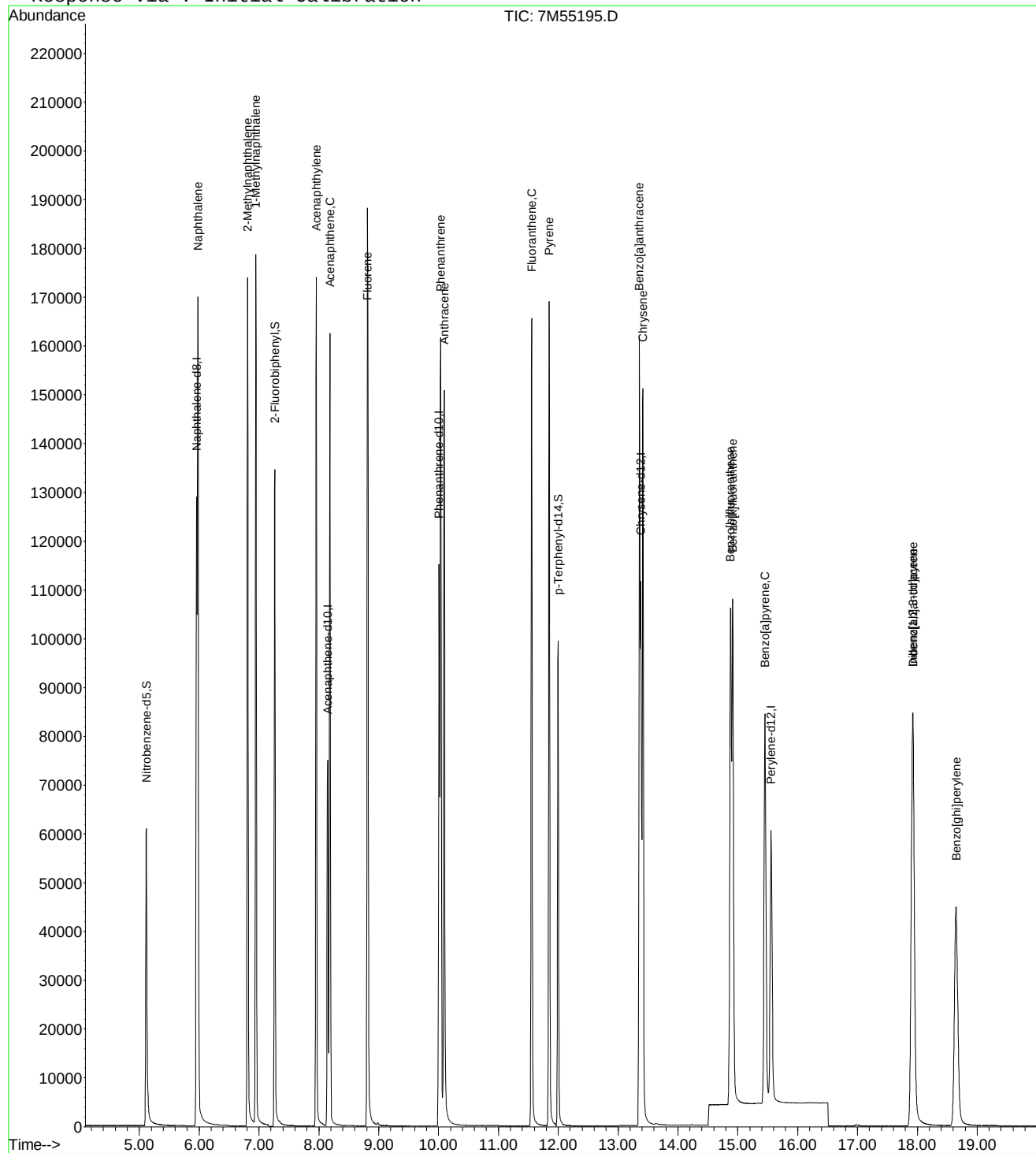
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Fri Jun 15 10:54:54 2012

Response via : Initial Calibration



7M55195.D SIMPAHL.M

Wed Jun 20 13:06:45 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\062012\7M55223.D Vial: 2
 Acq On : 20 Jun 2012 1:20 pm Operator: CAA
 Sample : WG401191-02 1PPM PAHL STD Inst : HPMS7
 Misc : 1,1 STD52037 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 20 13:41:24 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Wed Jun 20 13:06:47 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	238594	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	142121	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	216840	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	213206	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	202730	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.12	82	95076	0.9790	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	39.20%
7) 2-Fluorobiphenyl	7.26	172	182981	1.0457	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	42.00%#
17) p-Terphenyl-d14	12.00	244	167092	1.0275	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	41.20%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Naphthalene	5.98	128	266664	1.0083	ug/ml	100
4) 2-Methylnaphthalene	6.81	142	169189	1.0257	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	167623	1.0304	ug/ml	100
8) Acenaphthylene	7.96	152	256764	1.0433	ug/ml	100
9) Acenaphthene	8.18	154	144046	1.0138	ug/ml	98
10) Fluorene	8.82	166	182702	1.0600	ug/ml	99
12) Phenanthrene	10.04	178	249058	1.0030	ug/ml	100
13) Anthracene	10.09	178	259386	1.0360	ug/ml	99
14) Fluoranthene	11.55	202	280723	1.0199	ug/ml	100
16) Pyrene	11.85	202	303575	1.0503	ug/ml	100
18) Benzo[a]anthracene	13.36	228	252195	1.0208	ug/ml	100
19) Chrysene	13.42	228	250023	1.0261	ug/ml	100
21) Benzo[b]fluoranthene	14.88	252	246106	1.0408	ug/ml	96
22) Benzo[k]fluoranthene	14.92	252	232523	1.0369	ug/ml	95
23) Benzo[a]pyrene	15.45	252	238789	1.0421	ug/ml	100
24) Indeno[1,2,3-cd]pyrene	17.93	276	267925	0.9875	ug/ml	100
25) Dibenzo[ah]anthracene	17.92	278	222197	1.0210	ug/ml	100
26) Benzo[ghi]perylene	18.65	276	226129	0.9523	ug/ml	100

 (#) = qualifier out of range (m) = manual integration
 7M55223.D SIMPAHL.M Thu Jun 21 07:05:35 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062012\7M55223.D

Vial: 2

Acq On : 20 Jun 2012 1:20 pm

Operator: CAA

Sample : WG401191-02 1PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD52037

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 20 13:41 2012

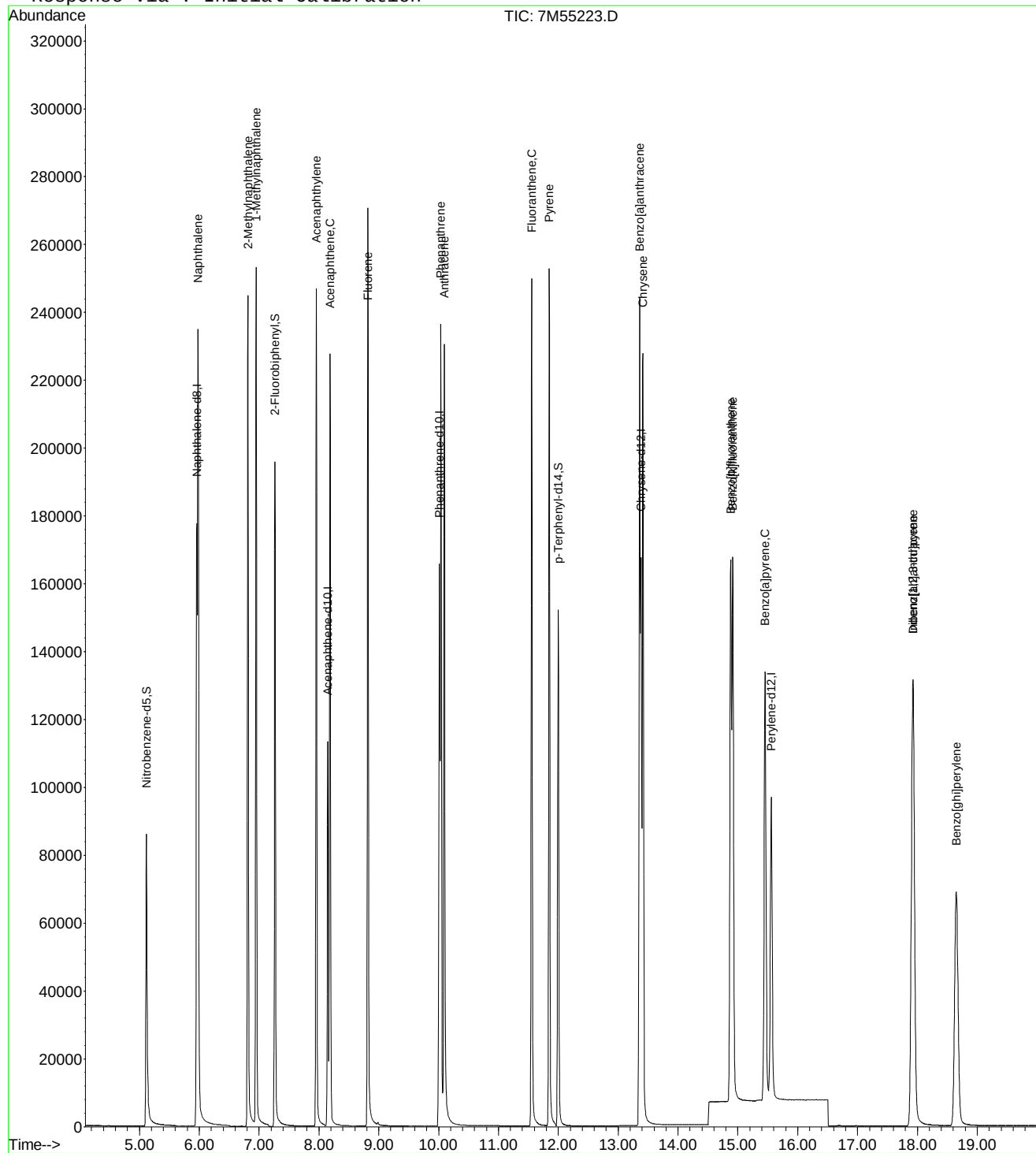
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Wed Jun 20 13:06:47 2012

Response via : Initial Calibration



7M55223.D SIMPAHL.M

Thu Jun 21 07:05:35 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\062512\7M55305.D Vial: 2
 Acq On : 25 Jun 2012 9:24 am Operator: CAA
 Sample : WG401478-02 1PPM PAHL STD Inst : HPMS7
 Misc : 1,1 STD52037 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 25 09:45:56 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Mon Jun 25 09:01:27 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	179688	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	111929	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	157061	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	157001	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	149193	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.11	82	73710	1.0078	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	40.40%
7) 2-Fluorobiphenyl	7.26	172	138144	1.0024	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	40.00%#
17) p-Terphenyl-d14	12.00	244	120067	1.0027	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	40.00%

Target Compounds						Qvalue
3) Naphthalene	5.98	128	203918	1.0238	ug/ml	100
4) 2-Methylnaphthalene	6.81	142	127467	1.0261	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	127358	1.0396	ug/ml	100
8) Acenaphthylene	7.96	152	198062	1.0219	ug/ml	100
9) Acenaphthene	8.18	154	114579	1.0240	ug/ml	100
10) Fluorene	8.81	166	136813	1.0079	ug/ml	100
12) Phenanthrene	10.04	178	183828	1.0221	ug/ml	99
13) Anthracene	10.10	178	191972	1.0585	ug/ml	100
14) Fluoranthene	11.55	202	207229	1.0394	ug/ml	100
16) Pyrene	11.85	202	221802	1.0421	ug/ml	100
18) Benzo[a]anthracene	13.36	228	185760	1.0210	ug/ml	100
19) Chrysene	13.42	228	189631	1.0568	ug/ml	100
21) Benzo[b]fluoranthene	14.88	252	176322	1.0133	ug/ml	96
22) Benzo[k]fluoranthene	14.92	252	181831	1.1018	ug/ml	99
23) Benzo[a]pyrene	15.46	252	177796	1.0544	ug/ml	99
24) Indeno[1,2,3-cd]pyrene	17.93	276	195595	0.9796	ug/ml	100
25) Dibenzo[ah]anthracene	17.93	278	162070	1.0120	ug/ml	100
26) Benzo[ghi]perylene	18.66	276	163944	0.9382	ug/ml	100

(#) = qualifier out of range (m) = manual integration
 7M55305.D SIMPAHL.M Tue Jun 26 09:08:19 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062512\7M55305.D

Vial: 2

Acq On : 25 Jun 2012 9:24 am

Operator: CAA

Sample : WG401478-02 1PPM PAHL STD

Inst : HPMS7

Misc : 1,1 STD52037

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 25 9:45 2012

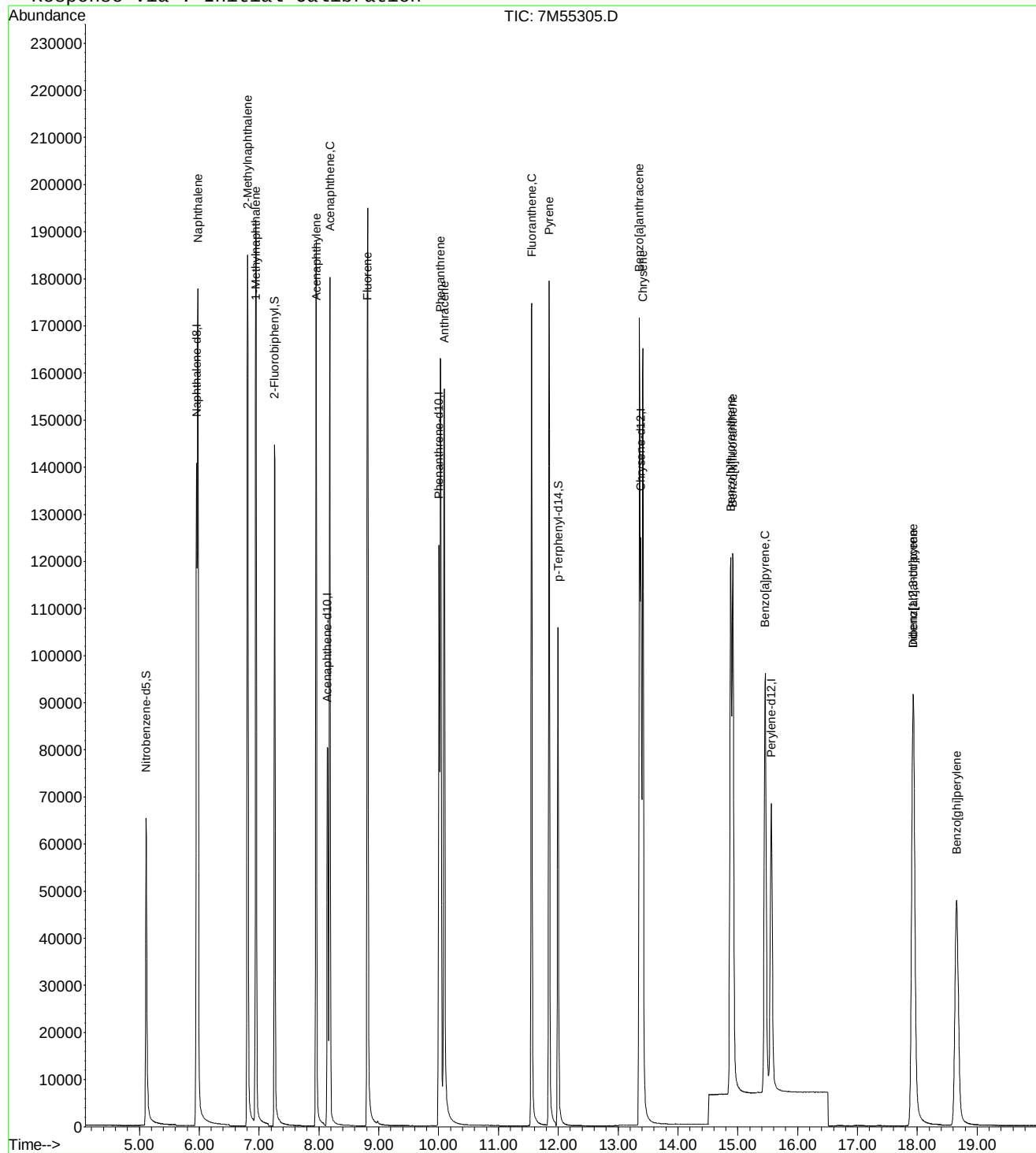
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Mon Jun 25 09:01:27 2012

Response via : Initial Calibration



7M55305.D SIMPAHL.M

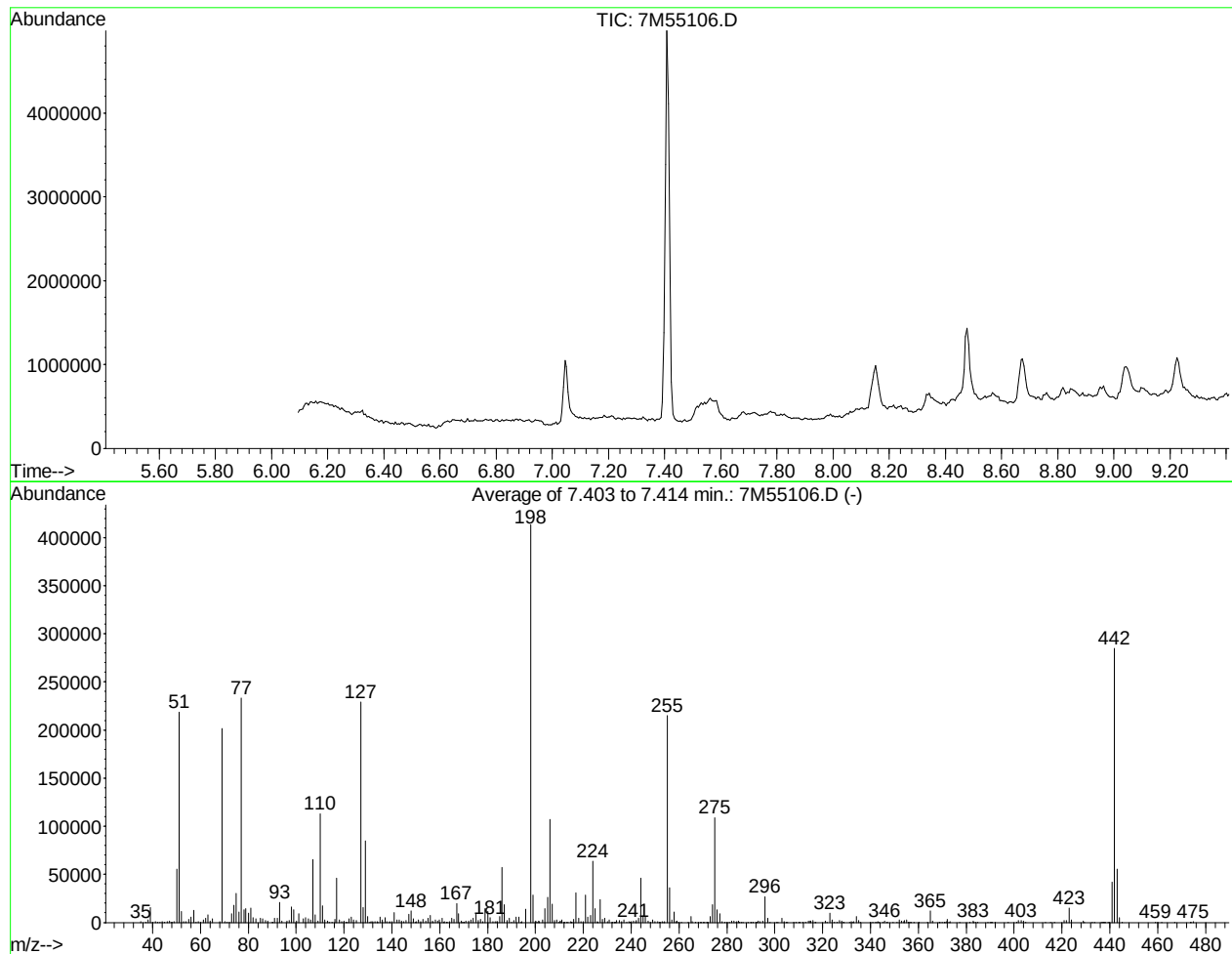
Tue Jun 26 09:08:19 2012

Page 2

2.2.2.5 Raw QC Data

DFTPP

Data File : C:\MSDCHEM\1\DATA\060112\7M55106.D Vial: 1
Acq On : 1 Jun 2012 1:15 pm Operator: CAA
Sample : WG399609-01 5PPM DFTPP STD Inst : HPMS7
Misc : 1,1 STD50659 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP



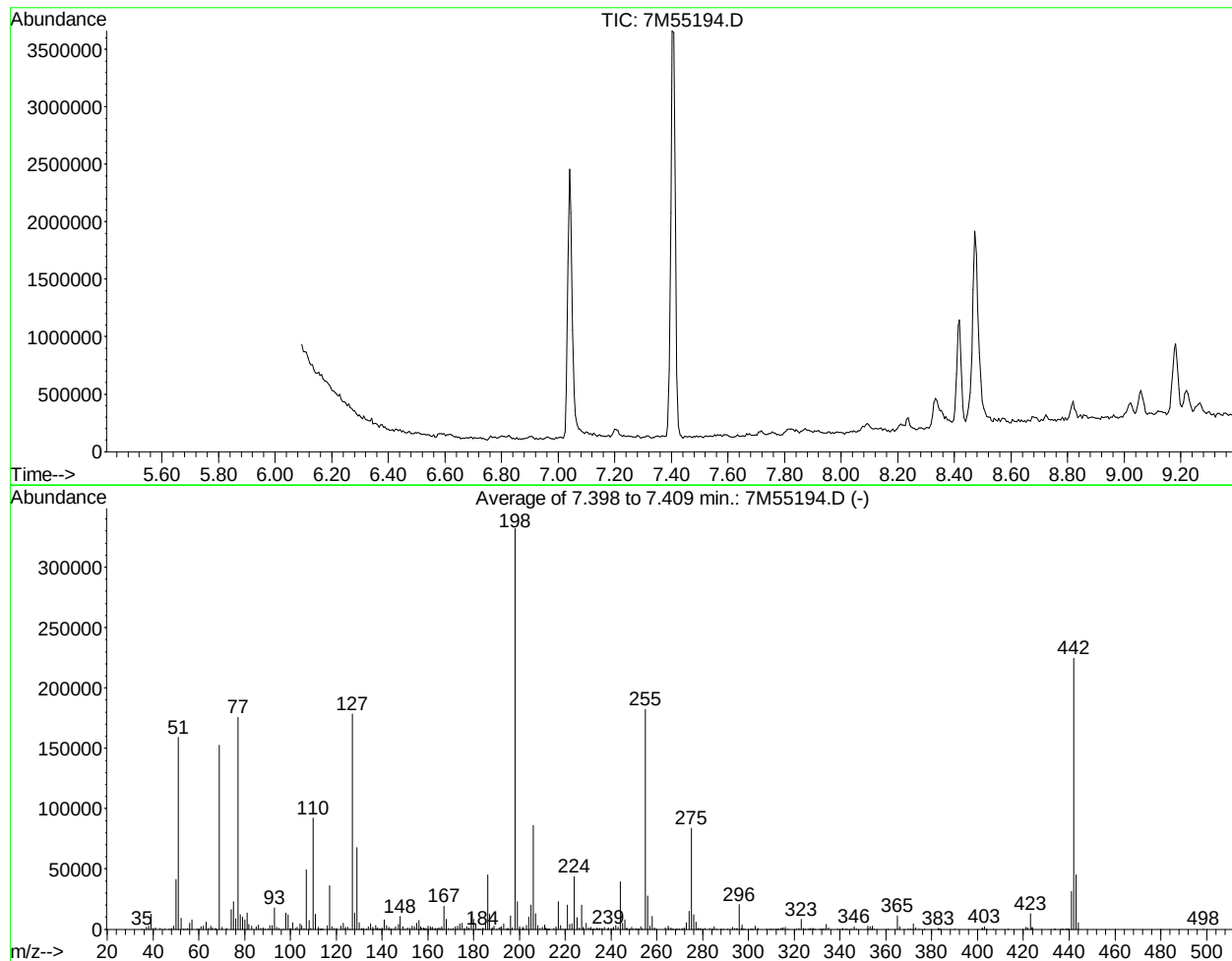
AutoFind: Scans 246, 247, 248; Background Corrected with Scan 239

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	52.8	218313	PASS
68	69	0.00	2	0.3	609	PASS
69	198	0.00	100	48.7	201266	PASS
70	69	0.00	2	0.3	678	PASS
127	198	40	60	55.4	229136	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	413500	PASS
199	198	5	9	6.8	28200	PASS
275	198	10	30	26.3	108904	PASS
365	198	1	100	2.9	11799	PASS
441	443	0.01	100	75.9	42133	PASS
442	198	40	100	68.9	284992	PASS
443	442	17	23	19.5	55512	PASS

7M55106.D DFTPP.M Mon Jun 04 09:44:42 2012

DFTPP

Data File : C:\MSDCHEM\1\DATA\061912\7M55194.D Vial: 1
Acq On : 19 Jun 2012 8:21 am Operator: CAA
Sample : WG400995-01 5PPM DFTPP STD Inst : HPMS7
Misc : 1,1 STD50659 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP



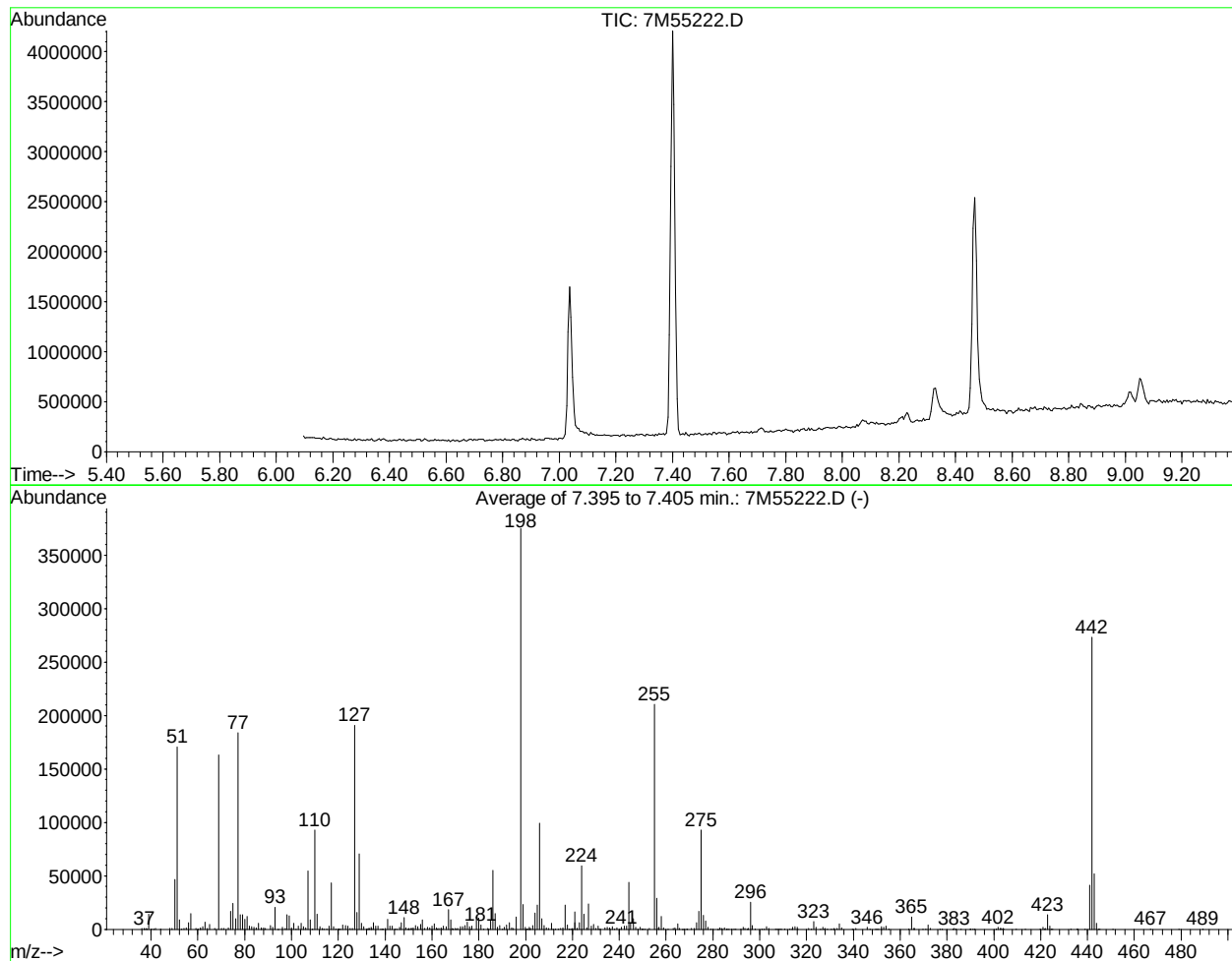
AutoFind: Scans 245, 246, 247; Background Corrected with Scan 239

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.0	159294	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	46.0	152672	PASS
70	69	0.00	2	1.1	1653	PASS
127	198	40	60	53.7	178312	PASS
197	198	0.00	1	0.4	1240	PASS
198	198	100	100	100.0	332202	PASS
199	198	5	9	6.9	23085	PASS
275	198	10	30	25.2	83682	PASS
365	198	1	100	3.4	11249	PASS
441	443	0.01	100	70.0	31565	PASS
442	198	40	100	67.6	224458	PASS
443	442	17	23	20.1	45069	PASS

7M55194.D DFTPP.M Wed Jun 20 13:06:28 2012

DFTPP

Data File : C:\MSDCHEM\1\DATA\062012\7M55222.D Vial: 1
Acq On : 20 Jun 2012 1:02 pm Operator: CAA
Sample : WG401191-01 5PPM DFTPP STD Inst : HPMS7
Misc : 1,1 STD50659 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP



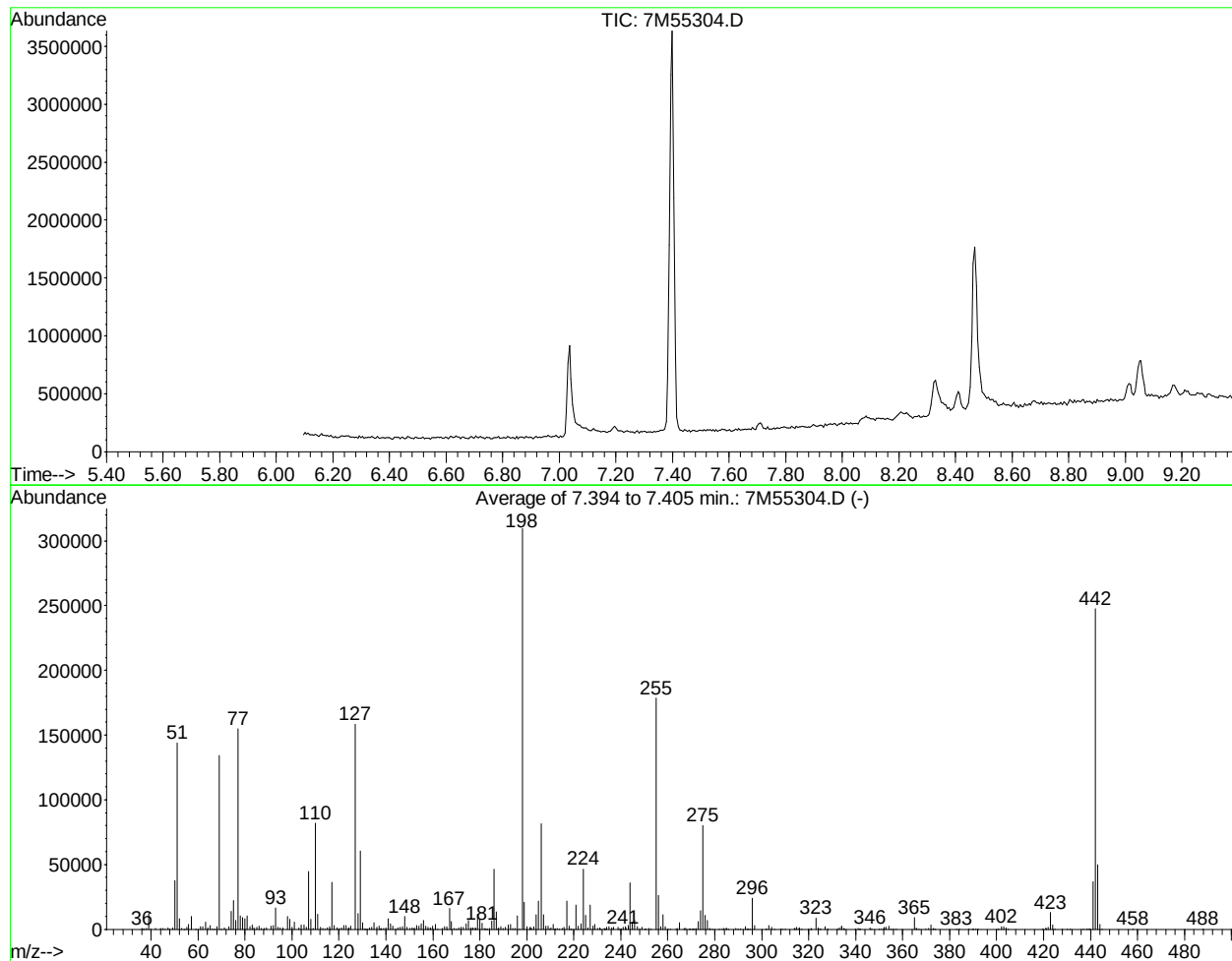
AutoFind: Scans 244, 245, 246; Background Corrected with Scan 236

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	45.4	170346	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.5	163148	PASS
70	69	0.00	2	0.6	984	PASS
127	198	40	60	50.9	190805	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	374954	PASS
199	198	5	9	6.1	23048	PASS
275	198	10	30	24.8	93061	PASS
365	198	1	100	3.0	11240	PASS
441	443	0.01	100	79.2	41165	PASS
442	198	40	100	72.9	273301	PASS
443	442	17	23	19.0	51984	PASS

7M55222.D DFTPP.M Thu Jun 21 07:05:20 2012

DFTPP

Data File : C:\MSDCHEM\1\DATA\062512\7M55304.D Vial: 1
Acq On : 25 Jun 2012 9:07 am Operator: CAA
Sample : WG401478-01 5PPM DFTPP STD Inst : HPMS7
Misc : 1,1 STD50659 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP



AutoFind: Scans 244, 245, 246; Background Corrected with Scan 237

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.5	144072	PASS
68	69	0.00	2	1.4	1920	PASS
69	198	0.00	100	43.4	134396	PASS
70	69	0.00	2	0.1	122	PASS
127	198	40	60	51.1	158352	PASS
197	198	0.00	1	0.1	309	PASS
198	198	100	100	100.0	309610	PASS
199	198	5	9	6.7	20836	PASS
275	198	10	30	25.9	80217	PASS
365	198	1	100	3.0	9136	PASS
441	443	0.01	100	74.1	36872	PASS
442	198	40	100	80.0	247744	PASS
443	442	17	23	20.1	49752	PASS

7M55304.D DFTPP.M Tue Jun 26 09:08:04 2012

Data File : C:\MSDCHEM\1\DATA\061912\7M55196.D Vial: 3
 Acq On : 19 Jun 2012 9:06 am Operator: CAA
 Sample : WG400887-02 BLK 06/18 Inst : HPMS7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 20 13:06:59 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Wed Jun 20 13:06:47 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	154876	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.15	164	97163	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	142518	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	139976	1.00	ug/ml	0.00
20) Perylene-d12	15.55	264	133113	1.00	ug/ml	-0.01

System Monitoring Compounds						
2) Nitrobenzene-d5	5.11	82	112193	1.7798	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	71.20%	
7) 2-Fluorobiphenyl	7.26	172	215592	1.8021	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	72.00%	
17) p-Terphenyl-d14	11.99	244	275398	2.5796	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	103.20%	

Target Compounds	Qvalue
------------------	--------

 (#) = qualifier out of range (m) = manual integration
 7M55196.D SIMPAHL.M Wed Jun 20 13:22:14 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\061912\7M55196.D

Vial: 3

Acq On : 19 Jun 2012 9:06 am

Operator: CAA

Sample : WG400887-02 BLK 06/18

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 20 13:06 2012

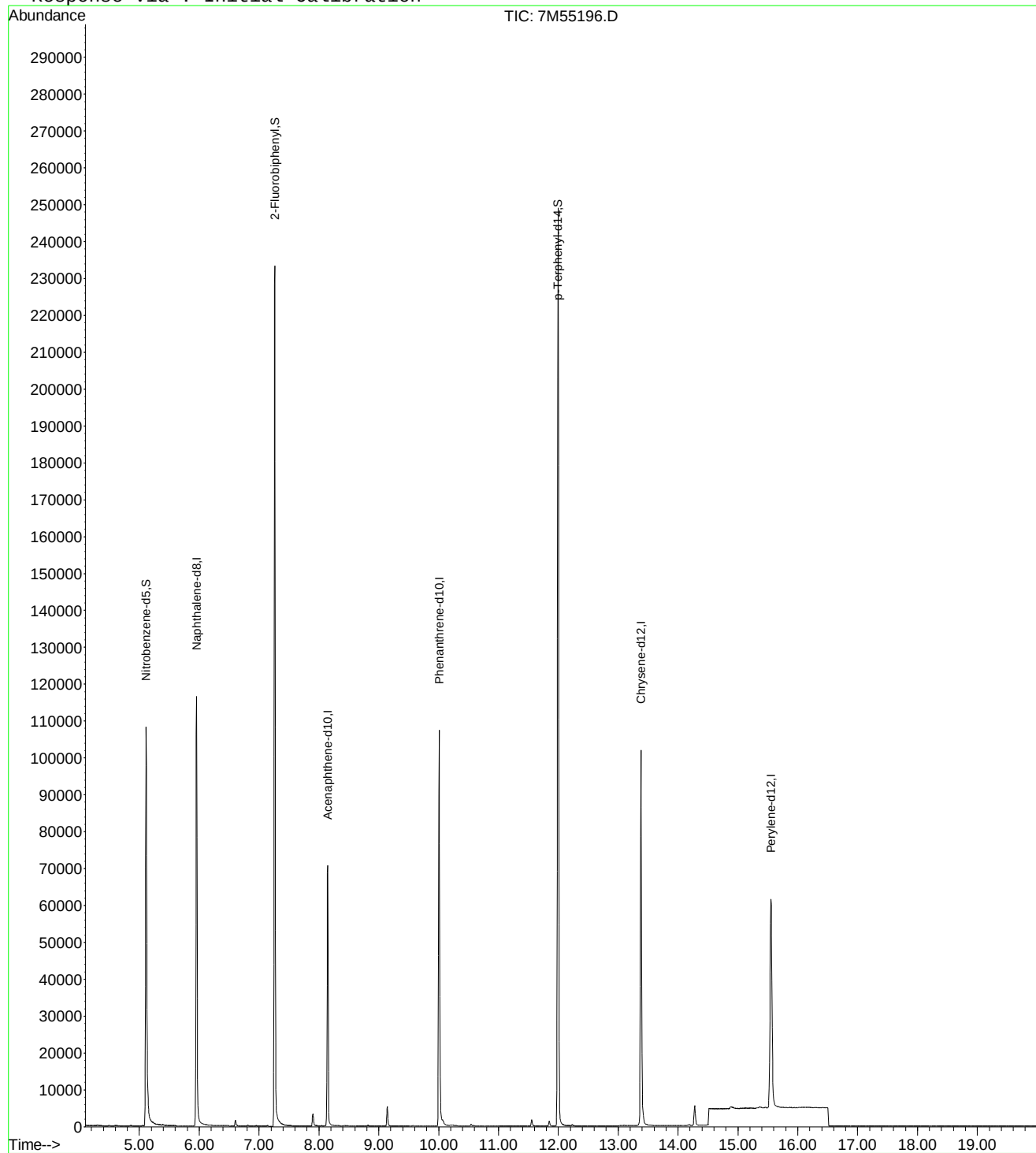
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Wed Jun 20 13:06:47 2012

Response via : Initial Calibration



7M55196.D SIMPAHL.M

Wed Jun 20 13:22:14 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\062512\7M55306.D Vial: 3
 Acq On : 25 Jun 2012 9:52 am Operator: CAA
 Sample : WG401346-01 BLK 06/22 Inst : HPMS7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jun 26 09:08:32 2012 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 06/01/12
 Last Update : Tue Jun 26 09:08:20 2012
 Response via : Initial Calibration
 DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	138619	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	89755	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	125846	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	128089	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	117782	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.11	82	123265	2.1847	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	87.20%	
7) 2-Fluorobiphenyl	7.26	172	237617	2.1502	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	86.00%	
17) p-Terphenyl-d14	11.99	244	260786	2.6694	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	106.80%	

Target Compounds	Qvalue
------------------	--------

 (#) = qualifier out of range (m) = manual integration
 7M55306.D SIMPAHL.M Tue Jun 26 09:20:39 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062512\7M55306.D

Vial: 3

Acq On : 25 Jun 2012 9:52 am

Operator: CAA

Sample : WG401346-01 BLK 06/22

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 26 9:08 2012

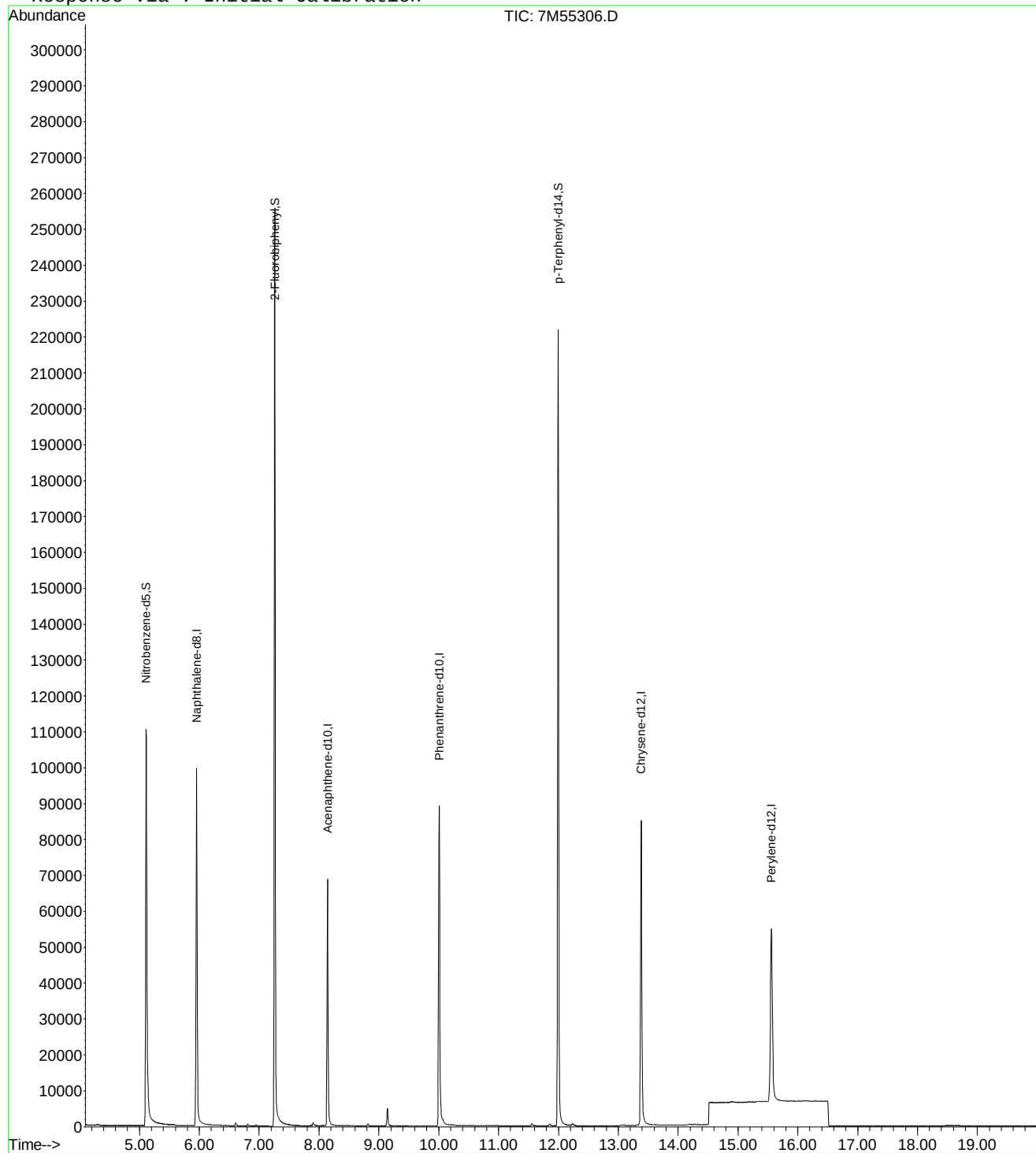
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Tue Jun 26 09:08:20 2012

Response via : Initial Calibration



7M55306.D SIMPAHL.M

Tue Jun 26 09:20:39 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\061912\7M55197.D

Vial: 4

Acq On : 19 Jun 2012 9:33 am

Operator: CAA

Sample : WG400887-03 LCS 06/18

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 20 13:06:59 2012

Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Wed Jun 20 13:06:47 2012

Response via : Initial Calibration

DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	147971	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	91388	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	131670	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	133907	1.00	ug/ml	0.00
20) Perylene-d12	15.55	264	125674	1.00	ug/ml	-0.01

System Monitoring Compounds

2) Nitrobenzene-d5	5.11	82	120726	2.0045	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	80.00%
7) 2-Fluorobiphenyl	7.26	172	230342	2.0471	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	82.00%
17) p-Terphenyl-d14	12.00	244	274047	2.6832	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	107.20%

Target Compounds

					Qvalue	
3) Naphthalene	5.98	128	126217	0.7695	ug/ml	100
4) 2-Methylnaphthalene	6.81	142	81002	0.7918	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	75272	0.7461	ug/ml	100
8) Acenaphthylene	7.96	152	122404	0.7735	ug/ml	99
9) Acenaphthene	8.18	154	65612	0.7181	ug/ml	95
10) Fluorene	8.81	166	88176	0.7956	ug/ml	100
12) Phenanthrene	10.03	178	131319	0.8710	ug/ml	100
13) Anthracene	10.09	178	132874	0.8739	ug/ml	99
14) Fluoranthene	11.55	202	168470	1.0080	ug/ml	100
16) Pyrene	11.85	202	191519	1.0550	ug/ml	99
18) Benzo[a]anthracene	13.35	228	149239	0.9618	ug/ml	99
19) Chrysene	13.41	228	163586	1.0689	ug/ml	100
21) Benzo[b]fluoranthene	14.87	252	151252	1.0319	ug/ml	96
22) Benzo[k]fluoranthene	14.91	252	150173	1.0803	ug/ml	96
23) Benzo[a]pyrene	15.45	252	153192	1.0785	ug/ml	99
24) Indeno[1,2,3-cd]pyrene	17.92	276	158819	0.9443	ug/ml	100
25) Dibenz[ah]anthracene	17.92	278	125640	0.9313	ug/ml	100
26) Benzo[ghi]perylene	18.63	276	139795	0.9497	ug/ml	99

 (#) = qualifier out of range (m) = manual integration
 7M55197.D SIMPAHL.M Wed Jun 20 13:15:20 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\061912\7M55197.D

Vial: 4

Acq On : 19 Jun 2012 9:33 am

Operator: CAA

Sample : WG400887-03 LCS 06/18

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 20 13:06 2012

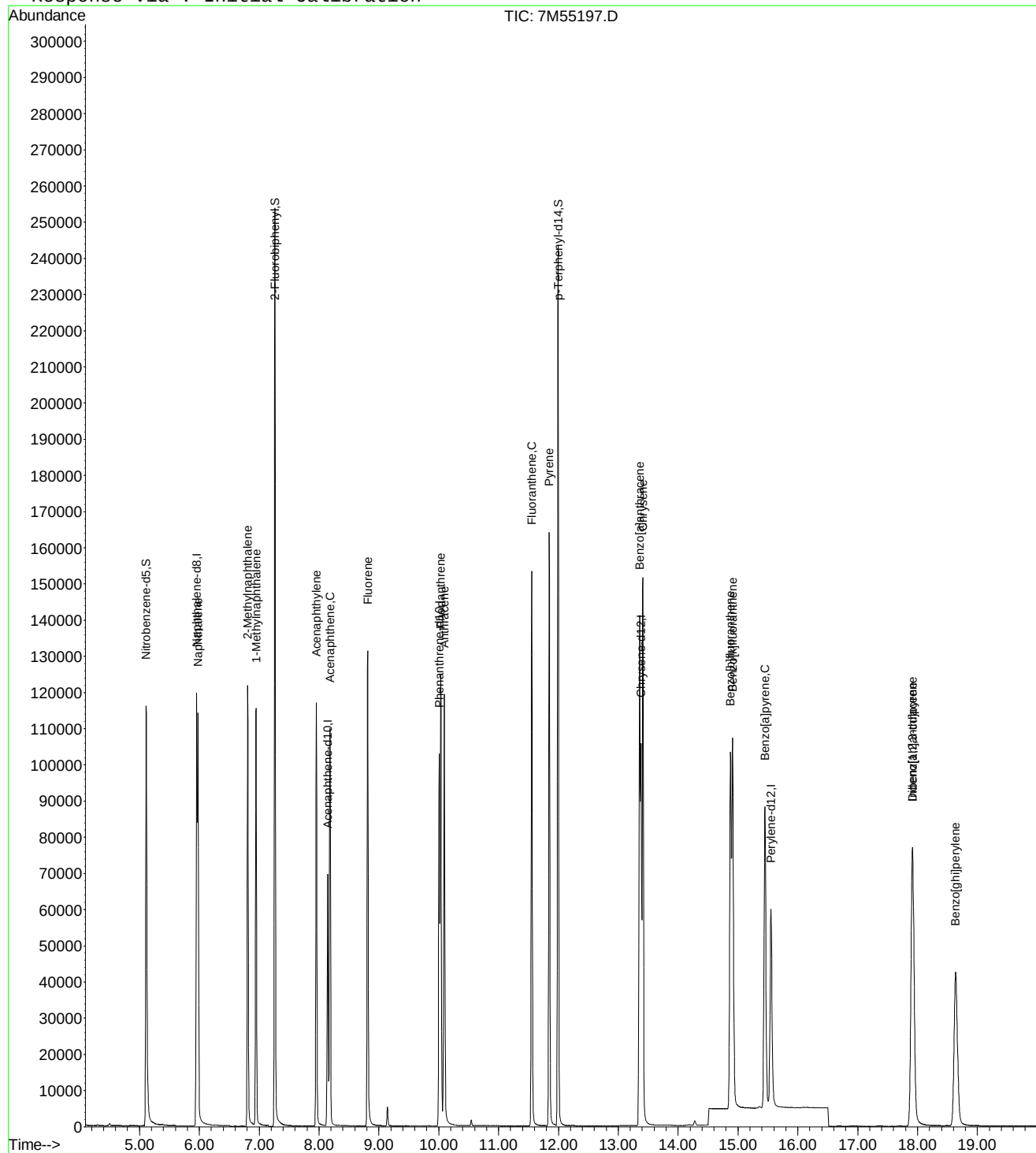
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Wed Jun 20 13:06:47 2012

Response via : Initial Calibration



7M55197.D SIMPAHL.M

Wed Jun 20 13:15:21 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\062512\7M55307.D

Vial: 4

Acq On : 25 Jun 2012 10:20 am

Operator: CAA

Sample : WG401346-02 LCS 06/22

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 26 09:08:32 2012

Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Tue Jun 26 09:08:20 2012

Response via : Initial Calibration

DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.95	136	161665	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	102310	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	145229	1.00	ug/ml	0.00
15) Chrysene-d12	13.39	240	151578	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	141328	1.00	ug/ml	0.00

System Monitoring Compounds

2) Nitrobenzene-d5	5.11	82	117459	1.7851	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	71.60%
7) 2-Fluorobiphenyl	7.26	172	214344	1.7016	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	68.00%
17) p-Terphenyl-d14	12.00	244	230162	1.9908	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	79.60%

Target Compounds

						Qvalue
3) Naphthalene	5.97	128	120260	0.6711	ug/ml	100
4) 2-Methylnaphthalene	6.81	142	75683	0.6771	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	71306	0.6469	ug/ml	100
8) Acenaphthylene	7.95	152	115534	0.6521	ug/ml	99
9) Acenaphthene	8.18	154	67045	0.6555	ug/ml	99
10) Fluorene	8.81	166	82276	0.6631	ug/ml	100
12) Phenanthrene	10.04	178	114648	0.6894	ug/ml	99
13) Anthracene	10.09	178	117231	0.6991	ug/ml	99
14) Fluoranthene	11.55	202	135542	0.7352	ug/ml	100
16) Pyrene	11.85	202	154214	0.7505	ug/ml	98
18) Benzo[a]anthracene	13.36	228	120026	0.6833	ug/ml	99
19) Chrysene	13.41	228	134338	0.7755	ug/ml	100
21) Benzo[b]fluoranthene	14.88	252	127219	0.7718	ug/ml	100
22) Benzo[k]fluoranthene	14.91	252	107969	0.6907	ug/ml	96
23) Benzo[a]pyrene	15.46	252	119261	0.7466	ug/ml	99
24) Indeno[1,2,3-cd]pyrene	17.93	276	103336	0.5464	ug/ml	100
25) Dibenz[ah]anthracene	17.93	278	57152	0.3767	ug/ml	100
26) Benzo[ghi]perylene	18.66	276	62487	0.3775	ug/ml	98

 (#) = qualifier out of range (m) = manual integration
 7M55307.D SIMPAHL.M Tue Jun 26 09:13:38 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062512\7M55307.D

Vial: 4

Acq On : 25 Jun 2012 10:20 am

Operator: CAA

Sample : WG401346-02 LCS 06/22

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 26 9:08 2012

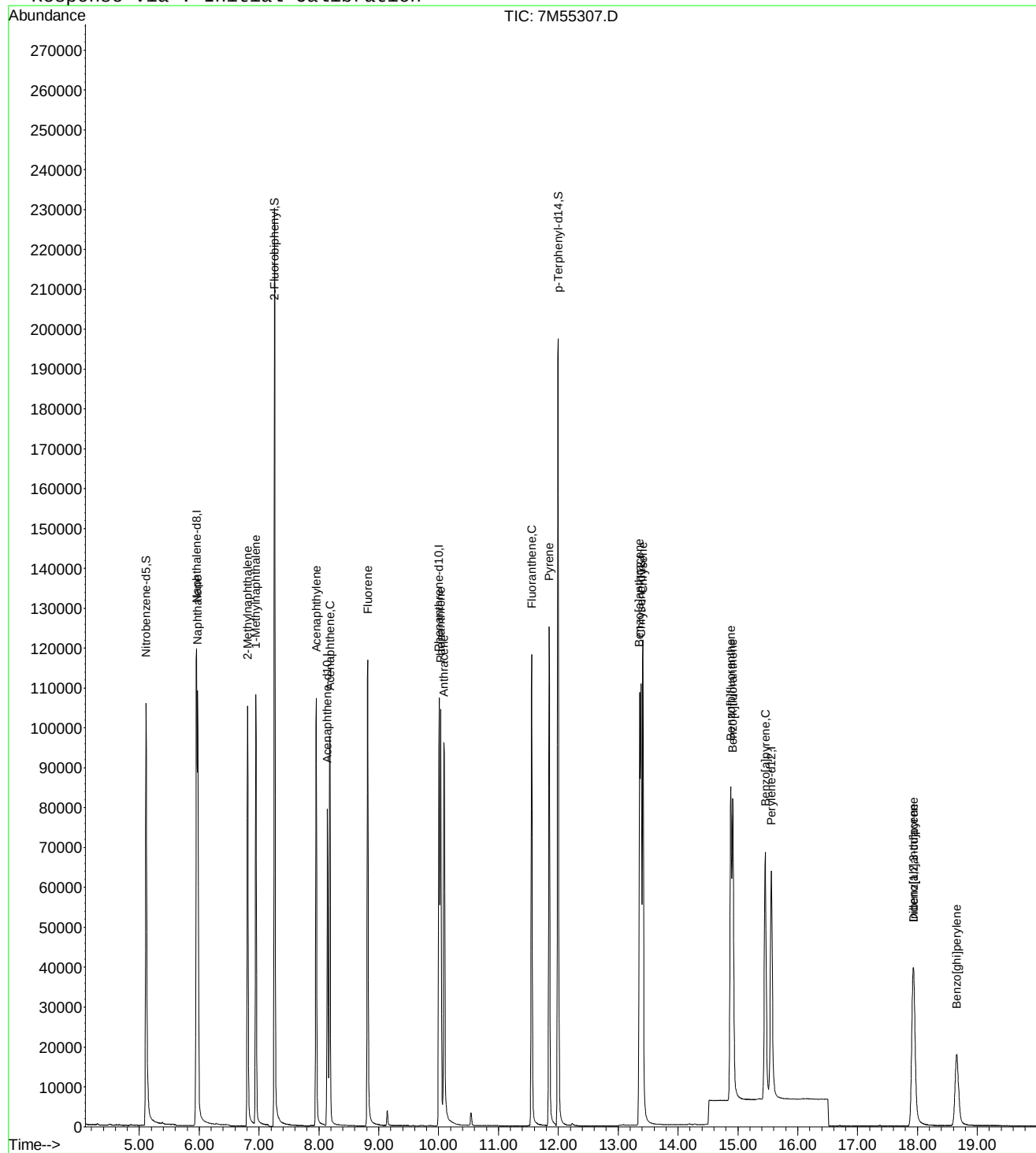
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Tue Jun 26 09:08:20 2012

Response via : Initial Calibration



7M55307.D SIMPAHL.M

Tue Jun 26 09:13:39 2012

Page 2

Data File : C:\MSDCHEM\1\DATA\062512\7M55308.D

Vial: 5

Acq On : 25 Jun 2012 10:48 am

Operator: CAA

Sample : WG401346-03 LCS DUP 06/22

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 26 09:08:32 2012

Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Tue Jun 26 09:08:20 2012

Response via : Initial Calibration

DataAcq Meth : PAHLSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	5.96	136	140501	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.14	164	89073	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.01	188	127833	1.00	ug/ml	0.00
15) Chrysene-d12	13.38	240	132318	1.00	ug/ml	0.00
20) Perylene-d12	15.56	264	121398	1.00	ug/ml	0.00

System Monitoring Compounds

2) Nitrobenzene-d5	5.11	82	98473	1.7219	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	68.80%	
7) 2-Fluorobiphenyl	7.26	172	187657	1.7111	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	68.40%	
17) p-Terphenyl-d14	11.99	244	190251	1.8851	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	75.60%	

Target Compounds

						Qvalue
3) Naphthalene	5.98	128	102860	0.6605	ug/ml	100
4) 2-Methylnaphthalene	6.81	142	65547	0.6748	ug/ml	100
5) 1-Methylnaphthalene	6.95	142	62199	0.6493	ug/ml	99
8) Acenaphthylene	7.96	152	101693	0.6593	ug/ml	99
9) Acenaphthene	8.18	154	59101	0.6637	ug/ml	99
10) Fluorene	8.81	166	73126	0.6769	ug/ml	100
12) Phenanthrene	10.04	178	102976	0.7035	ug/ml	100
13) Anthracene	10.10	178	105386	0.7140	ug/ml	98
14) Fluoranthene	11.56	202	121599	0.7494	ug/ml	100
16) Pyrene	11.85	202	138427	0.7717	ug/ml	98
18) Benzo[a]anthracene	13.36	228	106841	0.6968	ug/ml	99
19) Chrysene	13.41	228	116112	0.7678	ug/ml	99
21) Benzo[b]fluoranthene	14.88	252	106460	0.7519	ug/ml	100
22) Benzo[k]fluoranthene	14.91	252	94618	0.7046	ug/ml	97
23) Benzo[a]pyrene	15.46	252	102350	0.7459	ug/ml	99
24) Indeno[1,2,3-cd]pyrene	17.94	276	88525	0.5449	ug/ml	100
25) Dibenzo[ah]anthracene	17.93	278	51329	0.3939	ug/ml	100
26) Benzo[ghi]perylene	18.66	276	56211	0.3953	ug/ml	99

 (#) = qualifier out of range (m) = manual integration
 7M55308.D SIMPAHL.M Tue Jun 26 09:13:39 2012

Page 1

Data File : C:\MSDCHEM\1\DATA\062512\7M55308.D

Vial: 5

Acq On : 25 Jun 2012 10:48 am

Operator: CAA

Sample : WG401346-03 LCS DUP 06/22

Inst : HPMS7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 26 9:08 2012

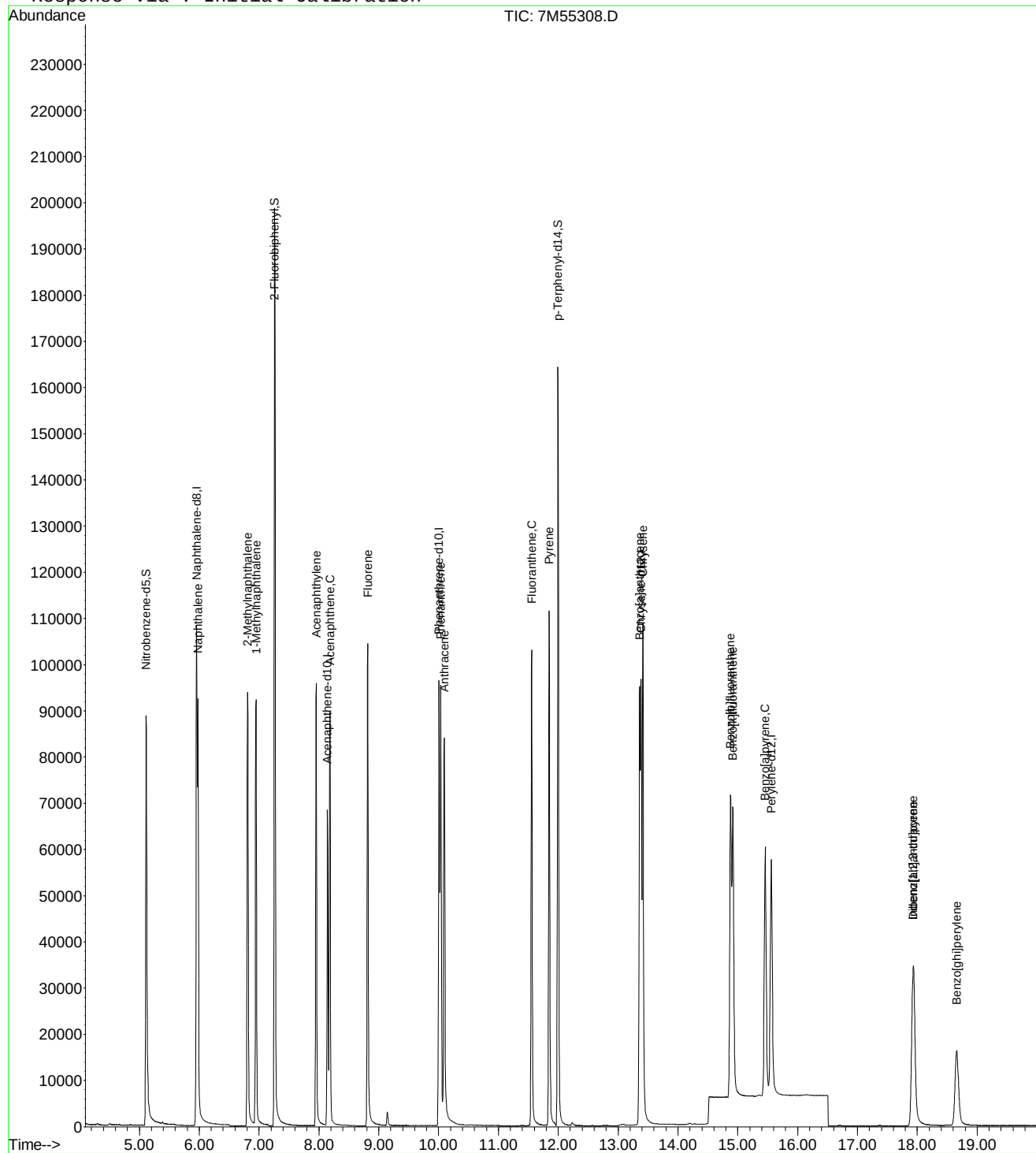
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 06/01/12

Last Update : Tue Jun 26 09:08:20 2012

Response via : Initial Calibration



7M55308.D SIMPAHL.M

Tue Jun 26 09:13:39 2012

Page 2

2.2 General Chromatography Data

2.2.3 6850 LC/MS Data

2.2.3.1 Summary Data



Login Number: L12060445
Department: General Chromatography
Analyst: Anthony Canter

METHOD

Analysis SW-846 6850

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Perchlorate. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration

is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 48467

Approved By: Mike Cochran



Certificate of Analysis

Sample #: L12060445-01	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW7GW601212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 19:02
Collect Date: 06/12/2012 10:25	Dilution: 1	File ID: 1LM.LM16724
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	3.69		0.200	0.100

Sample #: L12060445-03	PrePrep Method: N/A	Instrument: LCMS1
Client ID: LFMW01GW061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 19:21
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: 1LM.LM16725
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	4.81		0.200	0.100

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW6GW061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 20:37
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 1LM.LM16729
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.647		0.200	0.100

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW6MSGW061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 20:56
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 1LM.LM16730
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.820		0.200	0.100

Certificate of Analysis

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW6MSDGW061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 21:15
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 1LM.LM16731
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.782		0.200	0.100

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40DUPGW061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 21:34
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 1LM.LM16732
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.635		0.200	0.100

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40FB061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 21:53
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: 1LM.LM16733
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40EQR061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 22:12
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: 1LM.LM16734
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW5GW061212	Prep Method: 6850	Prep Date: 06/19/2012 16:12
Matrix: Water	Analytical Method: 6850	Cal Date: 06/14/2012 16:52
Workgroup #: WG401077	Analyst: ADC	Run Date: 06/19/2012 22:31
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: 1LM.LM16735
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	0.986		0.200	0.100

2.2.3.2 QC Summary Data

Example Calculation 6850 - Perchlorate

Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, $y = mx + b$

y = response ratio = response of analyte / response of internal standard (IS) = R_x/R_{istd}

x = amount ratio = concentration analyte/concentration internal standard (IS) = C_x / C_{istd}

m = slope from curve (1.45)

b = intercept from curve (-0.00242)

$y = 1.45x + -0.00242$

Step 2: Substitute the value for y

where $y = 12600/226000 = 0.055752$

Step 3: Solve for x

$x = (y - b)/m = 0.0040119$

Step 4: Solve for analyte concentration C_x

$C_x = (C_{is})(x) = (5 \text{ ug/L})(0.0040119) = 0.0200594 \text{ ug/L}$

Example Calculation - Water:

Slope from curve, m :	1.45
Intercept from curve, b :	-0.00242
Response of analyte, R_x :	12600
Response of Internal Standard, R_{istd} :	226000
Concentration of IS, C_{istd} (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, C_x (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, C_x (ug/L):	0.20059
Amount of soil extracted (g):	5.00
Final volume of extract (mL):	50.00
Percent solids (Pct wt.)	100
Concentration in soil (ug/kg):	2.005938

Conductivity Probe
Calibration Check:
1404 /1410 μ S/cm

**Perchlorate
Conductivity Check**

Working MCT Level:
10,000 μ S/cm

Sample	Conductivity (μ S/cm)	Pretreatment or Dilution Needed
WG 401 077 -01 ACT	9720	
-02 BIK	0.0 0.0	
-03 LUS	0.0	
-04 LG VUP	0.0	
-05 P&A	0.0	
-06 P&A	0.0	
L12060445 -01	620	
-03	636	
-05 AS	639	
-06 MS	635	
-07 SD	632	
-08	640	
-09	0.0	
-10	0.1	
-11	660	


Analyst

06/22/12 / 12:00
Date/Time

Microbac Laboratories Inc.
Instrument Run Log

Instrument: LCMS1 Dataset: 061412_JWR.TXT
 Analyst1: JWR Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0401111409

Column 1 ID: KP-RPPX250 Column 2 ID: NA
 Workgroups: Analytical WG400676 (waters)
 Internal STD: COA15641 Surrogate STD: NA Calibration STD: STD51105
 CCV STD: STD51105 LCS STD: STD51105 MS/MSD STD: STD51105

Comments: ICAL WG400702

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM16675	WG400702-01 CCB	1	1		06/14/12 14:39
2	1LM.LM16676	WG400702-02 0.1 ug/L STD	1	1	STD51105	06/14/12 14:58
3	1LM.LM16677	WG400702-03 0.2 ug/L STD	1	1	STD51105	06/14/12 15:17
4	1LM.LM16678	WG400702-04 0.5 ug/L STD	1	1	STD51105	06/14/12 15:36
5	1LM.LM16679	WG400702-05 1.0 ug/L STD	1	1	STD51105	06/14/12 15:55
6	1LM.LM16680	WG400702-06 2.0 ug/L STD	1	1	STD51105	06/14/12 16:14
7	1LM.LM16681	WG400702-07 5.0 ug/L STD	1	1	STD51105	06/14/12 16:33
8	1LM.LM16682	WG400702-08 10.0 ug/L STD	1	1	STD51105	06/14/12 16:52
9	1LM.LM16683	WG400702-09 1.0 ug/L ALT SRC	1	1	STD51107	06/14/12 17:11
10	1LM.LM16684	WG400684-01 CCB	1	1		06/14/12 17:30
11	1LM.LM16685	WG400684-02 1.0ug/L CCV	1	1	STD51105	06/14/12 17:49
12	1LM.LM16686	WG400676-07 0.2ug/L QCMRL	1	1	STD51105	06/14/12 18:08
13	1LM.LM16687	WG400676-01 0.2ug/L MCT	1	1	STD51105	06/14/12 18:27
14	1LM.LM16688	WG400676-02 BLANK	1	1		06/14/12 18:46
15	1LM.LM16689	WG400676-03 0.2ug/L LCS	1	1	STD51105	06/14/12 19:05
16	1LM.LM16690	L12060386-02 10x	1	10		06/14/12 19:23
17	1LM.LM16691	L12060244-01	1	1		06/14/12 19:42
18	1LM.LM16692	L12060244-02	1	1		06/14/12 20:01
19	1LM.LM16693	L12060244-03	1	1		06/14/12 20:20
20	1LM.LM16694	L12060244-04 Ref	1	1		06/14/12 20:39
21	1LM.LM16695	L12060244-04 MS	1	1	STD51105	06/14/12 20:58
22	1LM.LM16696	L12060244-04 MSD	1	1	STD51105	06/14/12 21:17
23	1LM.LM16697	BLANK-Rinse	1	1		06/14/12 21:36
24	1LM.LM16698	WG400684-03 1.0ug/L CCV	1	1	STD51105	06/14/12 21:55
25	1LM.LM16699	WG400676-08 0.2ug/L QCMRL	1	1	STD51105	06/14/12 22:14
26	1LM.LM16700	WG400684-04 CCB	1	1		06/14/12 22:33

Comments

Seq.	Rerun	Dil.	Reason	Analytes
16				
			L12060386-02 10x : This sample was analyzed at a dilution based on its historical results.	

Page: 1

Approved: 15-JUN-12




Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 061912_ADC.TXT
 Analyst1: ADC Analyst2: WTD
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: 42209 Syringe Filter Lot#: T0401111409

Column 1 ID: KP-RPPX250 Column 2 ID: NA
 Workgroups: WG401090, WG401077
 Internal STD: COA15641 Surrogate STD: NA Calibration STD: STD51105
 CCV STD: STD51105 LCS STD: STD51105 MS/MSD STD: STD51105

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM16715	WG401076-01 CCB	1	1		06/19/12 16:12
2	1LM.LM16716	WG401076-02 1.0ug/L CCV	1	1	STD51105	06/19/12 16:31
3	1LM.LM16717	WG401077-10 0.2ug/L QCMRL	1	1	STD51105	06/19/12 16:50
4	1LM.LM16718	WG401077-01 0.2ug/L MCT	1	1	STD51105	06/19/12 17:09
5	1LM.LM16719	WG401077-02 BLANK	1	1		06/19/12 17:28
6	1LM.LM16720	WG401077-03 0.2ug/L LCS	1	1	STD51105	06/19/12 17:47
7	1LM.LM16721	WG401077-04 0.2ug/L LCS Pl&A	1	1	STD51105	06/19/12 18:06
8	1LM.LM16722	WG401077-05 0.2ug/L LCS Pl&A	1	1	STD51105	06/19/12 18:25
9	1LM.LM16723	WG401077-06 0.2ug/L LCS Pl&A	1	1	STD51105	06/19/12 18:43
10	1LM.LM16724	L12060445-01	1	1		06/19/12 19:02
11	1LM.LM16725	L12060445-03	1	1		06/19/12 19:21
12	1LM.LM16726	WG401076-03 1.0ug/L CCV	1	1	STD51105	06/19/12 19:40
13	1LM.LM16727	WG401077-11 0.2ug/L QCMRL	1	1	STD51105	06/19/12 19:59
14	1LM.LM16728	WG401076-04 CCB	1	1		06/19/12 20:18
42	1LM.LM16729	L12060445-05	1	1		06/19/12 20:37
43	1LM.LM16730	L12060445-06 0.2ug/L MS	1	1	STD51105	06/19/12 20:56
44	1LM.LM16731	L12060445-07 0.2ug/L MSD	1	1	STD51105	06/19/12 21:15
18	1LM.LM16732	L12060445-08	1	1		06/19/12 21:34
19	1LM.LM16733	L12060445-09	1	1		06/19/12 21:53
20	1LM.LM16734	L12060445-10	1	1		06/19/12 22:12
21	1LM.LM16735	L12060445-11	1	1		06/19/12 22:31
22	1LM.LM16736	WG401076-05 1.0ug/L CCV	1	1	STD51105	06/19/12 22:50
45	1LM.LM16737	WG401090-10 2.0ug/kg QCMRL	7	1	STD51105	06/19/12 23:09
24	1LM.LM16738	WG401076-06 CCB	1	1		06/19/12 23:28
25	1LM.LM16739	WG401090-01 0.2ug/L MCT	7	1	STD51105	06/19/12 23:47
26	1LM.LM16740	WG401090-02 BLANK	7	1		06/20/12 00:05
27	1LM.LM16741	WG401090-03 0.2ug/L LCS	7	1	STD51105	06/20/12 00:24
28	1LM.LM16742	WG401090-04 0.2ug/L LCS Pl&A	7	1	STD51105	06/20/12 00:43
29	1LM.LM16743	WG401090-05 0.2ug/L LCS Pl&A	7	1	STD51105	06/20/12 01:02
30	1LM.LM16744	WG401090-06 0.2ug/L LCS Pl&A	7	1	STD51105	06/20/12 01:21
31	1LM.LM16745	WG401076-07 1.0ug/L CCV	1	1	STD51105	06/20/12 01:40
46	1LM.LM16746	WG401090-11 2.0ug/kg QCMRL	7	1	STD51105	06/20/12 01:59
33	1LM.LM16747	WG401076-08 CCB	1	1		06/20/12 02:18

Page: 1

Approved: 22-JUN-12

Michael Cohen



Microbac Laboratories Inc.
Instrument Run Log

Instrument: LCMS1 Dataset: 061912_ADC.TXT
 Analyst1: ADC Analyst2: WTD
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: 42209 Syringe Filter Lot#: T0401111409

Column 1 ID: KP-RPPX250 Column 2 ID: NA
 Workgroups: WG401090, WG401077
 Internal STD: COA15641 Surrogate STD: NA STD51105
 CCV STD: STD51105 LCS STD: STD51105 STD51105

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	1LM.LM16748	L12060458-01	7	1		06/20/12 02:37
35	1LM.LM16749	L12060458-01 2.0ug/kg MS	7	1	STD51105	06/20/12 02:56
36	1LM.LM16750	L12060458-01 2.0ug/kg MSD	7	1	STD51105	06/20/12 03:15
37	1LM.LM16751	L12060458-04	10	1		06/20/12 03:34
38	1LM.LM16752	L12060458-05	10	1		06/20/12 03:53
39	1LM.LM16753	WG401076-09 1.0ug/L CCV	1	1	STD51105	06/20/12 04:12
47	1LM.LM16754	WG401090-12 2.0ug/kg QCMRL	7	1	STD51105	06/20/12 04:31
41	1LM.LM16755	WG401076-10 CCB	1	1		06/20/12 04:49

Comments

Seq.	Rerun	Dil.	Reason	Analytes
34	X	10	Over Calibration Range	
			L12060458-01	
37	X	20	Over Calibration Range	
			L12060458-04	
38	X	100	Over Calibration Range	
			L12060458-05	

Page: 2

Approved: 22-JUN-12




Microbac Laboratories Inc.

Data Checklist

Date: 14-JUN-2012

Analyst: JWR

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: WG400702

Runlog ID: 47321

Analytical Workgroups: 06-0244, 0386 (WATERS)

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	MCT
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	JWR
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
15-JUN-2012

John Richards

Secondary Reviewer:
15-JUN-2012

Michael Cohen

CHECKLIST1 - Modified 03/05/2008
Generated: JUN-15-2012 14:27:44



Microbac Laboratories Inc.

Data Checklist

Date: 19-JUN-2012

Analyst: ADC

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: NA

Runlog ID: 47437

Analytical Workgroups: WG401090, WG401077

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	MCT
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	ADC
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
21-JUN-2012



Secondary Reviewer:
22-JUN-2012



CHECKLIST1 - Modified 03/05/2008
Generated: JUN-22-2012 10:02:48



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6850

AAB#: WG401077

Login Number: L12060445

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
40MW7GW061212	01	06/12/12					06/19/12	7.2	28		06/19/12	.1	28	
LFMW01GW061212	03	06/12/12					06/19/12	7.1	28		06/19/12	.1	28	
40MW6GW061212	05	06/12/12					06/19/12	7	28		06/19/12	.2	28	
40MW6MSGW061212	06	06/12/12					06/19/12	7	28		06/19/12	.2	28	
40MW6MSDGW061212	07	06/12/12					06/19/12	7	28		06/19/12	.2	28	
40DUPGW061212	08	06/12/12					06/19/12	7	28		06/19/12	.2	28	
40FB061212	09	06/12/12					06/19/12	7	28		06/19/12	.2	28	
40EQR061212	10	06/12/12					06/19/12	7	28		06/19/12	.3	28	
40MW5GW061212	11	06/12/12					06/19/12	6.9	28		06/19/12	.3	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2464917
Report generated 06/22/2012 13:18



METHOD BLANK SUMMARY

Login Number: L12060445
 Blank File ID: 1LM.LM16719
 Prep Date: 06/19/12 16:12
 Analyzed Date: 06/19/12 17:28
 Analyst: ADC

Work Group: WG401077
 Blank Sample ID: WG401077-02
 Instrument ID: LCMS1
 Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG401077-10	1LM.LM16717	06/19/12 16:50	01
MCT	WG401077-01	1LM.LM16718	06/19/12 17:09	01
LCS	WG401077-03	1LM.LM16720	06/19/12 17:47	01
LCS-P_A	WG401077-04	1LM.LM16721	06/19/12 18:06	02
LCS-P_A	WG401077-05	1LM.LM16722	06/19/12 18:25	02
LCS-P_A	WG401077-06	1LM.LM16723	06/19/12 18:43	02
40MW7GW061212	L12060445-01	1LM.LM16724	06/19/12 19:02	01
LFMW01GW061212	L12060445-03	1LM.LM16725	06/19/12 19:21	01
QCMRL	WG401077-11	1LM.LM16727	06/19/12 19:59	01
40MW6GW061212	L12060445-05	1LM.LM16729	06/19/12 20:37	01
40MW6MSGW061212	L12060445-06	1LM.LM16730	06/19/12 20:56	01
40MW6MSDGW061212	L12060445-07	1LM.LM16731	06/19/12 21:15	01
40DUPGW061212	L12060445-08	1LM.LM16732	06/19/12 21:34	01
40FB061212	L12060445-09	1LM.LM16733	06/19/12 21:53	01
40EQR061212	L12060445-10	1LM.LM16734	06/19/12 22:12	01
40MW5GW061212	L12060445-11	1LM.LM16735	06/19/12 22:31	01
QCMRL	WG401077-12	1LM.LM16737	06/19/12 23:09	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2464918
 Report generated 06/22/2012 13:18



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/19/12 16:12 Sample ID: WG401077-02
Instrument ID: LCMS1 Run Date: 06/19/12 17:28 Prep Method: 6850
File ID: 1LM.LM16719 Analyst: ADC Method: 6850
Workgroup (AAB#): WG401077 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1 - 14-JUN-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Perchlorate	0.100	0.200	0.100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2464919

22-JUN-2012 13:18



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401077-03
Instrument ID: LCMS1 Run Time: 17:47 Prep Method: 6850
File ID: 1LM.LM16720 Analyst: ADC Method: 6850
Workgroup (AAB#): WG401077 Matrix: Water Units: ug/L
QC Key: D0D4 Lot#: STD51105 Cal ID: LCMS1 - 14-JUN-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	0.200	0.186	93.0	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2463379
Report generated: 06/22/2012 13:19



MS/MSD REPORT

Loginum: <u>L12060445</u>	Cal ID: <u>LCMS1- 14-JUN-12</u>	Worknum: <u>WG401077</u>
Instrument ID: <u>LCMS1</u>	Contract #: _____	Prep Method: <u>6850</u>
Parent ID: <u>L12060445-05</u>	File ID: <u>1LM.LM16729</u>	Dil: <u>1</u>
Sample ID: <u>L12060445-06 MS</u>	File ID: <u>1LM.LM16730</u>	Dil: <u>1</u>
Sample ID: <u>L12060445-07 MSD</u>	File ID: <u>1LM.LM16731</u>	Dil: <u>1</u>
		Method: <u>6850</u>
		Matrix: <u>Water</u>
		Units: <u>ug/L</u>

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Perchlorate	0.647	0.200	0.820	86.5	0.200	0.782	67.5	4.74	80 - 120	15	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
 PDF File ID: 2463380
 Report generated 06/22/2012 13:19



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12060445
Analytical Method: 6850
ICAL Workgroup: WG400702

Instrument ID: LCMS1
Initial Calibration Date: 14-JUN-12 16:52
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		1.243	1.89	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2464921
Report generated 06/22/2012 13:19



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12060445
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 14-JUN-12 16:52
Column ID: F

Analyte	WG400702-02			WG400702-03			WG400702-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	11400.0000	1.235	0.200	22900.0000	1.245	0.500	55900.0000	1.219

INT_CAL - Modified 03/06/2008
PDF File ID: 2464921
Report generated 06/22/2012 13:19



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12060445
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 14-JUN-12 16:52
Column ID: F

Analyte	WG400702-05			WG400702-06			WG400702-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	114000.000	1.258	2.00	229000.000	1.246	5.00	555000.000	1.237

INT_CAL - Modified 03/06/2008
PDF File ID: 2464921
Report generated 06/22/2012 13:19



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12060445
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 14-JUN-12 16:52
Column ID: F

Analyte	WG400702-08		
	CONC	RESP	RF
Perchlorate	10.0	1090000.00	1.260

INT_CAL - Modified 03/06/2008
PDF File ID: 2464921
Report generated 06/22/2012 13:19



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12060445 Run Date: 06/14/2012 Sample ID: WG400702-09
Instrument ID: LCMS1 Run Time: 17:11 Method: 6850
File ID: 1LM.LM16683 Analyst: JWR QC Key: D0D4
ICal Workgroup: WG400702 Cal ID: LCMS1 - 14-JUN-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	0.988	ug/L	1.23	1.20	15	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2464922
Report generated 06/22/2012 13:19



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401076-01
Instrument ID: LCMS1 Run Time: 16:12 Method: 6850
File ID: 1LM.LM16715 Analyst: ADC Units: ug/L
Workgroup (AAB#): WG401077 Cal ID: LCMS1 - 14-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2464924
Report generated 06/22/2012 13:19



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401076-04
Instrument ID: LCMS1 Run Time: 20:18 Method: 6850
File ID: 1LM.LM16728 Analyst: ADC Units: ug/L
Workgroup (AAB#): WG401077 Cal ID: LCMS1 - 14-JUN-12
Matrix: WATER QAPP: D0D4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2464924
Report generated 06/22/2012 13:19



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401076-06
Instrument ID: LCMS1 Run Time: 23:28 Method: 6850
File ID: 1LM.LM16738 Analyst: ADC Units: ug/L
Workgroup (AAB#): WG401077 Cal ID: LCMS1 - 14-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2464924
Report generated 06/22/2012 13:19



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401076-02
Instrument ID: LCMS1 Run Time: 16:31 Method: 6850
File ID: 1LM.LM16716 Analyst: ADC QC Key: D0D4
Workgroup (AAB#): WG401077 Cal ID: LCMS1 - 14-JUN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.958	ug/L	1.20	4.20	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2463381
Report generated 06/22/2012 13:19



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401076-03
Instrument ID: LCMS1 Run Time: 19:40 Method: 6850
File ID: 1LM.LM16726 Analyst: ADC QC Key: D0D4
Workgroup (AAB#): WG401077 Cal ID: LCMS1 - 14-JUN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.963	ug/L	1.20	3.70	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2463381
Report generated 06/22/2012 13:19



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401076-05
Instrument ID: LCMS1 Run Time: 22:50 Method: 6850
File ID: 1LM.LM16736 Analyst: ADC QC Key: D0D4
Workgroup (AAB#): WG401077 Cal ID: LCMS1 - 14-JUN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.942	ug/L	1.18	5.80	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2463381
Report generated 06/22/2012 13:19



Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401077-10
Instrument ID: LCMS1 Run Time: 16:50 Prep Method: 6850
File ID: 1LM.LM16717 Analyst: ADC Method: 6850
Workgroup (AAB#): WG401077 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1 - 14-JUN-12

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.191	95.5	70 - 130	



Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401077-11
Instrument ID: LCMS1 Run Time: 19:59 Prep Method: 6850
File ID: 1LM.LM16727 Analyst: ADC Method: 6850
Workgroup (AAB#): WG401077 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1 - 14-JUN-12

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.192	96.0	70 - 130	



Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401077-12
Instrument ID: LCMS1 Run Time: 23:09 Prep Method: 6850
File ID: 1LM.LM16737 Analyst: ADC Method: 6850
Workgroup (AAB#): WG401077 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1 - 14-JUN-12

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.199	99.5	70 - 130	



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number: L12060445
Instrument ID: LCMS1
Workgroup (AAB#): WG401077

ICAL CCV Number: WG400702-05
CAL ID: LCMS1 - 14-JUN-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG400702	NA	NA	454000
Upper Limit	NA	NA	681000
Lower Limit	NA	NA	227000
L12060445-01	1.00	01	358000
L12060445-03	1.00	01	347000
L12060445-05	1.00	01	364000
L12060445-06	1.00	01	352000
L12060445-07	1.00	01	362000
L12060445-08	1.00	01	362000
L12060445-09	1.00	01	423000
L12060445-10	1.00	01	445000
L12060445-11	1.00	01	372000
WG401077-02	1.00	01	415000
WG401077-03	1.00	01	429000

IS-1 - 018LP

Underline = Response outside limits



Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 19:02

Samplenum: L12060445-01
File ID: 1LM.LM16724
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	331000	106000	3.12	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 19:21

Samplenum: L12060445-03
File ID: 1LM.LM16725
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	417000	135000	3.09	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 20:37

Samplenum: L12060445-05
File ID: 1LM.LM16729
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	58700	19700	2.98	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 20:56

Samplenum: L12060445-06
File ID: 1LM.LM16730
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	72100	22900	3.15	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 21:15

Samplenum: L12060445-07
File ID: 1LM.LM16731
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	70700	24400	2.90	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 21:34

Samplenum: L12060445-08
File ID: 1LM.LM16732
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	57300	19700	2.91	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 21:53

Samplenum: L12060445-09
File ID: 1LM.LM16733
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	333	0.000	2.3	3.8	*

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 22:12

Samplenum: L12060445-10
File ID: 1LM.LM16734
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 22:31

Samplenum: L12060445-11
File ID: 1LM.LM16735
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	91500	29600	3.09	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: JWR
Worknum: WG401077

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 06/14/2012 14:58

Samplenum: WG400702-02
File ID: 1LM.LM16676
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	11400	3590	3.18	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: JWR
Worknum: WG401077

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 06/14/2012 15:17

Samplenum: WG400702-03
File ID: 1LM.LM16677
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	22900	7950	2.88	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: JWR
Worknum: WG401077

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 06/14/2012 15:36

Samplenum: WG400702-04
File ID: 1LM.LM16678
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	55900	19000	2.94	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: JWR
Worknum: WG401077

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 06/14/2012 15:55

Samplenum: WG400702-05
File ID: 1LM.LM16679
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	114000	35800	3.18	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: JWR
Worknum: WG401077

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 06/14/2012 16:14

Samplenum: WG400702-06
File ID: 1LM.LM16680
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	229000	74200	3.09	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: JWR
Worknum: WG401077

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 06/14/2012 16:33

Samplenum: WG400702-07
File ID: 1LM.LM16681
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	555000	178000	3.12	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: JWR
Worknum: WG401077

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 06/14/2012 16:52

Samplenum: WG400702-08
File ID: 1LM.LM16682
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	1090000	342000	3.19	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: JWR
Worknum: WG401077

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 06/14/2012 17:11

Samplenum: WG400702-09
File ID: 1LM.LM16683
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	113000	37800	2.99	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 06/19/2012 16:12

Samplenum: WG401076-01
File ID: 1LM.LM16715
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	290	0.000	2.3	3.8	*

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 06/19/2012 16:31

Samplenum: WG401076-02
File ID: 1LM.LM16716
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	104000	35900	2.90	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 06/19/2012 19:40

Samplenum: WG401076-03
File ID: 1LM.LM16726
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	98200	32200	3.05	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 06/19/2012 20:18

Samplenum: WG401076-04
File ID: 1LM.LM16728
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 06/19/2012 22:50

Samplenum: WG401076-05
File ID: 1LM.LM16736
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	99600	32500	3.06	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 06/19/2012 23:28

Samplenum: WG401076-06
File ID: 1LM.LM16738
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 17:09

Samplenum: WG401077-01
File ID: 1LM.LM16718
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	18800	6430	2.92	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 17:28

Samplenum: WG401077-02
File ID: 1LM.LM16719
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 17:47

Samplenum: WG401077-03
File ID: 1LM.LM16720
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	19700	6770	2.91	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 16:50

Samplenum: WG401077-10
File ID: 1LM.LM16717
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	20800	7040	2.95	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 19:59

Samplenum: WG401077-11
File ID: 1LM.LM16727
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	20800	7590	2.74	2.3	3.8	

Login #: L12060445
Instrument: LCMS1
Analyst: ADC
Worknum: WG401077

Prep Method: 6850
Prep Date: 06/19/2012 16:12
Anal Method: 6850
Analysis Date: 06/19/2012 23:09

Samplenum: WG401077-12
File ID: 1LM.LM16737
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	21500	7260	2.96	2.3	3.8	

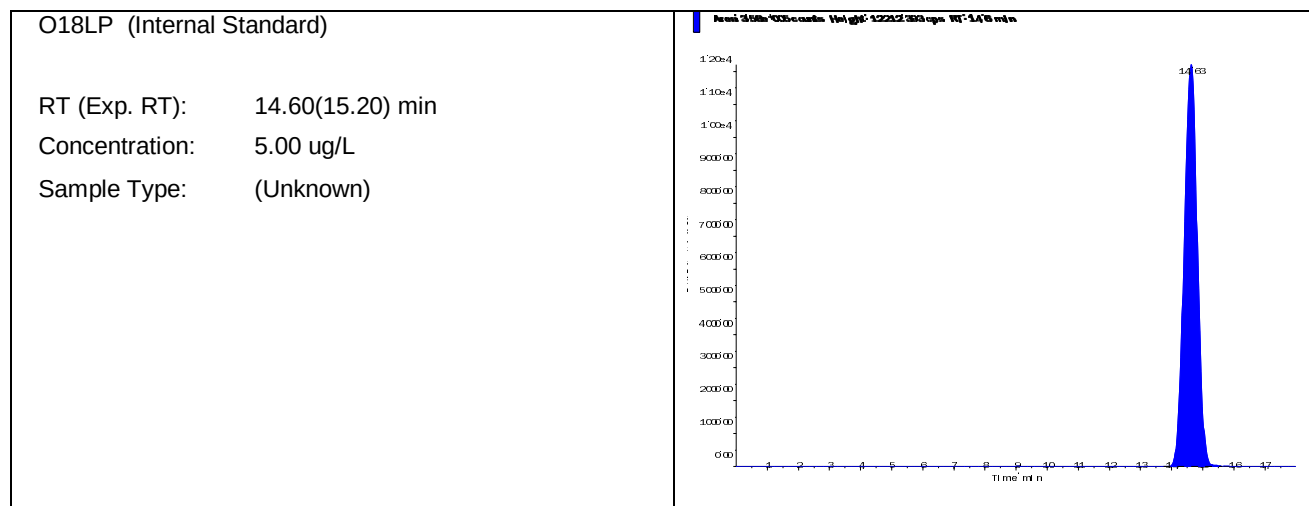
2.2.3.3 Sample Data

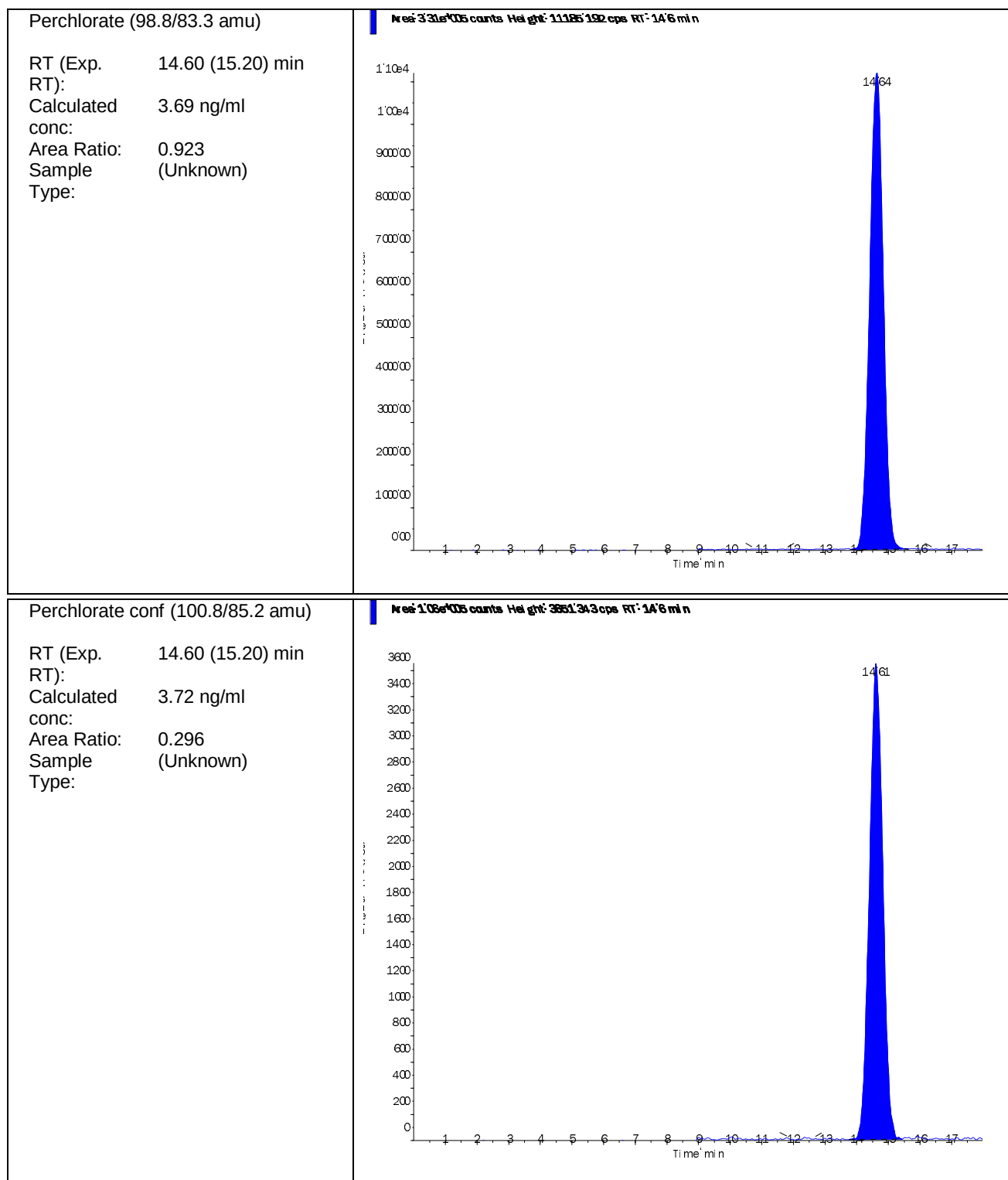
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L12060445-01	Injection Vial	10.00
Data File	LM16724.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 7:02:57 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	L12060445-01	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.580e+05	14.60	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.310e+05	14.60	N/A	3.69
Perchlorate conf	1.060e+05	14.60	N/A	3.72





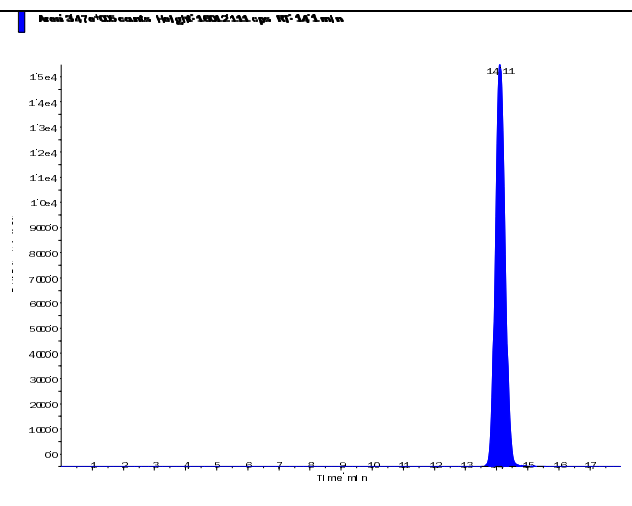
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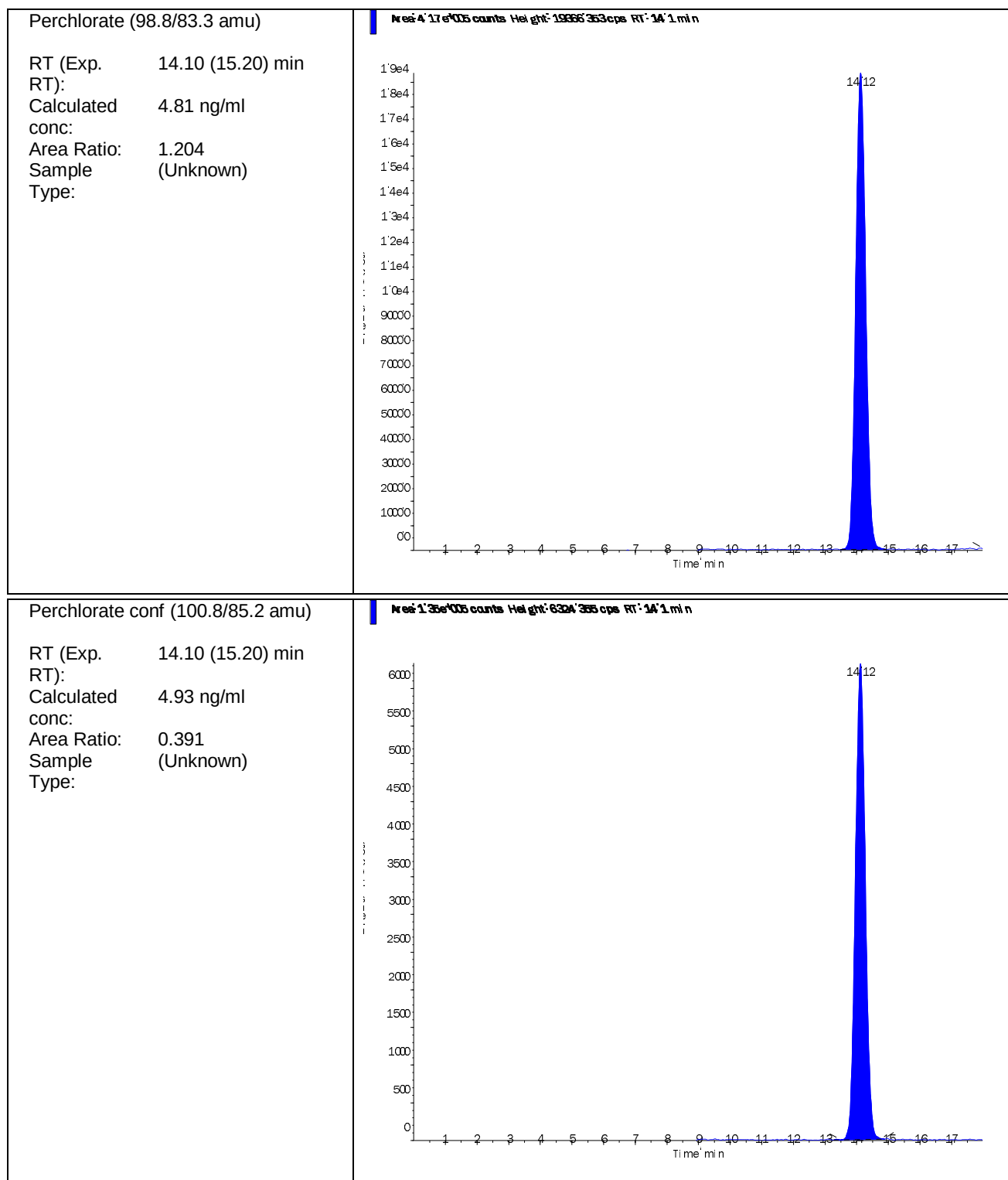
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L12060445-03	Injection Vial	11.00
Data File	LM16725.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 7:21:52 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	L12060445-03	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.470e+05	14.10	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.170e+05	14.10	N/A	4.81
Perchlorate conf	1.350e+05	14.10	N/A	4.93

O18LP (Internal Standard) RT (Exp. RT): 14.10(15.20) min Concentration: 5.00 ug/L Sample Type: (Unknown)	
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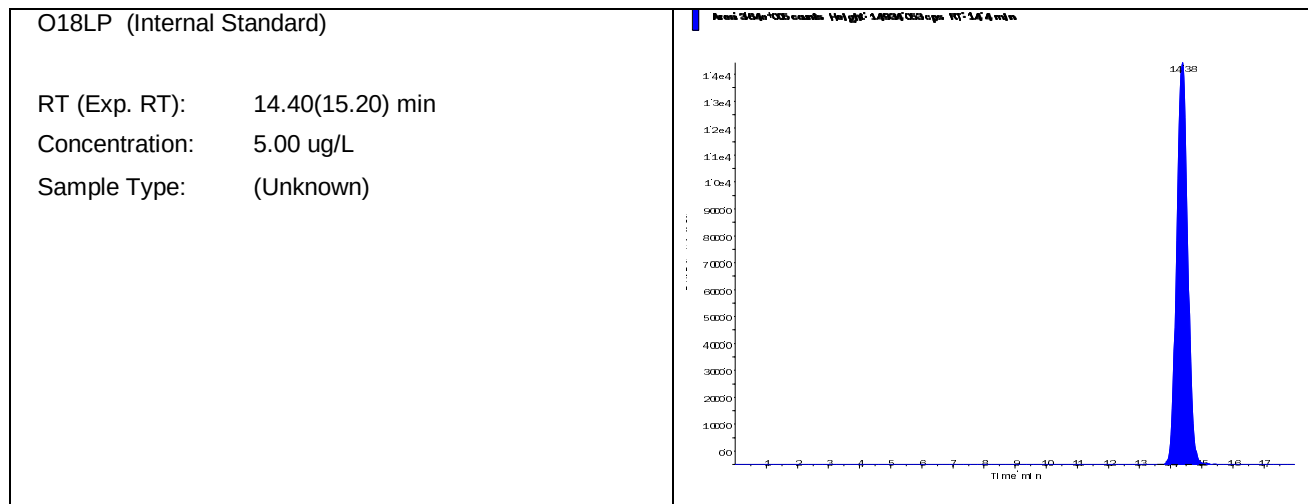
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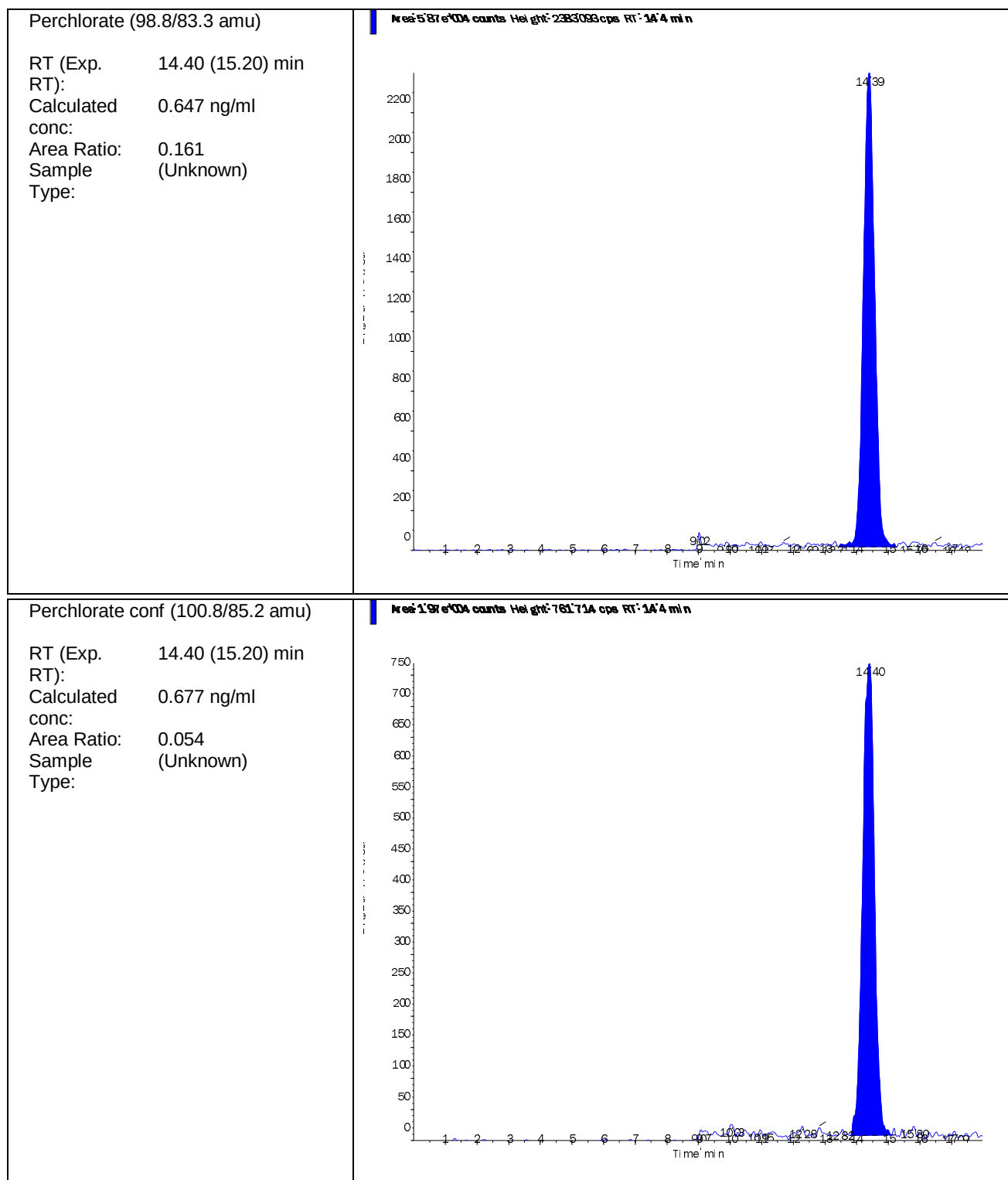
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L12060445-05	Injection Vial	12.00
Data File	LM16729.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 8:37:35 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401077-07	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.640e+05	14.40	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.870e+04	14.40	N/A	0.647
Perchlorate conf	1.970e+04	14.40	N/A	0.677





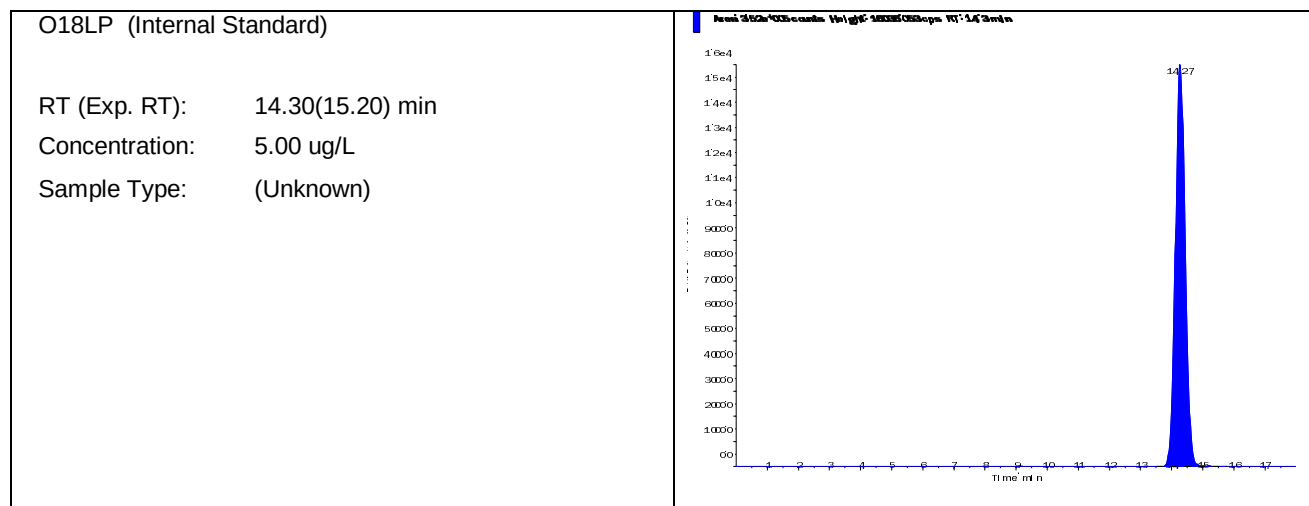
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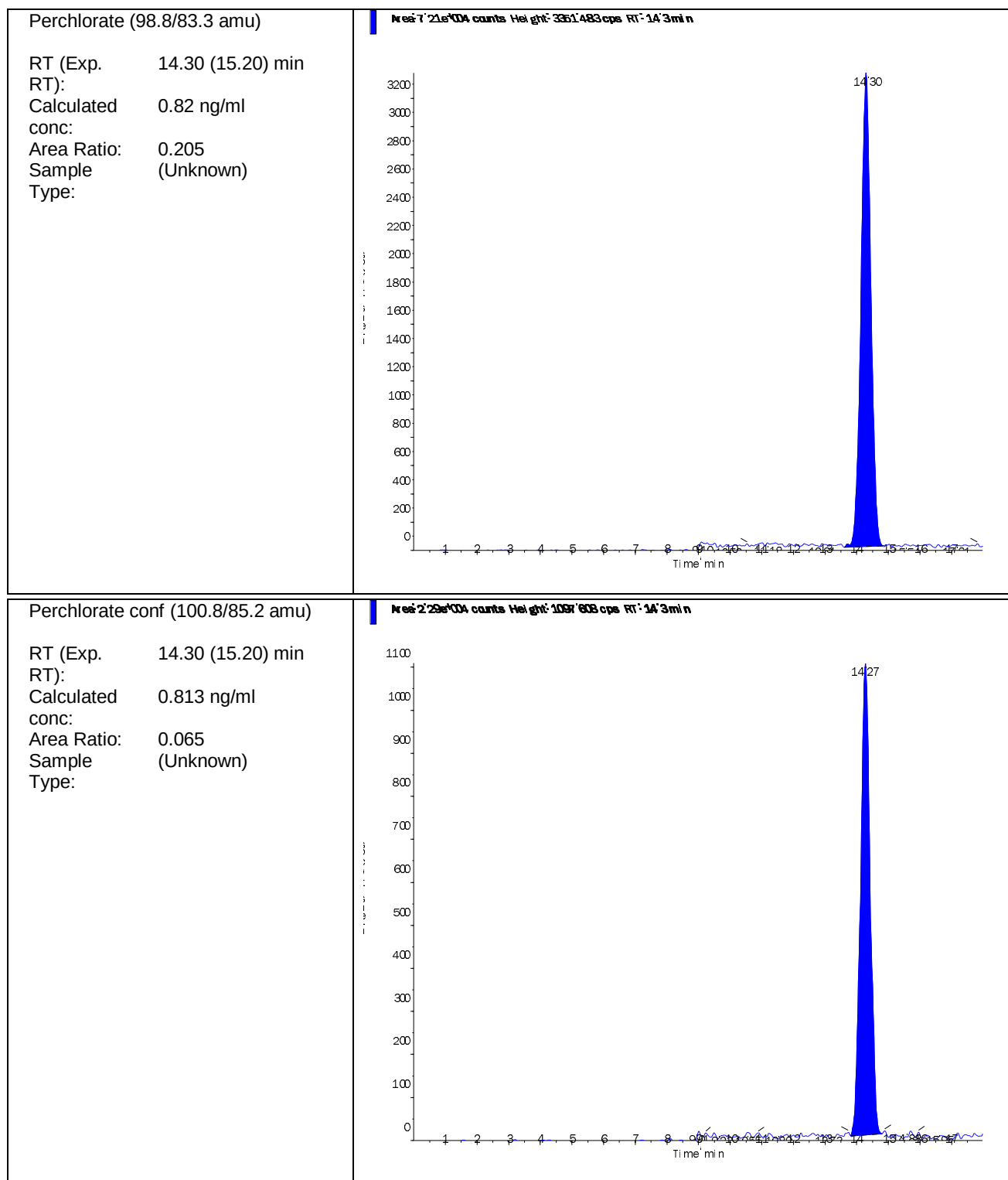
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L12060445-06 0.2ug/L MS	Injection Vial	13.00
Data File	LM16730.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 8:56:30 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401077-08	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.520e+05	14.30	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	7.210e+04	14.30	N/A	0.82
Perchlorate conf	2.290e+04	14.30	N/A	0.813





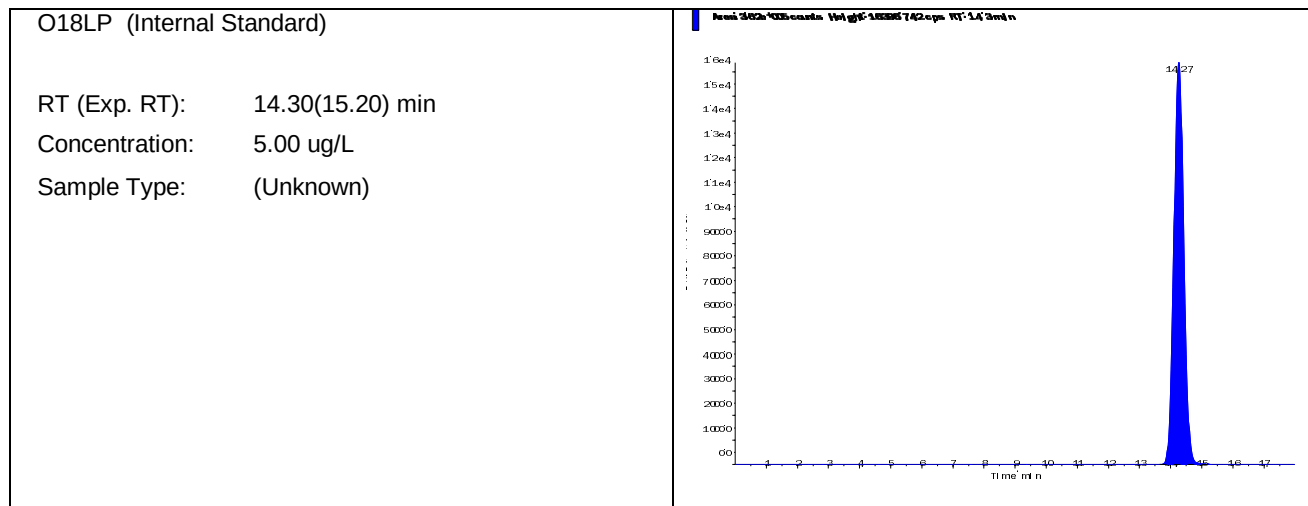
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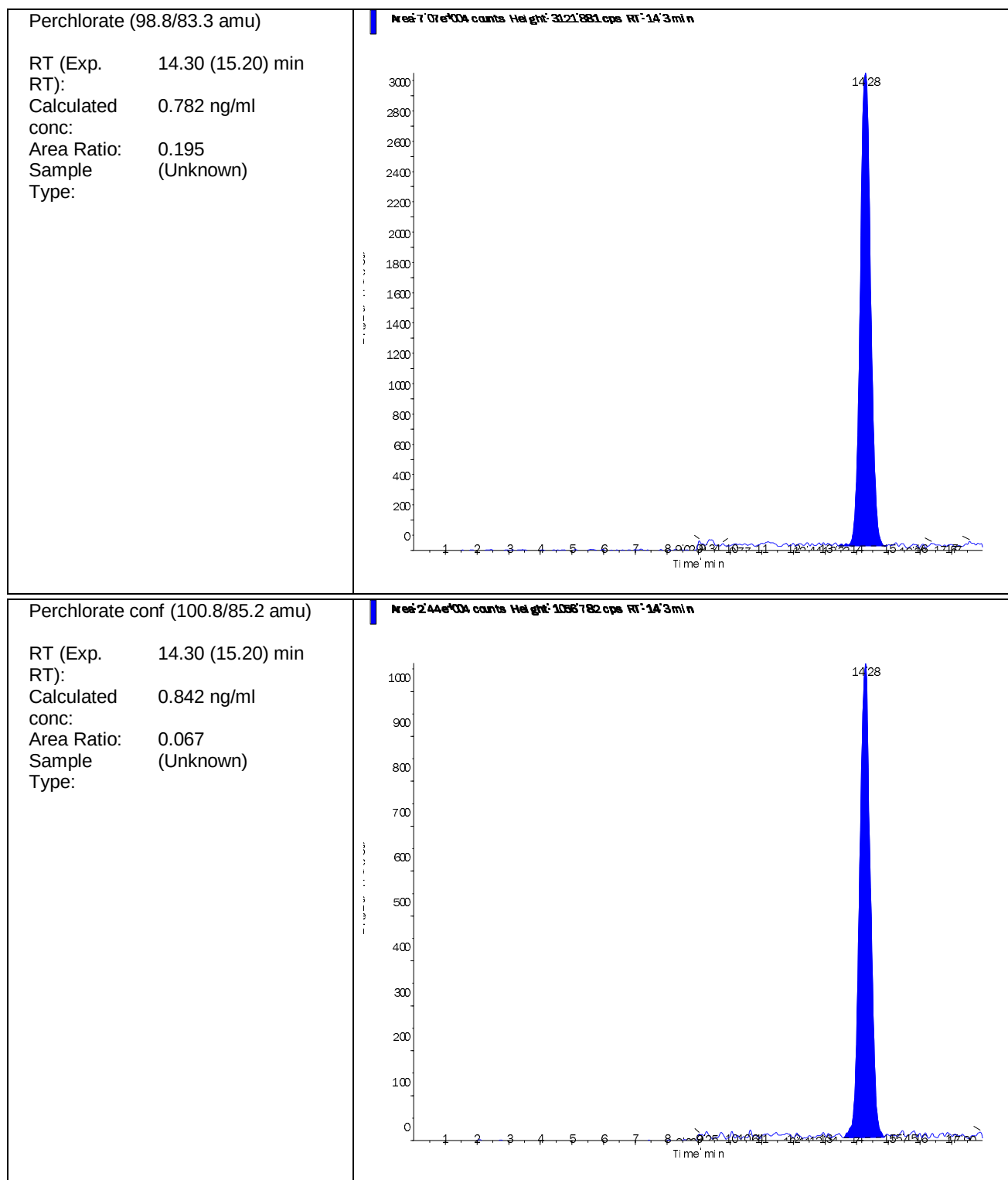
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Acquisition Date	6/19/2012 9:15:27 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L12060445-07 0.2ug/L MSD	Injection Vial	14.00
Data File	LM16731.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 9:15:27 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401077-09	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.620e+05	14.30	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	7.070e+04	14.30	N/A	0.782
Perchlorate conf	2.440e+04	14.30	N/A	0.842





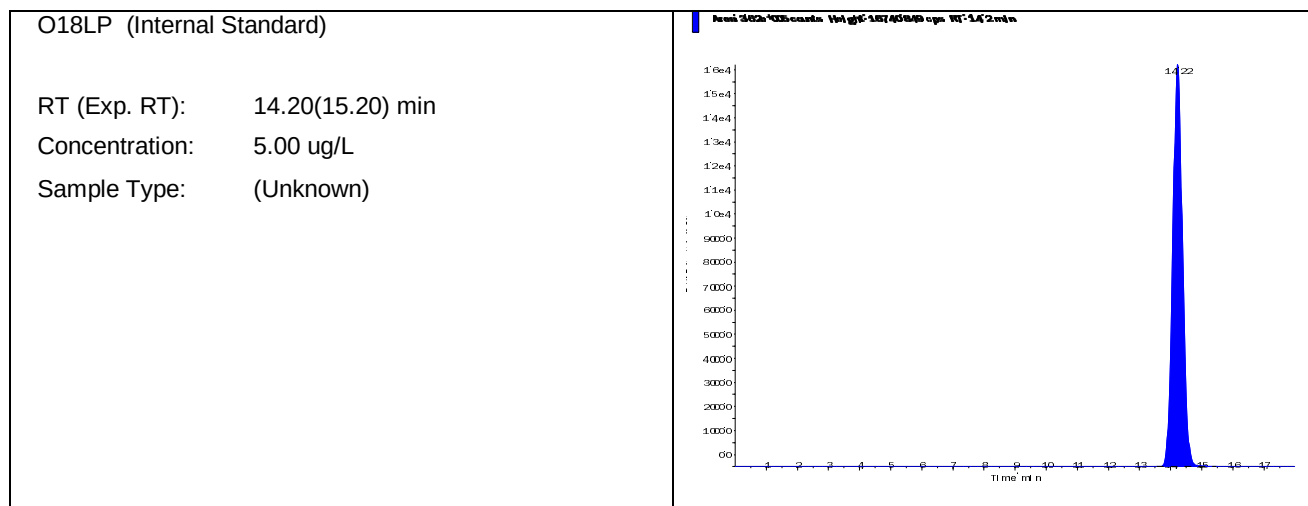
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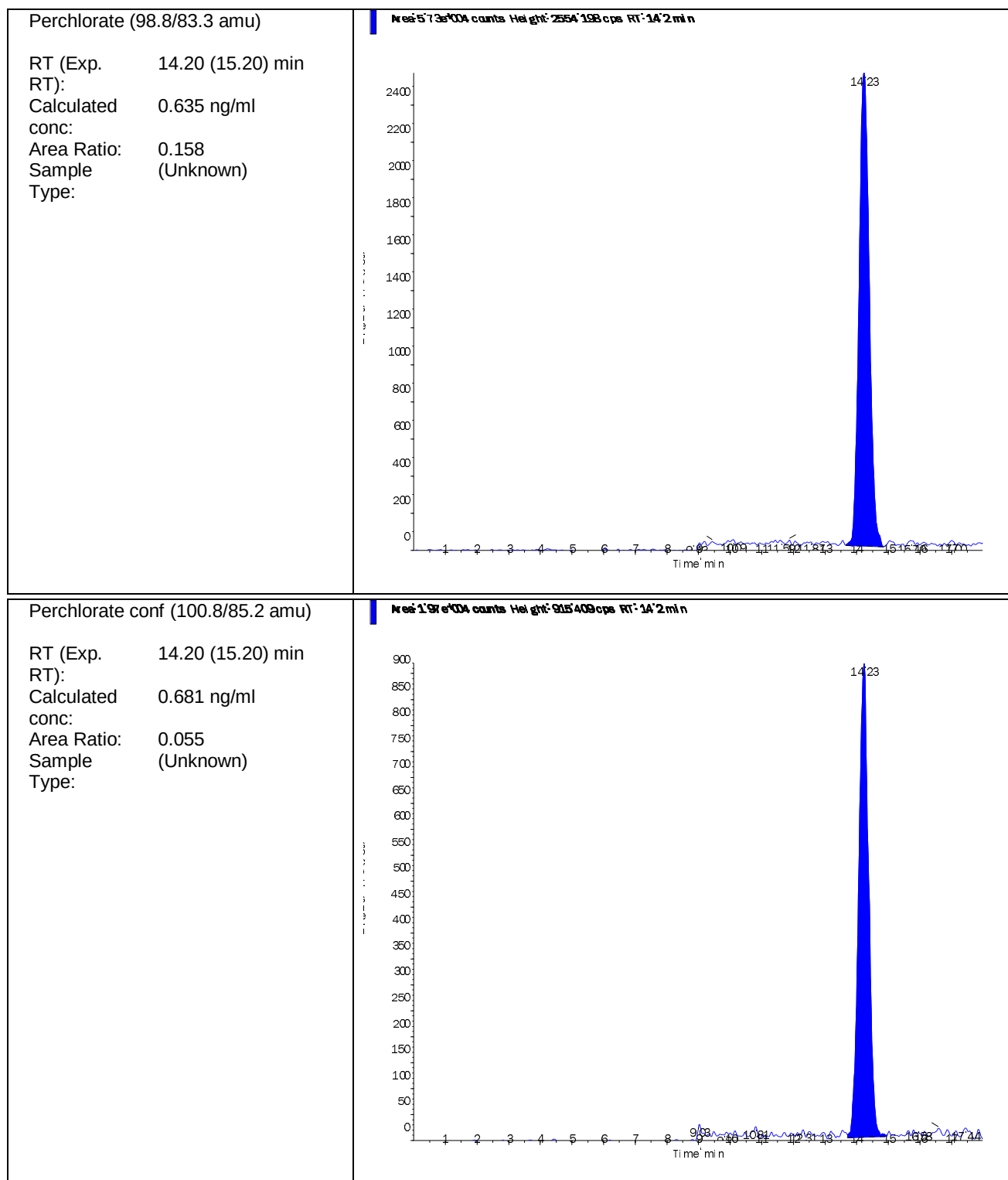
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Acquisition Date	6/19/2012 9:34:24 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L12060445-08	Injection Vial	15.00
Data File	LM16732.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 9:34:24 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	L12060445-08	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.620e+05	14.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.730e+04	14.20	N/A	0.635
Perchlorate conf	1.970e+04	14.20	N/A	0.681





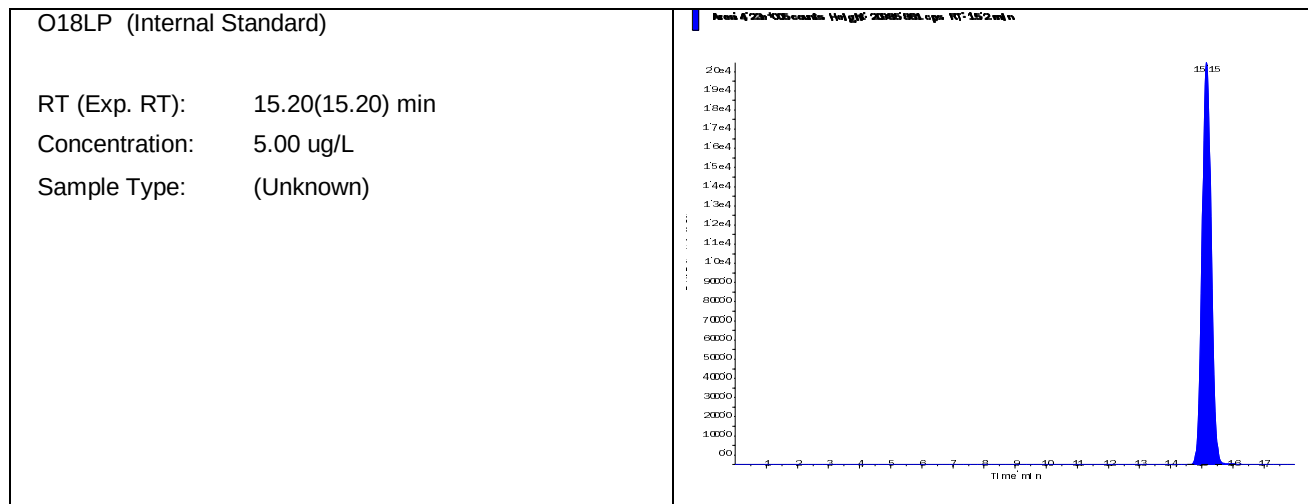
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Data File	LM16733.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 9:53:19 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L12060445-09	Injection Vial	16.00
Data File	LM16733.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 9:53:19 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	L12060445-09	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

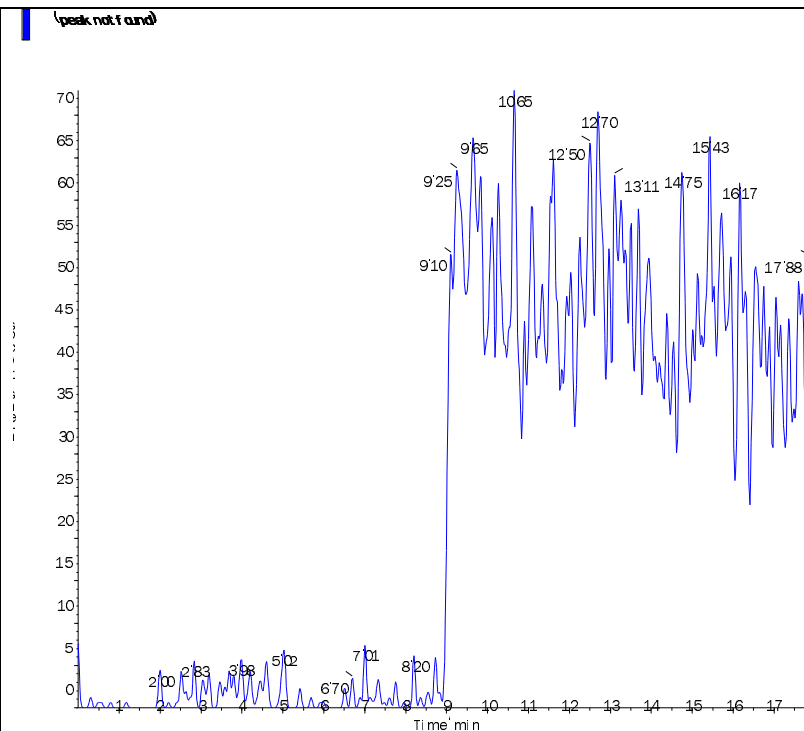
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.230e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	3.330e+02	15.10	N/A	0.0027



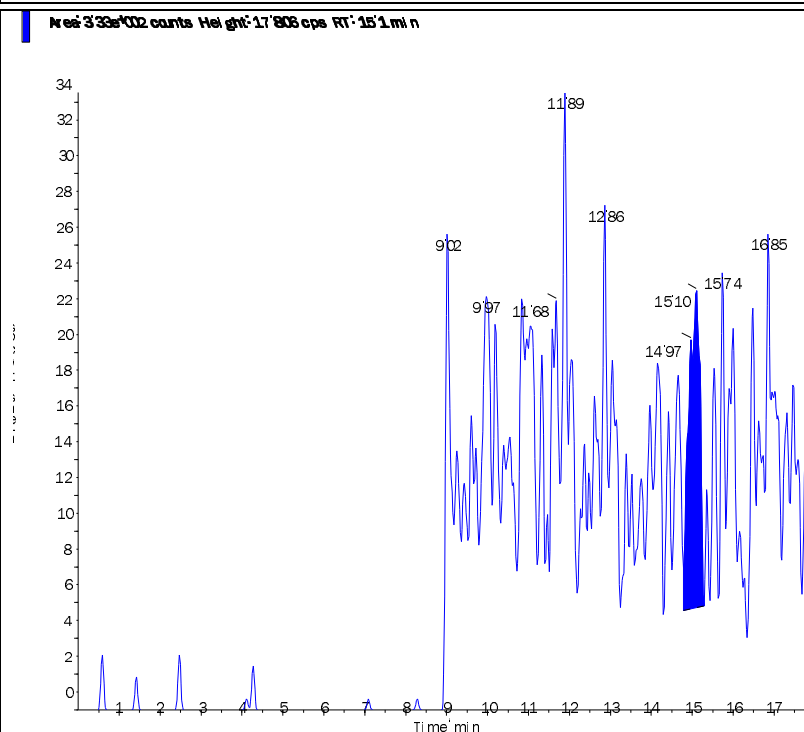
Perchlorate (98.8/83.3 amu)

RT (Exp. 0.00 (15.20) min
RT):
Calculated No Peak ng/ml
conc:
Area Ratio: 0.00
Sample (Unknown)
Type:



Perchlorate conf (100.8/85.2 amu)

RT (Exp. 15.10 (15.20) min
RT):
Calculated 0.0027 ng/ml
conc:
Area Ratio: 0.001
Sample (Unknown)
Type:

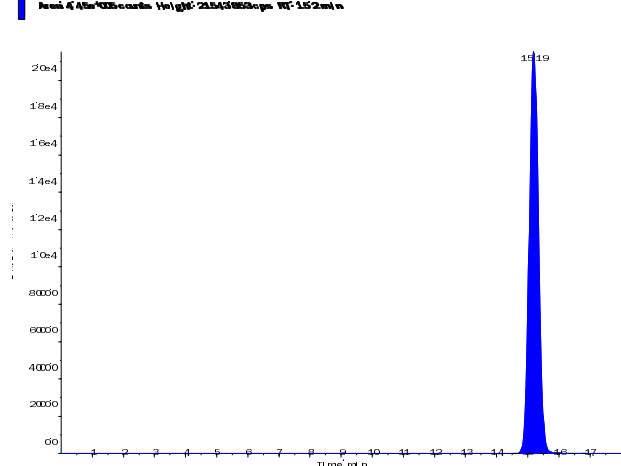


Data File	LM16734.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 10:12:21 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L12060445-10	Injection Vial	17.00
Data File	LM16734.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 10:12:21 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	L12060445-10	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.450e+05	15.20	5.00	-

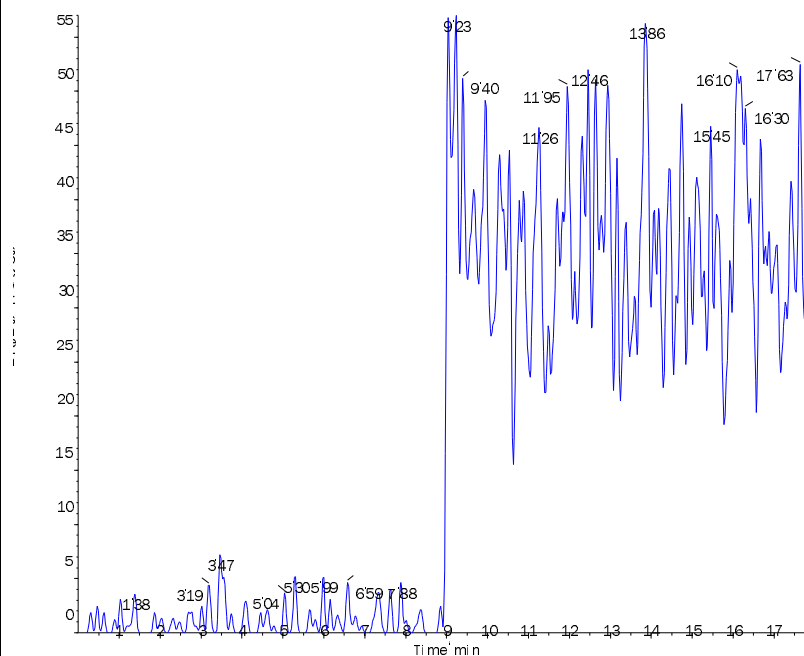
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak

O18LP (Internal Standard) RT (Exp. RT): 15.20(15.20) min Concentration: 5.00 ug/L Sample Type: (Unknown)	Peak 4 Area: 445000 cps Weight: 23.04 ug RT: 15.20 min 
--	--

Perchlorate (98.8/83.3 amu)

RT (Exp. 0.00 (15.20) min
RT):
Calculated No Peak ng/ml
conc:
Area Ratio: 0.00
Sample (Unknown)
Type:

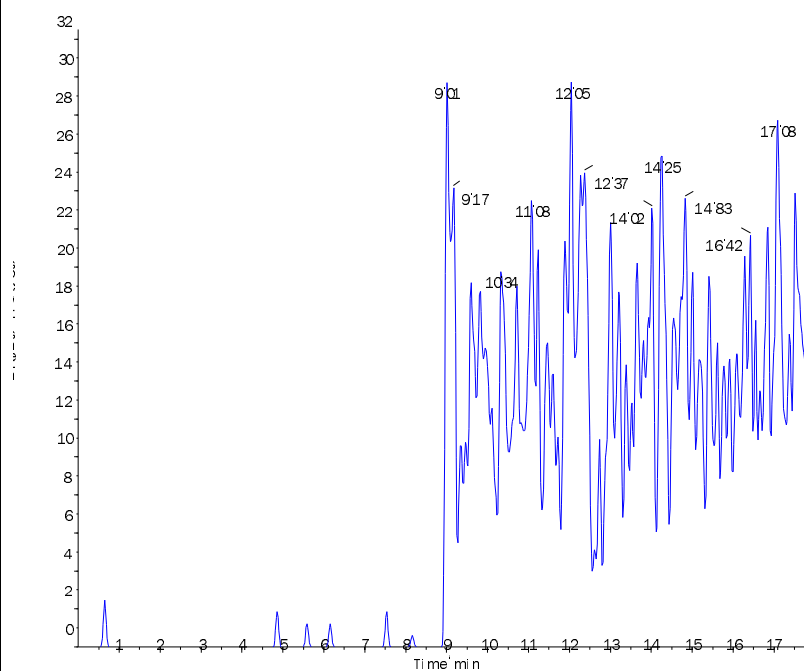
(peak not found)



Perchlorate conf (100.8/85.2 amu)

RT (Exp. 0.00 (15.20) min
RT):
Calculated No Peak ng/ml
conc:
Area Ratio: 0.00
Sample (Unknown)
Type:

(peak not found)

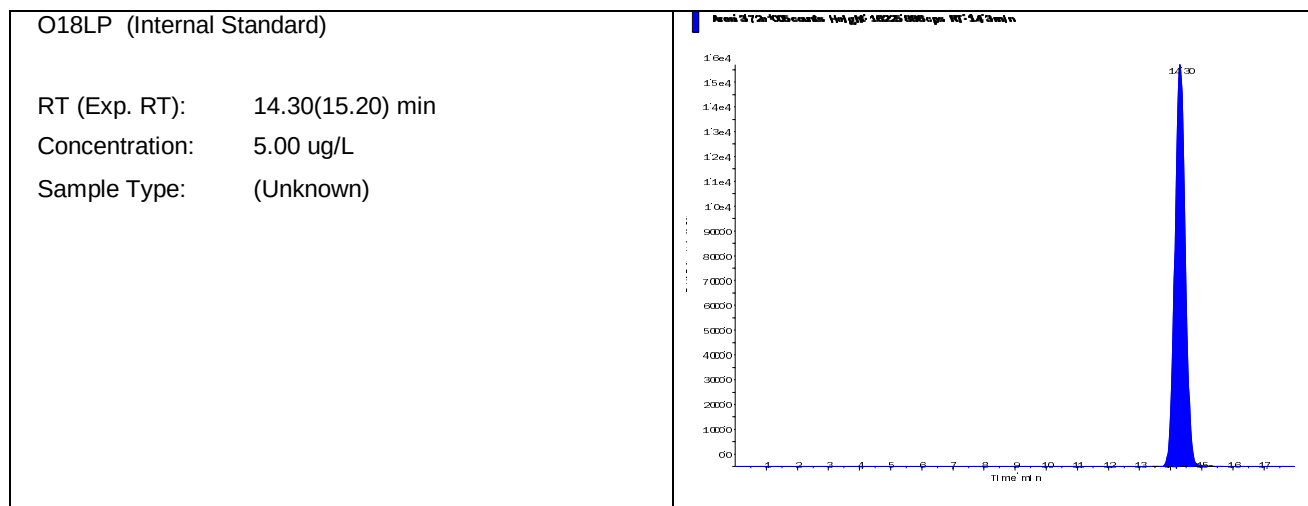


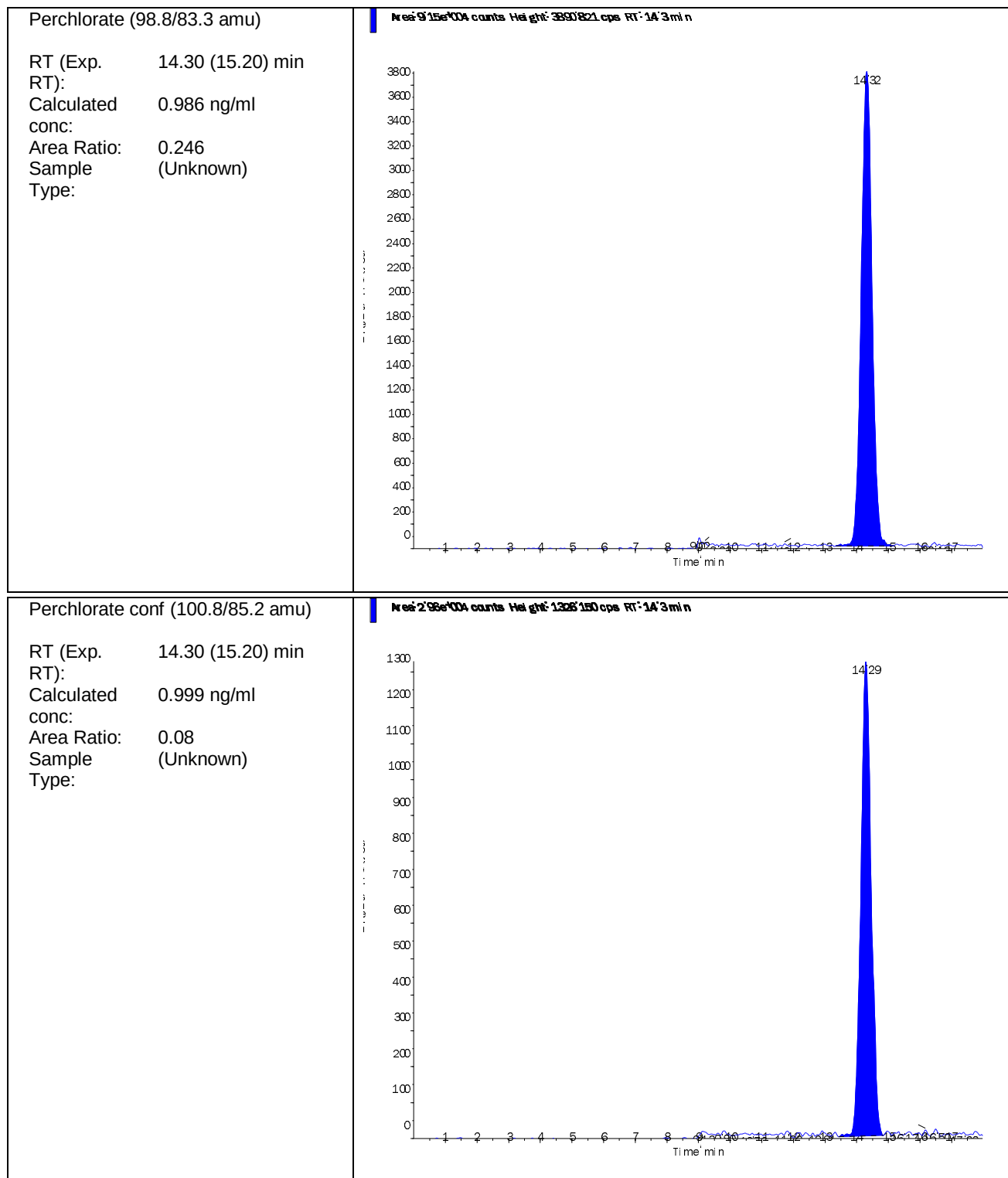
Data File	LM16735.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 10:31:18 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L12060445-11	Injection Vial	18.00
Data File	LM16735.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 10:31:18 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	L12060445-11	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.720e+05	14.30	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.150e+04	14.30	N/A	0.986
Perchlorate conf	2.960e+04	14.30	N/A	0.999





s.dataFile Page 2 of 2

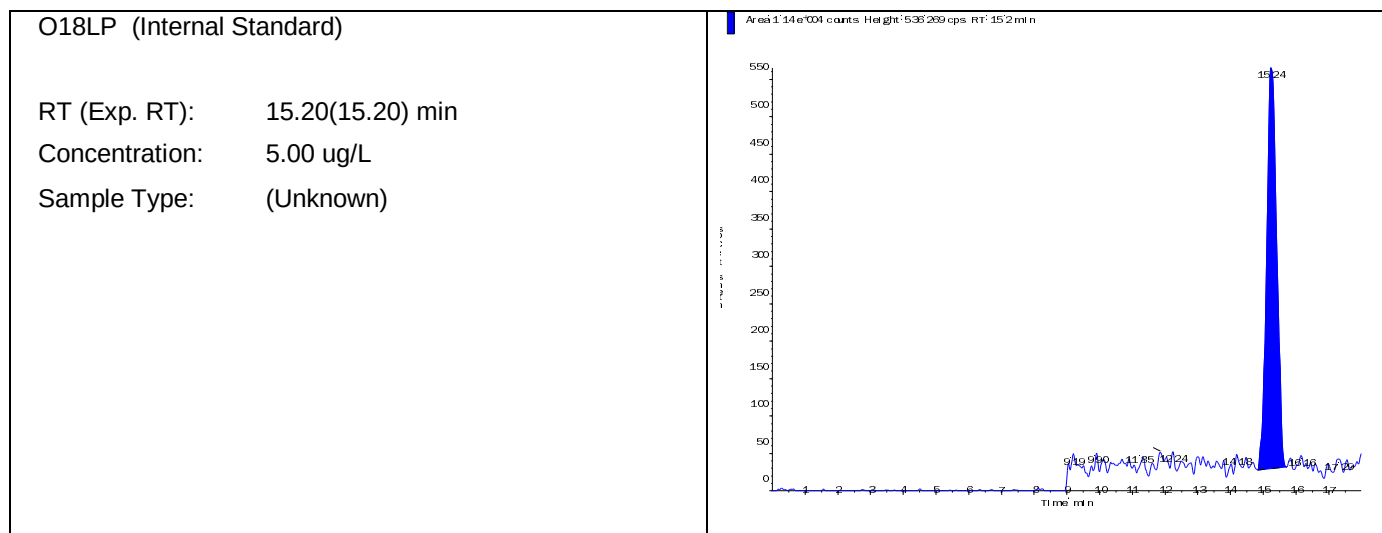
2.2.3.4 Standards Data

Data File	LM16675.wiff	Result Table	062012_ADC.rdb
Acquisition Date	6/14/2012 2:39:53 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG400702-01 CCB	Injection Vial	1.00
Data File	LM16675.wiff	Injection Volume	10.00
Acquisition Date	6/14/2012 2:39:53 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	062012_ADC.rdb
Sample ID	WG400702-01	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

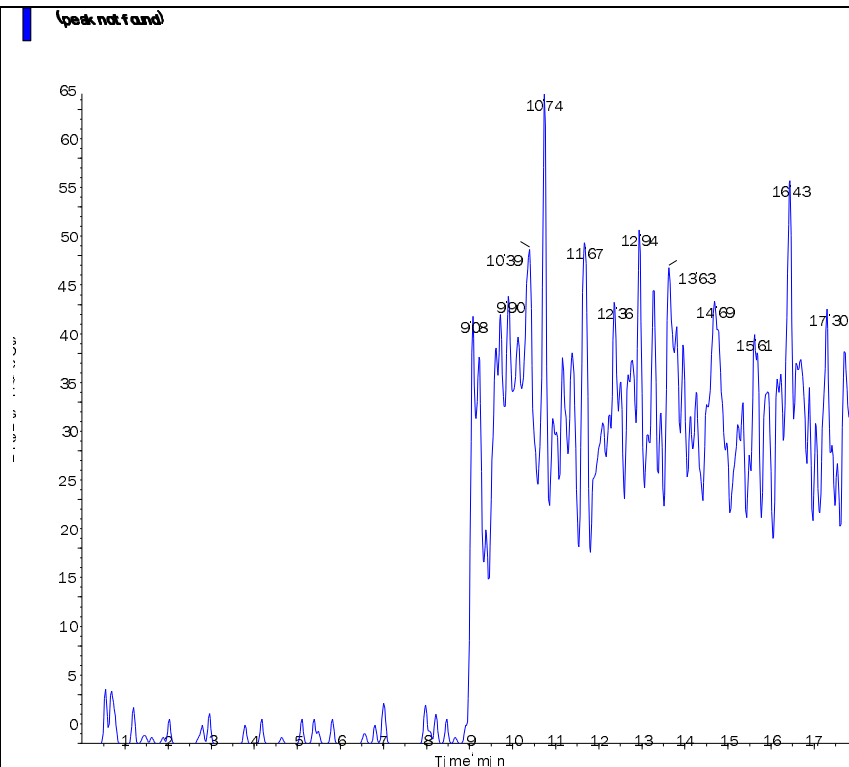
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.550e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak



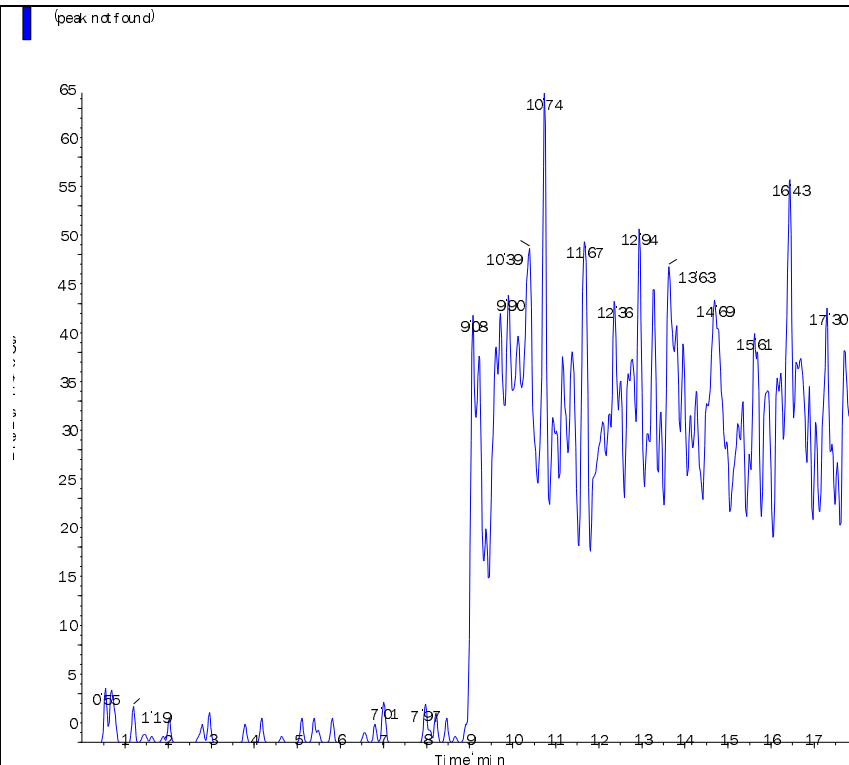
Perchlorate (98.8/83.3 amu)

RT (Exp. 0.00 (15.20) min
 RT):
 Calculated No Peak ng/ml
 conc:
 Area Ratio: 0.00
 Sample (Unknown)
 Type:



Perchlorate conf (100.8/85.2 amu)

RT (Exp. 0.00 (15.20) min
 RT):
 Calculated No Peak ng/ml
 conc:
 Area Ratio: 0.00
 Sample (Unknown)
 Type:



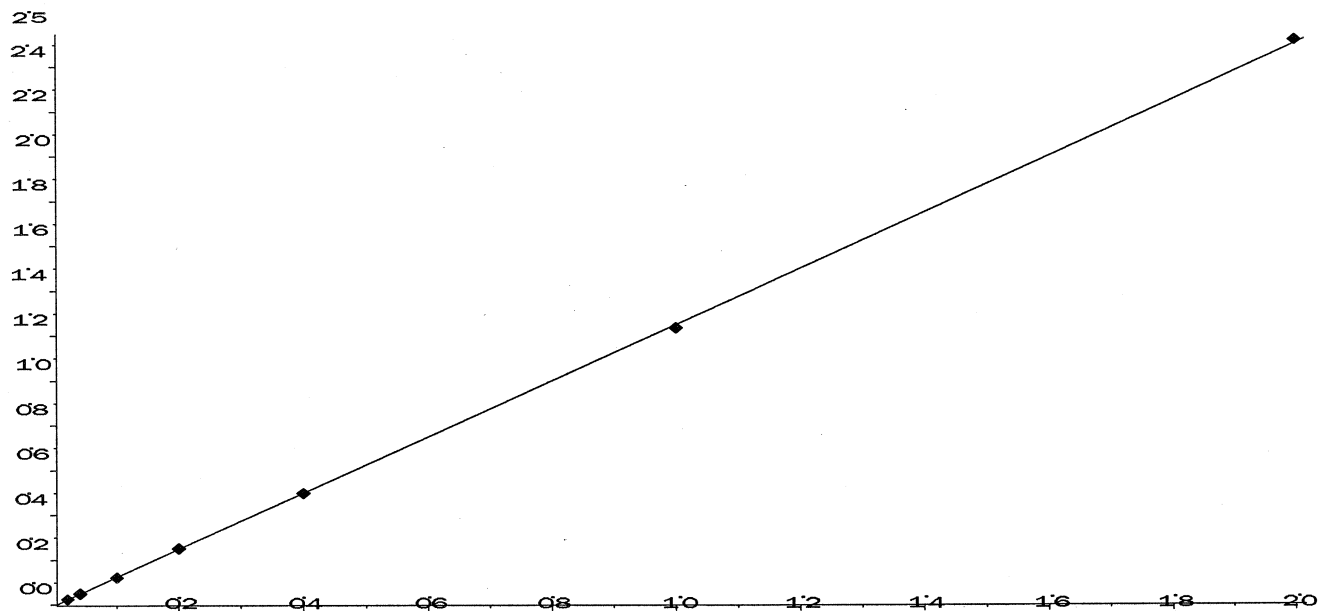
Analyte Name: Perchlorate
Internal Standard: O18LP

Data File	LM16675.wiff	Result Table	061412_JWR.rdb
Acquisition Date	6/14/2012 2:39:53 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: $y = 1.25x + -0.000678$ ($r = 1.0000$)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.10	101.4	N/A	N/A
0.20	1	0.20	100.8	N/A	N/A
0.50	1	0.49	97.9	N/A	N/A
1.00	1	1.01	100.8	N/A	N/A
2.00	1	1.99	99.6	N/A	N/A
5.00	1	4.94	98.9	N/A	N/A
10.00	1	10.06	100.6	N/A	N/A

$y = 1.25x + -0.000678$ ($r = 1.0000$)



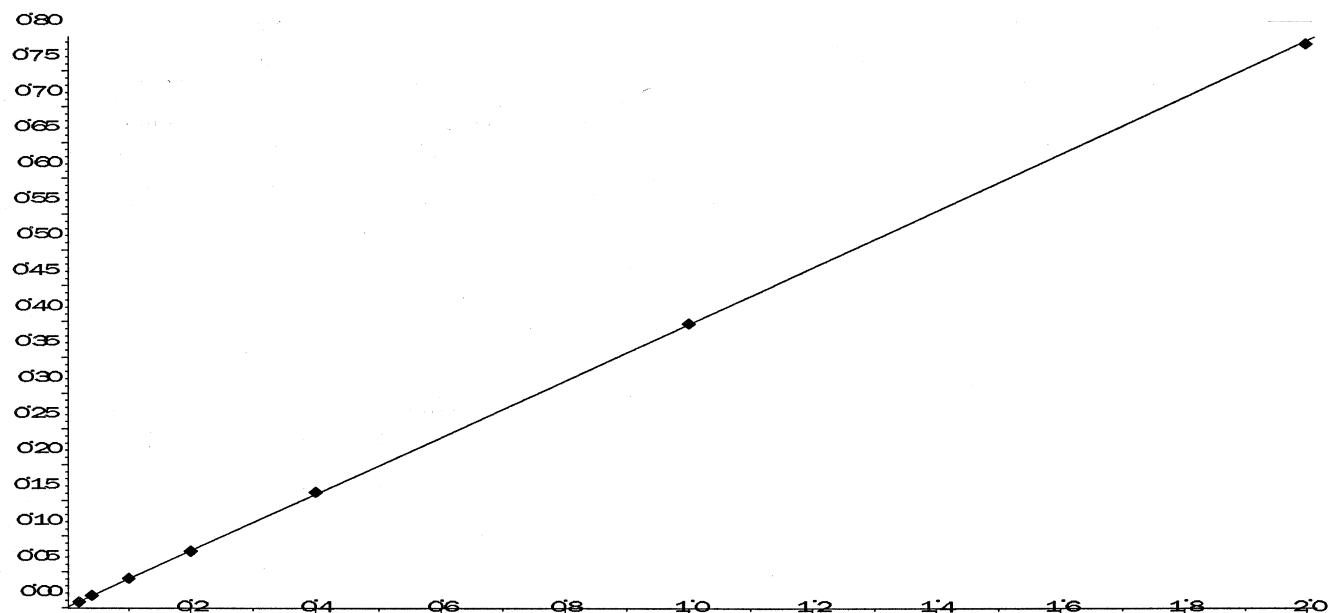
Analyte Name: Perchlorate conf
Internal Standard: O18LP

Data File	LM16675.wiff	Result Table	061412_JWR.rdb
Acquisition Date	6/14/2012 2:39:53 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: $y = 0.396x + 0.000578$ ($r = 0.9999$)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.09	91.0	N/A	N/A
0.20	1	0.21	105.5	N/A	N/A
0.50	1	0.52	103.1	N/A	N/A
1.00	1	0.99	99.2	N/A	N/A
2.00	1	2.03	101.6	N/A	N/A
5.00	1	5.01	100.2	N/A	N/A
10.00	1	9.95	99.5	N/A	N/A

$y = 0.396x + 0.000578$ ($r = 0.9999$)

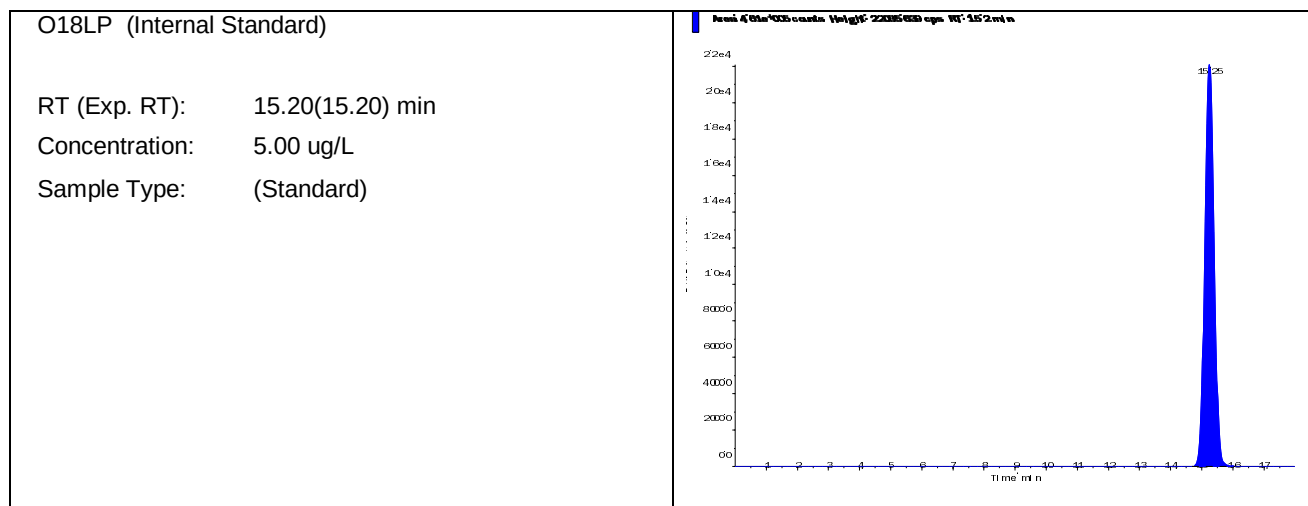


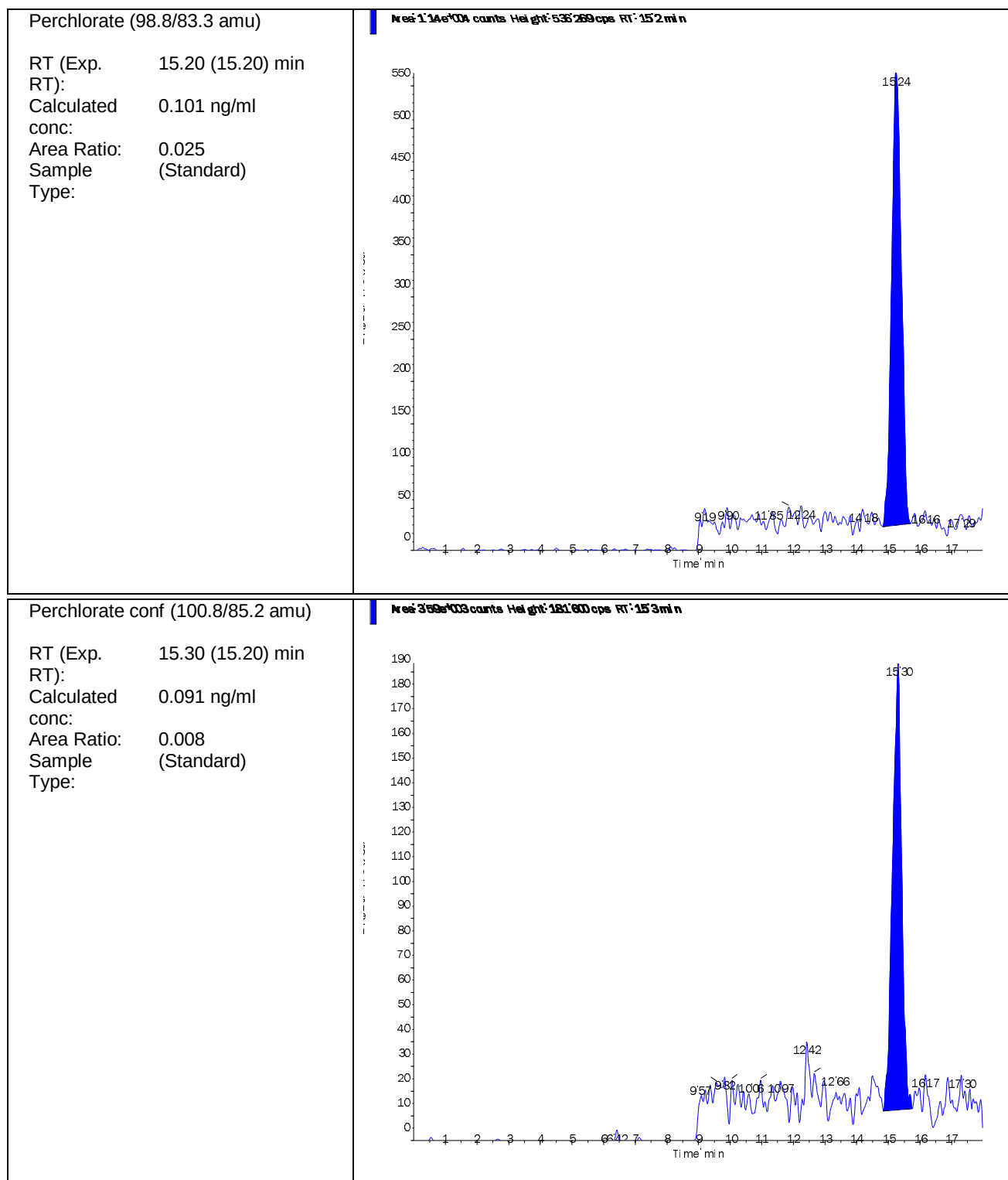
Data File	LM16676.wiff	Result Table	062012_ADC.rdb
Acquisition Date	6/14/2012 2:58:49 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG400702-02 0.1 ug/L STD	Injection Vial	2.00
Data File	LM16676.wiff	Injection Volume	10.00
Acquisition Date	6/14/2012 2:58:49 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	062012_ADC.rdb
Sample ID	WG400702-02	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.610e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.140e+04	15.20	0.10	0.101
Perchlorate conf	3.590e+03	15.30	0.10	0.091





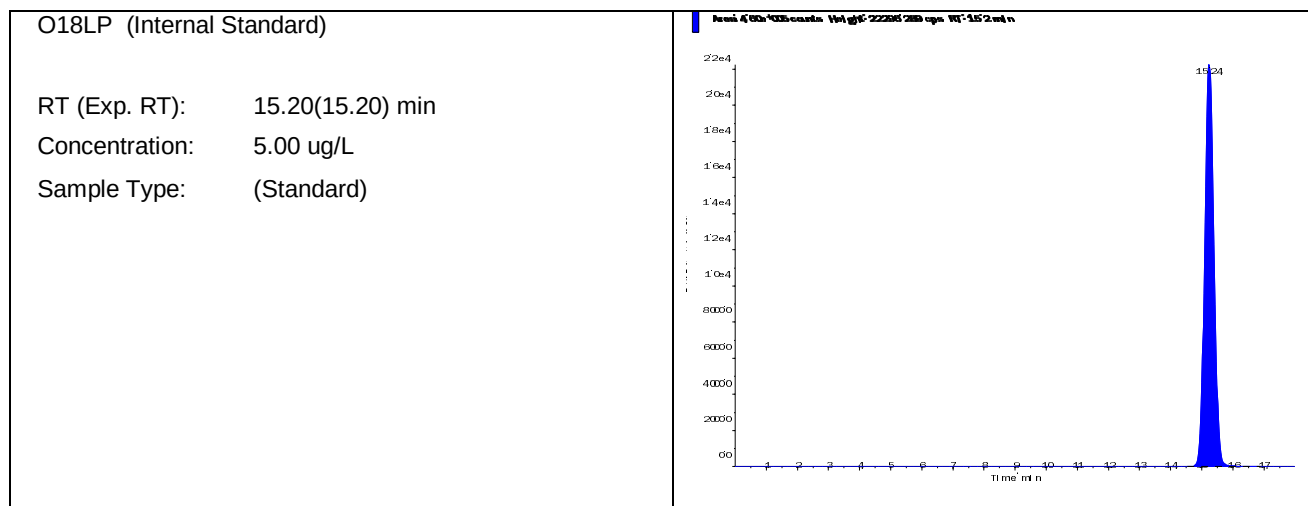
s.dataFile Page 2 of 2

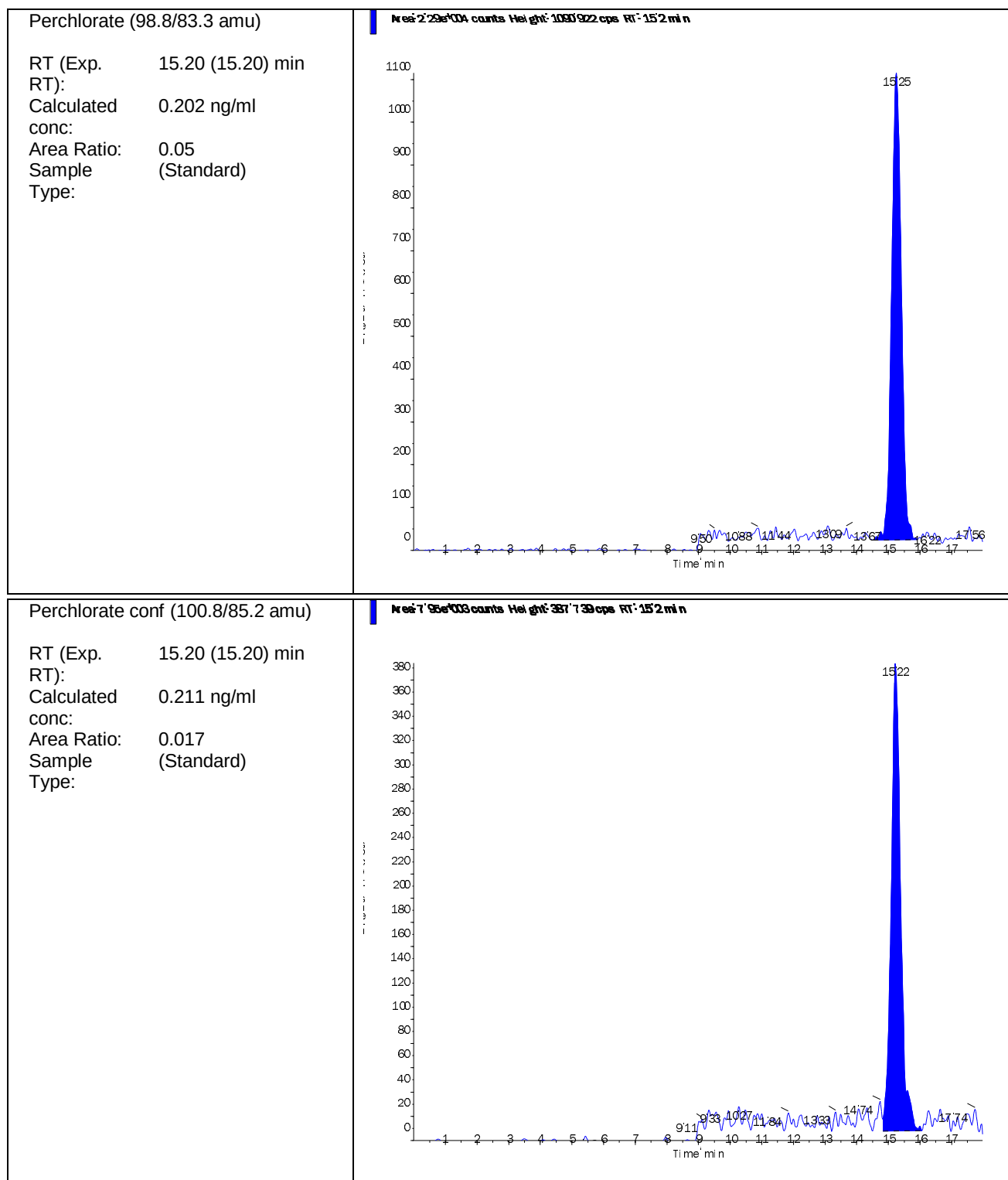
Data File	LM16677.wiff	Result Table	062012_ADC.rdb
Acquisition Date	6/14/2012 3:17:45 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG400702-03 0.2 ug/L STD	Injection Vial	3.00
Data File	LM16677.wiff	Injection Volume	10.00
Acquisition Date	6/14/2012 3:17:45 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	062012_ADC.rdb
Sample ID	WG400702-03	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.600e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.290e+04	15.20	0.20	0.202
Perchlorate conf	7.950e+03	15.20	0.20	0.211



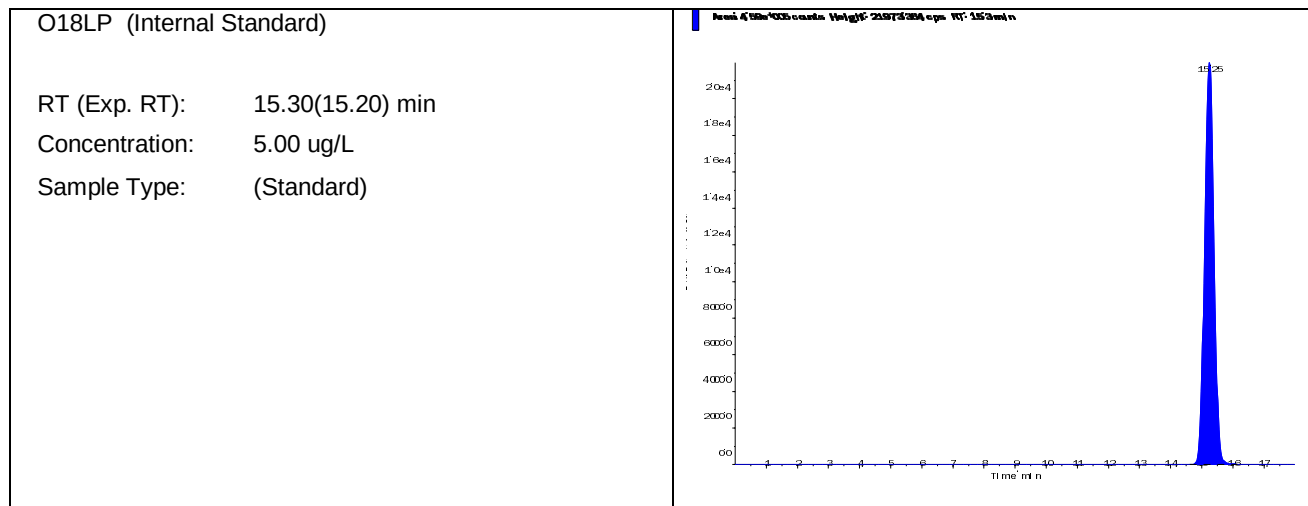


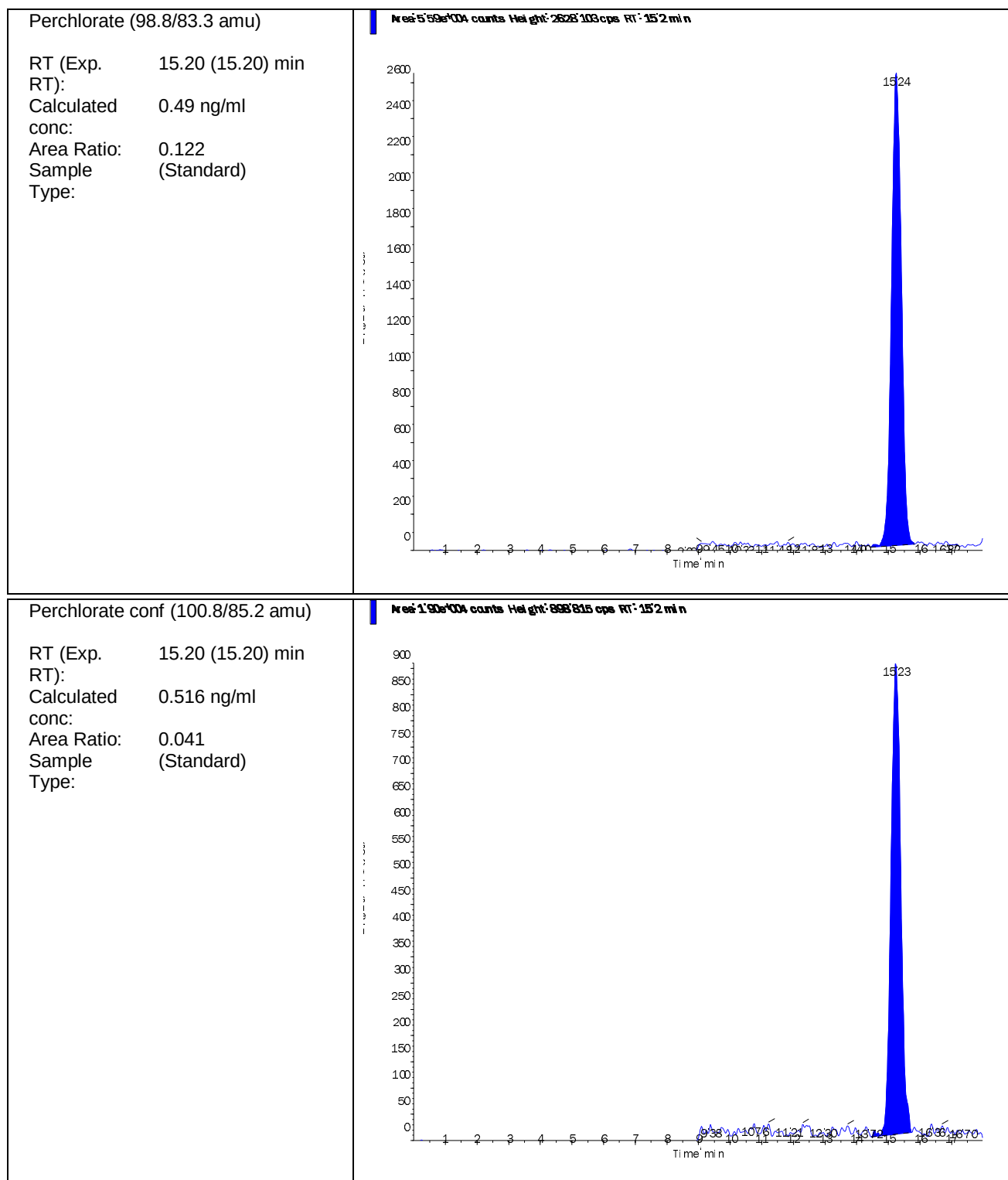
Data File	LM16678.wiff	Result Table	062012_ADC.rdb
Acquisition Date	6/14/2012 3:36:41 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG400702-04 0.5 ug/L STD	Injection Vial	4.00
Data File	LM16678.wiff	Injection Volume	10.00
Acquisition Date	6/14/2012 3:36:41 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	062012_ADC.rdb
Sample ID	WG400702-04	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.590e+05	15.30	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.590e+04	15.20	0.50	0.49
Perchlorate conf	1.900e+04	15.20	0.50	0.516





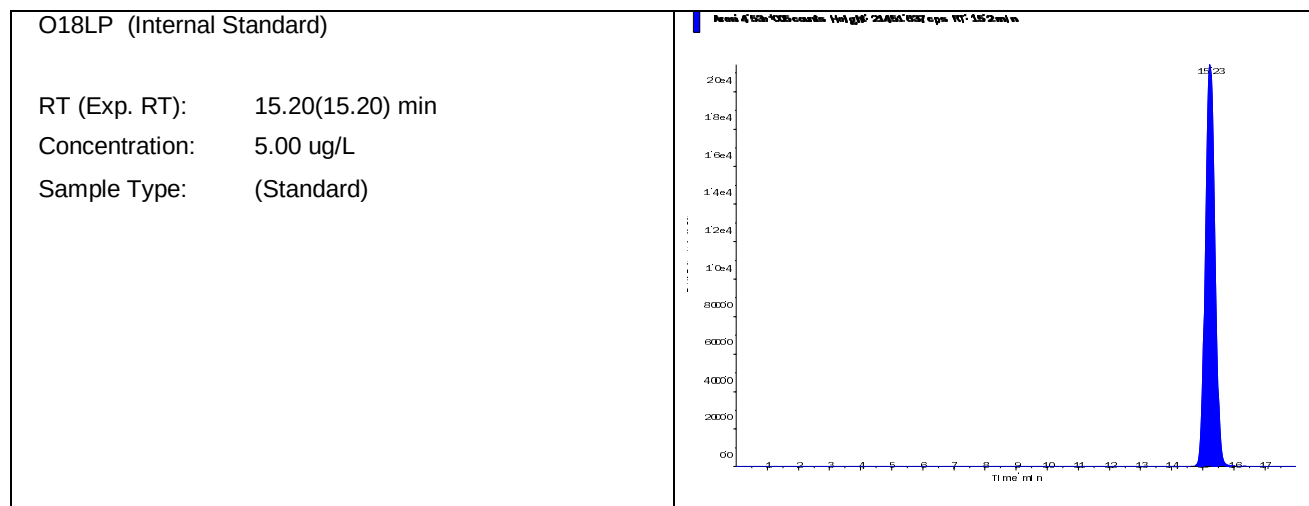
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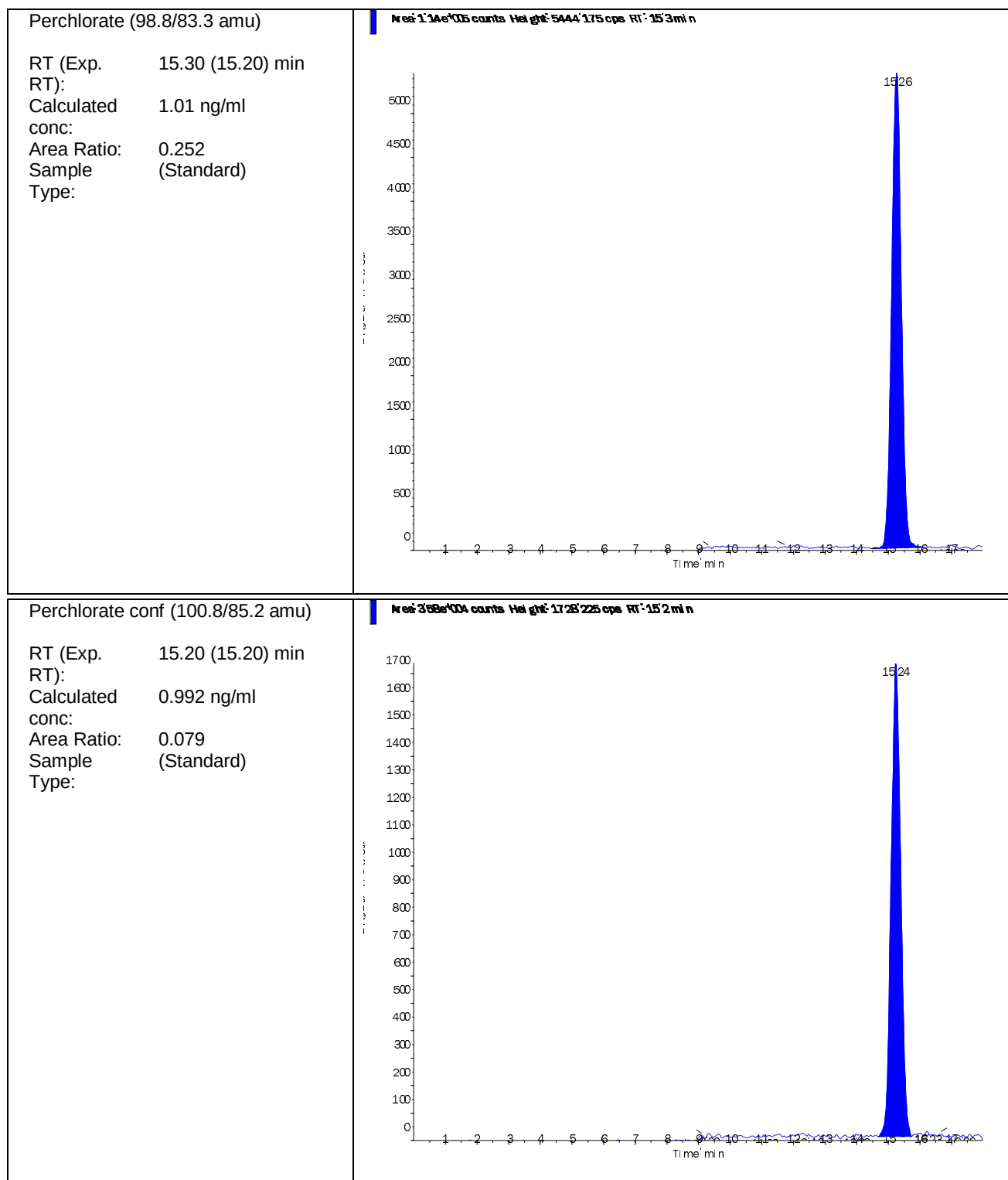
Data File	LM16679.wiff	Result Table	062012_ADC.rdb
Acquisition Date	6/14/2012 3:55:36 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG400702-05 1.0 ug/L STD	Injection Vial	5.00
Data File	LM16679.wiff	Injection Volume	10.00
Acquisition Date	6/14/2012 3:55:36 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	062012_ADC.rdb
Sample ID	WG400702-05	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.530e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.140e+05	15.30	1.00	1.01
Perchlorate conf	3.580e+04	15.20	1.00	0.992





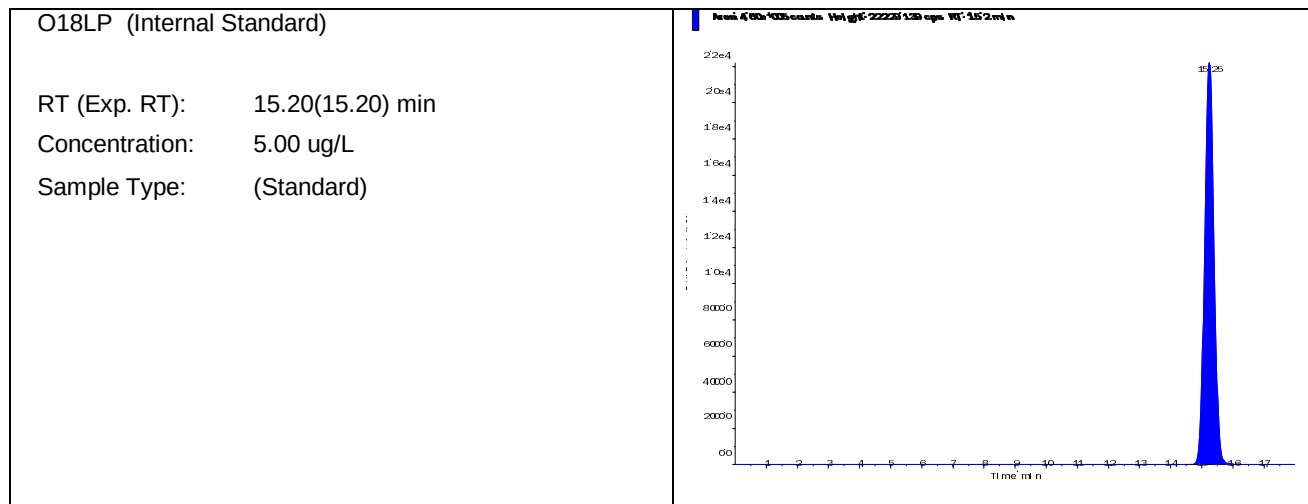
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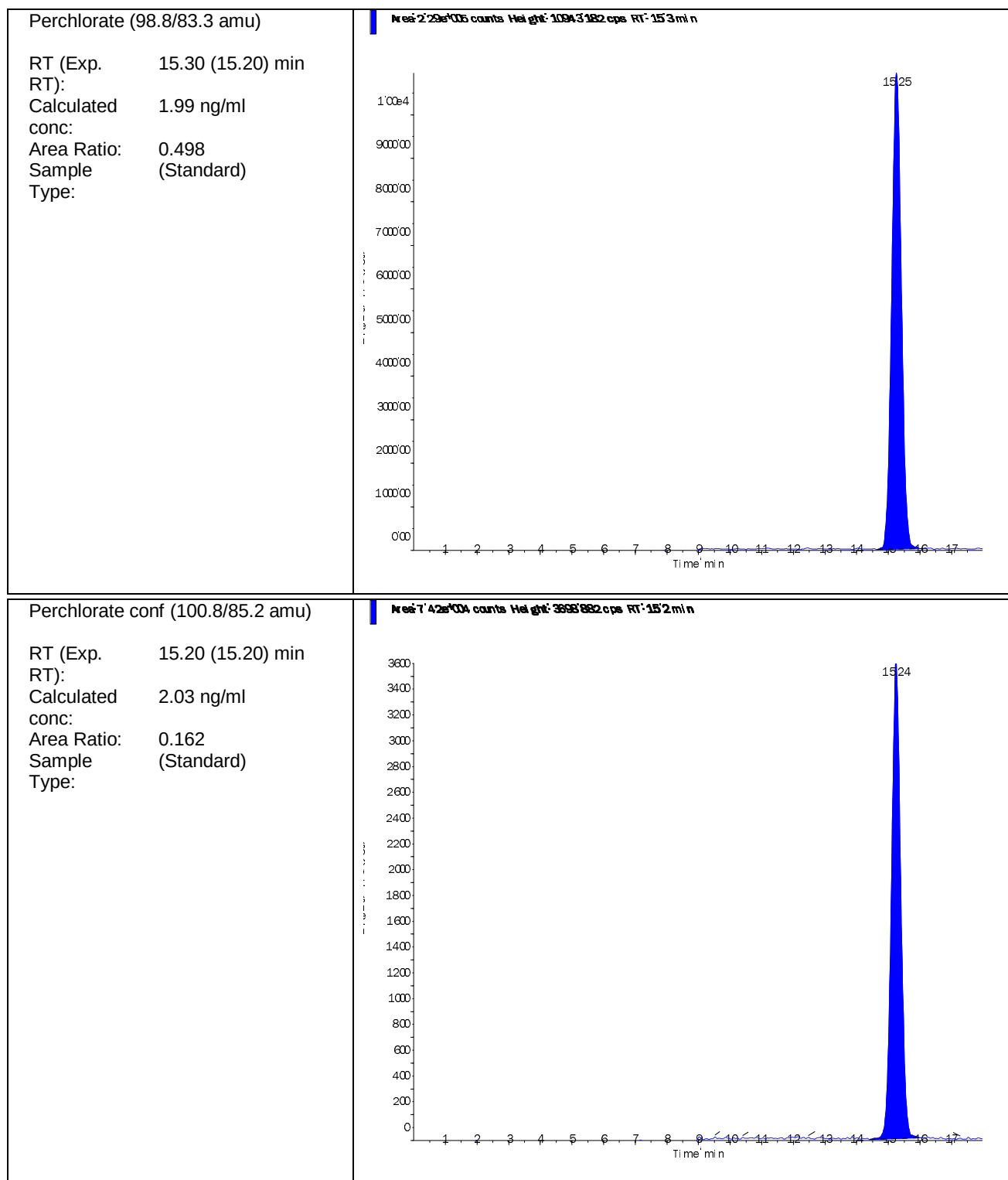
Data File	LM16680.wiff	Result Table	062012_ADC.rdb
Acquisition Date	6/14/2012 4:14:31 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG400702-06 2.0 ug/L STD	Injection Vial	6.00
Data File	LM16680.wiff	Injection Volume	10.00
Acquisition Date	6/14/2012 4:14:31 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	062012_ADC.rdb
Sample ID	WG400702-06	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.600e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.290e+05	15.30	2.00	1.99
Perchlorate conf	7.420e+04	15.20	2.00	2.03





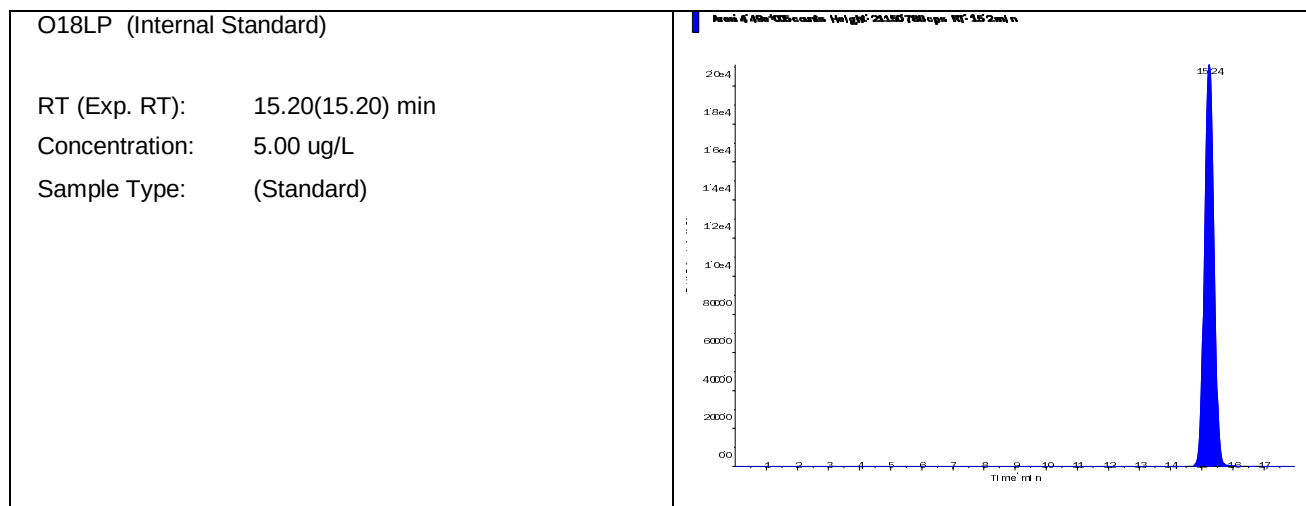
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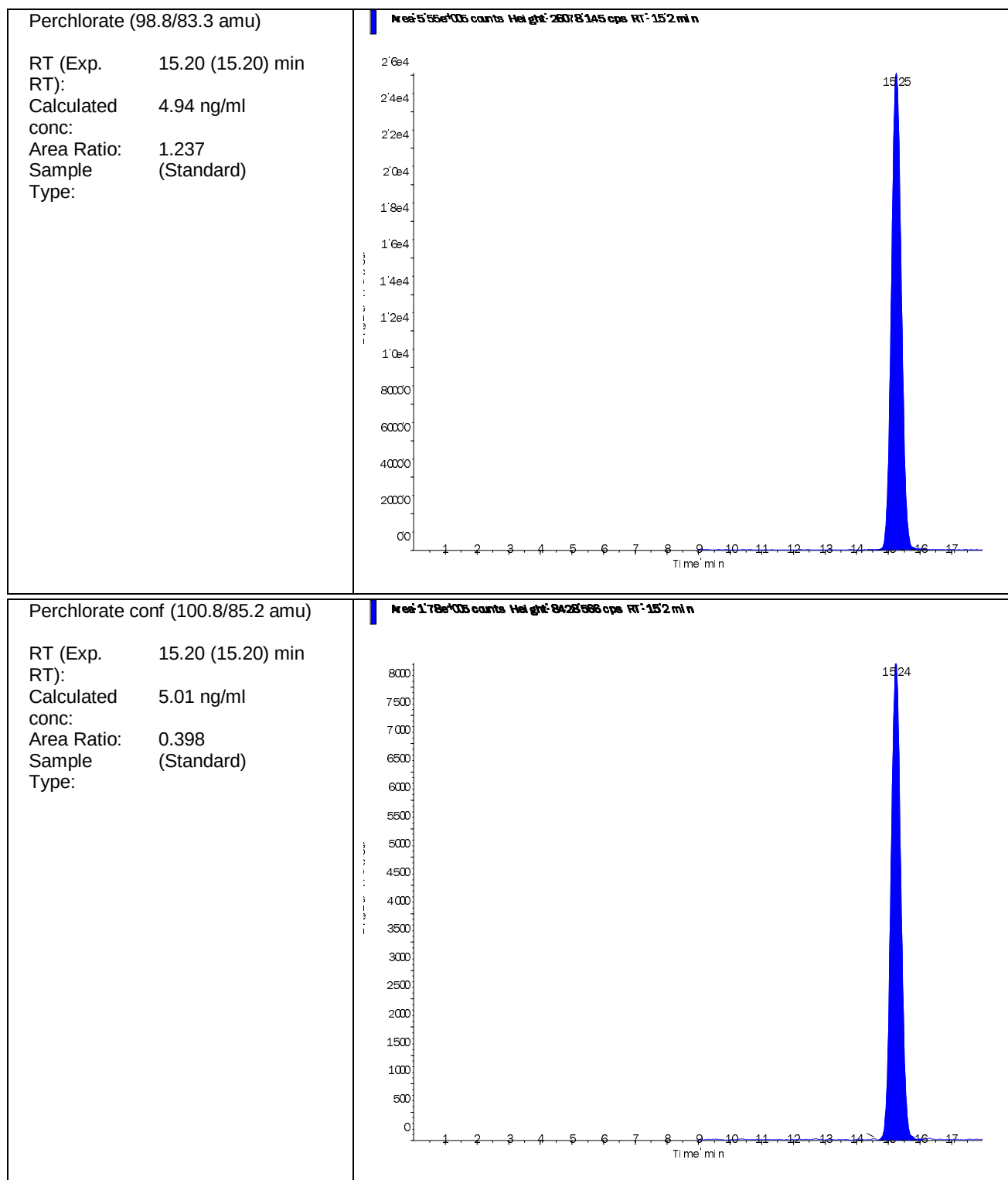
Data File	LM16681.wiff	Result Table	062012_ADC.rdb
Acquisition Date	6/14/2012 4:33:27 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG400702-07 5.0 ug/L STD	Injection Vial	7.00
Data File	LM16681.wiff	Injection Volume	10.00
Acquisition Date	6/14/2012 4:33:27 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	062012_ADC.rdb
Sample ID	WG400702-07	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.490e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.550e+05	15.20	5.00	4.94
Perchlorate conf	1.780e+05	15.20	5.00	5.01





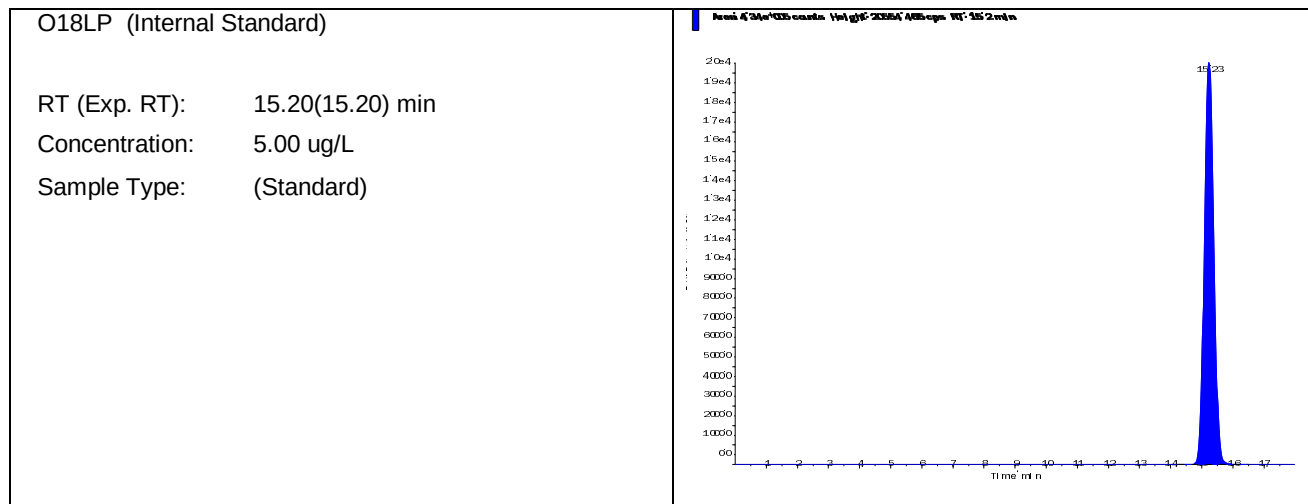
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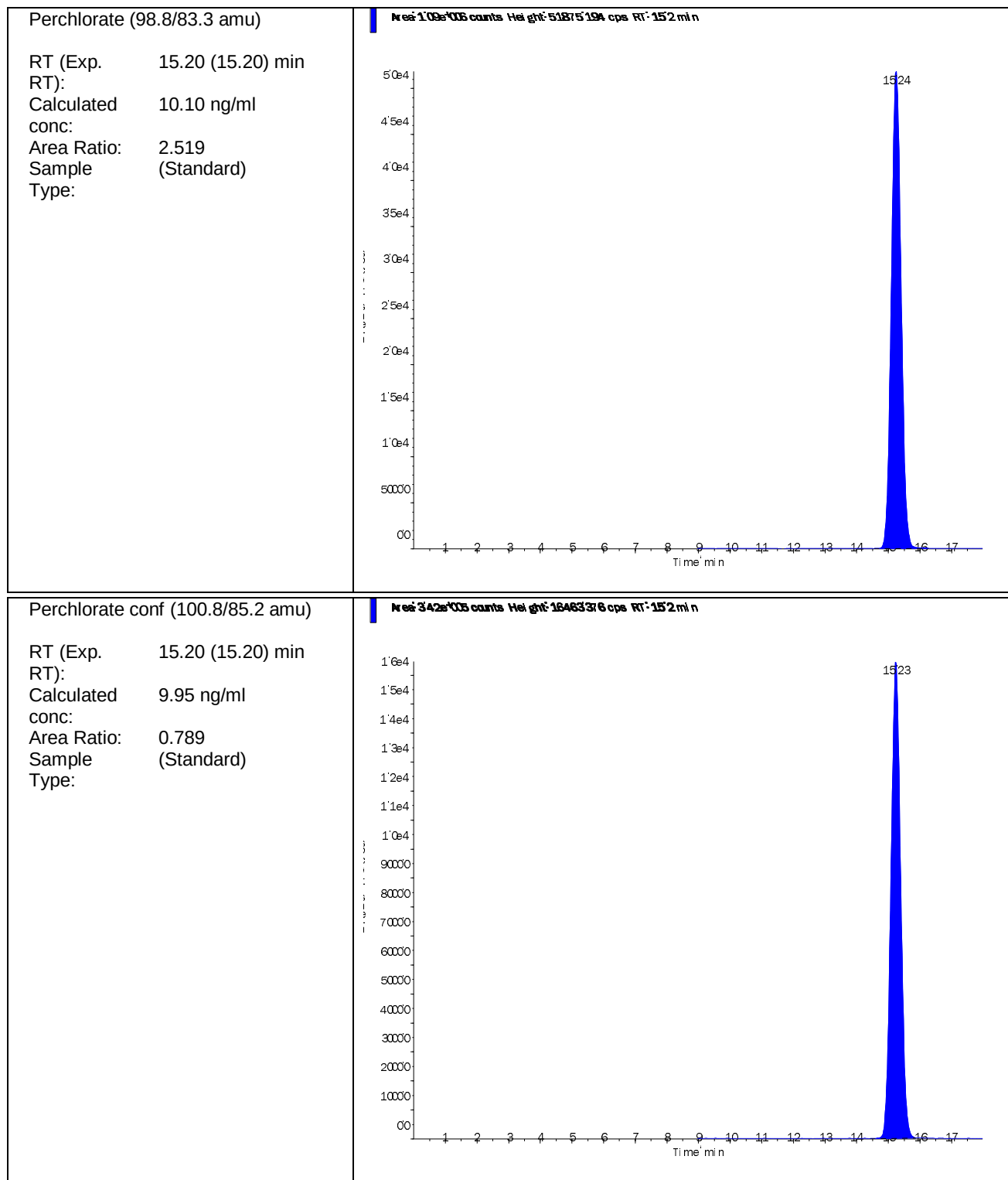
Data File	LM16682.wiff	Result Table	062012_ADC.rdb
Acquisition Date	6/14/2012 4:52:23 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG400702-08 10.0 ug/L STD	Injection Vial	8.00
Data File	LM16682.wiff	Injection Volume	10.00
Acquisition Date	6/14/2012 4:52:23 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	062012_ADC.rdb
Sample ID	WG400702-08	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.340e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.090e+06	15.20	10.00	10.10
Perchlorate conf	3.420e+05	15.20	10.00	9.95





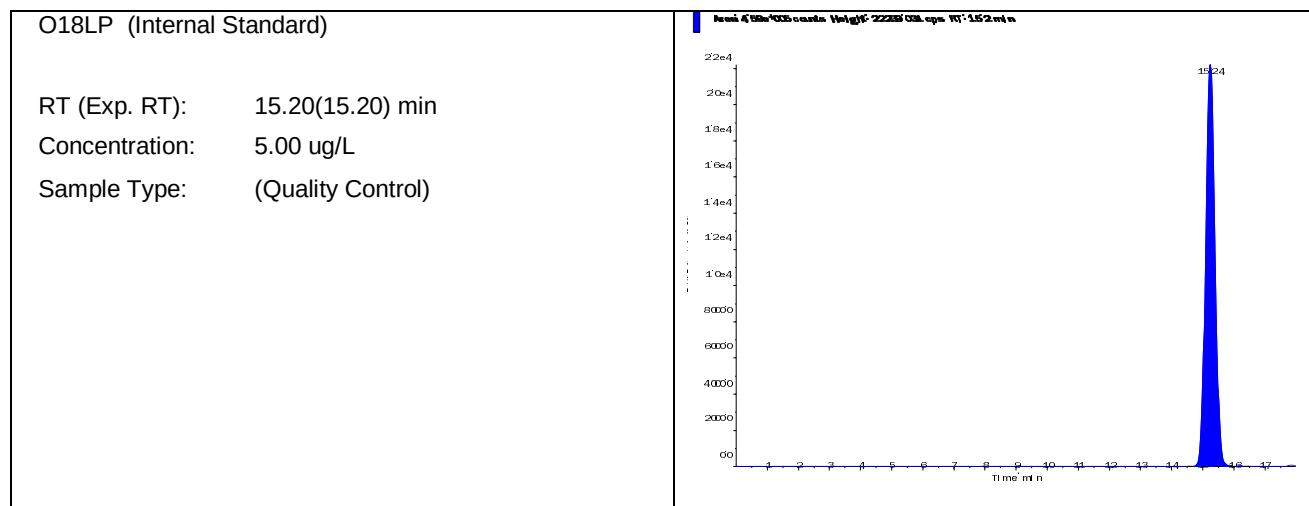
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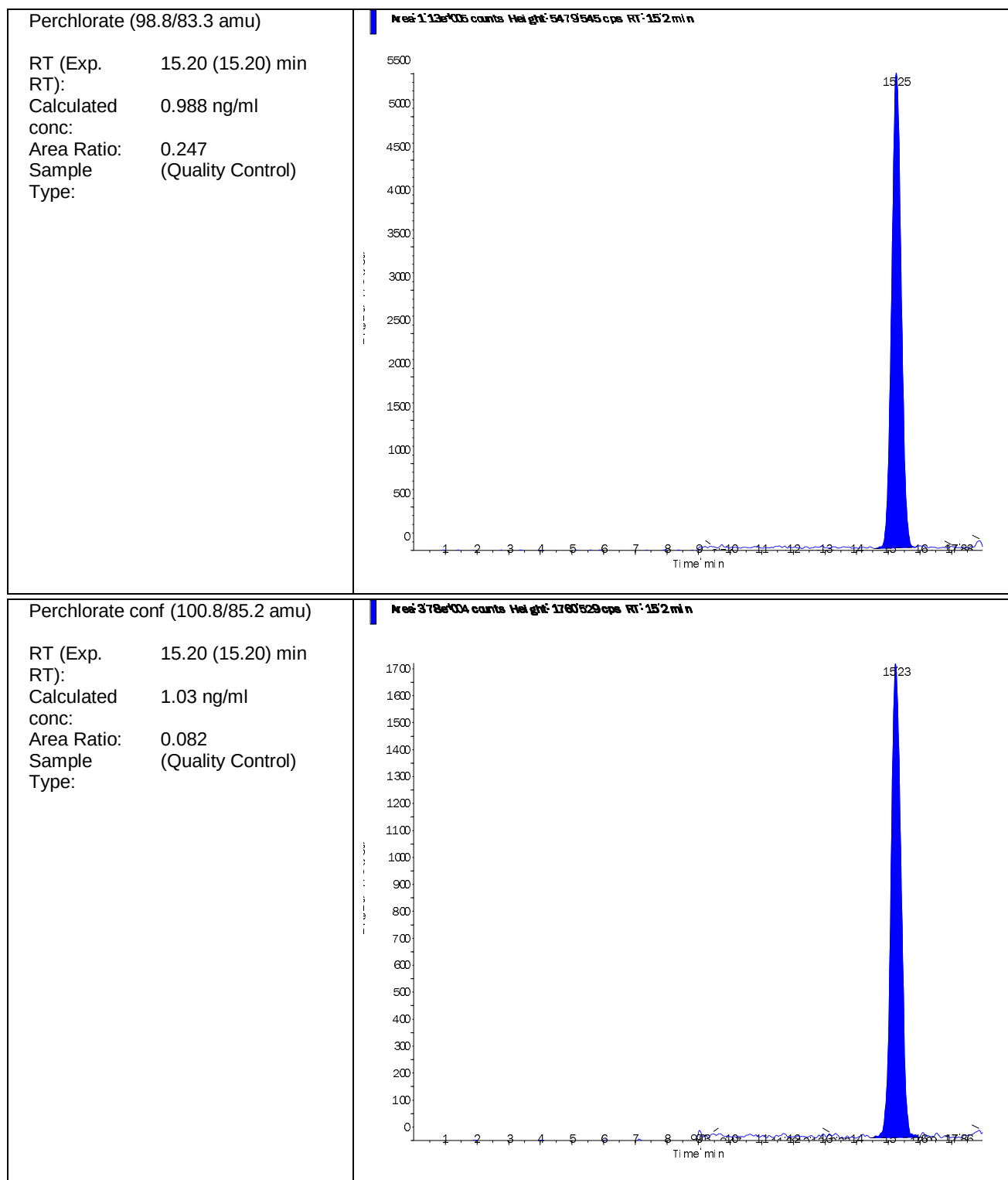
Data File	LM16683.wiff	Result Table	061412_JWR.rdb
Acquisition Date	6/14/2012 5:11:22 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG400702-09 1.0 ug/L ALT SRC	Injection Vial	9.00
Data File	LM16683.wiff	Injection Volume	10.00
Acquisition Date	6/14/2012 5:11:22 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Quality Control
Instrument Name	API 4000	Result Table	061412_JWR.rdb
Sample ID	WG400702-09	Dilution Factor	1.00
Sample Comment	1,1 STD51107	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.590e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.130e+05	15.20	1.00	0.988
Perchlorate conf	3.780e+04	15.20	1.00	1.03





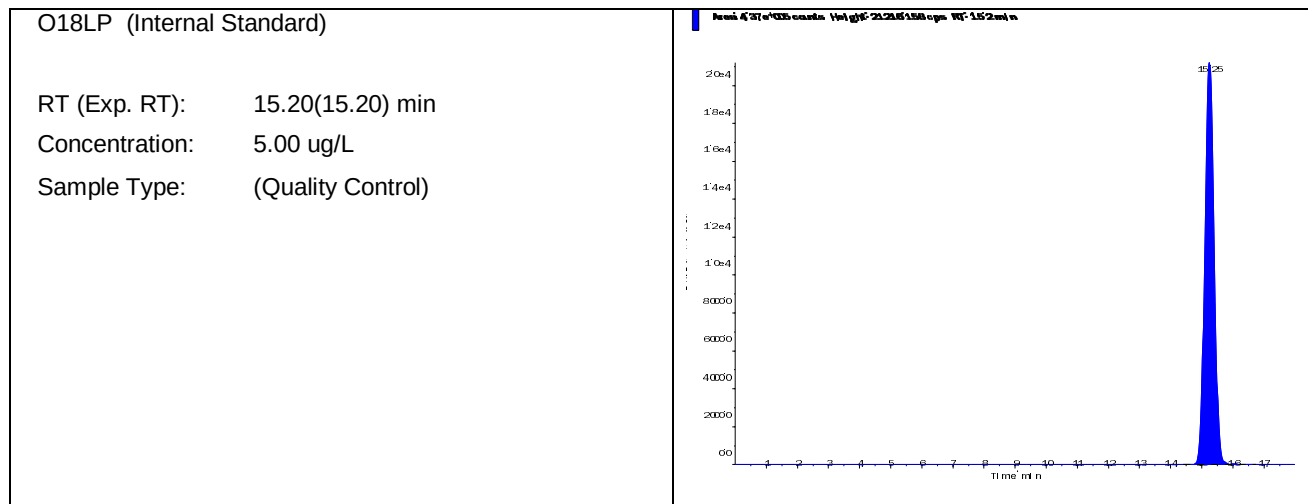
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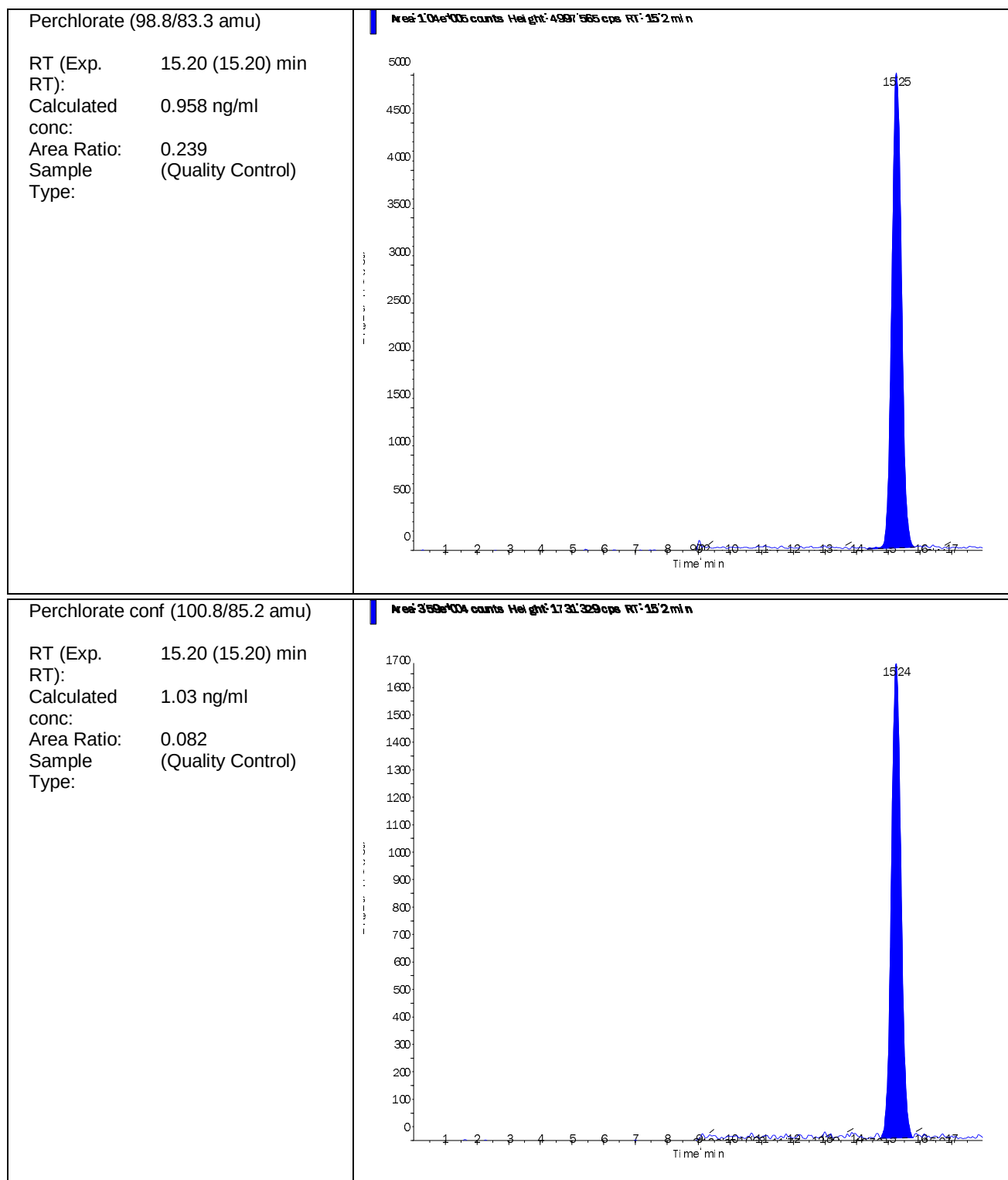
Data File	LM16716.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 4:31:27 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG401076-02 1.0ug/L CCV	Injection Vial	3.00
Data File	LM16716.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 4:31:27 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Quality Control
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401076-02	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.370e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.040e+05	15.20	1.00	0.958
Perchlorate conf	3.590e+04	15.20	1.00	1.03





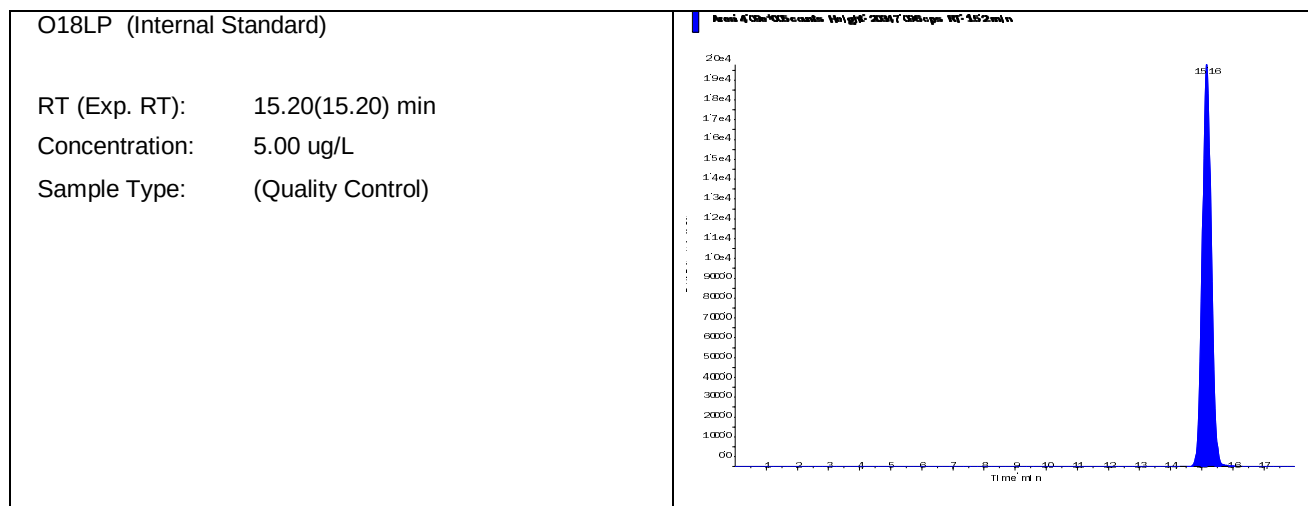
s.dataFile Page 2 of 2

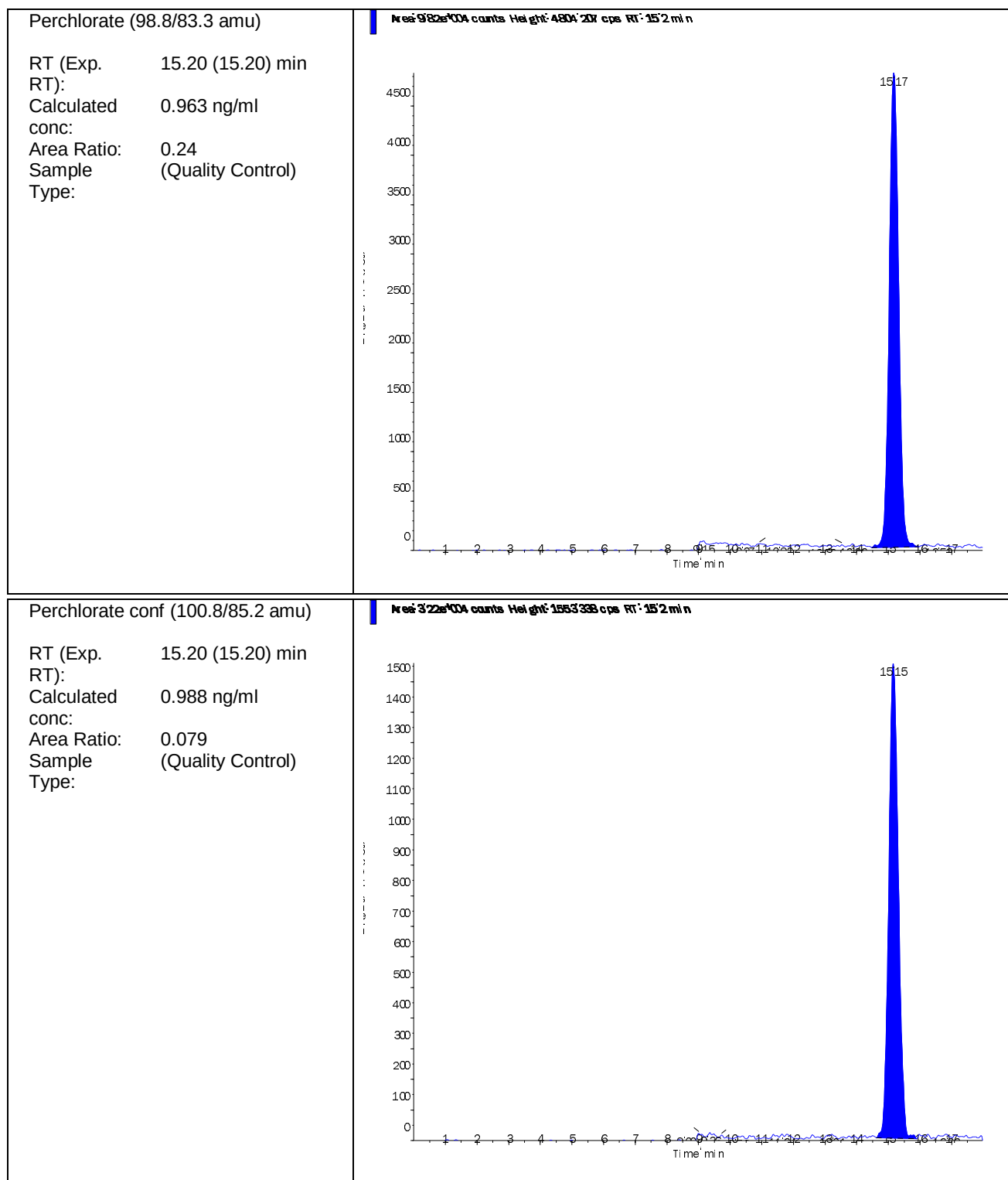
Data File	LM16726.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 7:40:48 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG401076-03 1.0ug/L CCV	Injection Vial	3.00
Data File	LM16726.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 7:40:48 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Quality Control
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401076-03	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.090e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.820e+04	15.20	1.00	0.963
Perchlorate conf	3.220e+04	15.20	1.00	0.988





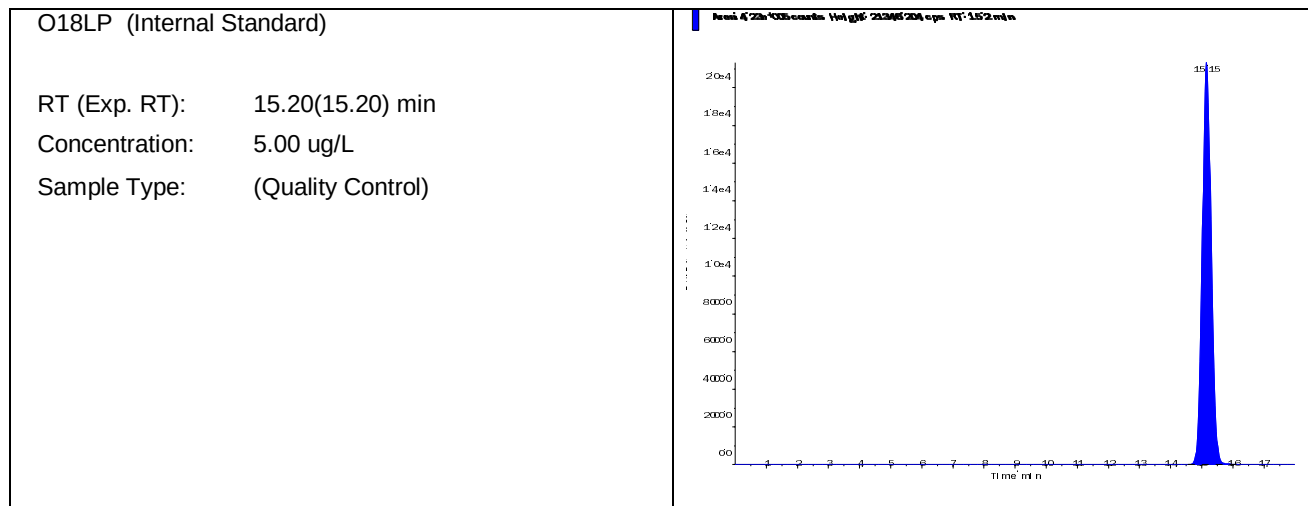
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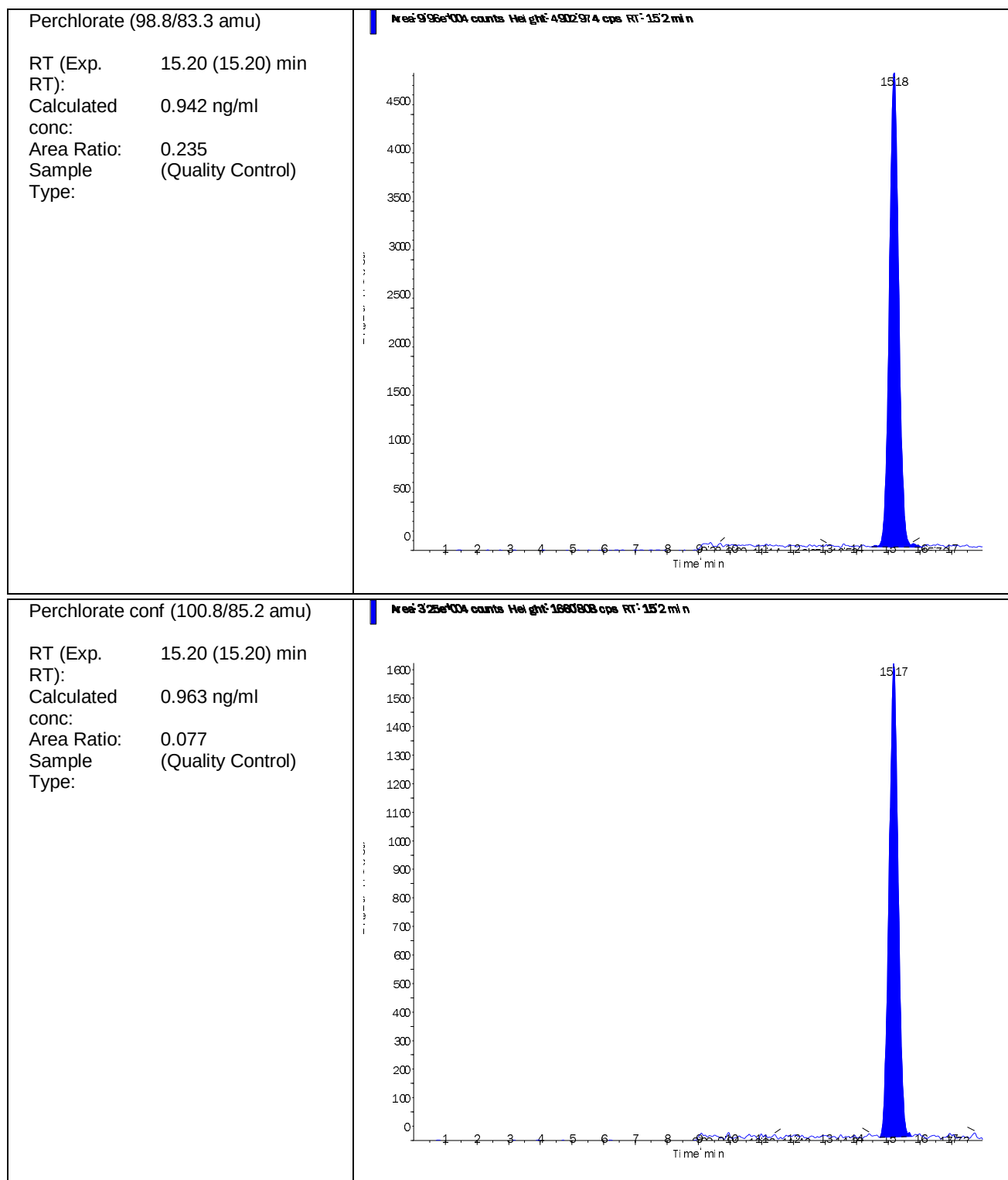
Data File	LM16736.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 10:50:13 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG401076-05 1.0ug/L CCV	Injection Vial	3.00
Data File	LM16736.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 10:50:13 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Quality Control
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401076-05	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.230e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.960e+04	15.20	1.00	0.942
Perchlorate conf	3.250e+04	15.20	1.00	0.963





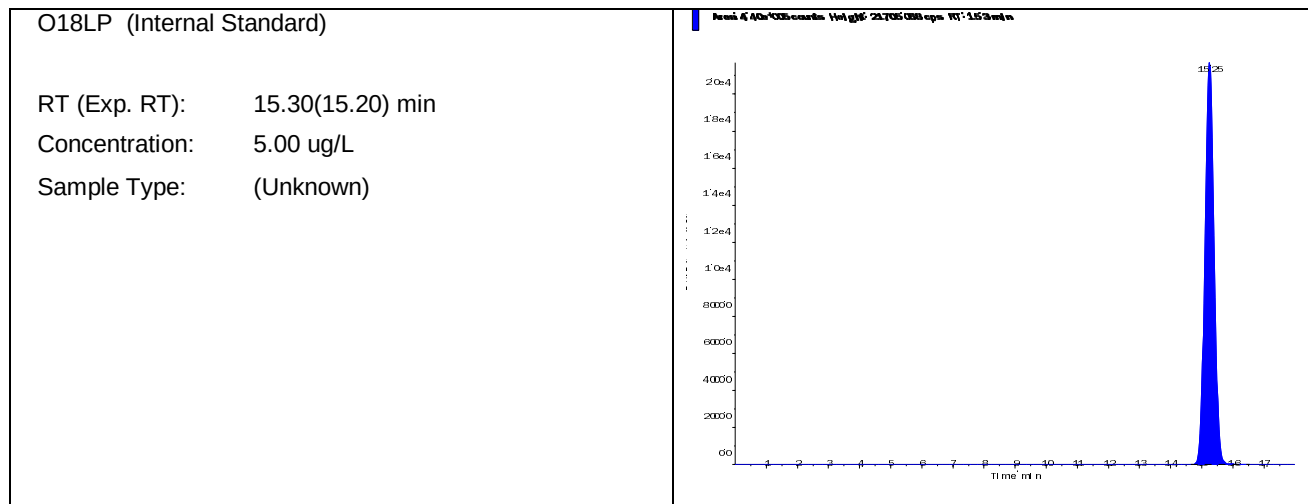
s.dataFile Page 2 of 2

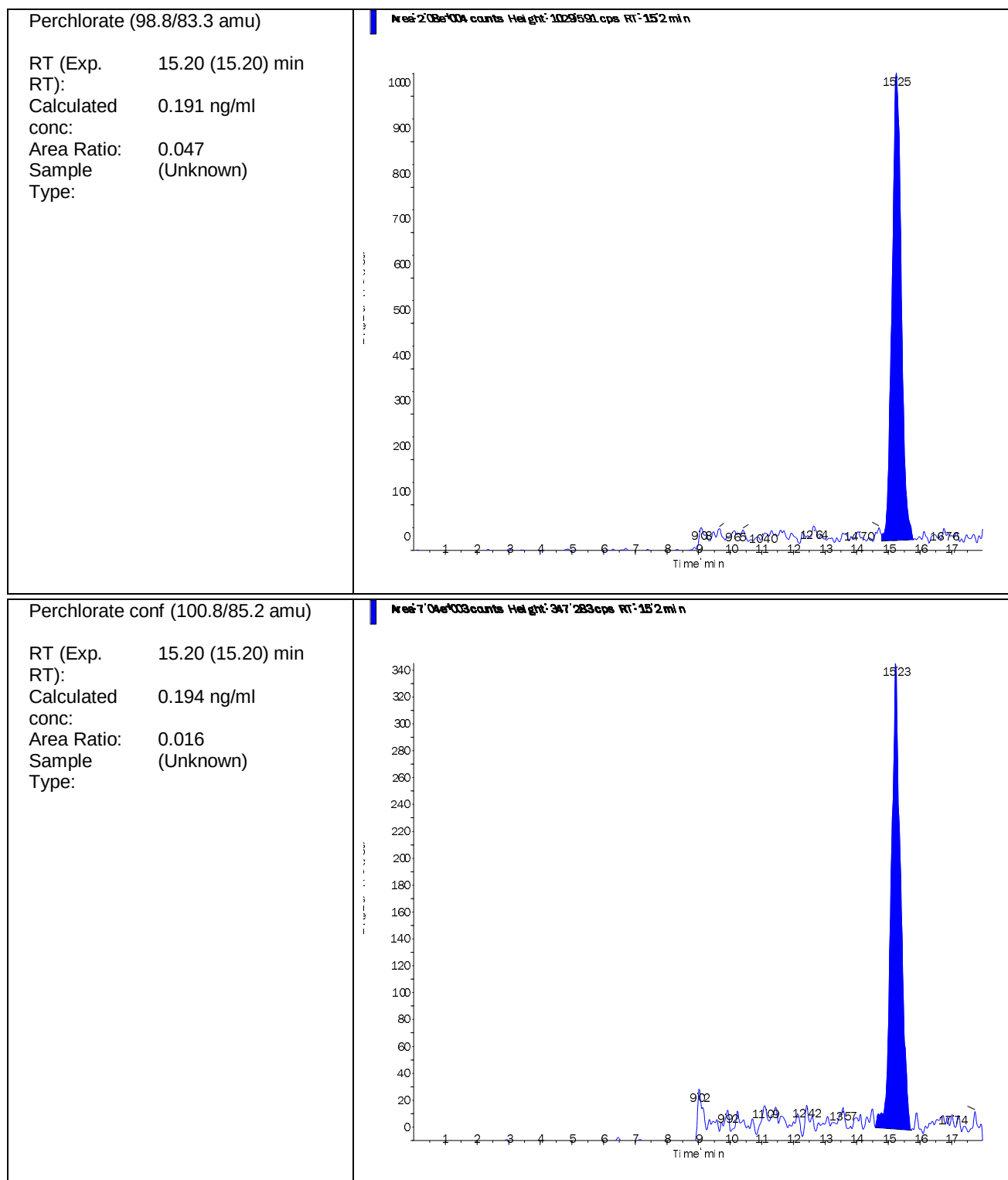
Data File	LM16717.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 4:50:22 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG401077-10 0.2ug/L QCMRL	Injection Vial	2.00
Data File	LM16717.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 4:50:22 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401077-10	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.400e+05	15.30	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.080e+04	15.20	N/A	0.191
Perchlorate conf	7.040e+03	15.20	N/A	0.194





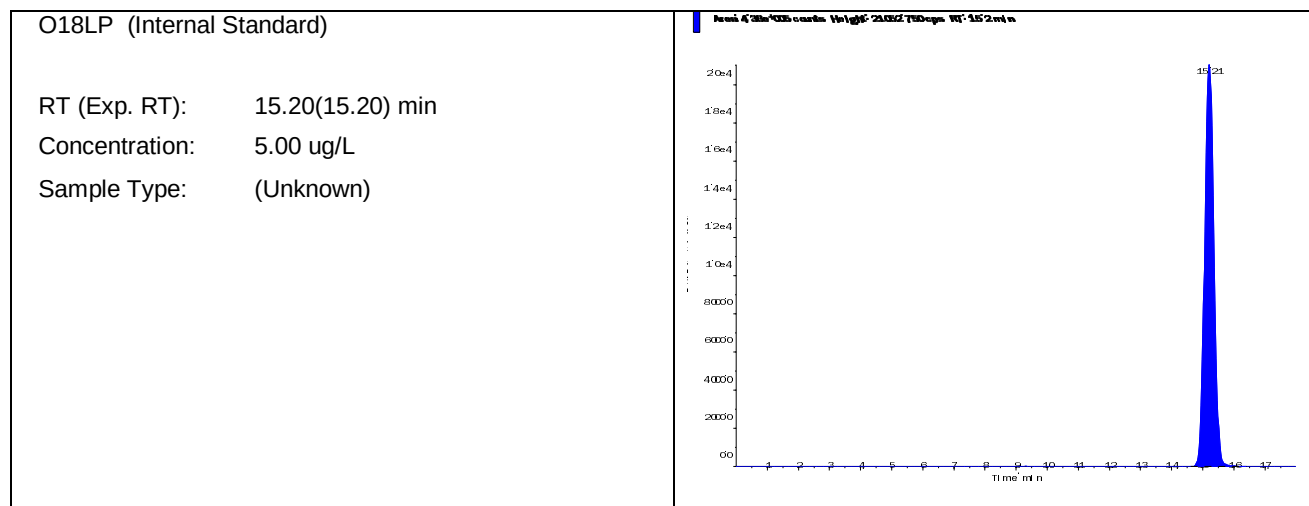
s.dataFile Page 2 of 2

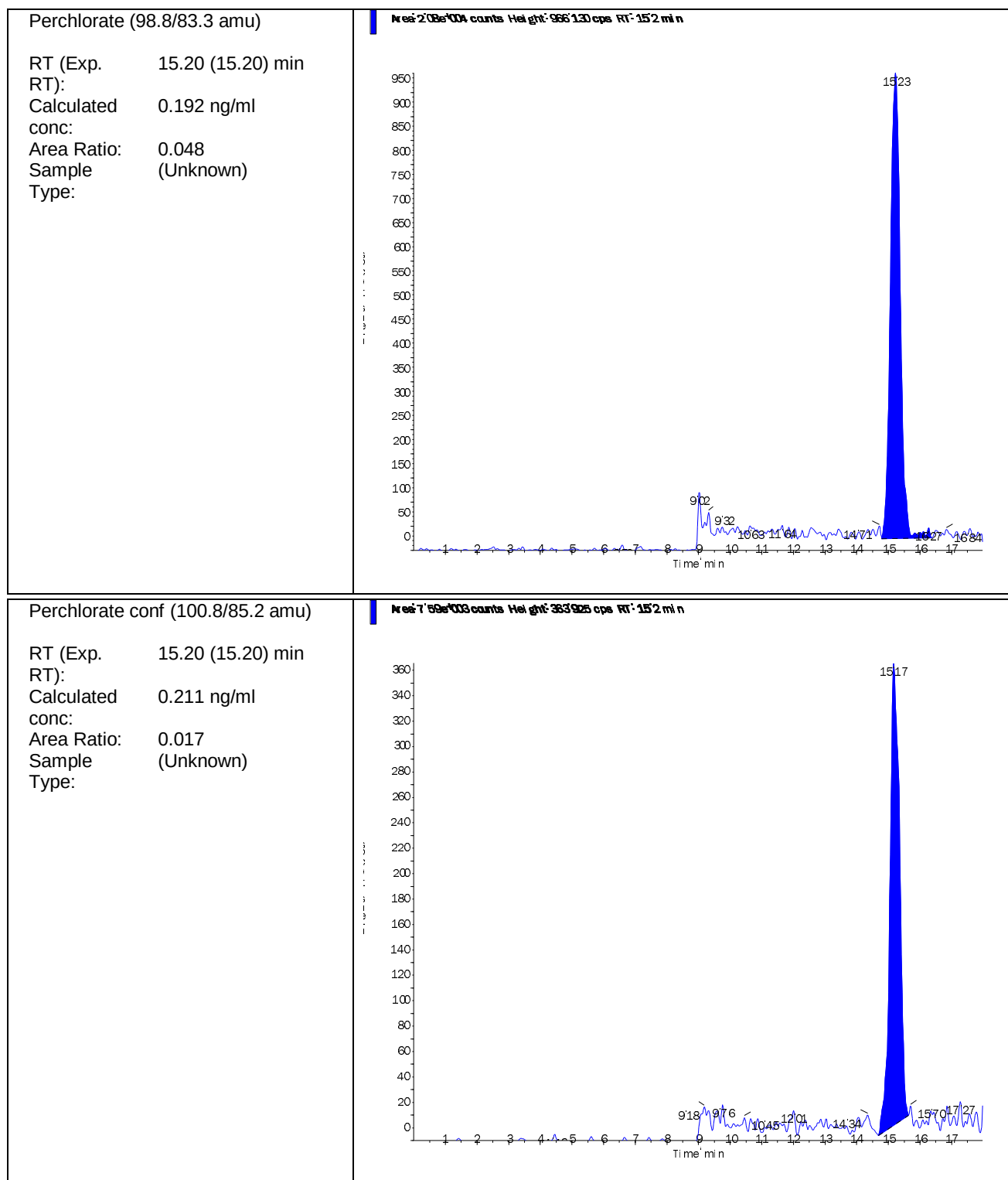
Data File	LM16727.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 7:59:44 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG401077-11 0.2ug/L QCMRL	Injection Vial	2.00
Data File	LM16727.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 7:59:44 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401077-11	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.380e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.080e+04	15.20	N/A	0.192
Perchlorate conf	7.590e+03	15.20	N/A	0.211





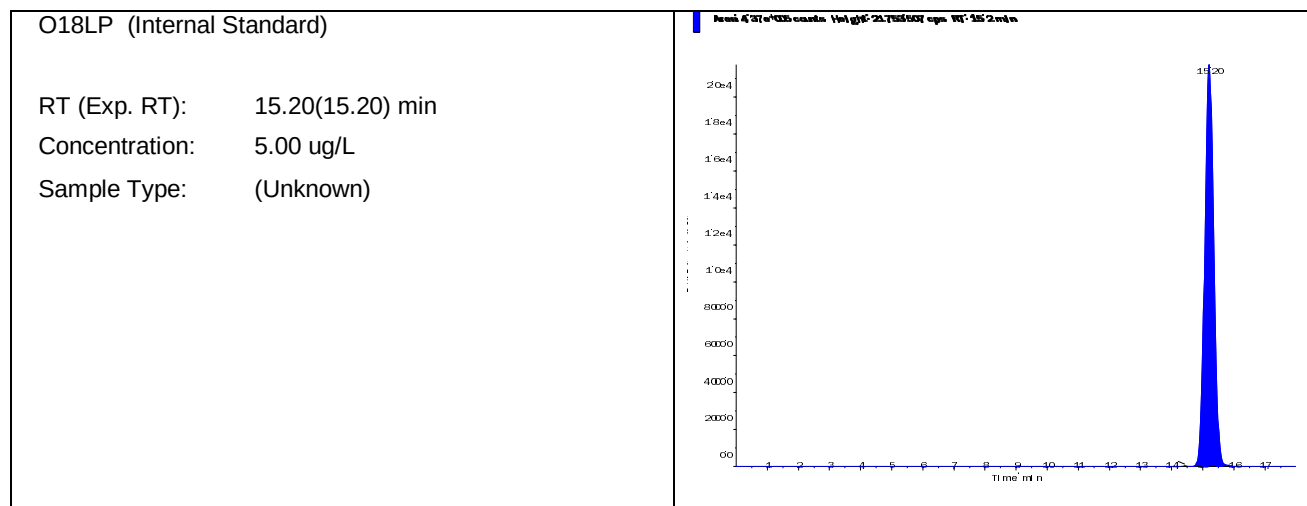
s.dataFile Page 2 of 2

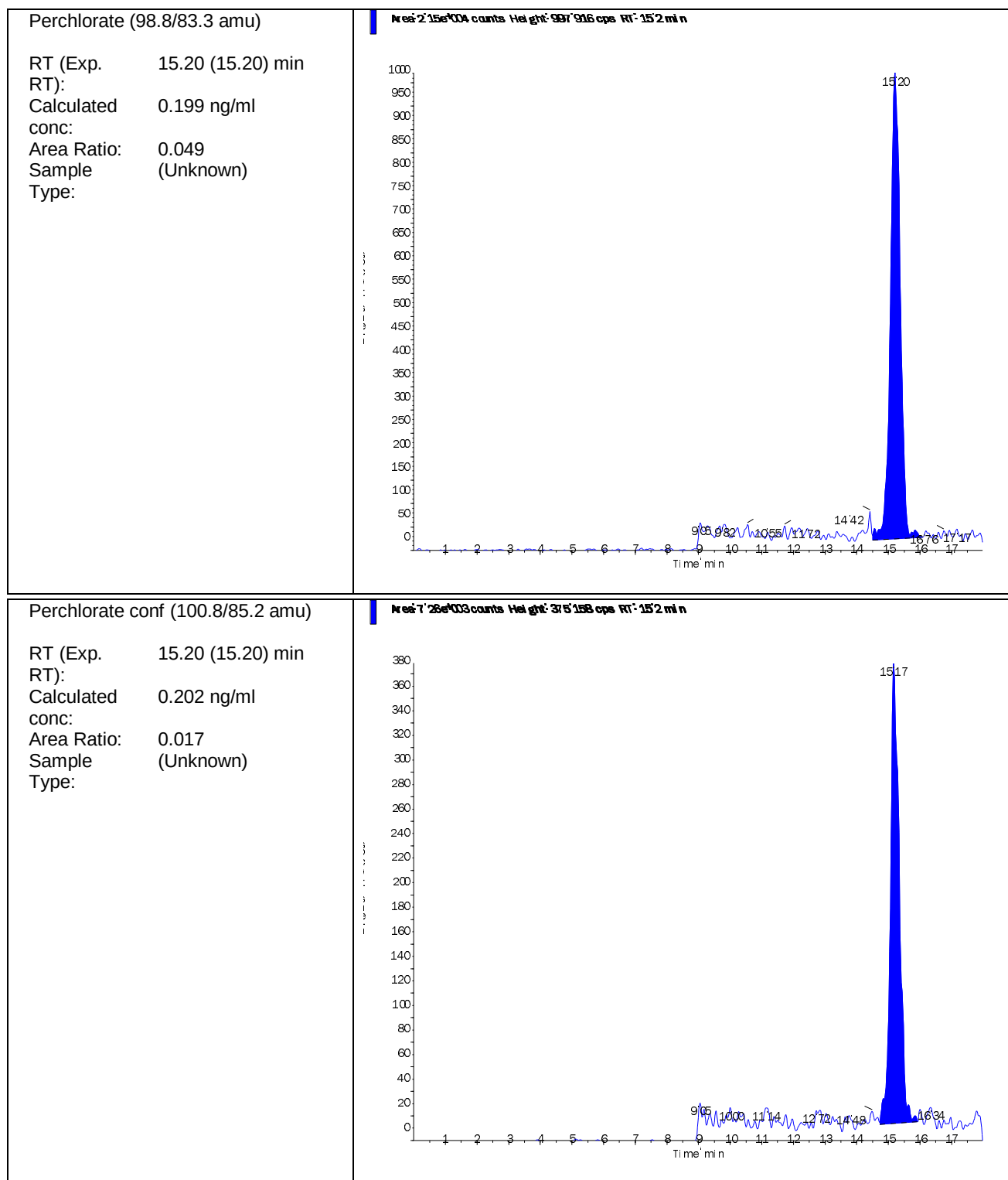
Data File	LM16737.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 11:09:11 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG401090-10 0.2ug/L QCMRL	Injection Vial	2.00
Data File	LM16737.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 11:09:11 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401090-10	Dilution Factor	1.00
Sample Comment	7,1 STD51105	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.370e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.150e+04	15.20	N/A	0.199
Perchlorate conf	7.260e+03	15.20	N/A	0.202



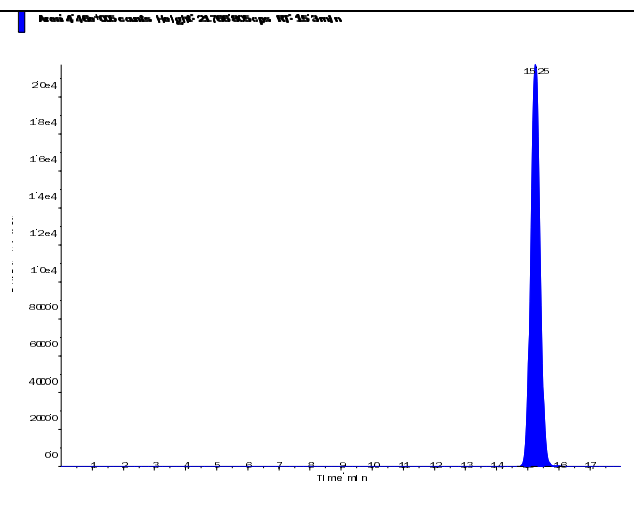


Data File	LM16715.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 4:12:35 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG401076-01 CCB	Injection Vial	1.00
Data File	LM16715.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 4:12:35 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401076-01	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

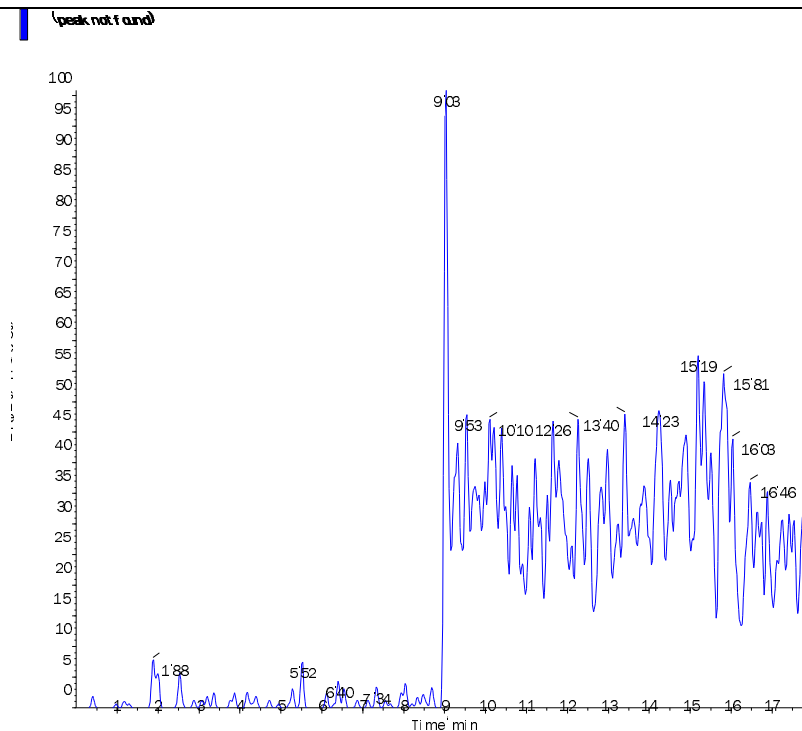
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.460e+05	15.30	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	2.900e+02	15.30	N/A	0.0009

O18LP (Internal Standard) RT (Exp. RT): 15.30(15.20) min Concentration: 5.00 ug/L Sample Type: (Unknown)	
---	--

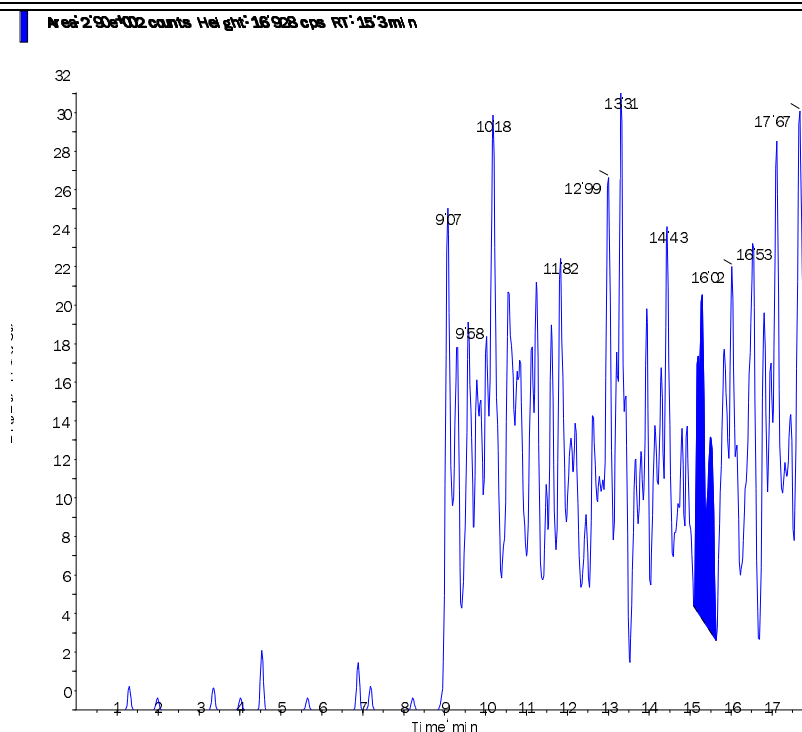
Perchlorate (98.8/83.3 amu)

RT (Exp. 0.00 (15.20) min
RT):
Calculated No Peak ng/ml
conc:
Area Ratio: 0.00
Sample (Unknown)
Type:



Perchlorate conf (100.8/85.2 amu)

RT (Exp. 15.30 (15.20) min
RT):
Calculated 0.0009 ng/ml
conc:
Area Ratio: 0.001
Sample (Unknown)
Type:

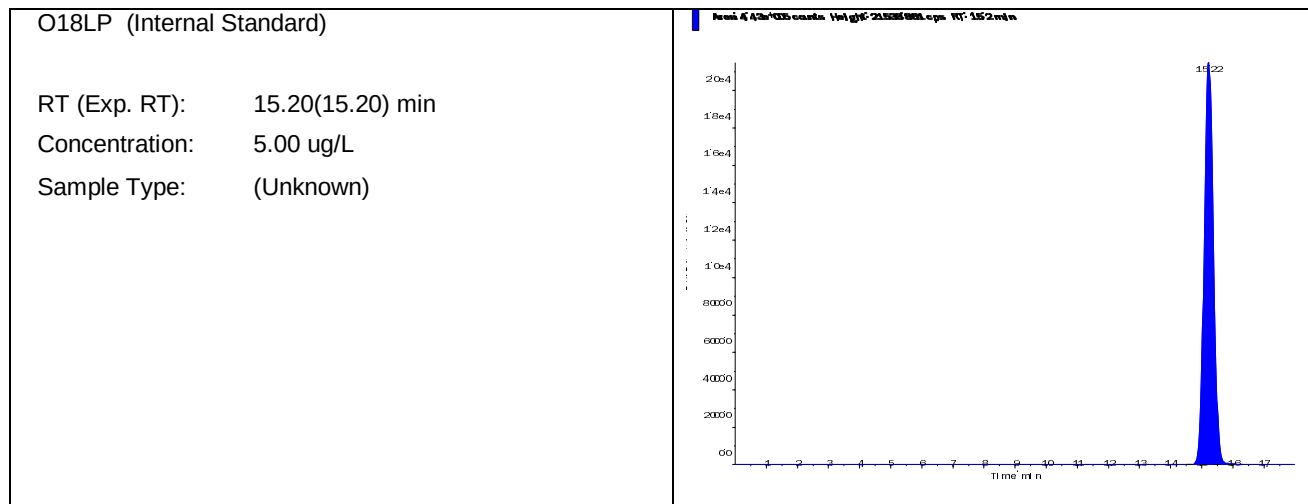


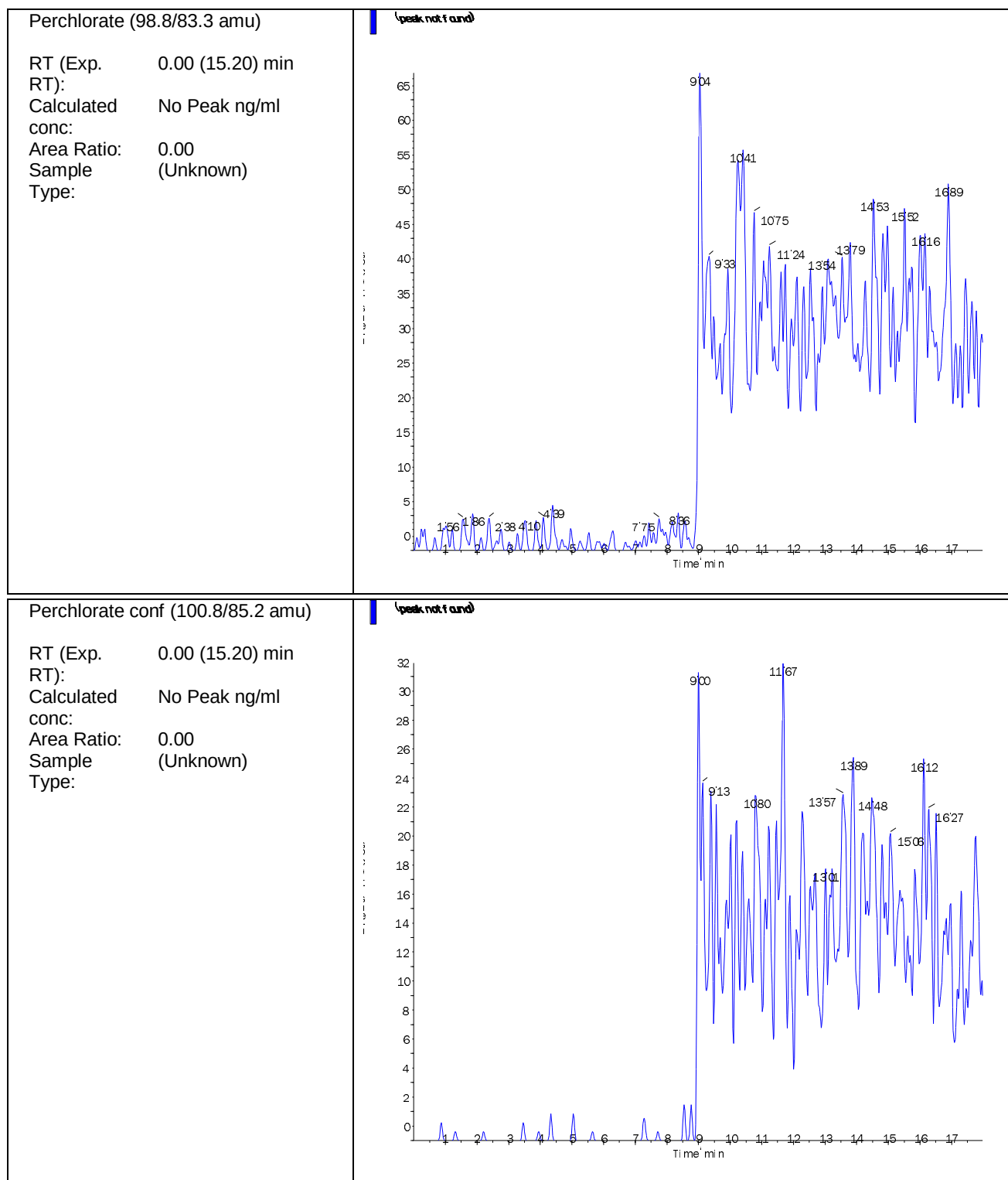
Data File	LM16728.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 8:18:40 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG401076-04 CCB	Injection Vial	1.00
Data File	LM16728.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 8:18:40 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401076-04	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.430e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak





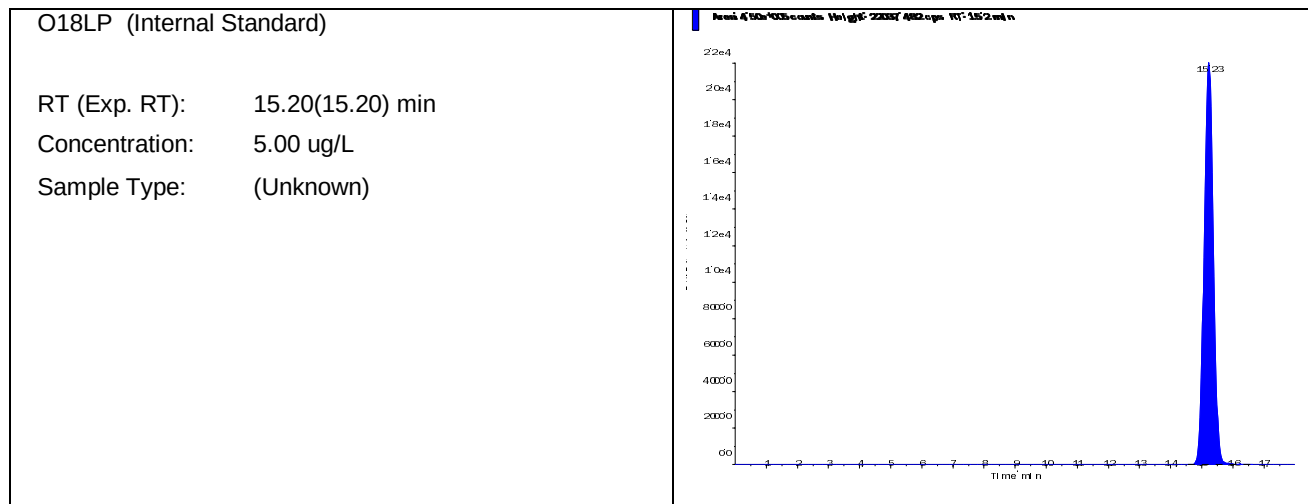
s.dataFile Page 2 of 2

Data File	LM16738.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 11:28:06 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG401076-06 CCB	Injection Vial	1.00
Data File	LM16738.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 11:28:06 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401076-06	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

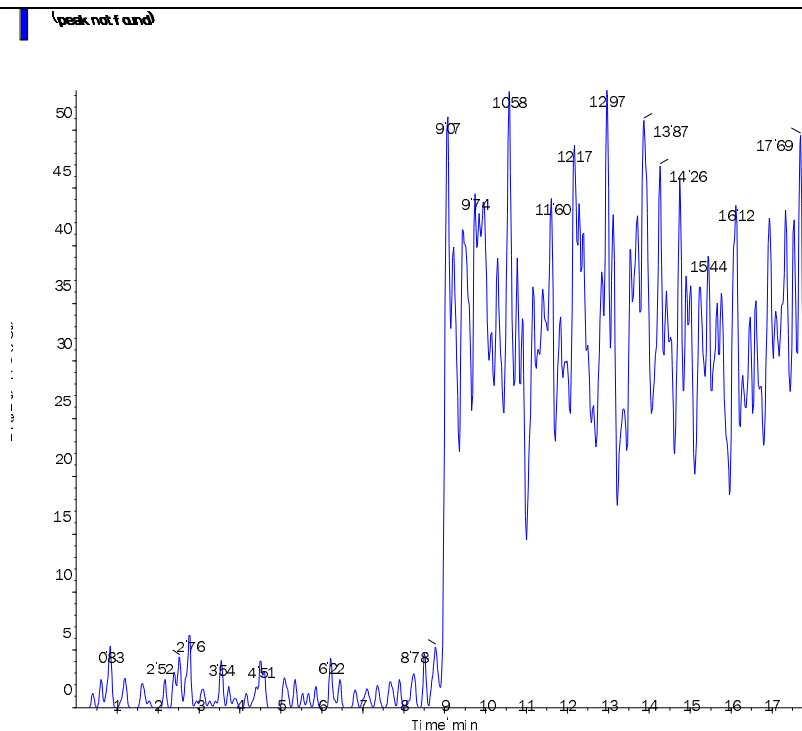
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.500e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak



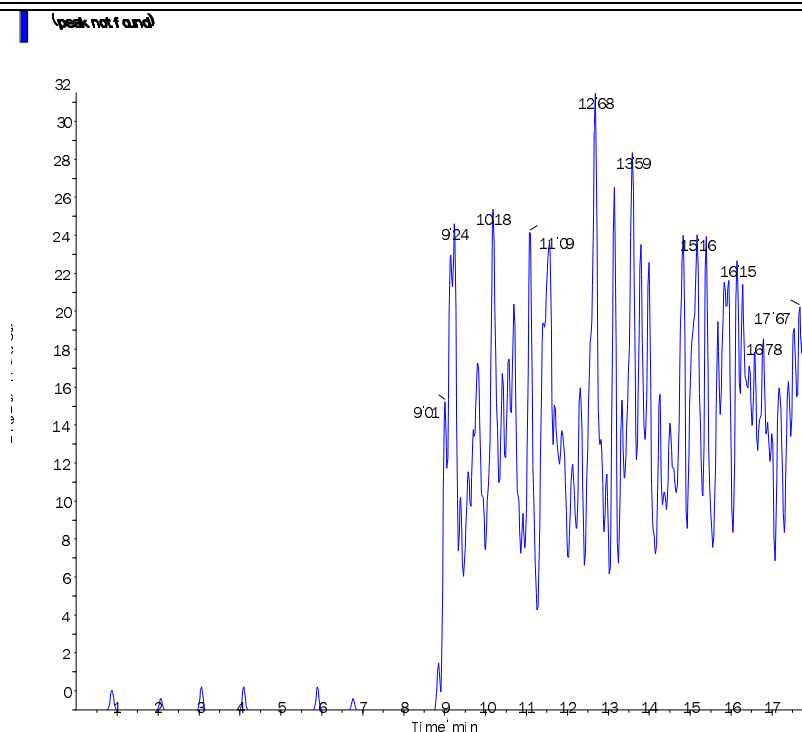
Perchlorate (98.8/83.3 amu)

RT (Exp. 0.00 (15.20) min
 RT):
 Calculated No Peak ng/ml
 conc:
 Area Ratio: 0.00
 Sample (Unknown)
 Type:



Perchlorate conf (100.8/85.2 amu)

RT (Exp. 0.00 (15.20) min
 RT):
 Calculated No Peak ng/ml
 conc:
 Area Ratio: 0.00
 Sample (Unknown)
 Type:



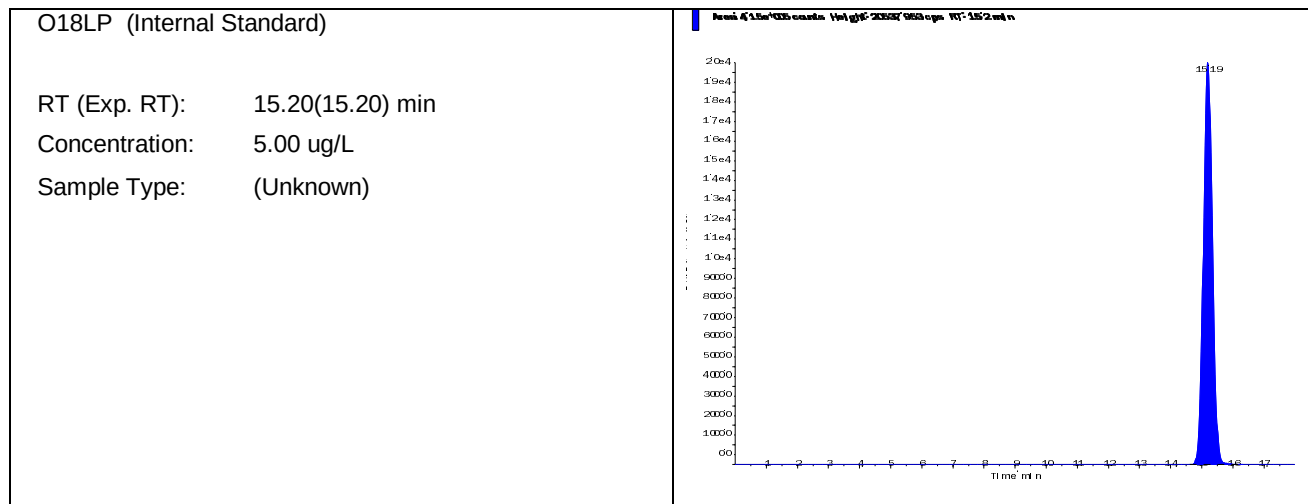
2.2.3.5 Raw QC Data

Data File	LM16719.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 5:28:13 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG401077-02 BLANK	Injection Vial	5.00
Data File	LM16719.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 5:28:13 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401077-02	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

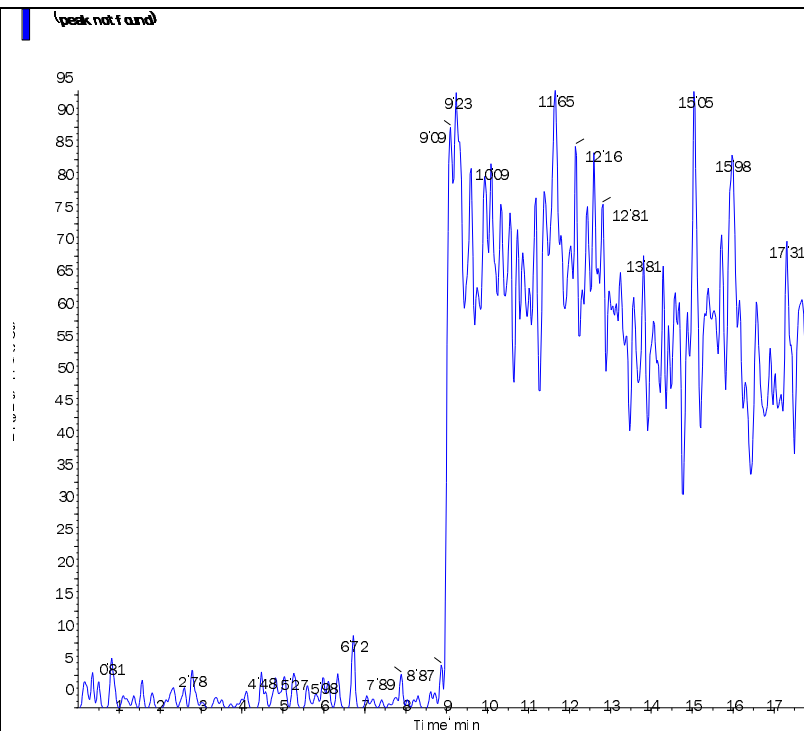
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.150e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak



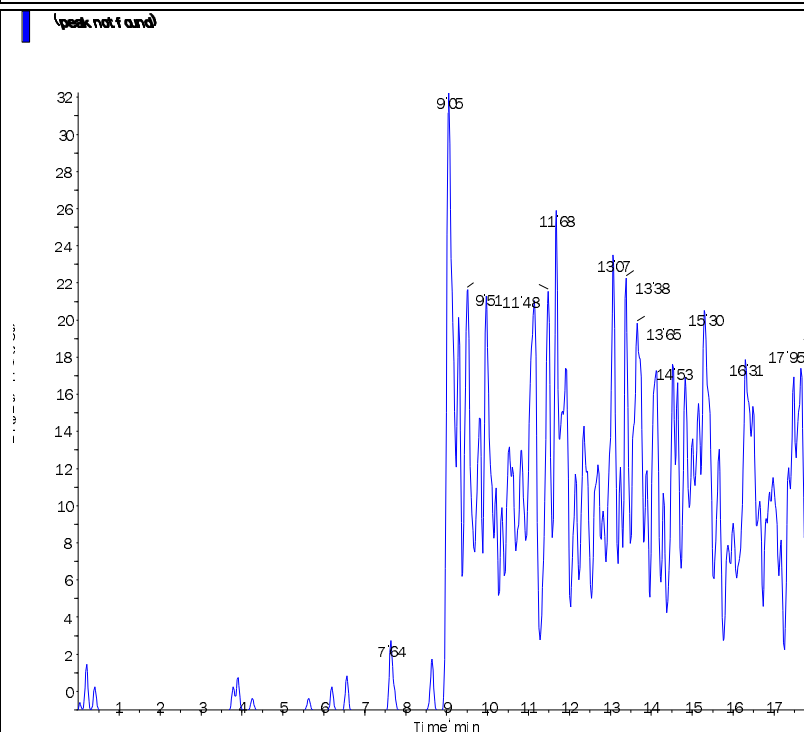
Perchlorate (98.8/83.3 amu)

RT (Exp. 0.00 (15.20) min
 RT):
 Calculated No Peak ng/ml
 conc:
 Area Ratio: 0.00
 Sample (Unknown)
 Type:



Perchlorate conf (100.8/85.2 amu)

RT (Exp. 0.00 (15.20) min
 RT):
 Calculated No Peak ng/ml
 conc:
 Area Ratio: 0.00
 Sample (Unknown)
 Type:

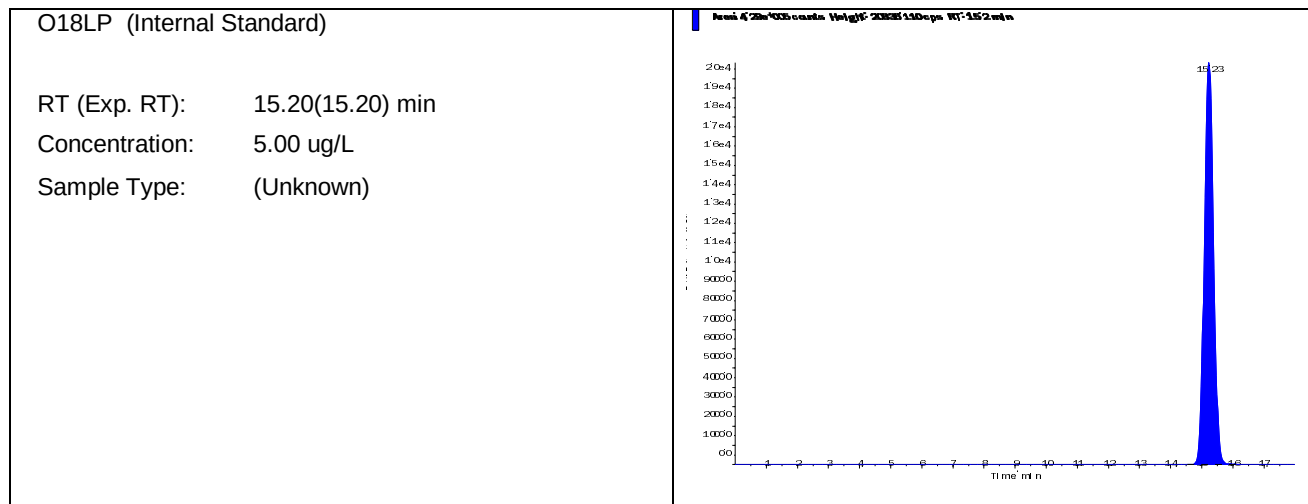


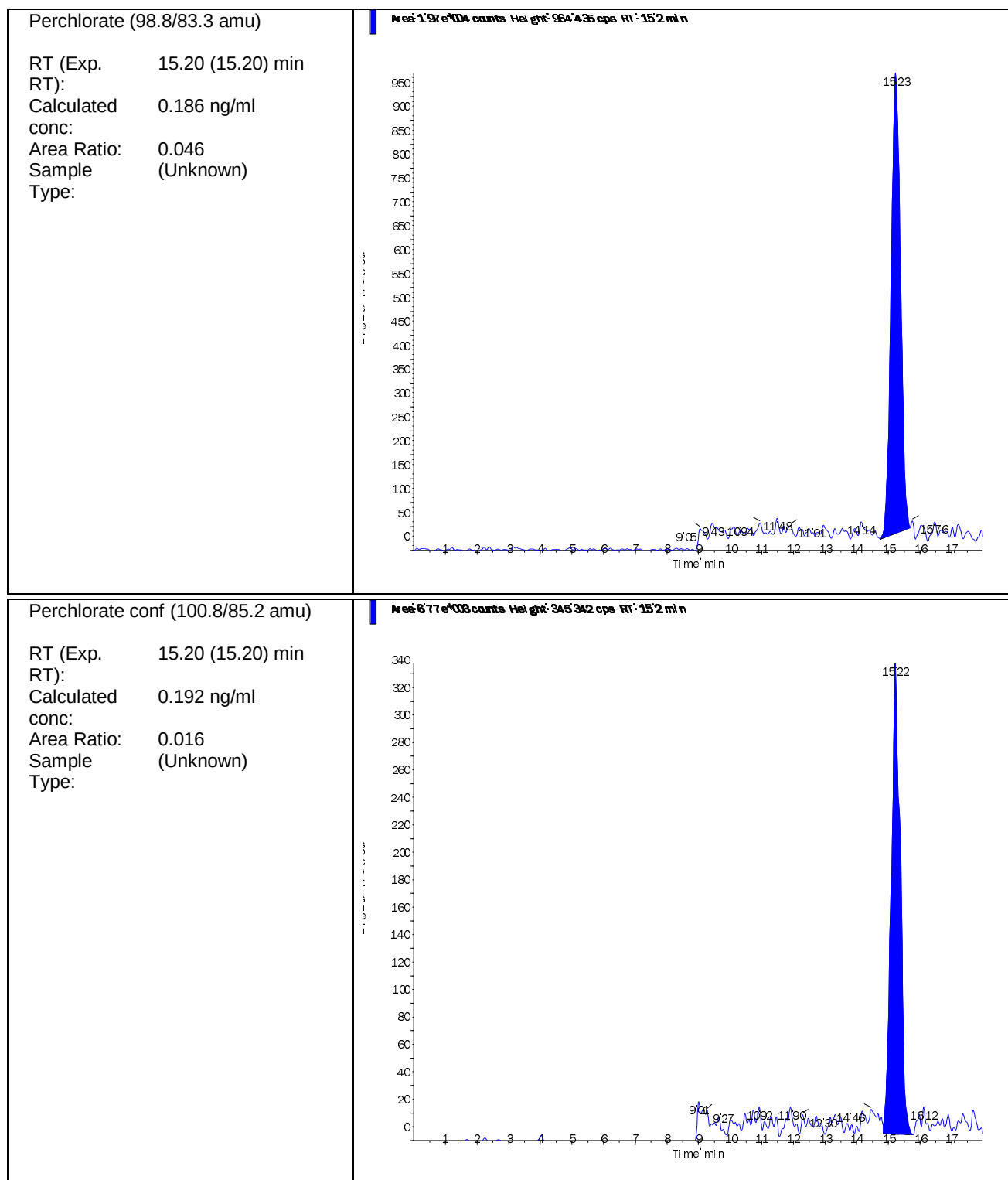
Data File	LM16720.wiff	Result Table	061912_ADC.rdb
Acquisition Date	6/19/2012 5:47:09 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG401077-03 0.2ug/L LCS	Injection Vial	6.00
Data File	LM16720.wiff	Injection Volume	10.00
Acquisition Date	6/19/2012 5:47:09 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	061912_ADC.rdb
Sample ID	WG401077-03	Dilution Factor	1.00
Sample Comment	1,1 STD51105	Weight to Volume	0.00

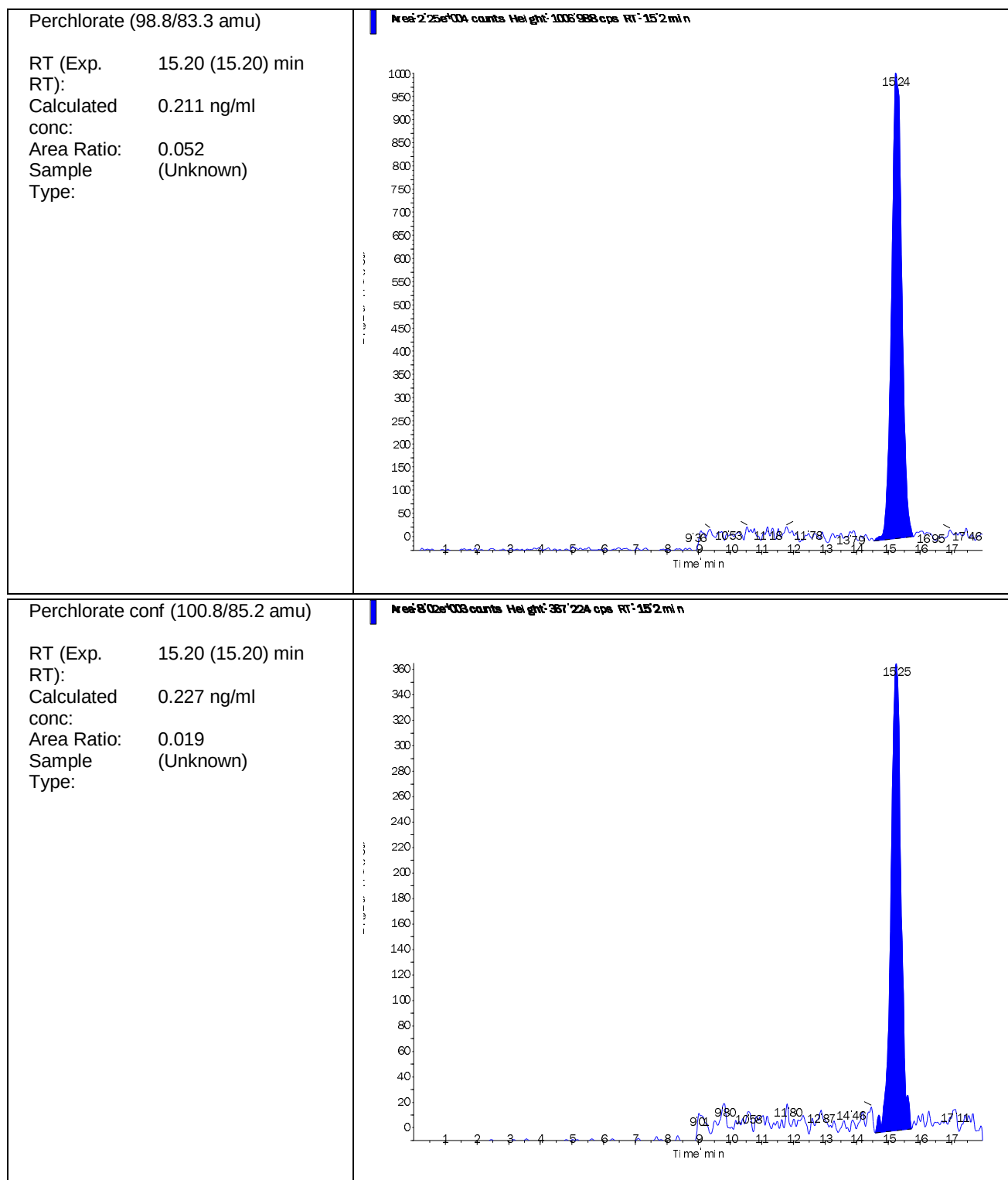
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.290e+05	15.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.970e+04	15.20	N/A	0.186
Perchlorate conf	6.770e+03	15.20	N/A	0.192





s.dataFile Page 2 of 2



s.dataFile Page 2 of 2

2.2.4 Pesticide GC Data (8081)

2.2.4.1 Summary Data



Login Number: L12060445
Department: General Chromatography
Analyst: Eric Lawson

METHOD

Analysis SW-846 8081A

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 20%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor

will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 48464

Approved By: Mike Cochran



Certificate of Analysis

Sample #: L12060445-01

PrePrep Method: N/A

Instrument: HP15

Client ID: 40MW7GW601212

Prep Method: 3510C

Prep Date: 06/18/2012 08:00

Matrix: Water

Analytical Method: 8081A

Cal Date: 05/09/2012 20:58

Workgroup #: WG400970

Analyst: ECL

Run Date: 06/19/2012 19:50

Collect Date: 06/12/2012 10:25

Dilution: 1

File ID: 15G32794.R

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0500	0.0100
4,4'-DDE	72-55-9		U	0.0500	0.0100
4,4'-DDT	50-29-3		U	0.0500	0.0100
Aldrin	309-00-2		U	0.0500	0.0100
alpha Chlordane	5103-71-9		U	0.0500	0.0100
alpha-BHC	319-84-6		U	0.0500	0.0100
beta-BHC	319-85-7		U	0.0500	0.0100
delta-BHC	319-86-8		U	0.0500	0.0100
Dieldrin	60-57-1		U	0.0500	0.0100
Endosulfan I	959-98-8		U	0.0500	0.0100
Endosulfan II	33213-65-9		U	0.0500	0.0100
Endosulfan sulfate	1031-07-8		U	0.0500	0.0100
Endrin	72-20-8		U	0.0500	0.0100
Endrin aldehyde	7421-93-4		U	0.0500	0.0100
Endrin ketone	53494-70-5		U	0.0500	0.0100
gamma Chlordane	5103-74-2		U	0.0500	0.0100
gamma-BHC (Lindane)	58-89-9		U	0.0500	0.0100
Heptachlor	76-44-8		U	0.0500	0.0100
Heptachlor epoxide	1024-57-3		U	0.0500	0.0100
Methoxychlor	72-43-5		U	0.0500	0.0100
Toxaphene	8001-35-2		U	1.00	0.300
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	64.5	25	140		
Decachlorobiphenyl	44.0	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-03	PrePrep Method: N/A	Instrument: HP15
Client ID: LFMW01GW061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/19/2012 20:18
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: 15G32795.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0549	0.0110
4,4'-DDE	72-55-9		U	0.0549	0.0110
4,4'-DDT	50-29-3		U	0.0549	0.0110
Aldrin	309-00-2		U	0.0549	0.0110
alpha Chlordane	5103-71-9		U	0.0549	0.0110
alpha-BHC	319-84-6		U	0.0549	0.0110
beta-BHC	319-85-7		U	0.0549	0.0110
delta-BHC	319-86-8		U	0.0549	0.0110
Dieldrin	60-57-1		U	0.0549	0.0110
Endosulfan I	959-98-8		U	0.0549	0.0110
Endosulfan II	33213-65-9		U	0.0549	0.0110
Endosulfan sulfate	1031-07-8		U	0.0549	0.0110
Endrin	72-20-8		U	0.0549	0.0110
Endrin aldehyde	7421-93-4		U	0.0549	0.0110
Endrin ketone	53494-70-5		U	0.0549	0.0110
gamma Chlordane	5103-74-2		U	0.0549	0.0110
gamma-BHC (Lindane)	58-89-9		U	0.0549	0.0110
Heptachlor	76-44-8		U	0.0549	0.0110
Heptachlor epoxide	1024-57-3		U	0.0549	0.0110
Methoxychlor	72-43-5		U	0.0549	0.0110
Toxaphene	8001-35-2		U	1.10	0.330

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	65.3	25	140	
Decachlorobiphenyl	50.2	30	135	

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12060445-05

PrePrep Method: N/A

Instrument: HP15

Client ID: 40MW6GW061212

Prep Method: 3510C

Prep Date: 06/18/2012 08:00

Matrix: Water

Analytical Method: 8081A

Cal Date: 05/09/2012 20:58

Workgroup #: WG400970

Analyst: ECL

Run Date: 06/19/2012 20:46

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: 15G32796.R

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0538	0.0108
4,4'-DDE	72-55-9		U	0.0538	0.0108
4,4'-DDT	50-29-3		U	0.0538	0.0108
Aldrin	309-00-2		U	0.0538	0.0108
alpha Chlordane	5103-71-9		U	0.0538	0.0108
alpha-BHC	319-84-6		U	0.0538	0.0108
beta-BHC	319-85-7		U	0.0538	0.0108
delta-BHC	319-86-8		U	0.0538	0.0108
Dieldrin	60-57-1		U	0.0538	0.0108
Endosulfan I	959-98-8		U	0.0538	0.0108
Endosulfan II	33213-65-9		U	0.0538	0.0108
Endosulfan sulfate	1031-07-8		U	0.0538	0.0108
Endrin	72-20-8		U	0.0538	0.0108
Endrin aldehyde	7421-93-4		U	0.0538	0.0108
Endrin ketone	53494-70-5		U	0.0538	0.0108
gamma Chlordane	5103-74-2		U	0.0538	0.0108
gamma-BHC (Lindane)	58-89-9		U	0.0538	0.0108
Heptachlor	76-44-8		U	0.0538	0.0108
Heptachlor epoxide	1024-57-3		U	0.0538	0.0108
Methoxychlor	72-43-5		U	0.0538	0.0108
Toxaphene	8001-35-2		U	1.08	0.323

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	70.7	25	140	
Decachlorobiphenyl	53.2	30	135	

U	Analyte was not detected. The concentration is below the reported LOD.
---	--

Certificate of Analysis

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: HP15
Client ID: 40MW6MSGW061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/19/2012 21:15
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 15G32797.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.485		0.0538	0.0108
4,4'-DDE	72-55-9	0.485		0.0538	0.0108
4,4'-DDT	50-29-3	0.510		0.0538	0.0108
Aldrin	309-00-2	0.431		0.0538	0.0108
alpha Chlordane	5103-71-9	0.459		0.0538	0.0108
alpha-BHC	319-84-6	0.467		0.0538	0.0108
beta-BHC	319-85-7	0.427		0.0538	0.0108
delta-BHC	319-86-8	0.425		0.0538	0.0108
Dieldrin	60-57-1	0.486		0.0538	0.0108
Endosulfan I	959-98-8	0.459		0.0538	0.0108
Endosulfan II	33213-65-9	0.456		0.0538	0.0108
Endosulfan sulfate	1031-07-8	0.479		0.0538	0.0108
Endrin	72-20-8	0.455		0.0538	0.0108
Endrin aldehyde	7421-93-4	0.420		0.0538	0.0108
Endrin ketone	53494-70-5	0.494		0.0538	0.0108
gamma Chlordane	5103-74-2	0.470		0.0538	0.0108
gamma-BHC (Lindane)	58-89-9	0.468		0.0538	0.0108
Heptachlor	76-44-8	0.451		0.0538	0.0108
Heptachlor epoxide	1024-57-3	0.465		0.0538	0.0108
Methoxychlor	72-43-5	0.545		0.0538	0.0108
Toxaphene	8001-35-2		U	1.08	0.323
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	67.2	25	140		
Decachlorobiphenyl	61.1	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: HP15
Client ID: 40MW6MSDGW061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/19/2012 21:43
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 15G32798.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.453		0.0521	0.0104
4,4'-DDE	72-55-9	0.459		0.0521	0.0104
4,4'-DDT	50-29-3	0.481		0.0521	0.0104
Aldrin	309-00-2	0.415		0.0521	0.0104
alpha Chlordane	5103-71-9	0.430		0.0521	0.0104
alpha-BHC	319-84-6	0.451		0.0521	0.0104
beta-BHC	319-85-7	0.397		0.0521	0.0104
delta-BHC	319-86-8	0.395		0.0521	0.0104
Dieldrin	60-57-1	0.453		0.0521	0.0104
Endosulfan I	959-98-8	0.432		0.0521	0.0104
Endosulfan II	33213-65-9	0.424		0.0521	0.0104
Endosulfan sulfate	1031-07-8	0.447		0.0521	0.0104
Endrin	72-20-8	0.418		0.0521	0.0104
Endrin aldehyde	7421-93-4	0.396		0.0521	0.0104
Endrin ketone	53494-70-5	0.462		0.0521	0.0104
gamma Chlordane	5103-74-2	0.444		0.0521	0.0104
gamma-BHC (Lindane)	58-89-9	0.446		0.0521	0.0104
Heptachlor	76-44-8	0.437		0.0521	0.0104
Heptachlor epoxide	1024-57-3	0.425		0.0521	0.0104
Methoxychlor	72-43-5	0.541		0.0521	0.0104
Toxaphene	8001-35-2		U	1.04	0.313
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	68.8	25	140		
Decachlorobiphenyl	64.6	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: HP15
Client ID: 40DUPGW061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/19/2012 22:11
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: 15G32799.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0575	0.0115
4,4'-DDE	72-55-9		U	0.0575	0.0115
4,4'-DDT	50-29-3		U	0.0575	0.0115
Aldrin	309-00-2		U	0.0575	0.0115
alpha Chlordane	5103-71-9		U	0.0575	0.0115
alpha-BHC	319-84-6		U	0.0575	0.0115
beta-BHC	319-85-7		U	0.0575	0.0115
delta-BHC	319-86-8		U	0.0575	0.0115
Dieldrin	60-57-1		U	0.0575	0.0115
Endosulfan I	959-98-8		U	0.0575	0.0115
Endosulfan II	33213-65-9		U	0.0575	0.0115
Endosulfan sulfate	1031-07-8		U	0.0575	0.0115
Endrin	72-20-8		U	0.0575	0.0115
Endrin aldehyde	7421-93-4		U	0.0575	0.0115
Endrin ketone	53494-70-5		U	0.0575	0.0115
gamma Chlordane	5103-74-2		U	0.0575	0.0115
gamma-BHC (Lindane)	58-89-9		U	0.0575	0.0115
Heptachlor	76-44-8		U	0.0575	0.0115
Heptachlor epoxide	1024-57-3		U	0.0575	0.0115
Methoxychlor	72-43-5		U	0.0575	0.0115
Toxaphene	8001-35-2		U	1.15	0.345

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	66.0	25	140	
Decachlorobiphenyl	52.8	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: HP15
Client ID: 40FB061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/19/2012 23:36
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: 15G32802.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0532	0.0106
4,4'-DDE	72-55-9		U	0.0532	0.0106
4,4'-DDT	50-29-3		U	0.0532	0.0106
Aldrin	309-00-2		U	0.0532	0.0106
alpha Chlordane	5103-71-9		U	0.0532	0.0106
alpha-BHC	319-84-6		U	0.0532	0.0106
beta-BHC	319-85-7		U	0.0532	0.0106
delta-BHC	319-86-8		U	0.0532	0.0106
Dieldrin	60-57-1		U	0.0532	0.0106
Endosulfan I	959-98-8		U	0.0532	0.0106
Endosulfan II	33213-65-9		U	0.0532	0.0106
Endosulfan sulfate	1031-07-8		U	0.0532	0.0106
Endrin	72-20-8		U	0.0532	0.0106
Endrin aldehyde	7421-93-4		U	0.0532	0.0106
Endrin ketone	53494-70-5		U	0.0532	0.0106
gamma Chlordane	5103-74-2		U	0.0532	0.0106
gamma-BHC (Lindane)	58-89-9		U	0.0532	0.0106
Heptachlor	76-44-8		U	0.0532	0.0106
Heptachlor epoxide	1024-57-3		U	0.0532	0.0106
Methoxychlor	72-43-5		U	0.0532	0.0106
Toxaphene	8001-35-2		U	1.06	0.319

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	62.2	25	140	
Decachlorobiphenyl	57.0	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: HP15
Client ID: 40EQR061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/20/2012 00:05
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: 15G32803.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0526	0.0105
4,4'-DDE	72-55-9		U	0.0526	0.0105
4,4'-DDT	50-29-3		U	0.0526	0.0105
Aldrin	309-00-2		U	0.0526	0.0105
alpha Chlordane	5103-71-9		U	0.0526	0.0105
alpha-BHC	319-84-6		U	0.0526	0.0105
beta-BHC	319-85-7		U	0.0526	0.0105
delta-BHC	319-86-8		U	0.0526	0.0105
Dieldrin	60-57-1		U	0.0526	0.0105
Endosulfan I	959-98-8		U	0.0526	0.0105
Endosulfan II	33213-65-9		U	0.0526	0.0105
Endosulfan sulfate	1031-07-8		U	0.0526	0.0105
Endrin	72-20-8		U	0.0526	0.0105
Endrin aldehyde	7421-93-4		U	0.0526	0.0105
Endrin ketone	53494-70-5		U	0.0526	0.0105
gamma Chlordane	5103-74-2		U	0.0526	0.0105
gamma-BHC (Lindane)	58-89-9		U	0.0526	0.0105
Heptachlor	76-44-8		U	0.0526	0.0105
Heptachlor epoxide	1024-57-3		U	0.0526	0.0105
Methoxychlor	72-43-5		U	0.0526	0.0105
Toxaphene	8001-35-2		U	1.05	0.316

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	69.2	25	140	
Decachlorobiphenyl	52.9	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: HP15
Client ID: 40MW5GW061212	Prep Method: 3510C	Prep Date: 06/18/2012 08:00
Matrix: Water	Analytical Method: 8081A	Cal Date: 05/09/2012 20:58
Workgroup #: WG400970	Analyst: ECL	Run Date: 06/20/2012 00:33
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: 15G32804.R
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0549	0.0110
4,4'-DDE	72-55-9		U	0.0549	0.0110
4,4'-DDT	50-29-3		U	0.0549	0.0110
Aldrin	309-00-2		U	0.0549	0.0110
alpha Chlordane	5103-71-9		U	0.0549	0.0110
alpha-BHC	319-84-6		U	0.0549	0.0110
beta-BHC	319-85-7		U	0.0549	0.0110
delta-BHC	319-86-8		U	0.0549	0.0110
Dieldrin	60-57-1		U	0.0549	0.0110
Endosulfan I	959-98-8		U	0.0549	0.0110
Endosulfan II	33213-65-9		U	0.0549	0.0110
Endosulfan sulfate	1031-07-8		U	0.0549	0.0110
Endrin	72-20-8		U	0.0549	0.0110
Endrin aldehyde	7421-93-4		U	0.0549	0.0110
Endrin ketone	53494-70-5		U	0.0549	0.0110
gamma Chlordane	5103-74-2		U	0.0549	0.0110
gamma-BHC (Lindane)	58-89-9		U	0.0549	0.0110
Heptachlor	76-44-8		U	0.0549	0.0110
Heptachlor epoxide	1024-57-3		U	0.0549	0.0110
Methoxychlor	72-43-5		U	0.0549	0.0110
Toxaphene	8001-35-2		U	1.10	0.330

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	76.0	25	140	
Decachlorobiphenyl	44.1	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

2.2.4.2 QC Summary Data

Example 8081 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

$$RF = \frac{A_s}{C_s}$$

where:

A_s = Area of the compound being measured in the standard

C_s = Concentration of the compound being measured (ng/mL)

Example:

10000

100

RF = 100

2.0 Calculating the concentration (C) of a compound in water using data from prep log and quantitation report:*

$$C = \frac{(A_x)(Vf)(D)}{(RF)(Vi)}$$

where:

A_x = Area of the compound begin measured

Vf = Final volume of sample extract (mL). (prep log)

D = Dilution factor for sample as a multiplier (10X=10)

RF = Response factor from ICAL calculated above.

Vi = Initial volume of sample (mL). (prep log)

Example:

10000

1

1

100

1000

C(ug/L) = 0.1

3.0 Calculating the concentration (C) of a compound in soil using data from prep log and quantitation report:*

$$C = \frac{(A_x)(Vf)(D)}{(RF)(Wi)}$$

where:

A_x = Area of the compound begin measured

Vf = Final volume of sample extract (mL). (prep log)

D = Dilution factor for sample as a multiplier (10X=10)

RF = Response factor from ICAL calculated above.

Wi = Initial weight of sample (g).

Example:

10000

1

1

100

30

C(ug/kg) = 3.333333

* Concentrations appearing on instrument quantitation reports are on-column results and do not take into account initial volume, final volume and dilution factor.

Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG400885
Analyst: CAF
Spike Analyst: CAF
Method: 3510C
Run Date: 06/18/2012 08:00
SOP: EXP01 Revision 13
Spike Witness: CPD
Surr Solution: STD51741

Methylene Chloride Lot #: COA16205
Hexane Lot #: COA16149
Sodium Sulfate, Anhydrous, Granular (Lot #: COA16124
Florisol Disposable Column Lot #: COA16116
94:6 Hexane:Ether Lot #: RGT17396
50:50 Hexane:Ether Lot #: RGT17425

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L12060280-12	SAMP		N	8081	1000 mL	.2 mL			10 mL	Transparent
2	L12060374-01	SAMP		N	8081-TC	100 mL	.2 mL			10 mL	Transparent
3	L12060409-01	SAMP		N	8081	1000 mL	.2 mL			10 mL	Colored
4	L12060410-01	SAMP		N	8081	1000 mL	.2 mL			10 mL	Transparent
5	L12060411-01	SAMP		N	608	1000 mL	.2 mL			10 mL	Colored
6	L12060411-02	SAMP		N	608	1000 mL	.2 mL			10 mL	Colored
7	L12060411-03	SAMP		N	608	1000 mL	.2 mL			10 mL	Colored
8	L12060411-04	SAMP		N	608	1000 mL	.2 mL			10 mL	Colored
9	L12060443-01	SAMP		N	608	980 mL	.2 mL			10 mL	Colored
10	L12060445-01	SAMP		N	8081	1000 mL	.2 mL			10 mL	Transparent
11	L12060445-03	SAMP		N	8081	910 mL	.2 mL			10 mL	Transparent
12	L12060445-05	RS01		N	8081	930 mL	.2 mL			10 mL	Transparent
13	L12060445-06	MS01	L12060445-05	N	8081	930 mL	.2 mL	.25 mL	STD50880	10 mL	Transparent
14	L12060445-07	SD01	L12060445-05	N	8081	960 mL	.2 mL	.25 mL	STD50880	10 mL	Transparent
15	L12060445-08	SAMP		N	8081	870 mL	.2 mL			10 mL	Transparent
16	L12060445-09	SAMP		N	8081	940 mL	.2 mL			10 mL	Transparent
17	L12060445-10	SAMP		N	8081	950 mL	.2 mL			10 mL	Transparent
18	L12060445-11	SAMP		N	8081	910 mL	.2 mL			10 mL	Transparent
19	WG400710-01	FBLK		N	8081-TC	100 mL	.2 mL			10 mL	Transparent
20	WG400885-01	REF	L12060445-05	N	8081	930 mL	.2 mL			10 mL	Transparent
21	WG400885-02	BLANK		N	608	1000 mL	.2 mL			10 mL	Transparent
22	WG400885-03	LCS		N	608	1000 mL	.2 mL	.25 mL	STD50880	10 mL	Transparent
23	WG400885-04	LCS_TOX		N	608	1000 mL	.2 mL	.1 mL	STD49741	10 mL	Transparent
24	WG400885-05	MS	L12060445-05	N	8081	930 mL	.2 mL	.25 mL	STD50880	10 mL	Transparent
25	WG400885-06	MSD	L12060445-05	N	8081	960 mL	.2 mL	.25 mL	STD50880	10 mL	Transparent

Clean-ups	
Florisol	3620B

Analyst: Cheryl A. Flowers

Reviewer: [Signature]



Microbac Laboratories Inc. Instrument Run Log

Instrument: <u>HP15</u>	Dataset: <u>050912</u>	
Analyst1: <u>ECL</u>	Analyst2: <u>NA</u>	
Method: <u>8081</u>	SOP: <u>GCS09</u>	Rev: <u>13</u>
Method: <u>608</u>	SOP: <u>GCS08</u>	Rev: <u>10</u>

Maintenance Log ID: _____ Syringe Filter Lot#: _____

Column 1 ID: RTX-CLP Column 2 ID: RTX-CLP2

Workgroups: _____

Internal STD: NA Surrogate STD: STD51103 Calibration STD: _____

CCV STD: STD49531 LCS STD: STD50880 MS/MSD STD: _____

Comments: _____

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	15G32104.F	WG397540-01 ENDRIN/DDT	1	1	STD49547	05/09/12 13:02
2	15G32104.R	WG397540-01 ENDRIN/DDT	1	1	STD49547	05/09/12 13:30
3	15G32105.F	PEST CCV 20 PPB	1	1	STD49531	05/09/12 13:30
4	15G32105.R	PEST CCV 20 PPB	1	1	STD49531	05/09/12 13:59
5	15G32106.F	WG397537-01 TOX ICAL 2000 PPB	1	1	STD50069	05/09/12 15:17
6	15G32106.R	WG397537-01 TOX ICAL 2000 PPB	1	1	STD50069	05/09/12 15:45
7	15G32107.F	WG397537-02 TOX ICAL 1000 PPB	1	1	STD50069	05/09/12 15:45
8	15G32107.R	WG397537-02 TOX ICAL 1000 PPB	1	1	STD50069	05/09/12 16:13
9	15G32108.F	WG397537-03 TOX ICAL 500 PPB	1	1	STD50069	05/09/12 16:13
10	15G32108.R	WG397537-03 TOX ICAL 500 PPB	1	1	STD50069	05/09/12 16:42
11	15G32109.F	WG397537-04 TOX ICAL 200 PPB	1	1	STD50069	05/09/12 16:42
12	15G32109.R	WG397537-04 TOX ICAL 200 PPB	1	1	STD50069	05/09/12 17:11
13	15G32110.F	WG397537-05 TOX ICAL 100 PPB	1	1	STD50069	05/09/12 17:11
14	15G32110.R	WG397537-05 TOX ICAL 100 PPB	1	1	STD50069	05/09/12 17:39
15	15G32111.F	WG397537-06 TOX ALT 500 PPB	1	1	STD50070	05/09/12 17:39
16	15G32111.R	WG397537-06 TOX ALT 500 PPB	1	1	STD50070	05/09/12 18:08
17	15G32112.F	WG397539-01 PEST ICAL 100 PPB	1	1	STD49531	05/09/12 18:08
18	15G32112.R	WG397539-01 PEST ICAL 100 PPB	1	1	STD49531	05/09/12 18:36
19	15G32113.F	WG397539-02 PEST ICAL 50 PPB	1	1	STD49531	05/09/12 18:36
20	15G32113.R	WG397539-02 PEST ICAL 50 PPB	1	1	STD49531	05/09/12 19:05
21	15G32114.F	WG397539-03 PEST ICAL 20 PPB	1	1	STD49531	05/09/12 19:05
22	15G32114.R	WG397539-03 PEST ICAL 20 PPB	1	1	STD49531	05/09/12 19:33
23	15G32115.F	WG397539-04 PEST ICAL 10 PPB	1	1	STD49531	05/09/12 19:33
24	15G32115.R	WG397539-04 PEST ICAL 10 PPB	1	1	STD49531	05/09/12 20:01
25	15G32116.F	WG397539-05 PEST ICAL 4 PPB	1	1	STD49531	05/09/12 20:01
26	15G32116.R	WG397539-05 PEST ICAL 4 PPB	1	1	STD49531	05/09/12 20:30
27	15G32117.F	WG397539-06 PEST ICAL 1 PPB	1	1	STD49531	05/09/12 20:30
28	15G32117.R	WG397539-06 PEST ICAL 1 PPB	1	1	STD49531	05/09/12 20:58
29	15G32118.F	WG397539-07 PEST ALT 20 PPB	1	1	STD49533	05/09/12 20:58
30	15G32118.R	WG397539-07 PEST ALT 20 PPB	1	1	STD49533	05/09/12 21:27
31	15G32119.F	1660 500 PPB	1	1	STD49457	05/09/12 21:27
32	15G32119.R	1660 500 PPB	1	1	STD49457	05/09/12 21:55
33	15G32120.F	WG397308-01 BLANK	1	1		05/09/12 21:55

Page: 1

Approved: 11-MAY-12

Michael Cohen



Microbac Laboratories Inc. Instrument Run Log

Instrument: <u>HP15</u>	Dataset: <u>050912</u>	
Analyst1: <u>ECL</u>	Analyst2: <u>NA</u>	
Method: <u>8081</u>	SOP: <u>GCS09</u>	Rev: <u>13</u>
Method: <u>608</u>	SOP: <u>GCS08</u>	Rev: <u>10</u>

Maintenance Log ID: _____ Syringe Filter Lot#: _____

Column 1 ID: RTX-CLP Column 2 ID: RTX-CLP2

Workgroups: _____

Internal STD: NA Surrogate STD: STD51103

CCV STD: STD49531 LCS STD: STD50880

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	15G32120.R	WG397308-01 BLANK	1	1		05/09/12 22:23
35	15G32121.F	WG397308-02 LCS	1	1		05/09/12 22:23
36	15G32121.R	WG397308-02 LCS	1	1		05/09/12 22:52
37	15G32122.F	WG397308-03 LCS DUP	1	1		05/09/12 22:52
38	15G32122.R	WG397308-03 LCS DUP	1	1		05/09/12 23:20
39	15G32123.F	WG397308-04 TOX LCS	1	1		05/09/12 23:20
40	15G32123.R	WG397308-04 TOX LCS	1	1		05/09/12 23:48
41	15G32124.F	L12050184-01	2	1		05/09/12 23:48
42	15G32124.R	L12050184-01	2	1		05/10/12 00:17
43	15G32125.F	L12050184-02	2	1		05/10/12 00:17
44	15G32125.R	L12050184-02	2	1		05/10/12 00:45
45	15G32126.F	L12050198-01	1	1		05/10/12 00:45
46	15G32126.R	L12050198-01	1	1		05/10/12 01:14
47	15G32127.F	L12050198-02	1	1		05/10/12 01:14
48	15G32127.R	L12050198-02	1	1		05/10/12 01:42
49	15G32128.F	L12050198-03	1	1		05/10/12 01:42
50	15G32128.R	L12050198-03	1	1		05/10/12 02:11
51	15G32129.F	L12050198-04	1	1		05/10/12 02:11
52	15G32129.R	L12050198-04	1	1		05/10/12 02:39
53	15G32130.F	WG397540-02 ENDRIN/DDT	1	1	STD49547	05/10/12 02:39
54	15G32130.R	WG397540-02 ENDRIN/DDT	1	1	STD49547	05/10/12 03:07
55	15G32131.F	WG397540-03 PEST CCV 20 PPB	1	1	STD49531	05/10/12 03:07
56	15G32131.R	WG397540-03 PEST CCV 20 PPB	1	1	STD49531	05/10/12 03:36
57	15G32132.F	WG397538-01 TOX CCV 500 PPB	1	1	STD50069	05/10/12 03:36
58	15G32132.R	WG397538-01 TOX CCV 500 PPB	1	1	STD50069	05/10/12 04:04
59	15G32133.F	L12050198-05	1	1		05/10/12 04:04
60	15G32133.R	L12050198-05	1	1		05/10/12 04:32
61	15G32134.F	L12050198-06	1	1		05/10/12 04:32
62	15G32134.R	L12050198-06	1	1		05/10/12 05:01
63	15G32135.F	L12050198-07	1	1		05/10/12 05:01
64	15G32135.R	L12050198-07	1	1		05/10/12 05:29
65	15G32136.F	L12050198-08	1	1		05/10/12 05:29
66	15G32136.R	L12050198-08	1	1		05/10/12 05:57
67	15G32137.F	L12050198-09	1	1		05/10/12 05:57
68	15G32137.R	L12050198-09	1	1		05/10/12 06:26
69	15G32138.F	L12050198-10	1	1		05/10/12 06:26

Page: 2

Approved: 11-MAY-12




Microbac Laboratories Inc.
Instrument Run Log

Instrument: <u>HP15</u>	Dataset: <u>050912</u>	
Analyst1: <u>ECL</u>	Analyst2: <u>NA</u>	
Method: <u>8081</u>	SOP: <u>GCS09</u>	Rev: <u>13</u>
Method: <u>608</u>	SOP: <u>GCS08</u>	Rev: <u>10</u>

Maintenance Log ID: _____ Syringe Filter Lot#: _____

Column 1 ID: RTX-CLP Column 2 ID: RTX-CLP2
Workgroups: _____

Internal STD: NA Surrogate STD: STD51103
CCV STD: STD49531 LCS STD: STD50880

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
70	15G32138.R	L12050198-10	1	1		05/10/12 06:54
71	15G32139.F	L12050198-12	1	1		05/10/12 06:54
72	15G32139.R	L12050198-12	1	1		05/10/12 07:22
73	15G32140.F	L12050223-05	1	1		05/10/12 07:22
74	15G32140.R	L12050223-05	1	1		05/10/12 07:51
75	15G32141.F	L12050225-01	1	1		05/10/12 07:51
76	15G32141.R	L12050225-01	1	1		05/10/12 08:19
77	15G32142.F	L12050225-02	1	1		05/10/12 08:19
78	15G32142.R	L12050225-02	1	1		05/10/12 08:47
79	15G32143.F	WG397540-04 PEST CCV 10 PPB	1	1	STD49531	05/10/12 08:47
80	15G32143.R	WG397540-04 PEST CCV 10 PPB	1	1	STD49531	05/10/12 09:16
81	15G32144.F	WG397538-02 TOX CCV 200 PPB	1	1	STD50069	05/10/12 09:16
82	15G32144.R	WG397538-02 TOX CCV 200 PPB	1	1	STD50069	05/10/12 09:44
83	15G32145.F	L12050225-03	1	1		05/10/12 09:44
84	15G32145.R	L12050225-03	1	1		05/10/12 10:13
85	15G32146.F	L12050225-04	1	1		05/10/12 10:13
86	15G32146.R	L12050225-04	1	1		05/10/12 10:41
87	15G32147.F	L12050225-05	1	1		05/10/12 10:41
88	15G32147.R	L12050225-05	1	1		05/10/12 11:09
89	15G32148.F	WG397540-05 ENDRIN/DDT	1	1	STD49547	05/10/12 11:09
90	15G32148.R	WG397540-05 ENDRIN/DDT	1	1	STD49547	05/10/12 11:38
91	15G32149.F	WG397540-06 PEST CCV 20 PPB	1	1	STD49531	05/10/12 11:38
92	15G32149.R	WG397540-06 PEST CCV 20 PPB	1	1	STD49531	05/10/12 12:07
93	15G32150.F	WG397538-03 TOX CCV 500 PPB	1	1	STD50069	05/10/12 12:07
94	15G32150.R	WG397538-03 TOX CCV 500 PPB	1	1	STD50069	05/10/12 12:35

Comments

Seq.	Rerun	Dil.	Reason	Analytes
3				
			PEST CCV 20 PPB: Failed high. Needs recalibrated.	
41				
			L12050184-01: T-M-X surrogate failed high due to SMI.	
43				
			L12050184-02: Both surrogates failed low (<10%). No re-extract per TSR.	

Page: 3

Approved: 11-MAY-12




Microbac Laboratories Inc. Instrument Run Log

Instrument: <u>HP15</u>	Dataset: <u>061912</u>	
Analyst1: <u>ECL</u>	Analyst2: <u>NA</u>	
Method: <u>8081</u>	SOP: <u>GCS09</u>	Rev: <u>13</u>
Method: <u>608</u>	SOP: <u>GCS08</u>	Rev: <u>10</u>

Maintenance Log ID: _____ Syringe Filter Lot#: _____

Workgroups: _____
 Column 1 ID: RTX-CLP Column 2 ID: RTX-CLP2

Internal STD: NA Surrogate STD: STD51741 Calibration STD: _____
 CCV STD: STD52040 LCS STD: STD50880 MS/MSD STD: STD50880

Comments: _____

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	15G32775.F	WG401035-01 ENDRIN/DDT	1	1	STD49547	06/19/12 09:18
2	15G32775.R	WG401035-01 ENDRIN/DDT	1	1	STD49547	06/19/12 09:47
3	15G32776.F	WG401035-02 PEST CCV 20 PPB	1	1	STD52040	06/19/12 09:47
4	15G32776.R	WG401035-02 PEST CCV 20 PPB	1	1	STD52040	06/19/12 10:15
5	15G32777.F	WG401036-01 TOX CCV 500 PPB	1	1	STD50069	06/19/12 11:17
6	15G32777.R	WG401036-01 TOX CCV 500 PPB	1	1	STD50069	06/19/12 11:46
7	15G32778.F	1660 CCV 500 PPB	1	1	STD49457	06/19/12 11:46
8	15G32778.R	1660 CCV 500 PPB	1	1	STD49457	06/19/12 12:14
9	15G32779.F	WG400885-02 BLANK	1	1		06/19/12 12:14
10	15G32779.R	WG400885-02 BLANK	1	1		06/19/12 12:43
11	15G32780.F	WG400885-03 LCS	1	1		06/19/12 12:43
12	15G32780.R	WG400885-03 LCS	1	1		06/19/12 13:11
13	15G32781.F	WG400885-04 TOX LCS	1	1		06/19/12 13:11
14	15G32781.R	WG400885-04 TOX LCS	1	1		06/19/12 13:40
15	15G32782.F	L12060280-12	1	1		06/19/12 13:40
16	15G32782.R	L12060280-12	1	1		06/19/12 14:08
17	15G32783.F	L12060374-01	17	1		06/19/12 14:08
18	15G32783.R	L12060374-01	17	1		06/19/12 14:37
19	15G32784.F	L12060410-01	1	1		06/19/12 14:37
20	15G32784.R	L12060410-01	1	1		06/19/12 15:05
21	15G32785.F	L12060409-01 20x	1	20		06/19/12 15:05
22	15G32785.R	L12060409-01 20x	1	20		06/19/12 15:34
23	15G32786.F	L12060443-01 5x	2	5		06/19/12 15:34
24	15G32786.R	L12060443-01 5x	2	5		06/19/12 16:02
25	15G32787.F	WG400710-01 FBLANK	17	1		06/19/12 16:02
26	15G32787.R	WG400710-01 FBLANK	17	1		06/19/12 16:31
27	15G32788.F	WG401035-03 PEST CCV 10 PPB	1	1	STD52040	06/19/12 16:31
28	15G32788.R	WG401035-03 PEST CCV 10 PPB	1	1	STD52040	06/19/12 16:59
29	15G32789.F	WG401036-02 TOX CCV 200 PPB	1	1	STD50069	06/19/12 16:59
30	15G32789.R	WG401036-02 TOX CCV 200 PPB	1	1	STD50069	06/19/12 17:27
31	15G32790.F	L12060411-01 10x	2	10		06/19/12 17:27
32	15G32790.R	L12060411-01 10x	2	10		06/19/12 17:56
33	15G32791.F	L12060411-02 5x	2	5		06/19/12 17:56

Page: 1

Approved: 20-JUN-12

Michael Cohen



Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP15 Dataset: 061912
 Analyst1: ECL Analyst2: NA
 Method: 8081 SOP: GCS09 Rev: 13
 Method: 608 SOP: GCS08 Rev: 10

Maintenance Log ID: _____ Syringe Filter Lot#: _____

Column 1 ID: RTX-CLP Column 2 ID: RTX-CLP2
 Workgroups: _____

Internal STD: NA Surrogate STD: STD51741
 CCV STD: STD52040 LCS STD: STD50880 STD50880

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	15G32791.R	L12060411-02 5x	2	5		06/19/12 18:24
35	15G32792.F	L12060411-03 5x	2	5		06/19/12 18:24
36	15G32792.R	L12060411-03 5x	2	5		06/19/12 18:53
37	15G32793.F	L12060411-04 5x	2	5		06/19/12 18:53
38	15G32793.R	L12060411-04 5x	2	5		06/19/12 19:21
39	15G32794.F	L12060445-01	1	1		06/19/12 19:21
40	15G32794.R	L12060445-01	1	1		06/19/12 19:50
41	15G32795.F	L12060445-03	1	1		06/19/12 19:50
42	15G32795.R	L12060445-03	1	1		06/19/12 20:18
43	15G32796.F	L12060445-05 REF	1	1		06/19/12 20:18
44	15G32796.R	L12060445-05 REF	1	1		06/19/12 20:46
45	15G32797.F	L12060445-06 MS	1	1		06/19/12 20:46
46	15G32797.R	L12060445-06 MS	1	1		06/19/12 21:15
47	15G32798.F	L12060445-07 MSD	1	1		06/19/12 21:15
48	15G32798.R	L12060445-07 MSD	1	1		06/19/12 21:43
49	15G32799.F	L12060445-08	1	1		06/19/12 21:43
50	15G32799.R	L12060445-08	1	1		06/19/12 22:11
51	15G32800.F	WG401035-04 PEST CCV 20 PPB	1	1	STD52040	06/19/12 22:11
52	15G32800.R	WG401035-04 PEST CCV 20 PPB	1	1	STD52040	06/19/12 22:40
53	15G32801.F	WG401036-03 TOX CCV 500 PPB	1	1	STD50069	06/19/12 22:40
54	15G32801.R	WG401036-03 TOX CCV 500 PPB	1	1	STD50069	06/19/12 23:08
55	15G32802.F	L12060445-09	1	1		06/19/12 23:08
56	15G32802.R	L12060445-09	1	1		06/19/12 23:36
57	15G32803.F	L12060445-10	1	1		06/19/12 23:36
58	15G32803.R	L12060445-10	1	1		06/20/12 00:05
59	15G32804.F	L12060445-11	1	1		06/20/12 00:05
60	15G32804.R	L12060445-11	1	1		06/20/12 00:33
61	15G32805.F	WG401035-05 ENDRIN/DDT	1	1	STD49547	06/20/12 00:33
62	15G32805.R	WG401035-05 ENDRIN/DDT	1	1	STD49547	06/20/12 01:01
63	15G32806.F	WG401035-06 PEST CCV 10 PPB	1	1	STD52040	06/20/12 01:01
64	15G32806.R	WG401035-06 PEST CCV 10 PPB	1	1	STD52040	06/20/12 01:30
65	15G32807.F	WG401036-04 TOX CCV 200 PPB	1	1	STD50069	06/20/12 01:30
66	15G32807.R	WG401036-04 TOX CCV 200 PPB	1	1	STD50069	06/20/12 01:58

Comments

Seq.	Rerun	Dil.	Reason	Analytes
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Page: 2

Approved: 20-JUN-12




Microbac Laboratories Inc.
Instrument Run Log

Instrument: HP15	Dataset: 061912	
Analyst1: ECL	Analyst2: NA	
Method: 8081	SOP: GCS09	Rev: 13
Method: 608	SOP: GCS08	Rev: 10

Maintenance Log ID: _____ Syringe Filter Lot#: _____

Workgroups: _____
 Column 1 ID: RTX-CLP Column 2 ID: RTX-CLP2

Internal STD: NA Surrogate STD: STD51741
 CCV STD: STD52040 LCS STD: STD50880 STD50880

Comments

Seq.	Rerun	Dil.	Reason	Analytes
22				
			L12060409-01 20x: Diluted due to the viscosity and appearance of the extract.	
24				
			L12060443-01 5x: Diluted due to the appearance of the extract.	
32				
			L12060411-01 10x: Diluted due to the appearance of the extract.	
34				
			L12060411-02 5x: Diluted due to the appearance of the extract. DCB surrogate failed low (<10%). QNS for re-extraction.	
36				
			L12060411-03 5x: Diluted due to the appearance of the extract. DCB surrogate failed low (<10%). QNS for re-extraction.	
38				
			L12060411-04 5x: Diluted due to the appearance of the extract. DCB surrogate failed low (<10%). QNS for re-extraction.	

Page: 3

Approved: 20-JUN-12




Microbac Laboratories Inc.

Data Checklist

Date: 09-MAY-2012
Analyst: ECL
Analyst: NA
Method: 8081
Instrument: HP15
Curve Workgroup: NA
Runlog ID: 46672
Analytical Workgroups: L12050184, L12050198, L12050223, L12050225

ANALYTICAL	
System Performance Check	NA
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	ECL
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
10-MAY-2012



Secondary Reviewer:
11-MAY-2012



CHECKLIST1 - Modified 03/05/2008

Generated: MAY-11-2012 11:05:21



Microbac Laboratories Inc.

Data Checklist

Date: 19-JUN-2012

Analyst: ECL

Analyst: NA

Method: 8081

Instrument: HP15

Curve Workgroup: NA

Runlog ID: 47388

Analytical Workgroups: 06-280, 06-374, 06-410, 06-409, 06-443, 06-411, 06-445

ANALYTICAL	
System Performance Check	NA
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	X
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	ECL
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
20-JUN-2012



Secondary Reviewer:
20-JUN-2012



CHECKLIST1 - Modified 03/05/2008

Generated: JUN-20-2012 14:37:42



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8081A

AAB#: WG400970

Login Number: L12060445

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
40MW7GW061212	01	06/12/12					06/18/12	5.9	7		06/19/12	1.5	40	
LFMW01GW061212	03	06/12/12					06/18/12	5.8	7		06/19/12	1.5	40	
40MW6GW061212	05	06/12/12					06/18/12	5.7	7		06/19/12	1.5	40	
40MW6MSGW061212	06	06/12/12					06/18/12	5.7	7		06/19/12	1.6	40	
40MW6MSDGW061212	07	06/12/12					06/18/12	5.7	7		06/19/12	1.6	40	
40DUPGW061212	08	06/12/12					06/18/12	5.7	7		06/19/12	1.6	40	
40FB061212	09	06/12/12					06/18/12	5.7	7		06/19/12	1.7	40	
40EQR061212	10	06/12/12					06/18/12	5.6	7		06/20/12	1.7	40	
40MW5GW061212	11	06/12/12					06/18/12	5.6	7		06/20/12	1.7	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2459255
Report generated 06/20/2012 09:52



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12060445
Instrument Id: HP15
Workgroup (AAB#): WG400970

Method: 8081
CAL ID: HP15 - 09-MAY-12
Matrix: Water

Sample Number	Dilution	Tag	1	2
L12060445-01	1.00	01	64.5	44.0
L12060445-03	1.00	01	65.3	50.2
L12060445-05	1.00	01	70.7	53.2
L12060445-06	1.00	01	67.2	61.1
L12060445-07	1.00	01	68.8	64.6
L12060445-08	1.00	01	66.0	52.8
L12060445-09	1.00	01	62.2	57.0
L12060445-10	1.00	01	69.2	52.9
L12060445-11	1.00	01	76.0	44.1
WG400885-02	1.00	01	61.9	72.8
WG400885-03	1.00	01	63.9	75.3
WG400885-04	1.00	02	73.0	41.9

Surrogates	Surrogate Limits
1 - 2,4,5,6-Tetrachloro-m-xylene	25 - 140
2 - Decachlorobiphenyl	30 - 135

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2459192
Report generated: 06/20/2012 09:53



METHOD BLANK SUMMARY

Login Number: L12060445
 Blank File ID: 15G32779.R
 Prep Date: 06/18/12 08:00
 Analyzed Date: 06/19/12 12:43
 Analyst: ECL

Work Group: WG400970
 Blank Sample ID: WG400885-02
 Instrument ID: HP15
 Method: 8081A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG400885-03	15G32780.R	06/19/12 13:11	01
LCS_TOX	WG400885-04	15G32781.R	06/19/12 13:40	02
40MW7GW061212	L12060445-01	15G32794.R	06/19/12 19:50	01
LFMW01GW061212	L12060445-03	15G32795.R	06/19/12 20:18	01
40MW6GW061212	L12060445-05	15G32796.R	06/19/12 20:46	01
40MW6MSGW061212	L12060445-06	15G32797.R	06/19/12 21:15	01
40MW6MSDGW061212	L12060445-07	15G32798.R	06/19/12 21:43	01
40DUPGW061212	L12060445-08	15G32799.R	06/19/12 22:11	01
40FB061212	L12060445-09	15G32802.R	06/19/12 23:36	01
40EQR061212	L12060445-10	15G32803.R	06/20/12 00:05	01
40MW5GW061212	L12060445-11	15G32804.R	06/20/12 00:33	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2459256
 Report generated 06/20/2012 09:52



METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/18/12 08:00 Sample ID: WG400885-02
 Instrument ID: HP15 Run Date: 06/19/12 12:43 Prep Method: 3510C
 File ID: 15G32779.R Analyst: ECL Method: 8081A
 Workgroup (AAB#): WG400970 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HP15 - 09-MAY-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
4,4'-DDD	0.0100	0.0500	0.0100	1	U
4,4'-DDE	0.0100	0.0500	0.0100	1	U
4,4'-DDT	0.0100	0.0500	0.0100	1	U
Aldrin	0.0100	0.0500	0.0100	1	U
alpha Chlordane	0.0100	0.0500	0.0100	1	U
alpha-BHC	0.0100	0.0500	0.0100	1	U
beta-BHC	0.0100	0.0500	0.0100	1	U
delta-BHC	0.0100	0.0500	0.0100	1	U
Dieldrin	0.0100	0.0500	0.0100	1	U
Endosulfan I	0.0100	0.0500	0.0100	1	U
Endosulfan II	0.0100	0.0500	0.0100	1	U
Endosulfan sulfate	0.0100	0.0500	0.0100	1	U
Endrin	0.0100	0.0500	0.0100	1	U
Endrin aldehyde	0.0100	0.0500	0.0100	1	U
Endrin ketone	0.0100	0.0500	0.0100	1	U
gamma Chlordane	0.0100	0.0500	0.0100	1	U
gamma-BHC (Lindane)	0.0100	0.0500	0.0100	1	U
Heptachlor	0.0100	0.0500	0.0100	1	U
Heptachlor epoxide	0.0100	0.0500	0.0100	1	U
Methoxychlor	0.0100	0.0500	0.0100	1	U
Toxaphene	0.300	1.00	0.300	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	61.9	25 - 140	PASS
Decachlorobiphenyl	72.8	30 - 135	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2459257

20-JUN-2012 09:52



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445	Run Date: 06/19/2012	Sample ID: WG400885-03
Instrument ID: HP15	Run Time: 13:11	Prep Method: 3510C
File ID: 15G32780.R	Analyst: ECL	Method: 8081A
Workgroup (AAB#): WG400970	Matrix: Water	Units: ug/L
QC Key: DOD4	Lot#: STD50880	Cal ID: HP15 - 09-MAY-12

Analytes	Expected	Found	% Rec	LCS Limits			Q
4,4'-DDD	0.500	0.475	95.0	25	-	150	
4,4'-DDE	0.500	0.484	96.8	35	-	140	
4,4'-DDT	0.500	0.505	101	45	-	140	
Aldrin	0.500	0.405	81.0	25	-	140	
alpha Chlordane	0.500	0.438	87.6	65	-	125	
alpha-BHC	0.500	0.448	89.7	60	-	130	
beta-BHC	0.500	0.416	83.2	65	-	125	
delta-BHC	0.500	0.478	95.5	45	-	135	
Dieldrin	0.500	0.465	92.9	60	-	130	
Endosulfan I	0.500	0.444	88.8	50	-	110	
Endosulfan II	0.500	0.436	87.1	30	-	130	
Endosulfan sulfate	0.500	0.462	92.4	55	-	135	
Endrin	0.500	0.421	84.2	55	-	135	
Endrin aldehyde	0.500	0.404	80.7	55	-	135	
Endrin ketone	0.500	0.479	95.7	75	-	125	
gamma Chlordane	0.500	0.461	92.2	60	-	125	
gamma-BHC (Lindane)	0.500	0.451	90.2	25	-	135	
Heptachlor	0.500	0.427	85.4	40	-	130	
Heptachlor epoxide	0.500	0.437	87.3	60	-	130	
Methoxychlor	0.500	0.508	102	55	-	150	

Surrogates	% Recovery	Surrogate Limits			Qualifier
2,4,5,6-Tetrachloro-m-xylene	63.9	25	-	140	PASS
Decachlorobiphenyl	75.3	30	-	135	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2459191
Report generated: 06/20/2012 09:52



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG400885-04
Instrument ID: HP15 Run Time: 13:40 Prep Method: 3510C
File ID: 15G32781.R Analyst: ECL Method: 8081A
Workgroup (AAB#): WG400970 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD50880 Cal ID: HP15 - 09-MAY-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Toxaphene	2.00	2.32	116	41 - 126	

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	73.0	25 - 140	PASS
Decachlorobiphenyl	41.9	30 - 135	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2459191
Report generated: 06/20/2012 09:52



MS/MSD REPORT

Loginnum: L12060445Cal ID: HP15- 09-MAY-12Worknum: WG400970Instrument ID: HP15

Contract #: _____

Prep Method: 3510CParent ID: L12060445-05File ID: 15G32796.FDil: 1Method: 8081ASample ID: L12060445-06 MSFile ID: 15G32797.FDil: 1Matrix: WaterSample ID: L12060445-07 MSDFile ID: 15G32798.FDil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
4,4'-DDD	U	0.538	0.454	84.4	0.521	0.432	82.9	4.92	25 - 150	30	
4,4'-DDE	U	0.538	0.435	81	0.521	0.420	80.7	3.57	35 - 140	30	
4,4'-DDT	U	0.538	0.478	89	0.521	0.463	89	3.17	45 - 140	30	
Aldrin	U	0.538	0.354	65.9	0.521	0.355	68.2	0.316	25 - 140	30	
alpha Chlordane	U	0.538	0.465	86.5	0.521	0.445	85.4	4.41	65 - 125	30	
alpha-BHC	U	0.538	0.433	80.6	0.521	0.429	82.4	0.966	60 - 130	30	
beta-BHC	U	0.538	0.432	80.3	0.521	0.409	78.6	5.31	65 - 125	30	
delta-BHC	U	0.538	0.473	88	0.521	0.445	85.5	6.03	45 - 135	30	
Dieldrin	U	0.538	0.495	92.2	0.521	0.479	92	3.37	60 - 130	30	
Endosulfan I	U	0.538	0.425	79.1	0.521	0.410	78.7	3.58	50 - 110	30	
Endosulfan II	U	0.538	0.466	86.6	0.521	0.452	86.7	3.04	30 - 130	30	
Endosulfan sulfate	U	0.538	0.457	84.9	0.521	0.435	83.6	4.74	55 - 135	30	
Endrin	U	0.538	0.422	78.6	0.521	0.404	77.6	4.48	55 - 135	30	
Endrin aldehyde	U	0.538	0.458	85.2	0.521	0.441	84.7	3.81	55 - 135	30	
Endrin ketone	U	0.538	0.484	90.1	0.521	0.475	91.3	1.85	75 - 125	30	
gamma Chlordane	U	0.538	0.436	81.1	0.521	0.419	80.5	3.97	60 - 125	30	
gamma-BHC (Lindane)	U	0.538	0.437	81.2	0.521	0.427	81.9	2.32	25 - 135	30	
Heptachlor	U	0.538	0.408	75.8	0.521	0.404	77.6	0.906	40 - 130	30	
Heptachlor epoxide	U	0.538	0.433	80.6	0.521	0.414	79.4	4.62	60 - 130	30	
Methoxychlor	U	0.538	0.491	91.3	0.521	0.469	90.1	4.47	55 - 150	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 2459258

Report generated 06/20/2012 09:53



MS/MSD REPORT

Loginnum: L12060445Cal ID: HP15- 09-MAY-12Worknum: WG400970Instrument ID: HP15

Contract #: _____

Prep Method: 3510CParent ID: L12060445-05File ID: 15G32796.RDil: 1Method: 8081ASample ID: L12060445-06 MSFile ID: 15G32797.RDil: 1Matrix: WaterSample ID: L12060445-07 MSDFile ID: 15G32798.RDil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
4,4'-DDD	U	0.538	0.485	90.2	0.521	0.453	86.9	6.88	25 - 150	30	
4,4'-DDE	U	0.538	0.485	90.2	0.521	0.459	88.1	5.57	35 - 140	30	
4,4'-DDT	U	0.538	0.510	94.9	0.521	0.481	92.3	5.91	45 - 140	30	
Aldrin	U	0.538	0.431	80.1	0.521	0.415	79.6	3.83	25 - 140	30	
alpha Chlordane	U	0.538	0.459	85.4	0.521	0.430	82.6	6.53	65 - 125	30	
alpha-BHC	U	0.538	0.467	86.9	0.521	0.451	86.7	3.45	60 - 130	30	
beta-BHC	U	0.538	0.427	79.5	0.521	0.397	76.3	7.31	65 - 125	30	
delta-BHC	U	0.538	0.425	79.1	0.521	0.395	75.9	7.28	45 - 135	30	
Dieldrin	U	0.538	0.486	90.5	0.521	0.453	87	7.03	60 - 130	30	
Endosulfan I	U	0.538	0.459	85.3	0.521	0.432	82.9	6.00	50 - 110	30	
Endosulfan II	U	0.538	0.456	84.7	0.521	0.424	81.4	7.24	30 - 130	30	
Endosulfan sulfate	U	0.538	0.479	89	0.521	0.447	85.9	6.76	55 - 135	30	
Endrin	U	0.538	0.455	84.7	0.521	0.418	80.2	8.68	55 - 135	30	
Endrin aldehyde	U	0.538	0.420	78.1	0.521	0.396	76	5.90	55 - 135	30	
Endrin ketone	U	0.538	0.494	91.9	0.521	0.462	88.7	6.69	75 - 125	30	
gamma Chlordane	U	0.538	0.470	87.4	0.521	0.444	85.2	5.77	60 - 125	30	
gamma-BHC (Lindane)	U	0.538	0.468	87	0.521	0.446	85.6	4.82	25 - 135	30	
Heptachlor	U	0.538	0.451	83.8	0.521	0.437	83.9	3.06	40 - 130	30	
Heptachlor epoxide	U	0.538	0.465	86.5	0.521	0.425	81.7	8.88	60 - 130	30	
Methoxychlor	U	0.538	0.545	101	0.521	0.541	104	0.875	55 - 150	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 2459258

Report generated 06/20/2012 09:53



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12060445
Analytical Method: 8081A
ICAL Workgroup: WG397537

Instrument ID: HP15
Initial Calibration Date: 09-MAY-12 17:39
Column ID: R

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Toxaphene-1		1018000	8.06		
Toxaphene-2		3177000	3.37		
Toxaphene-3		2503000	3.66		
Toxaphene-4		895700	5.73		
Toxaphene-5		841300	4.75		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2459260
Report generated 06/20/2012 09:52



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12060445
Analytical Method: 8081A
ICAL Workgroup: WG397539

Instrument ID: HP15
Initial Calibration Date: 09-MAY-12 20:58
Column ID: R

Analyte	AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
4,4'-DDD	85580000	4.15		
4,4'-DDE	100600000	2.58		
4,4'-DDT	82530000	2.24		
Aldrin	111300000	3.42		
Dieldrin	104000000	3.88		
Endosulfan I	99250000	8.35		
Endosulfan II	92060000	7.99		
Endosulfan Sulfate	82510000	10.1		
Endrin	93180000	5.90		
Endrin Aldehyde	73230000	9.77		
Endrin Ketone	89680000	7.81		
Heptachlor	117000000	6.43		
Heptachlor Epoxide	106000000	9.91		
Methoxychlor	40860000	12.4		
alpha-BHC	138600000	4.16		
alpha-Chlordane	108400000	8.31		
beta-BHC	58530000	7.23		
delta-BHC	128900000	2.58		
gamma-BHC	129300000	3.34		
gamma-Chlordane	108900000	3.65		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2459260
Report generated 06/20/2012 09:52



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12060445
Analytical Method: 8081A

Instrument ID: HP15
Initial Calibration Date: 09-MAY-12 17:39
Column ID: R

Analyte	WG397537-01			WG397537-02			WG397537-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Toxaphene-1	2000	1838402270	919200	1000	961219104	961200	500	519087899	1038000
Toxaphene-2	2000	6106634400	3053000	1000	3162746090	3163000	500	1659763390	3320000
Toxaphene-3	2000	4777852850	2389000	1000	2493725010	2494000	500	1311991800	2624000
Toxaphene-4	2000	1664665640	832300	1000	859587268	859600	500	453595413	907200
Toxaphene-5	2000	1759554280	879800	1000	863597268	863600	500	430737183	861500

INT_CAL - Modified 03/06/2008
PDF File ID: 2459260
Report generated 06/20/2012 09:52



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12060445
Analytical Method: 8081A

Instrument ID: HP15
Initial Calibration Date: 09-MAY-12 17:39
Column ID: R

Analyte	WG397537-04			WG397537-05		
	CONC	RESP	RF	CONC	RESP	RF
Toxaphene-1	200	207449832	1037000	100	113271560	1133000
Toxaphene-2	200	620729470	3104000	100	324460946	3245000
Toxaphene-3	200	489795781	2449000	100	255746888	2557000
Toxaphene-4	200	182995045	915000	100	96442430.0	964400
Toxaphene-5	200	156378409	781900	100	81980817.0	819800

INT_CAL - Modified 03/06/2008
PDF File ID: 2459260
Report generated 06/20/2012 09:52



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12060445
Analytical Method:8081A

Instrument ID:HP15
Initial Calibration Date:09-MAY-12 20:58
Column ID:R

Analyte	WG397539-01			WG397539-02			WG397539-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
4,4'-DDD	100	8159475630	81590000	50.0	4125456190	82510000	20.0	1728671520	86430000
4,4'-DDE	100	9918196490	99180000	50.0	4964505090	99290000	20.0	2061107950	103100000
4,4'-DDT	100	8451354720	84510000	50.0	4089654500	81790000	20.0	1667371430	83370000
Aldrin	100	10580221400	105800000	50.0	5439555190	108800000	20.0	2237248830	111900000
Dieldrin	100	9811481460	98110000	50.0	5035594030	100700000	20.0	2101466840	105100000
Endosulfan I	100	8743573620	87440000	50.0	4585028780	91700000	20.0	1981799680	99090000
Endosulfan II	100	8250384270	82500000	50.0	4278130450	85560000	20.0	1830572240	91530000
Endosulfan Sulfate	100	7353894160	73540000	50.0	3771223150	75420000	20.0	1607034590	80350000
Endrin	100	8824509690	88250000	50.0	4377317460	87550000	20.0	1863980810	93200000
Endrin Aldehyde	100	6369792240	63700000	50.0	3281329560	65630000	20.0	1482437940	74120000
Endrin Ketone	100	8050369740	80500000	50.0	4200792450	84020000	20.0	1778202080	88910000
Heptachlor	100	10680136200	106800000	50.0	5520965430	110400000	20.0	2339325170	117000000
Heptachlor Epoxide	100	9423487640	94230000	50.0	4915148120	98300000	20.0	2075063700	103800000
Methoxychlor	100	3663856080	36640000	50.0	1811454980	36230000	20.0	769348444	38470000
alpha-BHC	100	14039205600	140400000	50.0	7086548120	141700000	20.0	2872529510	143600000
alpha-Chlordane	100	10029546100	100300000	50.0	5064851720	101300000	20.0	2107443680	105400000
beta-BHC	100	5333999910	53340000	50.0	2740133220	54800000	20.0	1151428760	57570000
delta-BHC	100	12955657400	129600000	50.0	6532321270	130600000	20.0	2632575960	131600000
gamma-BHC	100	12665818300	126700000	50.0	6421333820	128400000	20.0	2667032390	133400000
gamma-Chlordane	100	10435021800	104400000	50.0	5254836200	105100000	20.0	2174198430	108700000

INT_CAL - Modified 03/06/2008
PDF File ID: 2459260
Report generated 06/20/2012 09:52



Login Number:L12060445
Analytical Method:8081A

Instrument ID:HP15
Initial Calibration Date:09-MAY-12 20:58
Column ID:R

Analyte	WG397539-04			WG397539-05			WG397539-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
4,4'-DDD	10.0	889707310	88970000	4.00	334823809	83710000	1.00	90288284.0	90290000
4,4'-DDE	10.0	1045608510	104600000	4.00	391178653	97790000	1.00	99941448.0	99940000
4,4'-DDT	10.0	840407830	84040000	4.00	317839650	79460000	1.00	82023324.0	82020000
Aldrin	10.0	1138723780	113900000	4.00	442282903	110600000	1.00	116643051	116600000
Dieldrin	10.0	1067169680	106700000	4.00	417363503	104300000	1.00	109225030	109200000
Endosulfan I	10.0	1043209060	104300000	4.00	414390528	103600000	1.00	109373071	109400000
Endosulfan II	10.0	952199871	95220000	4.00	377960824	94490000	1.00	103037441	103000000
Endosulfan Sulfate	10.0	837106421	83710000	4.00	341593028	85400000	1.00	96626500.0	96630000
Endrin	10.0	985311395	98530000	4.00	362558864	90640000	1.00	100939266	100900000
Endrin Aldehyde	10.0	751432213	75140000	4.00	322154649	80540000	1.00	80270646.0	80270000
Endrin Ketone	10.0	919103271	91910000	4.00	369044355	92260000	1.00	100482625	100500000
Heptachlor	10.0	1204505890	120500000	4.00	479490386	119900000	1.00	127766889	127800000
Heptachlor Epoxide	10.0	1064681070	106500000	4.00	435478627	108900000	1.00	124448179	124400000
Methoxychlor	10.0	415144359	41510000	4.00	170192945	42550000	1.00	49791304.0	49790000
alpha-BHC	10.0	1432075140	143200000	4.00	530132466	132500000	1.00	130233227	130200000
alpha-Chlordane	10.0	1095991190	109600000	4.00	435739103	108900000	1.00	125102927	125100000
beta-BHC	10.0	600935310	60090000	4.00	241463090	60370000	1.00	65017464.0	65020000
delta-BHC	10.0	1320398060	132000000	4.00	496184982	124000000	1.00	125614129	125600000
gamma-BHC	10.0	1359661800	136000000	4.00	501019745	125300000	1.00	126383249	126400000
gamma-Chlordane	10.0	1106915290	110700000	4.00	437773818	109400000	1.00	115234103	115200000

INT_CAL - Modified 03/06/2008
PDF File ID: 2459260
Report generated 06/20/2012 09:52



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12060445 Run Date: 05/09/2012 Sample ID: WG397537-06
Instrument ID: HP15 Run Time: 18:08 Method: 8081A
File ID: 15G32111.R Analyst: ECL QC Key: D0D4
ICal Workgroup: WG397537 Cal ID: HP15 - 09-MAY-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Toxaphene		500	546	ug/L	1750000	9.10	20	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2459261
Report generated 06/20/2012 09:53



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12060445	Run Date: 05/09/2012	Sample ID: WG397539-07
Instrument ID: HP15	Run Time: 21:27	Method: 8081A
File ID: 15G32118.R	Analyst: ECL	QC Key: D0D4
ICal Workgroup: WG397539	Cal ID: HP15 - 09-MAY-12	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
4,4'-DDD	20.0	18.6	ug/L	797000000	6.90	20	
4,4'-DDE	20.0	19.0	ug/L	955000000	5.10	20	
4,4'-DDT	20.0	18.8	ug/L	776000000	5.90	20	
Aldrin	20.0	18.9	ug/L	1050000000	5.60	20	
alpha-Chlordane	20.0	18.3	ug/L	992000000	8.50	20	
alpha-BHC	20.0	19.3	ug/L	1340000000	3.70	20	
beta-BHC	20.0	18.3	ug/L	536000000	8.50	20	
delta-BHC	20.0	19.2	ug/L	1240000000	3.80	20	
Dieldrin	20.0	18.5	ug/L	963000000	7.40	20	
Endosulfan I	20.0	18.7	ug/L	926000000	6.70	20	
Endosulfan II	20.0	18.4	ug/L	846000000	8.10	20	
Endosulfan Sulfate	20.0	19.3	ug/L	746000000	3.50	20	
Endrin	20.0	16.9	ug/L	787000000	15.6	20	
Endrin Aldehyde	20.0	18.9	ug/L	691000000	5.70	20	
Endrin Ketone	20.0	20.4	ug/L	913000000	1.80	20	
gamma-Chlordane	20.0	18.7	ug/L	1020000000	6.50	20	
gamma-BHC	20.0	18.9	ug/L	1220000000	5.30	20	
Heptachlor	20.0	18.8	ug/L	1100000000	5.90	20	
Heptachlor Epoxide	20.0	18.5	ug/L	979000000	7.70	20	
Methoxychlor	20.0	19.3	ug/L	364000000	3.40	20	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2459261
Report generated 06/20/2012 09:53



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401035-02
 Instrument ID: HP15 Run Time: 10:15 Method: 8081A
 File ID: 15G32776.R Analyst: ECL QC Key: D0D4
 Workgroup (AAB#): WG400970 Cal ID: HP15 - 09-MAY-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	20.0	19.4	ug/L	83200000	2.77	20	
4,4'-DDE	20.0	20.0	ug/L	100000000	0.237	20	
4,4'-DDT	20.0	20.0	ug/L	82300000	0.247	20	
Aldrin	20.0	20.6	ug/L	115000000	3.10	20	
alpha-Chlordane	20.0	19.3	ug/L	105000000	3.54	20	
alpha-BHC	20.0	20.6	ug/L	142000000	2.75	20	
beta-BHC	20.0	19.5	ug/L	57000000	2.54	20	
delta-BHC	20.0	20.1	ug/L	130000000	0.732	20	
Dieldrin	20.0	19.7	ug/L	102000000	1.49	20	
Endosulfan I	20.0	19.5	ug/L	96800000	2.43	20	
Endosulfan II	20.0	19.4	ug/L	89100000	3.19	20	
Endosulfan Sulfate	20.0	19.8	ug/L	76400000	1.01	20	
Endrin	20.0	17.7	ug/L	82300000	11.7	20	
Endrin Aldehyde	20.0	20.5	ug/L	75000000	2.47	20	
Endrin Ketone	20.0	19.8	ug/L	88700000	1.10	20	
gamma-Chlordane	20.0	19.9	ug/L	108000000	0.658	20	
gamma-BHC	20.0	20.2	ug/L	131000000	1.14	20	
Heptachlor	20.0	19.7	ug/L	115000000	1.66	20	
Heptachlor Epoxide	20.0	19.6	ug/L	104000000	2.19	20	
Methoxychlor	20.0	19.8	ug/L	37400000	0.937	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2459262
 Report generated 06/20/2012 09:53



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401036-01
Instrument ID: HP15 Run Time: 11:46 Method: 8081A
File ID: 15G32777.R Analyst: ECL QC Key: D0D4
Workgroup (AAB#): WG400970 Cal ID: HP15 - 09-MAY-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		500	501	ug/L	1700000	0.214	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2459262
Report generated 06/20/2012 09:53



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/19/2012</u>	Sample ID: <u>WG401035-03</u>
Instrument ID: <u>HP15</u>	Run Time: <u>16:59</u>	Method: <u>8081A</u>
File ID: <u>15G32788.R</u>	Analyst: <u>ECL</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400970</u>	Cal ID: <u>HP15 - 09-MAY-12</u>	
Matrix: <u>WATER</u>		

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	10.0	10.1	ug/L	86600000	1.16	20	
4,4'-DDE	10.0	10.4	ug/L	104000000	3.74	20	
4,4'-DDT	10.0	10.4	ug/L	86200000	4.46	20	
Aldrin	10.0	10.9	ug/L	121000000	8.96	20	
alpha-Chlordane	10.0	10.3	ug/L	111000000	2.65	20	
alpha-BHC	10.0	10.7	ug/L	149000000	7.41	20	
beta-BHC	10.0	10.6	ug/L	62100000	6.01	20	
delta-BHC	10.0	10.6	ug/L	136000000	5.72	20	
Dieldrin	10.0	10.4	ug/L	108000000	3.97	20	
Endosulfan I	10.0	10.6	ug/L	105000000	5.70	20	
Endosulfan II	10.0	10.3	ug/L	95100000	3.34	20	
Endosulfan Sulfate	10.0	10.2	ug/L	82500000	1.67	20	
Endrin	10.0	10.0	ug/L	93300000	0.147	20	
Endrin Aldehyde	10.0	11.1	ug/L	80900000	10.5	20	
Endrin Ketone	10.0	10.2	ug/L	91300000	1.78	20	
gamma-Chlordane	10.0	10.4	ug/L	114000000	4.48	20	
gamma-BHC	10.0	10.7	ug/L	138000000	6.69	20	
Heptachlor	10.0	11.0	ug/L	129000000	9.91	20	
Heptachlor Epoxide	10.0	10.5	ug/L	111000000	4.96	20	
Methoxychlor	10.0	10.9	ug/L	42500000	9.31	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2459262
Report generated 06/20/2012 09:53



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401036-02
Instrument ID: HP15 Run Time: 17:27 Method: 8081A
File ID: 15G32789.R Analyst: ECL QC Key: D0D4
Workgroup (AAB#): WG400970 Cal ID: HP15 - 09-MAY-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		200	195	ug/L	1710000	2.62	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2459262
Report generated 06/20/2012 09:53



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401035-04
 Instrument ID: HP15 Run Time: 22:40 Method: 8081A
 File ID: 15G32800.R Analyst: ECL QC Key: D0D4
 Workgroup (AAB#): WG400970 Cal ID: HP15 - 09-MAY-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	20.0	18.9	ug/L	80900000	5.45	20	
4,4'-DDE	20.0	19.3	ug/L	97000000	3.58	20	
4,4'-DDT	20.0	19.3	ug/L	79400000	3.74	20	
Aldrin	20.0	19.8	ug/L	110000000	1.24	20	
alpha-Chlordane	20.0	18.5	ug/L	100000000	7.39	20	
alpha-BHC	20.0	20.0	ug/L	139000000	0.0885	20	
beta-BHC	20.0	18.9	ug/L	55400000	5.41	20	
delta-BHC	20.0	19.5	ug/L	126000000	2.59	20	
Dieldrin	20.0	19.0	ug/L	98800000	5.08	20	
Endosulfan I	20.0	18.9	ug/L	93900000	5.36	20	
Endosulfan II	20.0	18.5	ug/L	85300000	7.32	20	
Endosulfan Sulfate	20.0	18.9	ug/L	73300000	5.30	20	
Endrin	20.0	17.5	ug/L	81400000	12.7	20	
Endrin Aldehyde	20.0	19.8	ug/L	72600000	0.829	20	
Endrin Ketone	20.0	18.6	ug/L	83400000	6.99	20	
gamma-Chlordane	20.0	19.1	ug/L	104000000	4.73	20	
gamma-BHC	20.0	19.7	ug/L	127000000	1.72	20	
Heptachlor	20.0	19.5	ug/L	114000000	2.27	20	
Heptachlor Epoxide	20.0	18.5	ug/L	98200000	7.37	20	
Methoxychlor	20.0	19.2	ug/L	36300000	3.90	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

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 Report generated 06/20/2012 09:53



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401036-03
Instrument ID: HP15 Run Time: 23:08 Method: 8081A
File ID: 15G32801.R Analyst: ECL QC Key: D0D4
Workgroup (AAB#): WG400970 Cal ID: HP15 - 09-MAY-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		500	488	ug/L	1660000	2.42	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
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Report generated 06/20/2012 09:53



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/20/2012 Sample ID: WG401035-06
 Instrument ID: HP15 Run Time: 01:30 Method: 8081A
 File ID: 15G32806.R Analyst: ECL QC Key: D0D4
 Workgroup (AAB#): WG400970 Cal ID: HP15 - 09-MAY-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	10.0	10.4	ug/L	88800000	3.75	20	
4,4'-DDE	10.0	10.5	ug/L	105000000	4.70	20	
4,4'-DDT	10.0	10.2	ug/L	84500000	2.44	20	
Aldrin	10.0	10.2	ug/L	114000000	2.31	20	
alpha-Chlordane	10.0	10.1	ug/L	109000000	0.690	20	
alpha-BHC	10.0	10.4	ug/L	145000000	4.40	20	
beta-BHC	10.0	10.3	ug/L	60200000	2.88	20	
delta-BHC	10.0	10.1	ug/L	131000000	1.35	20	
Dieldrin	10.0	10.1	ug/L	105000000	1.11	20	
Endosulfan I	10.0	10.7	ug/L	106000000	6.64	20	
Endosulfan II	10.0	10.1	ug/L	93400000	1.43	20	
Endosulfan Sulfate	10.0	9.91	ug/L	80600000	0.920	20	
Endrin	10.0	9.85	ug/L	91800000	1.51	20	
Endrin Aldehyde	10.0	11.2	ug/L	81800000	11.7	20	
Endrin Ketone	10.0	10.2	ug/L	91000000	1.51	20	
gamma-Chlordane	10.0	10.2	ug/L	111000000	1.50	20	
gamma-BHC	10.0	10.3	ug/L	133000000	3.10	20	
Heptachlor	10.0	10.5	ug/L	123000000	4.77	20	
Heptachlor Epoxide	10.0	9.93	ug/L	105000000	0.655	20	
Methoxychlor	10.0	10.2	ug/L	39900000	2.16	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2459262
 Report generated 06/20/2012 09:53



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/20/2012 Sample ID: WG401036-04
Instrument ID: HP15 Run Time: 01:58 Method: 8081A
File ID: 15G32807.R Analyst: ECL QC Key: D0D4
Workgroup (AAB#): WG400970 Cal ID: HP15 - 09-MAY-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		200	177	ug/L	1570000	11.4	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2459262
Report generated 06/20/2012 09:53



ENDRIN/4,4'-DDT BREAKDOWN (BRKDWN)

Login Number: L12060445	Run Date: 06/19/2012	Sample ID: WG401035-01
Instrument ID: HP15	Run Time: 09:47	Method: 8081
File ID: 15G32775.R	Analyst: ECL	Column ID: REAR

DDT BREAKDOWN	
Analyte	Response
4,4'-DDD	67722338
4,4'-DDE	137610693
4,4'-DDT	4116473607
DDT % BREAKDOWN: 4.75	

ENDRIN BREAKDOWN	
Analyte	Response
ENDRIN	3940492347
ENDRIN ALDEHYDE	280118020
ENDRIN KETONE	308620666
ENDRIN % BREAKDOWN: 13.00	

* Exceeds 15% Criteria

Report Name: BRKDWN
PDF File ID: 2459259
Report generated 06/20/2012 09:52



ENDRIN/4,4'-DDT BREAKDOWN (BRKDN)

Login Number: L12060445	Run Date: 06/20/2012	Sample ID: WG401035-05
Instrument ID: HP15	Run Time: 01:01	Method: 8081
File ID: 15G32805.R	Analyst: ECL	Column ID: REAR

DDT BREAKDOWN	
Analyte	Response
4,4'-DDD	55710189
4,4'-DDE	133424312
4,4'-DDT	4094627356
DDT % BREAKDOWN: 4.42	

ENDRIN BREAKDOWN	
Analyte	Response
ENDRIN	4026373666
ENDRIN ALDEHYDE	239113592
ENDRIN KETONE	268039958
ENDRIN % BREAKDOWN: 11.19	

* Exceeds 15% Criteria

Report Name: BRKDN
PDF File ID: 2459259
Report generated 06/20/2012 09:52



2.2.4.3 Sample Data

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32794.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 7:21 pm (#1); 19 Jun 2012 7:50 pm (#2)
 Operator : ECL
 Sample : L12060445-01
 Misc : 1,1 WATER
 ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:58:26 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Wed Jun 20 08:54:02 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

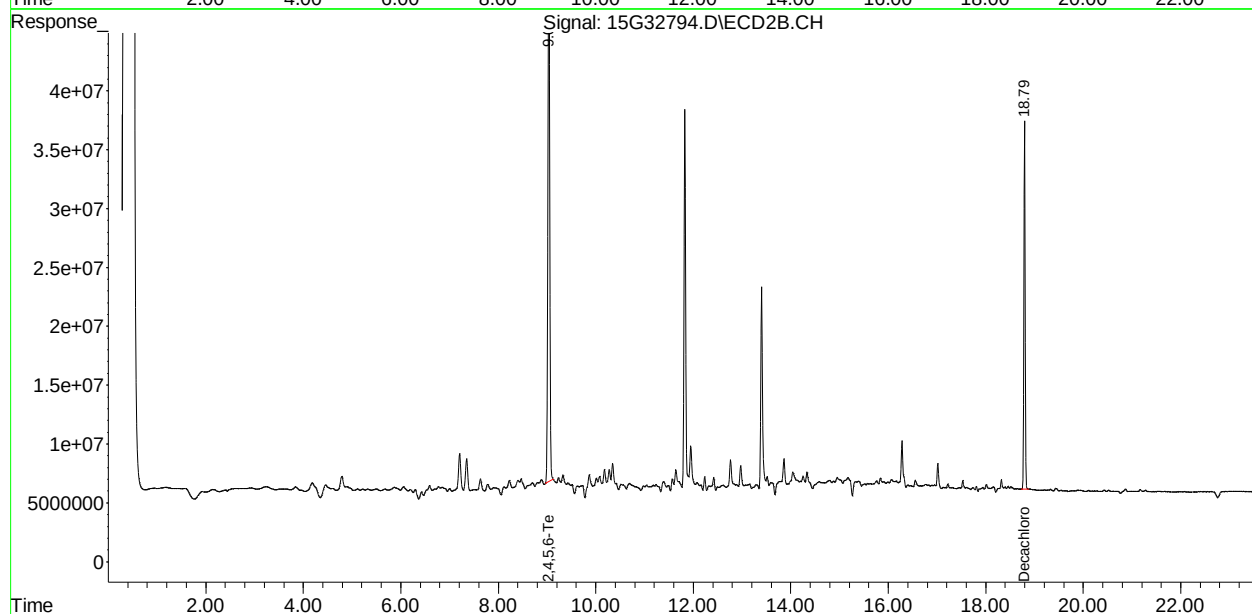
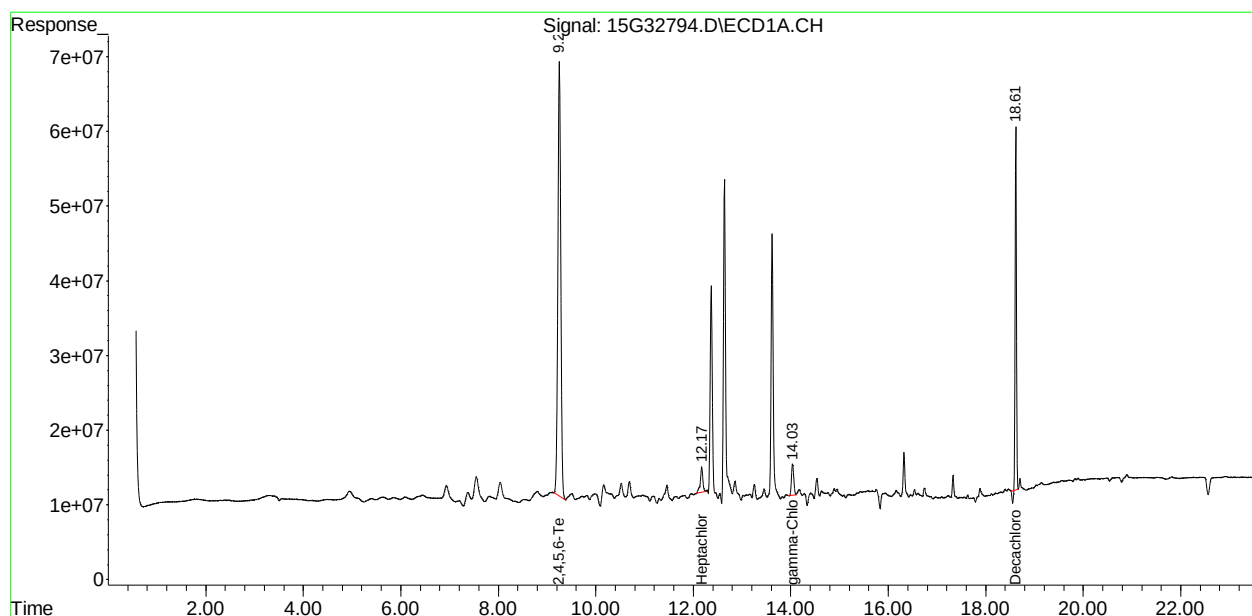
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.25	9.04	2400.6E6	1227.8E6	12.230	12.903
	Spiked Amount	20.000	Range	30 - 132	Recovery =	61.15%	64.52%
22)	S Decachlorobiphen	18.61	18.79	884.4E6	564.0E6	7.883	8.802
	Spiked Amount	20.000	Range	36 - 144	Recovery =	39.41%	44.01%
Target Compounds							
2)	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3)	gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
4)	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5)	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6)	Heptachlor	12.17f	0.00	121.5E6	0	0.491	N.D. #
7)	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8)	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
9)	gamma-Chlordane	14.03f	0.00	133.9E6	0	0.573	N.D. #
10)	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11)	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
12)	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
13)	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
14)	Endrin	0.00	0.00	0	0	N.D.	N.D.
15)	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
16)	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17)	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
18)	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
19)	Endosulfan Sulfa	0.00	0.00	0	0	N.D.	N.D.
20)	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21)	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32794.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 7:21 pm (#1); 19 Jun 2012 7:50 pm (#2)
Operator : ECL
Sample : L12060445-01
Misc : 1,1 WATER
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:58:26 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Wed Jun 20 08:54:02 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



8081.M Wed Jun 20 09:01:03 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32795.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 7:50 pm (#1); 19 Jun 2012 8:18 pm (#2)
 Operator : ECL
 Sample : L12060445-03
 Misc : 1,1 WATER
 ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:58:34 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Wed Jun 20 08:54:02 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

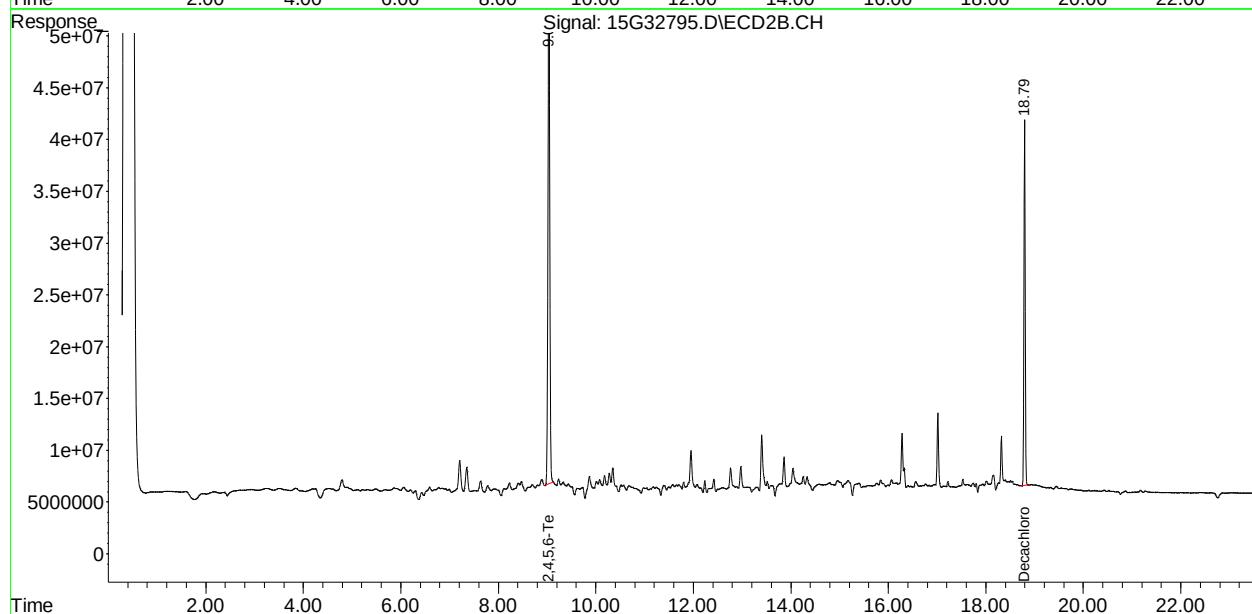
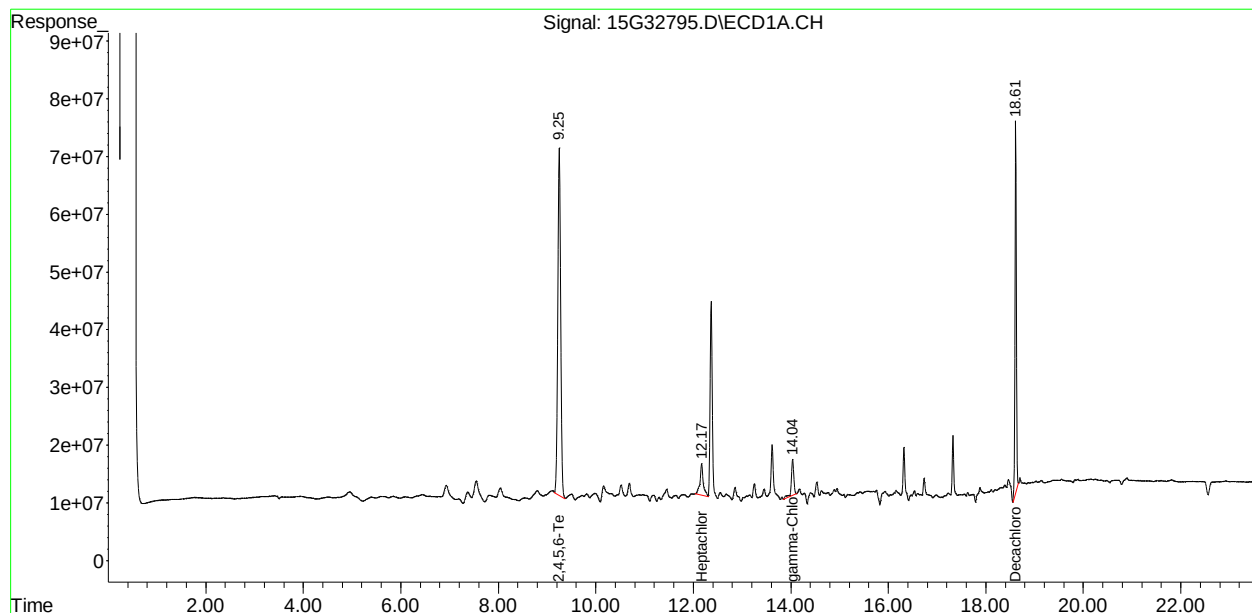
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.25	9.04	2462.7E6	1243.0E6	12.546	13.062
	Spiked Amount	20.000	Range 30 -	132	Recovery =	62.73%	65.31%
22)	S Decachlorobiphen	18.61	18.79	1237.8E6	635.5E6	11.498	10.045
	Spiked Amount	20.000	Range 36 -	144	Recovery =	57.49%	50.22%
Target Compounds							
2)	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3)	gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
4)	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5)	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6)	Heptachlor	12.17	0.00	253.8E6	0	1.026	N.D. #
7)	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8)	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
9)	gamma-Chlordane	14.04f	0.00	224.3E6	0	0.961	N.D. #
10)	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11)	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
12)	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
13)	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
14)	Endrin	0.00	0.00	0	0	N.D.	N.D.
15)	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
16)	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17)	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
18)	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
19)	Endosulfan Sulfa	0.00	0.00	0	0	N.D.	N.D.
20)	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21)	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32795.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 7:50 pm (#1); 19 Jun 2012 8:18 pm (#2)
Operator : ECL
Sample : L12060445-03
Misc : 1,1 WATER
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:58:34 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Wed Jun 20 08:54:02 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



8081.M Wed Jun 20 09:01:05 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32796.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 8:18 pm (#1); 19 Jun 2012 8:46 pm (#2)
 Operator : ECL
 Sample : L12060445-05 REF
 Misc : 1,1 WATER
 ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:58:42 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Wed Jun 20 08:54:02 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

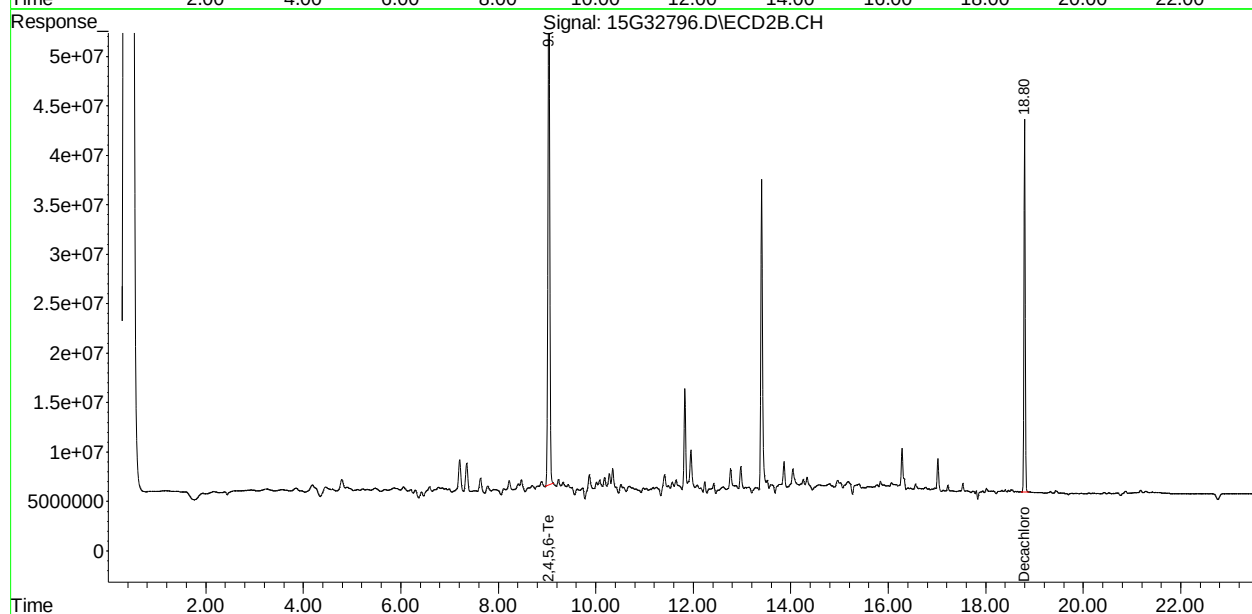
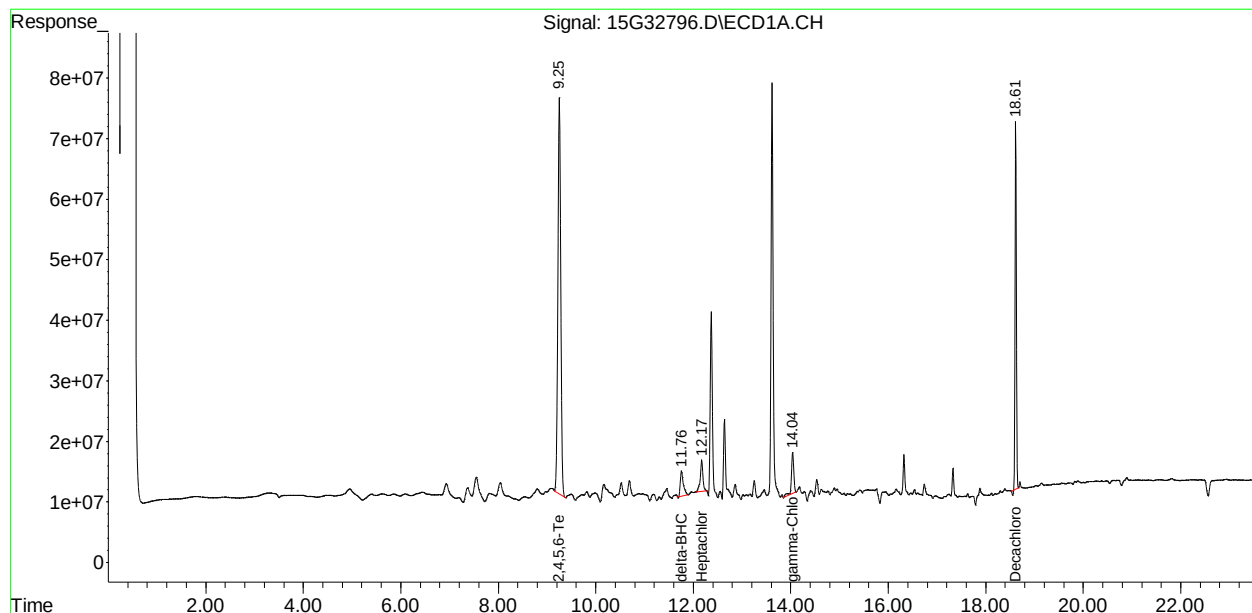
System Monitoring Compounds						
1) S 2,4,5,6-Tetrachl	9.25	9.04	2668.4E6	1344.4E6	13.595	14.128
Spiked Amount	20.000	Range	30 - 132	Recovery =	67.98%	70.64%
22) S Decachlorobiphen	18.61	18.80	1114.6E6	670.0E6	10.238	10.644
Spiked Amount	20.000	Range	36 - 144	Recovery =	51.19%	53.22%
Target Compounds						
2) alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
4) beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) delta-BHC	11.76f	0.00	176.2E6	0	0.644	N.D. #
6) Heptachlor	12.17f	0.00	194.0E6	0	0.784	N.D. #
7) Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
9) gamma-Chlordane	14.04f	0.00	240.7E6	0	1.031	N.D. #
10) alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
12) 4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
13) Dieldrin	0.00	0.00	0	0	N.D.	N.D.
14) Endrin	0.00	0.00	0	0	N.D.	N.D.
15) 4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
16) Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17) 4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
18) Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
19) Endosulfan Sulfa	0.00	0.00	0	0	N.D.	N.D.
20) Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32796.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 8:18 pm (#1); 19 Jun 2012 8:46 pm (#2)
Operator : ECL
Sample : L12060445-05 REF
Misc : 1,1 WATER
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:58:42 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Wed Jun 20 08:54:02 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



8081.M Wed Jun 20 09:01:07 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32797.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 8:46 pm (#1); 19 Jun 2012 9:15 pm (#2)
 Operator : ECL
 Sample : L12060445-06 MS
 Misc : 1,1 WATER
 ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:59:18 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Wed Jun 20 08:54:02 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

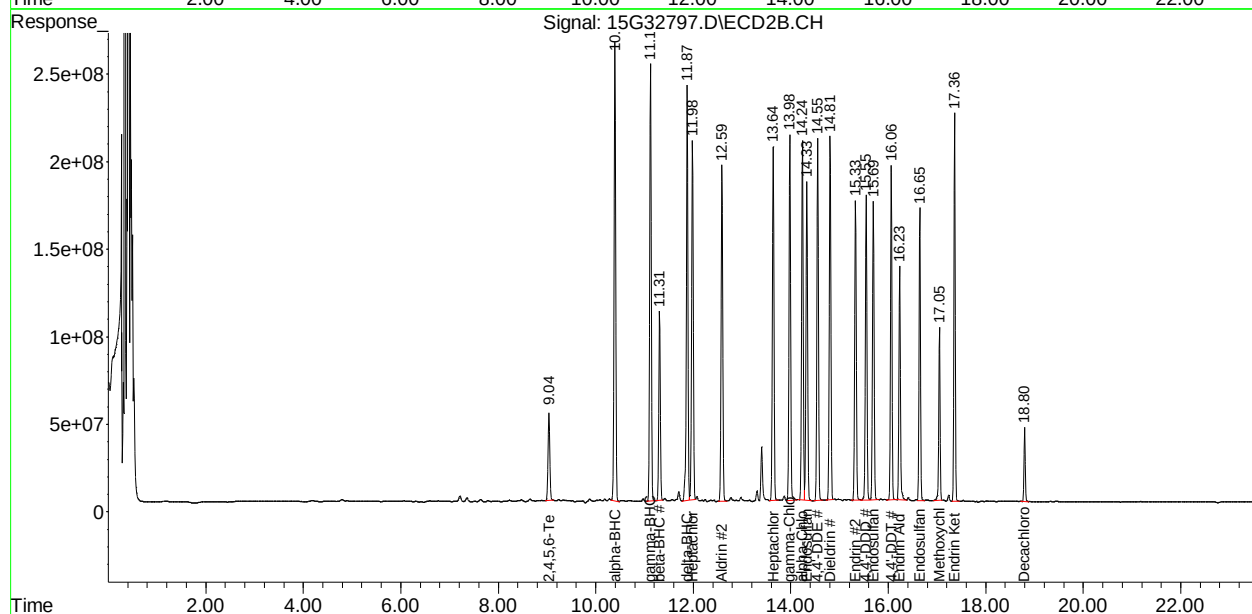
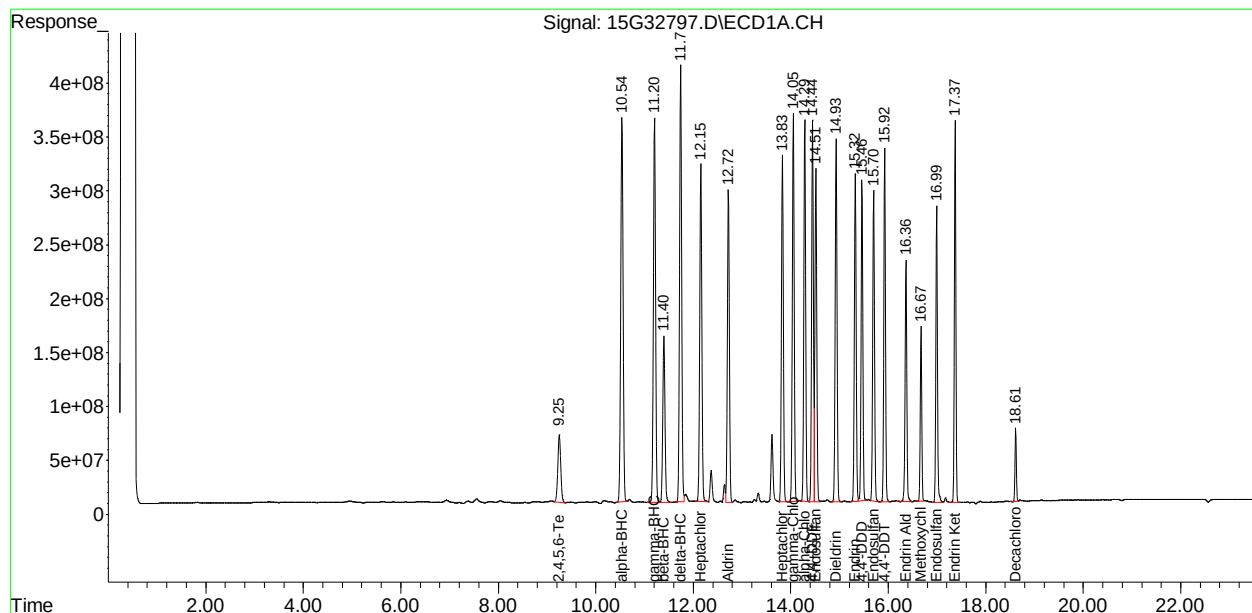
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.25	9.04	2573.2E6	1279.2E6	13.109	13.443
	Spiked Amount	20.000	Range	30 - 132	Recovery =	65.55%	67.22%
22)	S Decachlorobiphen	18.61	18.80	1266.2E6	760.2E6	11.789	12.211
	Spiked Amount	20.000	Range	36 - 144	Recovery =	58.95%	61.06%
Target Compounds							
2)	alpha-BHC	10.54	10.39	11929.4E6	6024.8E6	40.296	43.463
3)	gamma-BHC	11.20	11.12	11034.8E6	5624.9E6	40.612	43.489
4)	beta-BHC	11.40	11.31	4843.7E6	2326.1E6	40.126	39.741
5)	delta-BHC	11.74	11.87	12032.2E6	5096.6E6	44.003	39.532
6)	Heptachlor	12.15	11.98	9382.9E6	4905.5E6	37.916	41.911
7)	Aldrin	12.72	12.59	8121.7E6	4457.0E6	32.933	40.061
8)	Heptachlor Epoxi	13.83	13.64	8651.7E6	4582.8E6	40.288	43.228
9)	gamma-Chlordane	14.05	13.98	9470.6E6	4761.0E6	40.553	43.710
10)	alpha-Chlordane	14.29	14.24	9085.6E6	4632.8E6	43.245	42.725
11)	Endosulfan I	14.51	14.33	8104.8E6	4234.3E6	39.527	42.662
12)	4,4'-DDE	14.45	14.55	8780.0E6	4540.3E6	40.494	45.115
13)	Dieldrin	14.93	14.81	8883.0E6	4705.5E6	46.084	45.232
14)	Endrin	15.32	15.33	7793.8E6	3947.6E6	39.288	42.364
15)	4,4'-DDD	15.46	15.55	7251.4E6	3861.0E6	42.194	45.113
16)	Endosulfan II	15.70	15.69	7398.8E6	3900.6E6	43.299	42.371
17)	4,4'-DDT	15.92	16.06	7700.0E6	3914.3E6	44.487	47.426
18)	Endrin Aldehyde	16.36	16.23	5436.0E6	2860.7E6	42.619	39.063
19)	Endosulfan Sulfa	16.99	16.65	6191.7E6	3333.8E6	42.458	44.516
20)	Methoxychlor	16.67	17.05	3414.2E6	1867.4E6	45.649	50.716
21)	Endrin Ketone	17.37	17.36	7473.2E6	4119.8E6	45.039	45.939

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32797.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 8:46 pm (#1); 19 Jun 2012 9:15 pm (#2)
Operator : ECL
Sample : L12060445-06 MS
Misc : 1,1 WATER
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:59:18 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Wed Jun 20 08:54:02 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase :
Signal #2 Info :



8081.M Wed Jun 20 09:01:09 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32798.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 9:15 pm (#1); 19 Jun 2012 9:43 pm (#2)
 Operator : ECL
 Sample : L12060445-07 MSD
 Misc : 1,1 WATER
 ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:59:24 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Wed Jun 20 08:54:02 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

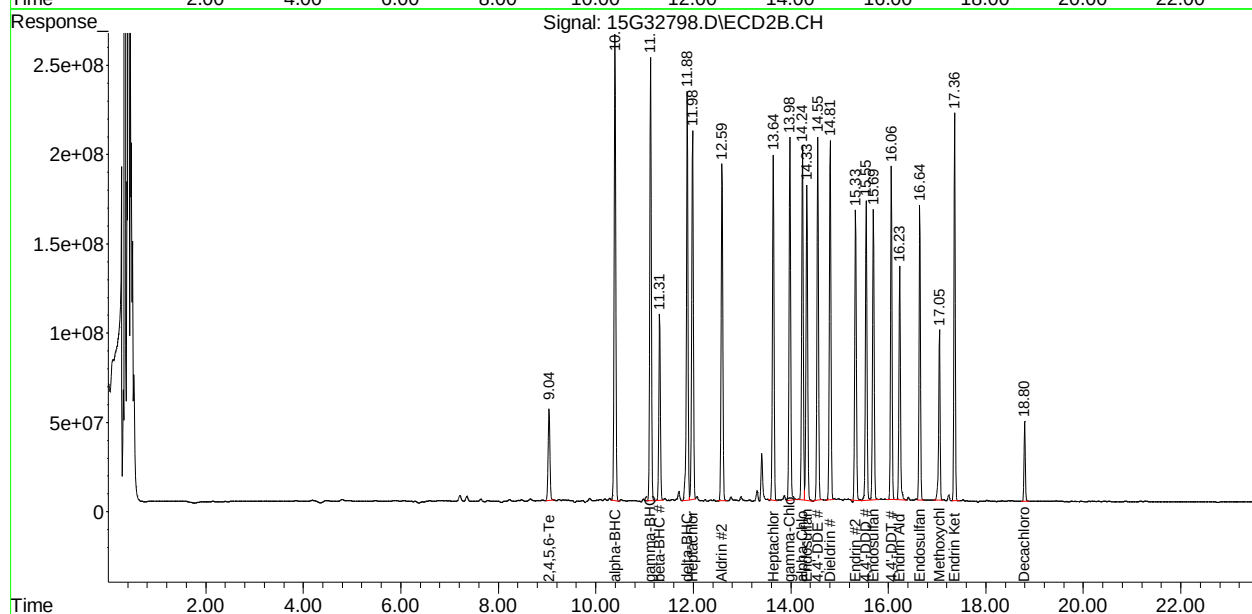
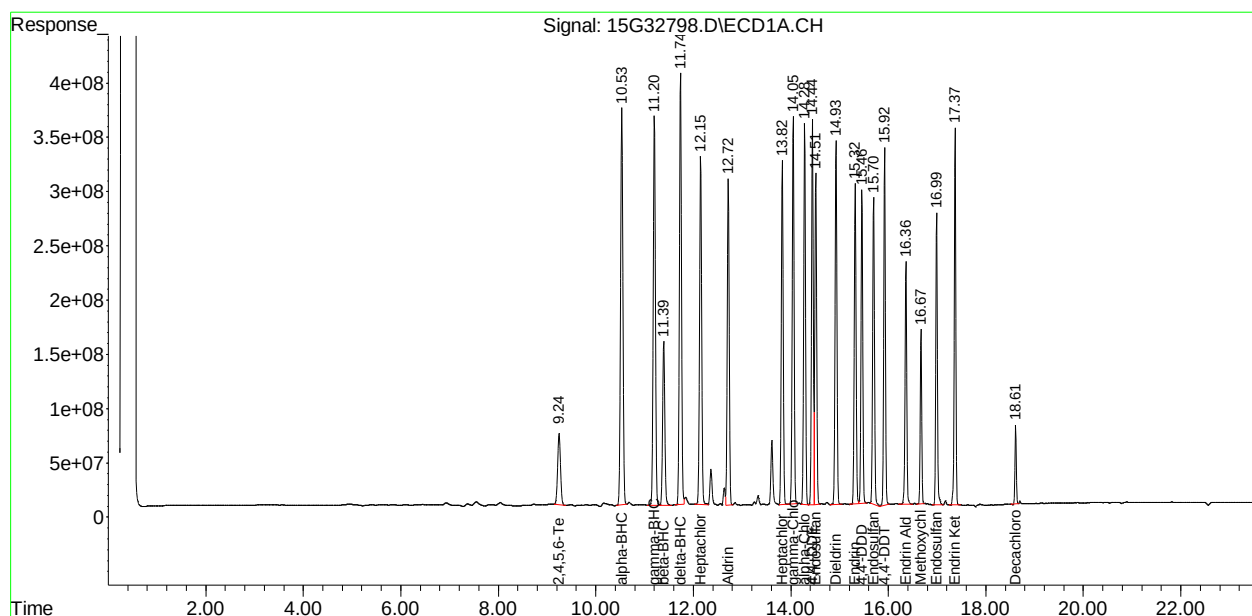
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.25	9.04	2710.2E6	1309.2E6	13.808	13.758
	Spiked Amount	20.000	Range	30 - 132	Recovery =	69.04%	68.79%
22)	S Decachlorobiphen	18.61	18.80	1348.5E6	801.1E6	12.631	12.923
	Spiked Amount	20.000	Range	36 - 144	Recovery =	63.16%	64.61%
Target Compounds							
2)	alpha-BHC	10.53	10.39	12198.5E6	6007.3E6	41.205	43.337
3)	gamma-BHC	11.20	11.12	11129.4E6	5533.0E6	40.963	42.779
4)	beta-BHC	11.39	11.31	4741.6E6	2231.6E6	39.281	38.127
5)	delta-BHC	11.74	11.88	11693.2E6	4891.3E6	42.764	37.940
6)	Heptachlor	12.15	11.98	9598.5E6	4911.4E6	38.787	41.961
7)	Aldrin	12.72	12.59	8408.3E6	4428.3E6	34.095	39.802
8)	Heptachlor Epoxi	13.82	13.64	8528.3E6	4328.3E6	39.714	40.828
9)	gamma-Chlordane	14.05	13.98	9395.7E6	4639.2E6	40.233	42.593
10)	alpha-Chlordane	14.28	14.24	8977.0E6	4479.0E6	42.722	41.306
11)	Endosulfan I	14.51	14.33	8071.8E6	4116.5E6	39.366	41.475
12)	4,4'-DDE	14.44	14.55	8743.8E6	4433.5E6	40.327	44.054
13)	Dieldrin	14.93	14.81	8864.5E6	4527.3E6	45.989	43.519
14)	Endrin	15.32	15.33	7692.6E6	3735.8E6	38.778	40.091
15)	4,4'-DDD	15.46	15.55	7124.6E6	3720.4E6	41.457	43.471
16)	Endosulfan II	15.70	15.69	7408.6E6	3744.6E6	43.358	40.677
17)	4,4'-DDT	15.92	16.06	7701.1E6	3809.0E6	44.493	46.151
18)	Endrin Aldehyde	16.36	16.23	5402.8E6	2783.5E6	42.347	38.008
19)	Endosulfan Sulfa	16.99	16.65	6095.5E6	3219.1E6	41.798	42.946
20)	Methoxychlor	16.67	17.05	3371.9E6	1910.5E6	45.064	51.904
21)	Endrin Ketone	17.37	17.36	7573.0E6	3977.6E6	45.640	44.353

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32798.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 9:15 pm (#1); 19 Jun 2012 9:43 pm (#2)
Operator : ECL
Sample : L12060445-07 MSD
Misc : 1,1 WATER
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:59:24 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Wed Jun 20 08:54:02 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase :
Signal #2 Info :



8081.M Wed Jun 20 09:01:11 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32799.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 9:43 pm (#1); 19 Jun 2012 10:11 pm (#2)
 Operator : ECL
 Sample : L12060445-08
 Misc : 1,1 WATER
 ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:59:33 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Wed Jun 20 08:54:02 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

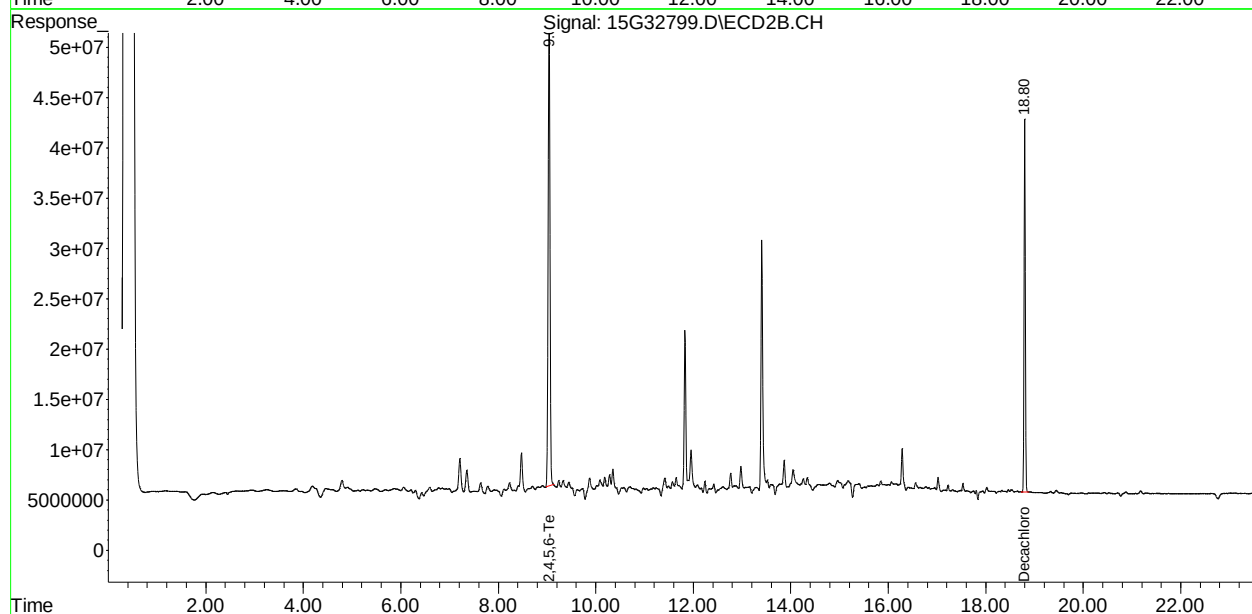
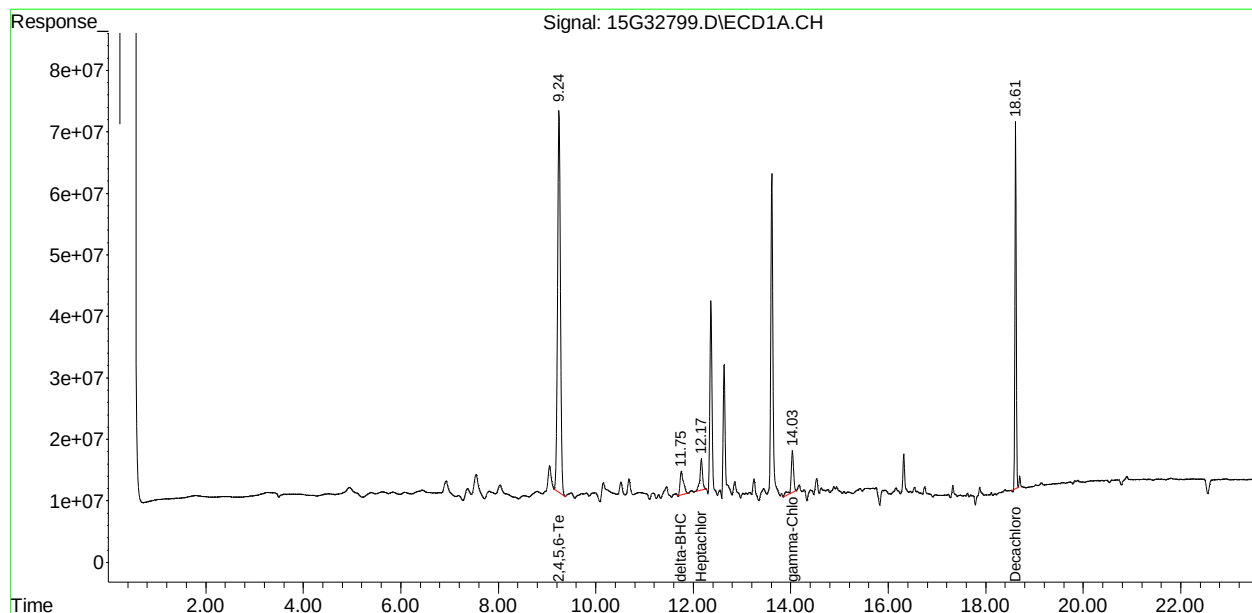
System Monitoring Compounds						
1) S 2,4,5,6-Tetrachl	9.24	9.04	2539.2E6	1255.0E6	12.937	13.189
Spiked Amount	20.000	Range	30 - 132	Recovery =	64.68%	65.94%
22) S Decachlorobiphen	18.61	18.80	1105.5E6	664.4E6	10.145	10.547
Spiked Amount	20.000	Range	36 - 144	Recovery =	50.72%	52.73%
Target Compounds						
2) alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
4) beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) delta-BHC	11.75	0.00	182.2E6	0	0.666	N.D. #
6) Heptachlor	12.17	0.00	184.1E6	0	0.744	N.D. #
7) Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
9) gamma-Chlordane	14.03f	0.00	244.1E6	0	1.045	N.D. #
10) alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
12) 4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
13) Dieldrin	0.00	0.00	0	0	N.D.	N.D.
14) Endrin	0.00	0.00	0	0	N.D.	N.D.
15) 4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
16) Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17) 4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
18) Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
19) Endosulfan Sulfa	0.00	0.00	0	0	N.D.	N.D.
20) Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32799.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 9:43 pm (#1); 19 Jun 2012 10:11 pm (#2)
Operator : ECL
Sample : L12060445-08
Misc : 1,1 WATER
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:59:33 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Wed Jun 20 08:54:02 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



8081.M Wed Jun 20 09:01:13 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32802.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 11:08 pm (#1); 19 Jun 2012 11:36 pm (#2)
 Operator : ECL
 Sample : L12060445-09
 Misc : 1,1 WATER
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:59:46 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Wed Jun 20 08:54:02 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

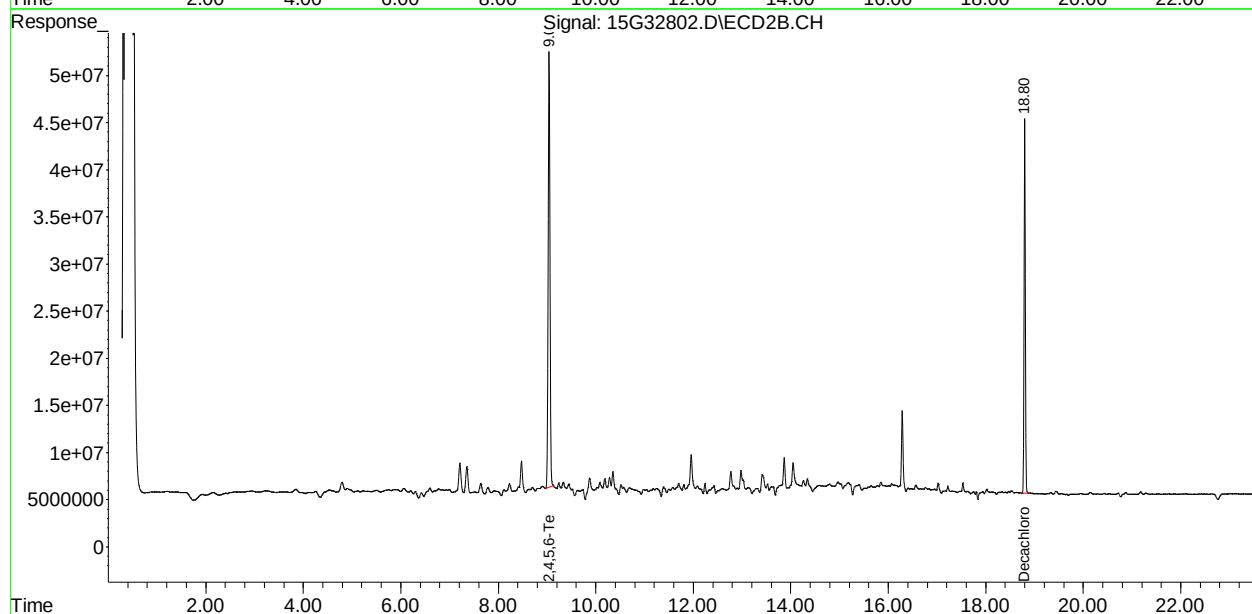
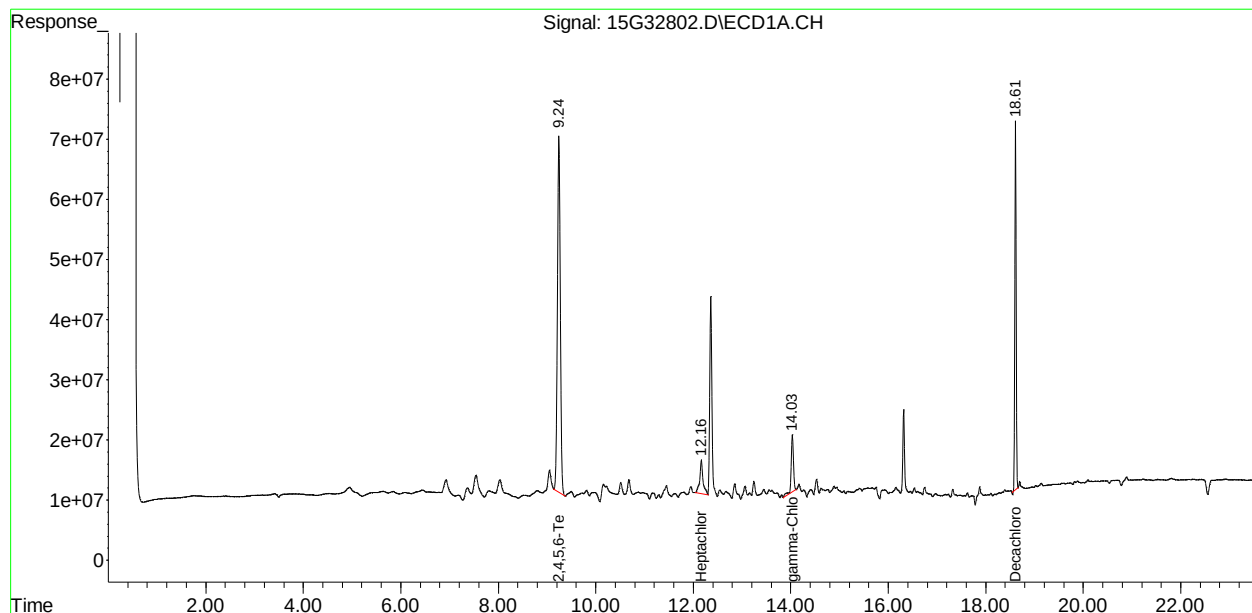
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.24	9.04	2434.6E6	1183.9E6	12.404	12.442
	Spiked Amount	20.000	Range	30 - 132	Recovery =	62.02%	62.21%
22)	S Decachlorobiphen	18.61	18.80	1158.0E6	712.6E6	10.681	11.385
	Spiked Amount	20.000	Range	36 - 144	Recovery =	53.40%	56.93%
Target Compounds							
2)	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3)	gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
4)	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5)	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6)	Heptachlor	12.16	0.00	260.3E6	0	1.052	N.D. #
7)	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8)	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
9)	gamma-Chlordane	14.03f	0.00	315.9E6	0	1.353	N.D. #
10)	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11)	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
12)	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
13)	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
14)	Endrin	0.00	0.00	0	0	N.D.	N.D.
15)	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
16)	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17)	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
18)	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
19)	Endosulfan Sulfa	0.00	0.00	0	0	N.D.	N.D.
20)	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21)	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32802.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 11:08 pm (#1); 19 Jun 2012 11:36 pm (#2)
Operator : ECL
Sample : L12060445-09
Misc : 1,1 WATER
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:59:46 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Wed Jun 20 08:54:02 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



8081.M Wed Jun 20 09:01:15 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32803.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 11:36 pm (#1); 20 Jun 2012 12:05 am (#2)
 Operator : ECL
 Sample : L12060445-10
 Misc : 1,1 WATER
 ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:59:53 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Wed Jun 20 08:54:02 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

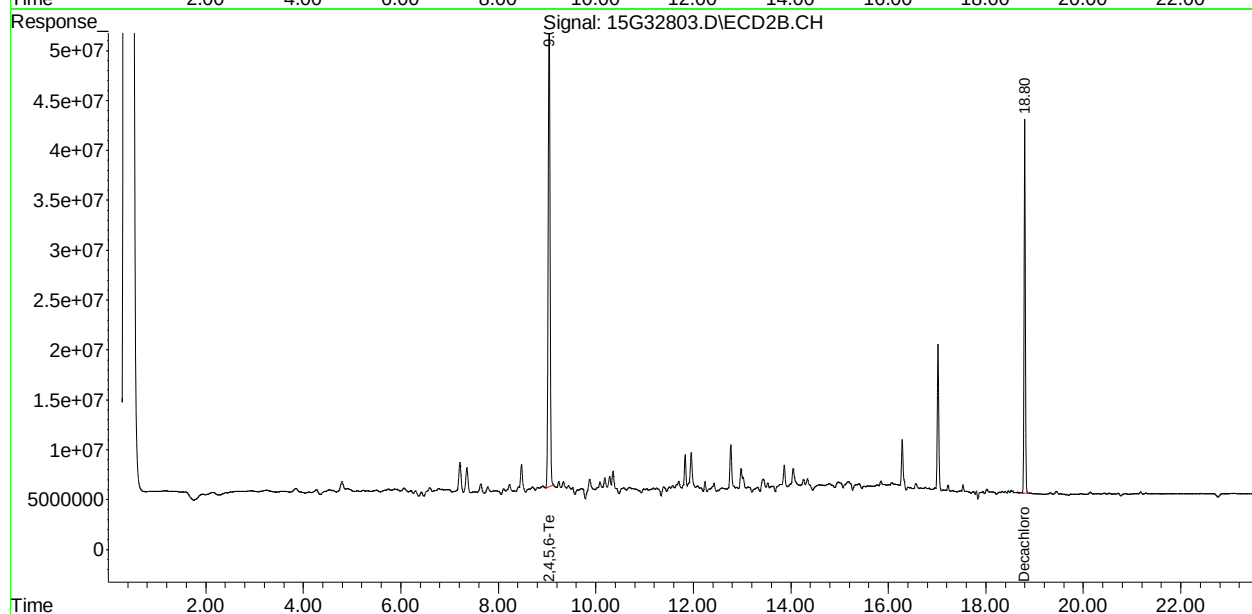
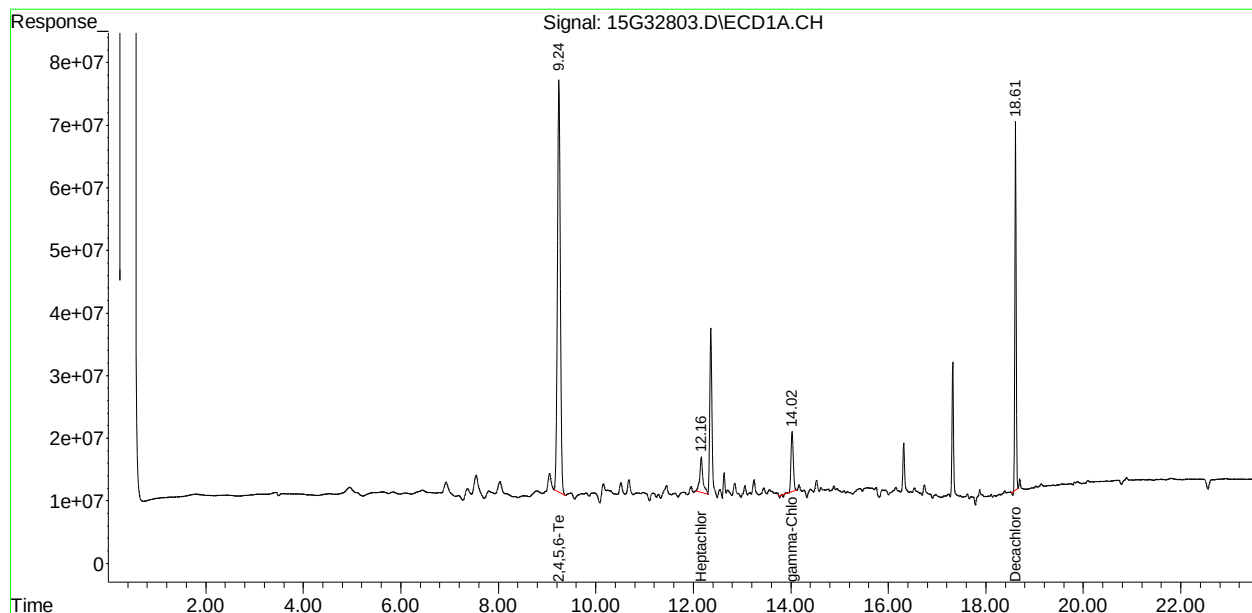
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.24f	9.04	2700.5E6	1316.3E6	13.758	13.832
	Spiked Amount	20.000	Range	30 - 132	Recovery =	68.79%	69.16%
22)	S Decachlorobiphen	18.61	18.80	1096.4E6	666.4E6	10.051	10.582
	Spiked Amount	20.000	Range	36 - 144	Recovery =	50.26%	52.91%
Target Compounds							
2)	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3)	gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
4)	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5)	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6)	Heptachlor	12.16	0.00	259.4E6	0	1.048	N.D. #
7)	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8)	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
9)	gamma-Chlordane	14.03f	0.00	303.4E6	0	1.299	N.D. #
10)	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11)	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
12)	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
13)	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
14)	Endrin	0.00	0.00	0	0	N.D.	N.D.
15)	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
16)	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17)	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
18)	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
19)	Endosulfan Sulfa	0.00	0.00	0	0	N.D.	N.D.
20)	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21)	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32803.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 11:36 pm (#1); 20 Jun 2012 12:05 am (#2)
Operator : ECL
Sample : L12060445-10
Misc : 1,1 WATER
ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:59:53 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Wed Jun 20 08:54:02 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



8081.M Wed Jun 20 09:01:17 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32804.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Jun 2012 12:05 am (#1); 20 Jun 2012 12:33 am (#2)
 Operator : ECL
 Sample : L12060445-11
 Misc : 1,1 WATER
 ALS Vial : 30 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:59:59 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Wed Jun 20 08:54:02 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

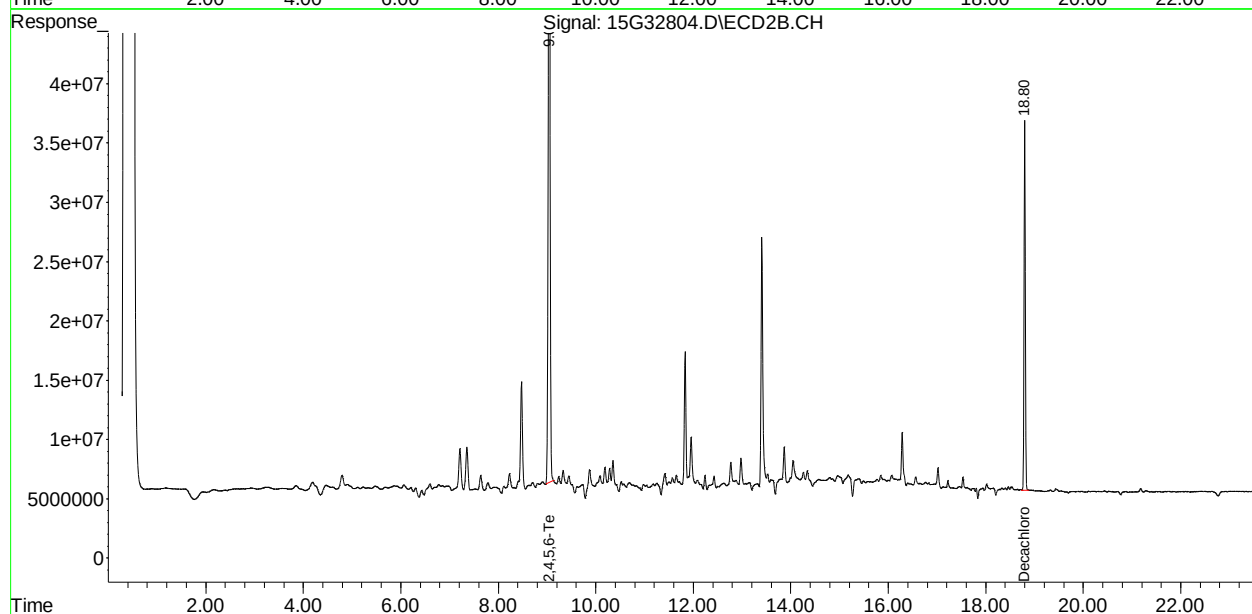
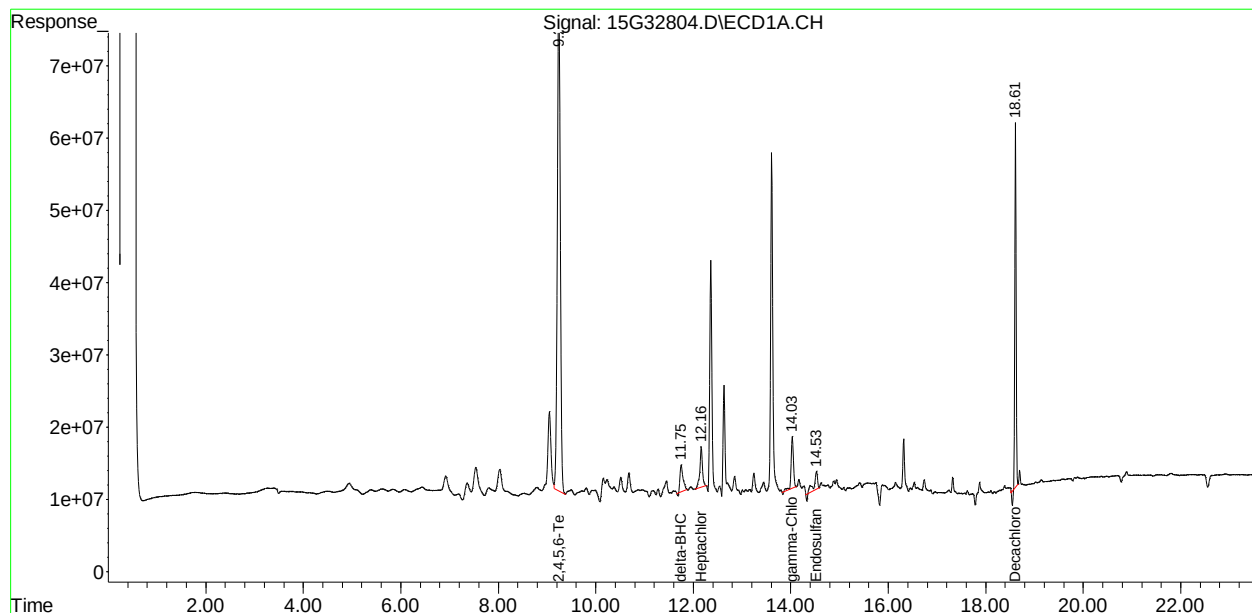
System Monitoring Compounds						
1) S 2,4,5,6-Tetrachl	9.24f	9.04	2945.1E6	1445.0E6	15.004	15.185
Spiked Amount	20.000	Range	30 - 132	Recovery =	75.02%	75.92%
22) S Decachlorobiphen	18.61	18.80	921.3E6	565.0E6	8.261	8.820
Spiked Amount	20.000	Range	36 - 144	Recovery =	41.31%	44.10%
Target Compounds						
2) alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
4) beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) delta-BHC	11.75	0.00	156.7E6	0	0.573	N.D. #
6) Heptachlor	12.16	0.00	207.7E6	0	0.839	N.D. #
7) Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
9) gamma-Chlordane	14.03f	0.00	239.5E6	0	1.026	N.D. #
10) alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) Endosulfan I	14.53	0.00	118.3E6	0	0.577	N.D. #
12) 4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
13) Dieldrin	0.00	0.00	0	0	N.D.	N.D.
14) Endrin	0.00	0.00	0	0	N.D.	N.D.
15) 4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
16) Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17) 4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
18) Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
19) Endosulfan Sulfa	0.00	0.00	0	0	N.D.	N.D.
20) Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32804.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Jun 2012 12:05 am (#1); 20 Jun 2012 12:33 am (#2)
Operator : ECL
Sample : L12060445-11
Misc : 1,1 WATER
ALS Vial : 30 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:59:59 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Wed Jun 20 08:54:02 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



8081.M Wed Jun 20 09:01:19 2012

Page: 2

2.2.4.4 Standards Data

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32106.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 15:17 (#1); 09 May 2012 15:45 (#2)
 Operator : ECL
 Sample : WG397537-01 TOX ICAL 2000 PPB
 Misc : 1,1 STD50069
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: .E
 Integration File signal 2: EVENTS.E
 Quant Time: May 10 11:52:10 2012
 Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
 Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
 QLast Update : Thu May 10 11:51:53 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

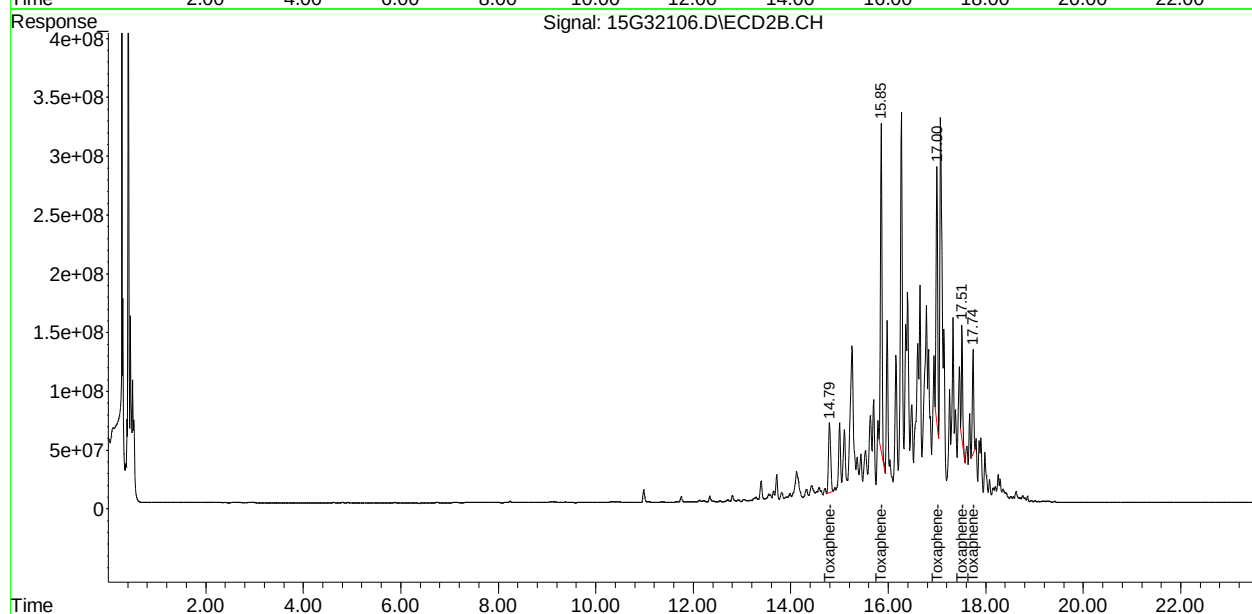
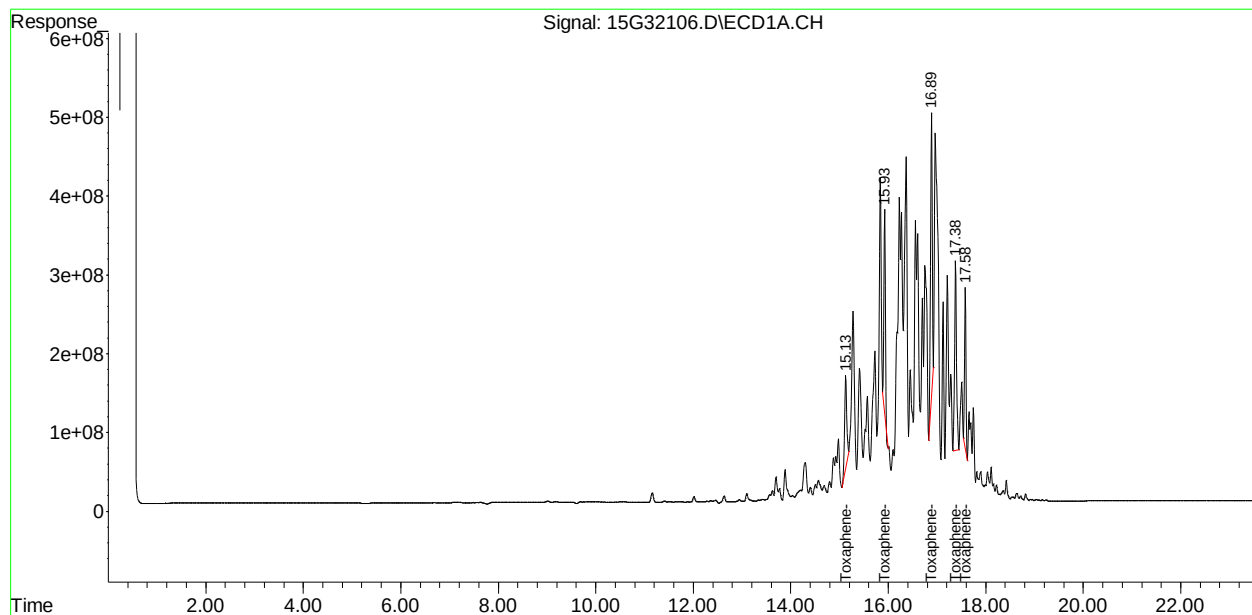
Target Compounds						
1) L1 Toxaphene-1	15.13	14.79	3465.2E6	1838.4E6	1963.939	1806.688
2) L1 Toxaphene-2	15.92	15.85	5326.2E6	6106.6E6	1813.161	1921.541
3) L1 Toxaphene-3	16.89	17.00	8750.1E6	4777.9E6	1800.663	1909.143
4) L1 Toxaphene-4	17.38	17.51	6528.0E6	1664.7E6	1975.342	1858.504
5) L1 Toxaphene-5	17.58	17.74	4142.2E6	1759.6E6	2063.342	2091.446
Sum Toxaphene-1			28211.7E6	16147.1E6	9616.447	9587.322
Average Toxaphene-1					1923.289	1917.464

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32106.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 15:17 (#1); 09 May 2012 15:45 (#2)
Operator : ECL
Sample : WG397537-01 TOX ICAL 2000 PPB
Misc : 1,1 STD50069
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: .E
Integration File signal 2: EVENTS.E
Quant Time: May 10 11:52:10 2012
Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
Qlast Update : Thu May 10 11:51:53 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TOX.M Thu May 10 11:54:11 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32107.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 15:45 (#1); 09 May 2012 16:13 (#2)
 Operator : ECL
 Sample : WG397537-02 TOX ICAL 1000 PPB
 Misc : 1,1 STD50069
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: .E
 Integration File signal 2: EVENTS.E
 Quant Time: May 10 11:52:15 2012
 Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
 Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
 QLast Update : Thu May 10 11:51:53 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

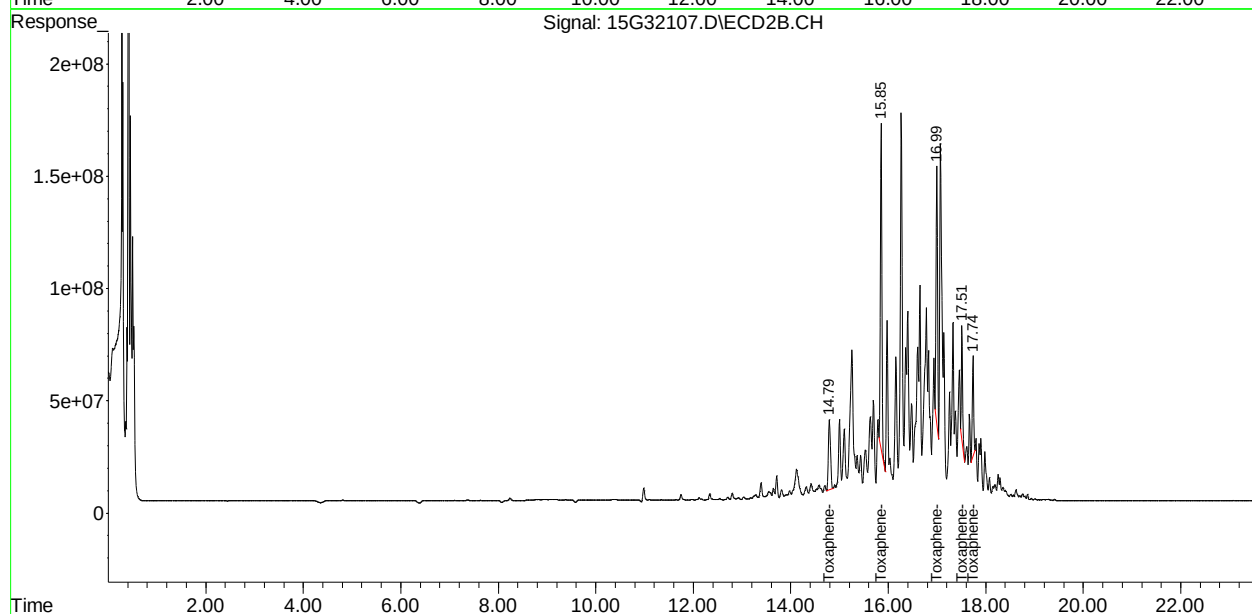
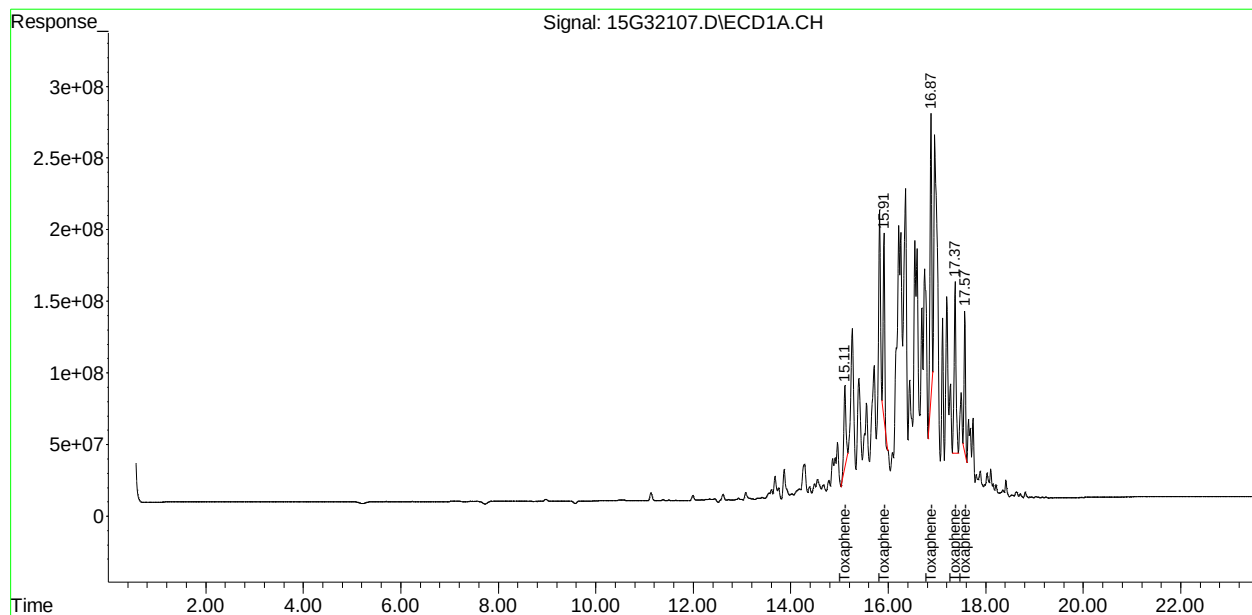
Target Compounds						
1) L1 Toxaphene-1	15.11	14.79	1738.6E6	961.2E6	985.379	944.637
2) L1 Toxaphene-2	15.91	15.85	2665.4E6	3162.7E6	907.367	995.204
3) L1 Toxaphene-3	16.87	16.99	4840.9E6	2493.7E6	996.189	996.447
4) L1 Toxaphene-4	17.37	17.51	3242.4E6	859.6E6	981.128	959.680
5) L1 Toxaphene-5	17.57	17.74	2013.8E6	863.6E6	1003.134	1026.491
Sum Toxaphene-1			14501.1E6	8340.9E6	4873.197	4922.459
Average Toxaphene-1					974.639	984.492

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32107.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 15:45 (#1); 09 May 2012 16:13 (#2)
Operator : ECL
Sample : WG397537-02 TOX ICAL 1000 PPB
Misc : 1,1 STD50069
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: .E
Integration File signal 2: EVENTS.E
Quant Time: May 10 11:52:15 2012
Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
Qlast Update : Thu May 10 11:51:53 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TOX.M Thu May 10 11:54:13 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32108.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 16:13 (#1); 09 May 2012 16:42 (#2)
 Operator : ECL
 Sample : WG397537-03 TOX ICAL 500 PPB
 Misc : 1,1 STD50069
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: .E
 Integration File signal 2: EVENTS.E
 Quant Time: May 10 11:52:20 2012
 Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
 Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
 QLast Update : Thu May 10 11:51:53 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

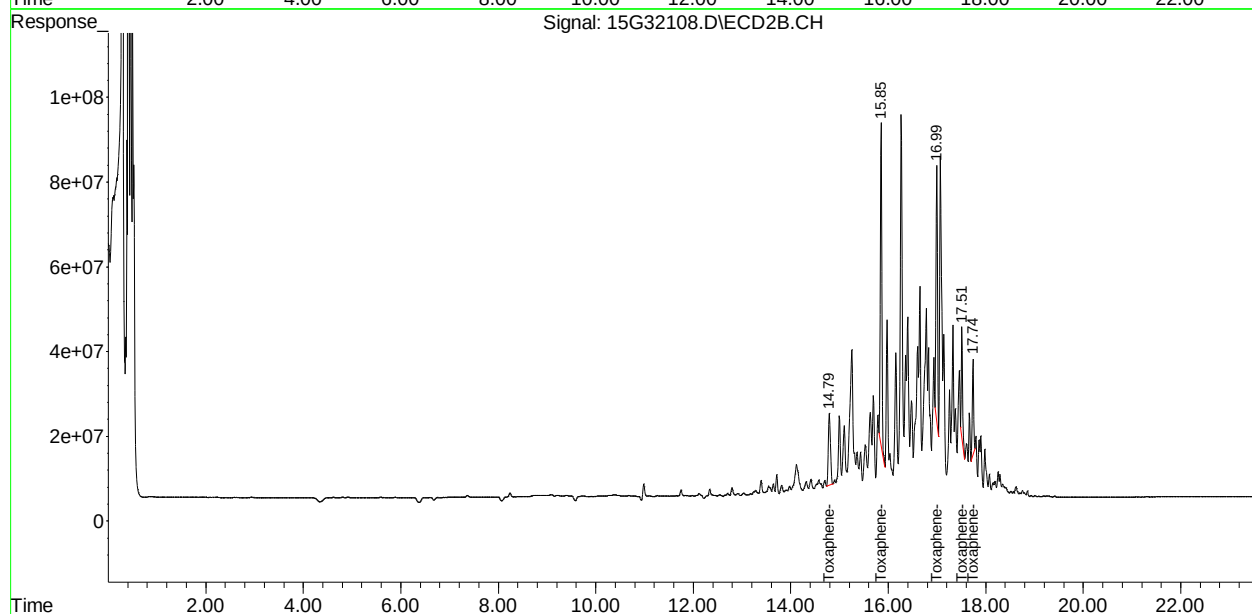
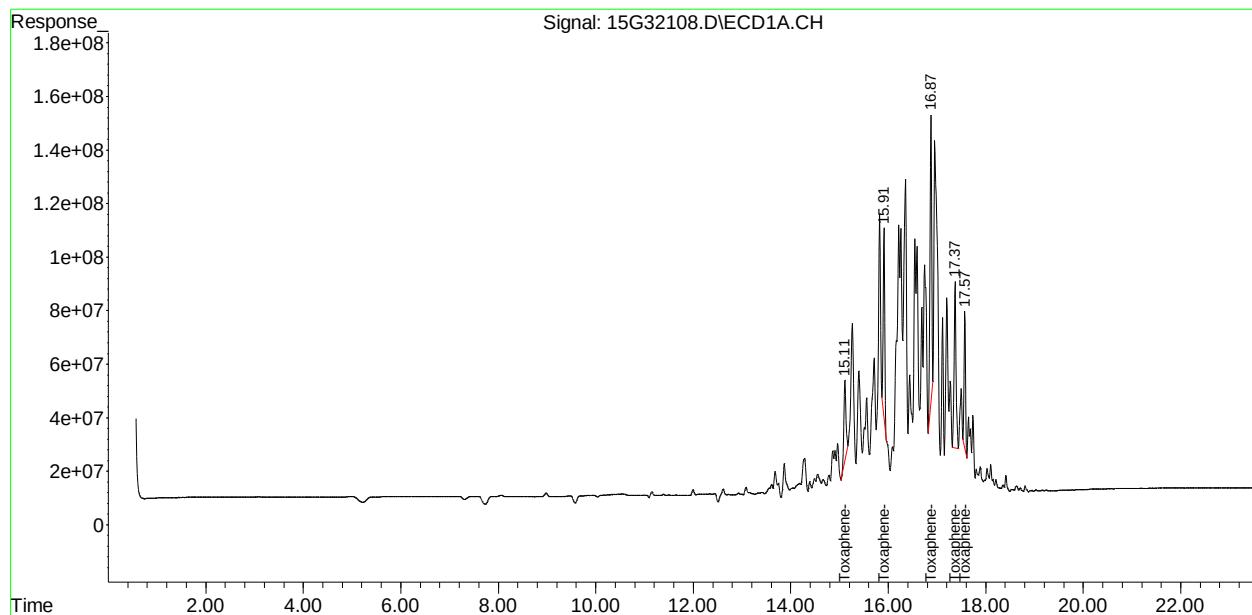
Target Compounds						
1) L1 Toxaphene-1	15.11	14.79	906.9E6	519.1E6	513.972	510.133
2) L1 Toxaphene-2	15.91	15.85	1546.3E6	1659.8E6	526.409	522.269
3) L1 Toxaphene-3	16.87	16.99	2653.9E6	1312.0E6	546.147	524.248
4) L1 Toxaphene-4	17.37	17.51	1702.7E6	453.6E6	515.227	506.413
5) L1 Toxaphene-5	17.57	17.74	1044.6E6	430.7E6	520.368	511.984
Sum Toxaphene-1			7854.5E6	4375.2E6	2622.123	2575.047
Average Toxaphene-1					524.425	515.009

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32108.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 16:13 (#1); 09 May 2012 16:42 (#2)
Operator : ECL
Sample : WG397537-03 TOX ICAL 500 PPB
Misc : 1,1 STD50069
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: .E
Integration File signal 2: EVENTS.E
Quant Time: May 10 11:52:20 2012
Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
QLast Update : Thu May 10 11:51:53 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TOX.M Thu May 10 11:54:15 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32109.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 16:42 (#1); 09 May 2012 17:11 (#2)
 Operator : ECL
 Sample : WG397537-04 TOX ICAL 200 PPB
 Misc : 1,1 STD50069
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: .E
 Integration File signal 2: EVENTS.E
 Quant Time: May 10 11:52:43 2012
 Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
 Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
 QLast Update : Thu May 10 11:51:53 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

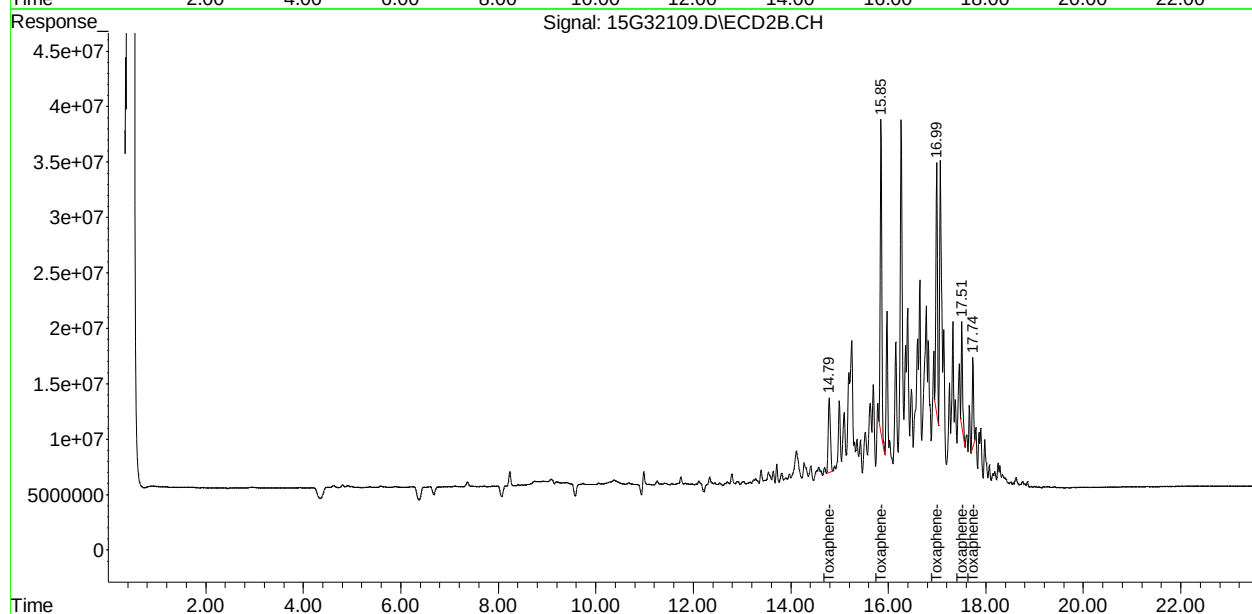
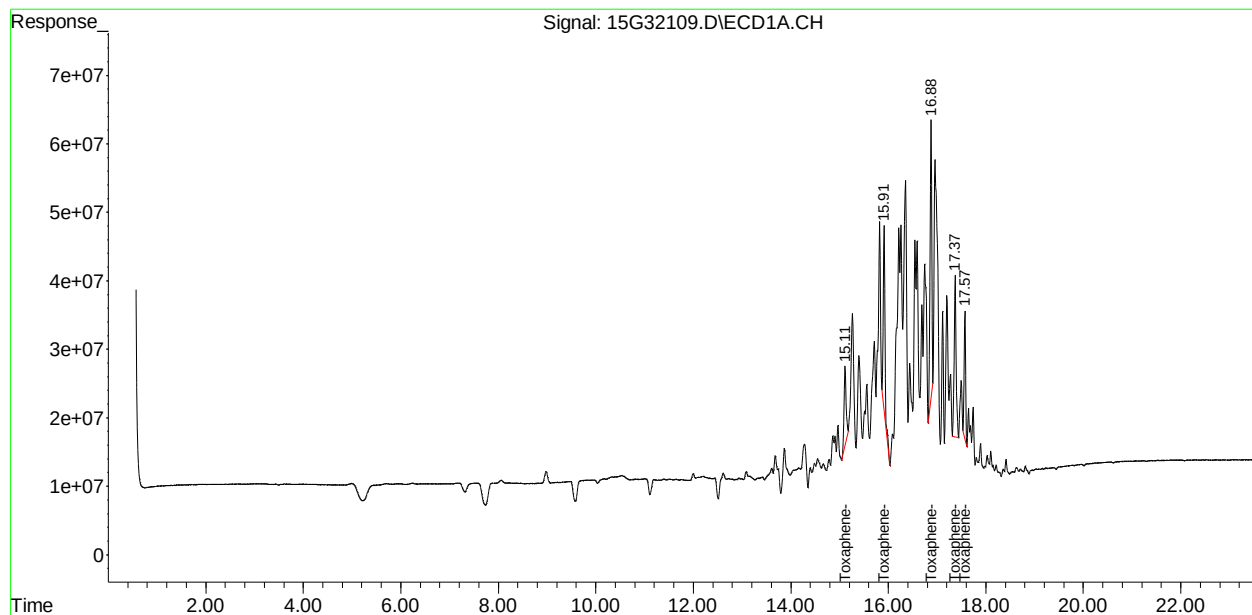
Target Compounds						
1) L1 Toxaphene-1	15.11	14.79	336.1E6	207.4E6	190.462	203.871
2) L1 Toxaphene-2	15.91	15.85	662.1E6	620.7E6	225.392	195.322
3) L1 Toxaphene-3	16.88	16.99	1006.7E6	489.8E6	207.174	195.713
4) L1 Toxaphene-4	17.37	17.51	652.2E6	183.0E6	197.342	204.303
5) L1 Toxaphene-5	17.57	17.74	387.0E6	156.4E6	192.758	185.875
Sum Toxaphene-1			3044.0E6	1657.3E6	1013.129	985.084
Average Toxaphene-1					202.626	197.017

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32109.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 16:42 (#1); 09 May 2012 17:11 (#2)
Operator : ECL
Sample : WG397537-04 TOX ICAL 200 PPB
Misc : 1,1 STD50069
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: .E
Integration File signal 2: EVENTS.E
Quant Time: May 10 11:52:43 2012
Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
QLast Update : Thu May 10 11:51:53 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TOX.M Thu May 10 11:54:17 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32110.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 17:11 (#1); 09 May 2012 17:39 (#2)
 Operator : ECL
 Sample : WG397537-05 TOX ICAL 100 PPB
 Misc : 1,1 STD50069
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: .E
 Integration File signal 2: EVENTS.E
 Quant Time: May 10 11:52:53 2012
 Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
 Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
 QLast Update : Thu May 10 11:51:53 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

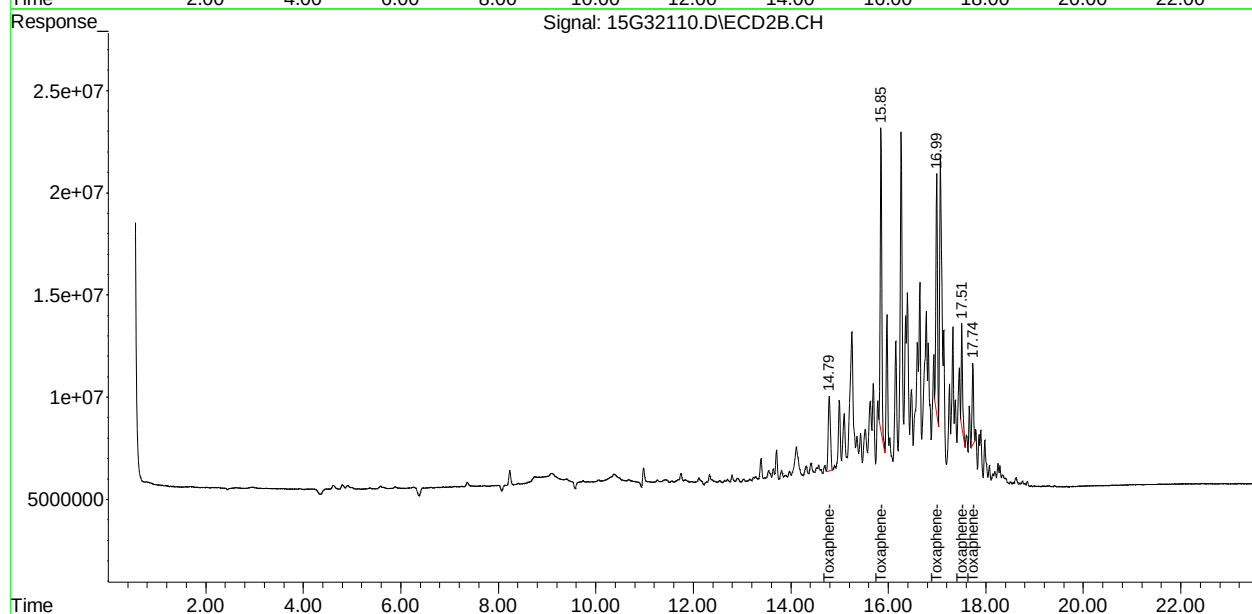
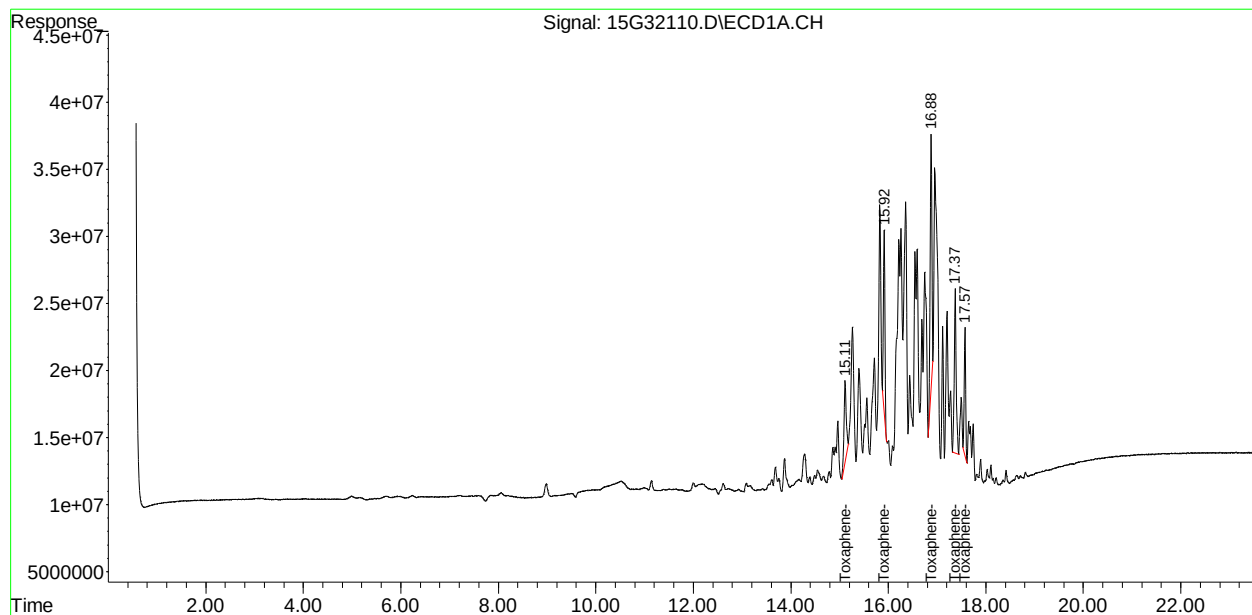
Target Compounds						
1) L1 Toxaphene-1	15.11	14.79	185.7E6	113.3E6	105.239	111.317
2) L1 Toxaphene-2	15.92	15.85	295.6E6	324.5E6	100.627	102.096
3) L1 Toxaphene-3	16.88	16.99	473.9E6	255.7E6	97.531	102.192
4) L1 Toxaphene-4	17.37	17.51	335.1E6	96442430	101.404	107.672
5) L1 Toxaphene-5	17.57	17.73	192.9E6	81980817	96.067	97.444
Sum Toxaphene-1			1483.2E6	871.9E6	500.869	520.722
Average Toxaphene-1					100.174	104.144

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32110.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 17:11 (#1); 09 May 2012 17:39 (#2)
Operator : ECL
Sample : WG397537-05 TOX ICAL 100 PPB
Misc : 1,1 STD50069
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: .E
Integration File signal 2: EVENTS.E
Quant Time: May 10 11:52:53 2012
Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
Qlast Update : Thu May 10 11:51:53 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TOX.M Thu May 10 11:54:19 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32111.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 17:39 (#1); 09 May 2012 18:08 (#2)
 Operator : ECL
 Sample : WG397537-06 TOX ALT 500 PPB
 Misc : 1,1 STD50070
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: .E
 Integration File signal 2: EVENTS.E
 Quant Time: May 10 11:53:38 2012
 Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
 Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
 QLast Update : Thu May 10 11:51:53 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

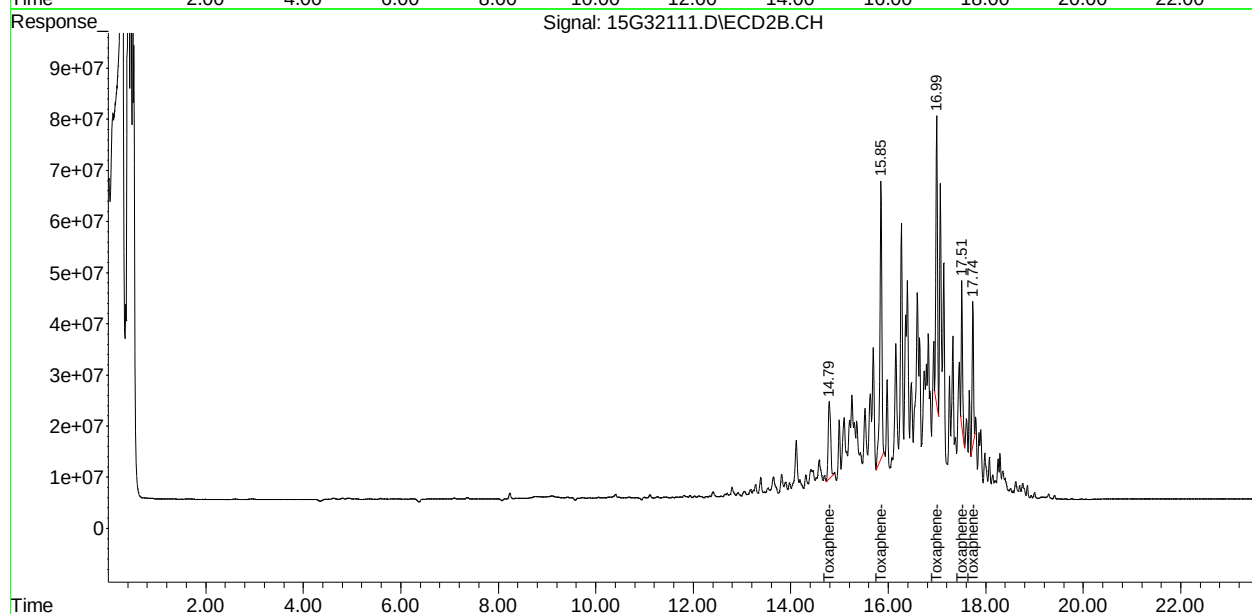
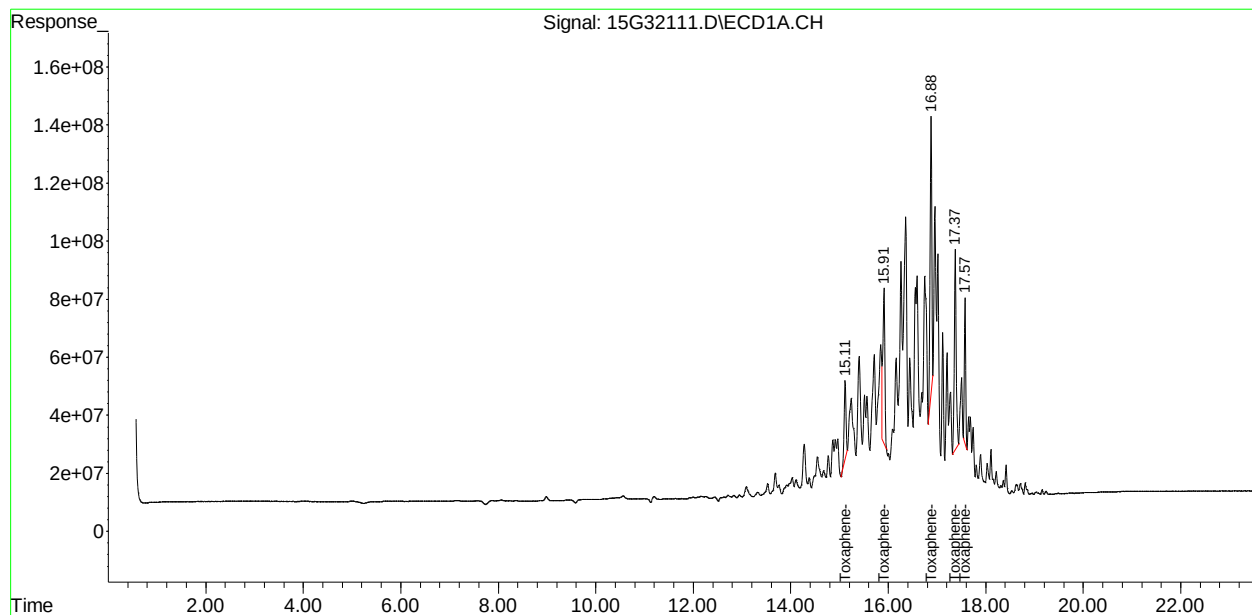
Target Compounds						
1) L1 Toxaphene-1	15.11	14.79	710.4E6	520.2E6	402.649	511.205 #
2) L1 Toxaphene-2	15.91	15.85	1518.4E6	1517.1E6	516.896	477.377
3) L1 Toxaphene-3	16.88	16.99	2355.9E6	1261.7E6	484.805	504.140
4) L1 Toxaphene-4	17.37	17.51	1814.7E6	520.1E6	549.114	580.646
5) L1 Toxaphene-5	17.57	17.74	973.3E6	551.1E6	484.843	655.050 #
Sum Toxaphene-1			7372.7E6	4370.1E6	2438.307	2728.417
Average Toxaphene-1					487.661	545.683

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32111.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 17:39 (#1); 09 May 2012 18:08 (#2)
Operator : ECL
Sample : WG397537-06 TOX ALT 500 PPB
Misc : 1,1 STD50070
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: .E
Integration File signal 2: EVENTS.E
Quant Time: May 10 11:53:38 2012
Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
Qlast Update : Thu May 10 11:51:53 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TOX.M Thu May 10 11:54:21 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32112.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 18:08 (#1); 09 May 2012 18:36 (#2)
 Operator : ECL
 Sample : WG397539-01 PEST ICAL 100 PPB
 Misc : 1,1 STD49531
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: May 10 11:57:30 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Thu May 10 11:57:28 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

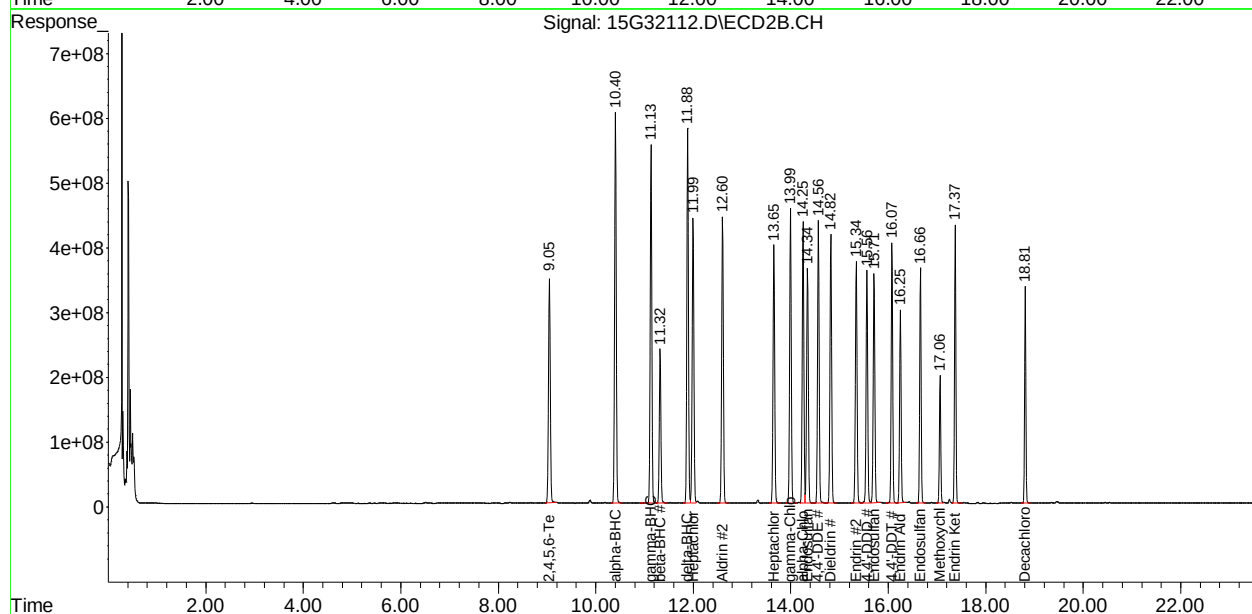
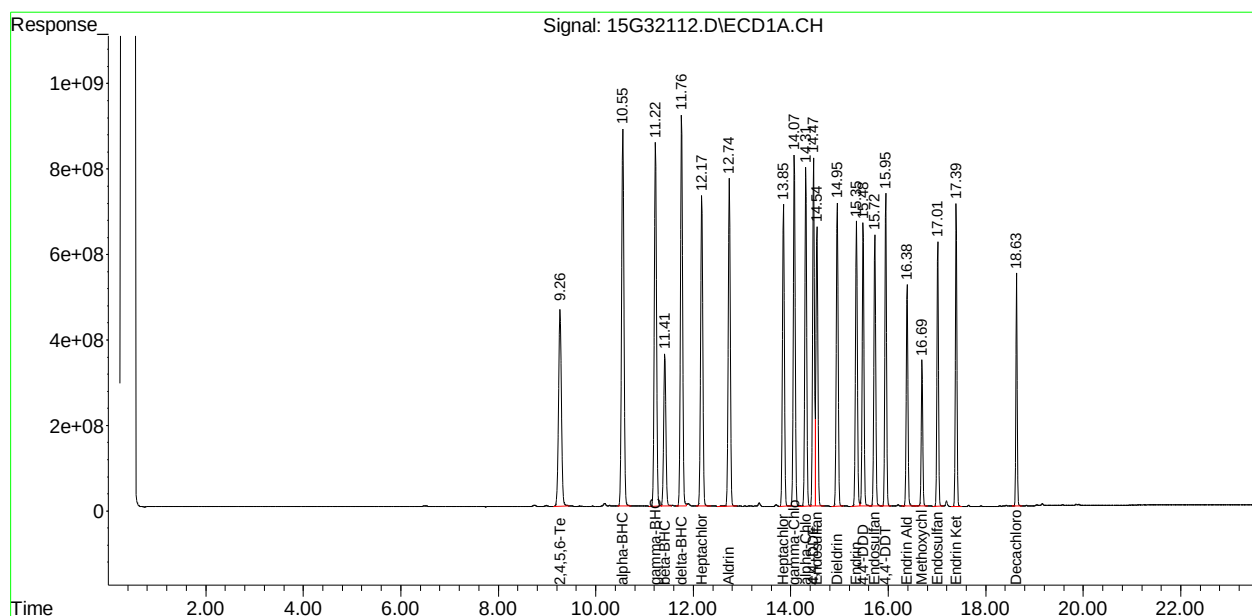
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.26	9.05	18712.4E6	8887.5E6	104.971	104.683
	Spiked Amount	20.000	Range 30 -	132	Recovery =	524.86%#	523.42%#
22)	S Decachlorobiphen	18.63	18.81	9869.8E6	5835.9E6	100.067	98.286
	Spiked Amount	20.000	Range 36 -	144	Recovery =	500.33%#	491.43%#
Target Compounds							
2)	alpha-BHC	10.55	10.40	29913.5E6	14039.2E6	112.644	113.881
3)	gamma-BHC	11.22	11.13	27038.6E6	12665.8E6	109.494	110.085
4)	beta-BHC	11.41	11.32	11100.6E6	5334.0E6	103.918	102.604
5)	delta-BHC	11.76	11.88	27790.3E6	12955.7E6	114.773	114.024
6)	Heptachlor	12.17	11.99	22520.4E6	10680.1E6	104.327	104.169
7)	Aldrin	12.74	12.60	22624.2E6	10580.2E6	106.370	108.952
8)	Heptachlor Epoxi	13.85	13.65	19536.7E6	9423.5E6	101.881	102.929
9)	gamma-Chlordane	14.07	13.99	21928.0E6	10435.0E6	106.050	111.608
10)	alpha-Chlordane	14.31	14.25	20842.1E6	10029.5E6	109.812	108.407
11)	Endosulfan I	14.54	14.34	17976.0E6	8743.6E6	102.312	103.248
12)	4,4'-DDE	14.47	14.56	20743.3E6	9918.2E6	111.998	114.000
13)	Dieldrin	14.95	14.82	19176.1E6	9811.5E6	112.594	108.595
14)	Endrin	15.35	15.34	18118.1E6	8824.5E6	107.107	107.650
15)	4,4'-DDD	15.48	15.56	16457.6E6	8159.5E6	113.736	113.549
16)	Endosulfan II	15.72	15.71	16576.9E6	8250.4E6	103.453	104.031
17)	4,4'-DDT	15.95	16.07	17100.8E6	8451.4E6	110.075	113.441
18)	Endrin Aldehyde	16.38	16.25	12343.2E6	6369.8E6	102.422	98.185
19)	Endosulfan Sulfa	17.01	16.66	13441.8E6	7353.9E6	110.008	104.089
20)	Methoxychlor	16.69	17.06	7285.7E6	3663.9E6	100.399	97.222
21)	Endrin Ketone	17.39	17.37	15113.8E6	8050.4E6	108.361	106.164

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32112.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 18:08 (#1); 09 May 2012 18:36 (#2)
Operator : ECL
Sample : WG397539-01 PEST ICAL 100 PPB
Misc : 1,1 STD49531
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 10 11:57:30 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Thu May 10 11:57:28 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase :
Signal #2 Info :



8081.M Thu May 10 12:05:58 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32113.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 18:36 (#1); 09 May 2012 19:05 (#2)
 Operator : ECL
 Sample : WG397539-02 PEST ICAL 50 PPB
 Misc : 1,1 STD49531
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: May 10 11:57:51 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Thu May 10 11:57:49 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.27	9.05	9438.7E6	4563.5E6	52.103	52.406
	Spiked Amount	20.000	Range 30 -	132	Recovery =	260.51%#	262.03%#
22)	S Decachlorobiphen	18.63	18.81	5017.3E6	2864.4E6	49.758	47.217
	Spiked Amount	20.000	Range 36 -	144	Recovery =	248.79%#	236.09%#
Target Compounds							
2)	alpha-BHC	10.55	10.40	14929.7E6	7086.5E6	55.139	55.961
3)	gamma-BHC	11.22	11.13	13605.1E6	6421.3E6	53.973	54.370
4)	beta-BHC	11.41	11.32	5640.2E6	2740.1E6	51.690	51.333
5)	delta-BHC	11.76	11.88	13733.2E6	6532.3E6	55.453	55.858
6)	Heptachlor	12.17	12.00	11751.6E6	5521.0E6	53.051	52.284
7)	Aldrin	12.74	12.60	11739.4E6	5439.6E6	53.851	54.317
8)	Heptachlor Epoxi	13.85	13.65	10300.4E6	4915.1E6	52.467	52.115
9)	gamma-Chlordane	14.07	13.99	11088.5E6	5254.8E6	52.281	54.481
10)	alpha-Chlordane	14.31	14.25	10532.0E6	5064.9E6	53.942	53.092
11)	Endosulfan I	14.53	14.34	9496.8E6	4585.0E6	52.676	52.551
12)	4,4'-DDE	14.46	14.57	10580.6E6	4964.5E6	55.494	55.261
13)	Dieldrin	14.95	14.82	9832.5E6	5035.6E6	56.052	54.065
14)	Endrin	15.34	15.34	9466.2E6	4377.3E6	54.461	52.185
15)	4,4'-DDD	15.48	15.56	8394.3E6	4125.5E6	56.257	55.453
16)	Endosulfan II	15.72	15.71	8701.6E6	4278.1E6	52.872	52.376
17)	4,4'-DDT	15.94	16.08	8700.3E6	4089.7E6	54.358	53.498
18)	Endrin Aldehyde	16.38	16.25	6465.4E6	3281.3E6	52.162	49.247
19)	Endosulfan Sulfa	17.01	16.66	6905.2E6	3771.2E6	54.671	51.795
20)	Methoxychlor	16.69	17.06	3821.4E6	1811.5E6	51.460	47.284
21)	Endrin Ketone	17.39	17.37	7769.4E6	4200.8E6	54.160	53.620

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32114.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 19:05 (#1); 09 May 2012 19:33 (#2)
 Operator : ECL
 Sample : WG397539-03 PEST ICAL 20 PPB
 Misc : 1,1 STD49531
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: May 10 11:58:12 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Thu May 10 11:58:10 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

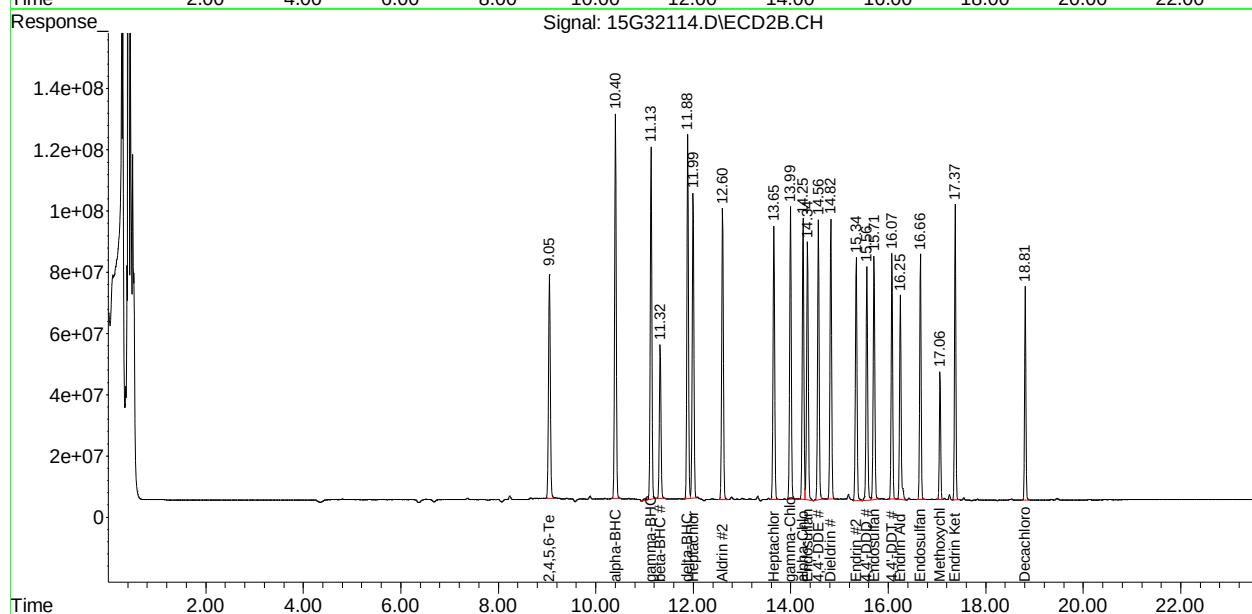
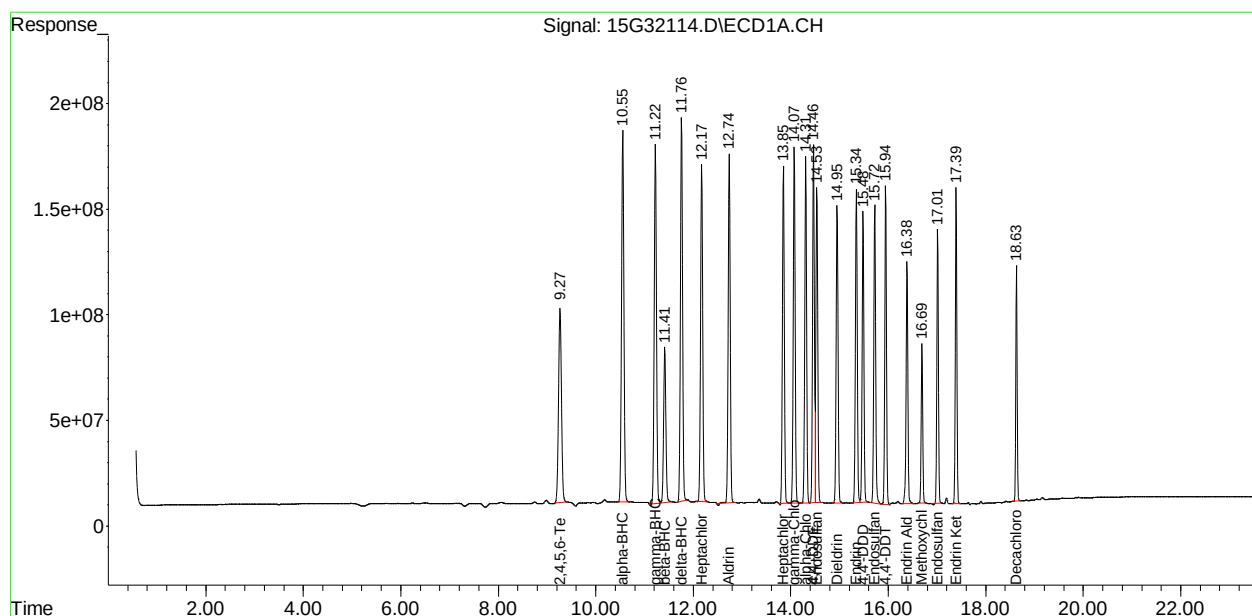
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.27	9.05	3831.6E6	1900.4E6	20.811	21.303
	Spiked Amount	20.000	Range	30 - 132	Recovery =	104.06%	106.52%
22)	S Decachlorobiphen	18.63	18.81	2106.7E6	1246.5E6	20.354	20.096
	Spiked Amount	20.000	Range	36 - 144	Recovery =	101.77%	100.48%
Target Compounds							
2)	alpha-BHC	10.55	10.40	5896.1E6	2872.5E6	21.352	22.113
3)	gamma-BHC	11.22	11.13	5419.0E6	2667.0E6	21.060	21.962
4)	beta-BHC	11.41	11.32	2328.3E6	1151.4E6	20.861	21.040
5)	delta-BHC	11.76	11.88	5426.3E6	2632.6E6	21.406	21.942
6)	Heptachlor	12.17	11.99	4846.1E6	2339.3E6	21.301	21.539
7)	Aldrin	12.74	12.60	4812.9E6	2237.2E6	21.505	21.706
8)	Heptachlor Epoxi	13.85	13.65	4280.1E6	2075.1E6	21.241	21.344
9)	gamma-Chlordane	14.07	13.99	4480.5E6	2174.2E6	20.572	21.881
10)	alpha-Chlordane	14.31	14.25	4261.2E6	2107.4E6	21.175	21.468
11)	Endosulfan I	14.53	14.34	3990.3E6	1981.8E6	21.489	22.050
12)	4,4'-DDE	14.46	14.57	4266.4E6	2061.1E6	21.690	22.215
13)	Dieldrin	14.95	14.82	3828.5E6	2101.5E6	21.205	21.896
14)	Endrin	15.34	15.34	3920.8E6	1864.0E6	21.882	21.641
15)	4,4'-DDD	15.48	15.56	3398.5E6	1728.7E6	22.025	22.440
16)	Endosulfan II	15.72	15.71	3691.3E6	1830.6E6	21.720	21.740
17)	4,4'-DDT	15.95	16.07	3549.7E6	1667.4E6	21.481	21.309
18)	Endrin Aldehyde	16.38	16.25	2805.0E6	1482.4E6	21.763	21.500
19)	Endosulfan Sulfa	17.01	16.66	2833.6E6	1607.0E6	21.613	21.405
20)	Methoxychlor	16.69	17.06	1619.3E6	769.3E6	21.191	19.767
21)	Endrin Ketone	17.39	17.37	3194.6E6	1778.2E6	21.551	21.959

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32114.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 19:05 (#1); 09 May 2012 19:33 (#2)
Operator : ECL
Sample : WG397539-03 PEST ICAL 20 PPB
Misc : 1,1 STD49531
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 10 11:58:12 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Thu May 10 11:58:10 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase :
Signal #2 Info :



8081.M Thu May 10 12:06:03 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32115.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 19:33 (#1); 09 May 2012 20:01 (#2)
 Operator : ECL
 Sample : WG397539-04 PEST ICAL 10 PPB
 Misc : 1,1 STD49531
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: May 10 11:58:36 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Thu May 10 11:58:34 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.26	9.05	1993.4E6	977.9E6	10.643	10.717
	Spiked Amount	20.000	Range	30 - 132	Recovery =	53.22%	53.59%
22)	S Decachlorobiphen	18.63	18.81	1144.4E6	673.3E6	10.746	10.591
	Spiked Amount	20.000	Range	36 - 144	Recovery =	53.73%	52.95%
Target Compounds							
2)	alpha-BHC	10.55	10.40	3001.0E6	1432.1E6	10.637	10.763
3)	gamma-BHC	11.22	11.13	2836.2E6	1359.7E6	10.792	10.938
4)	beta-BHC	11.41	11.32	1259.7E6	600.9E6	10.975	10.724
5)	delta-BHC	11.76	11.88	2770.4E6	1320.4E6	10.659	10.732
6)	Heptachlor	12.17	11.99	2519.9E6	1204.5E6	10.775	10.802
7)	Aldrin	12.74	12.60	2550.2E6	1138.7E6	11.082	10.747
8)	Heptachlor Epoxi	13.85	13.65	2241.1E6	1064.7E6	10.811	10.659
9)	gamma-Chlordane	14.07	13.99	2355.5E6	1106.9E6	10.512	10.818
10)	alpha-Chlordane	14.30	14.25	2219.3E6	1096.0E6	10.685	10.845
11)	Endosulfan I	14.53	14.34	2124.8E6	1043.2E6	11.077	11.269
12)	4,4'-DDE	14.46	14.57	2236.2E6	1045.6E6	10.994	10.906
13)	Dieldrin	14.95	14.82	1894.2E6	1067.2E6	10.178	10.803
14)	Endrin	15.34	15.34	2043.0E6	985.3E6	11.039	11.069
15)	4,4'-DDD	15.48	15.56	1746.2E6	889.7E6	10.940	11.121
16)	Endosulfan II	15.72	15.71	2100.0E6	952.2E6	11.828	10.948
17)	4,4'-DDT	15.94	16.07	1923.3E6	840.4E6	11.224	10.497
18)	Endrin Aldehyde	16.38	16.25	1575.4E6	751.4E6	11.619	10.621
19)	Endosulfan Sulfa	17.01	16.66	1491.2E6	837.1E6	10.936	10.810
20)	Methoxychlor	16.69	17.06	867.8E6	415.1E6	11.014	10.455
21)	Endrin Ketone	17.39	17.37	1688.8E6	919.1E6	11.000	10.972

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32116.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 20:01 (#1); 09 May 2012 20:30 (#2)
 Operator : ECL
 Sample : WG397539-05 PEST ICAL 4 PPB
 Misc : 1,1 STD49531
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: May 10 11:59:02 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Thu May 10 11:59:00 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.26	9.05	816.8E6	387.2E6	4.275	4.158
	Spiked Amount	20.000	Range	30 - 132	Recovery =	21.38%#	20.79%#
22)	S Decachlorobiphen	18.63	18.81	490.3E6	287.0E6	4.472	4.415
	Spiked Amount	20.000	Range	36 - 144	Recovery =	22.36%#	22.07%#
Target Compounds							
2)	alpha-BHC	10.55	10.40	1163.7E6	530.1E6	4.035	3.905
3)	gamma-BHC	11.22	11.13	1106.1E6	501.0E6	4.110	3.951
4)	beta-BHC	11.41	11.32	512.6E6	241.5E6	4.353	4.217
5)	delta-BHC	11.75	11.89	1082.1E6	496.2E6	4.060	3.947
6)	Heptachlor	12.17	12.00	1033.1E6	479.5E6	4.291	4.200
7)	Aldrin	12.73	12.60	1039.4E6	442.3E6	4.354	4.078
8)	Heptachlor Epoxi	13.84	13.65	928.2E6	435.5E6	4.347	4.247
9)	gamma-Chlordane	14.07	14.00	955.2E6	437.8E6	4.155	4.156
10)	alpha-Chlordane	14.30	14.25	923.8E6	435.7E6	4.300	4.191
11)	Endosulfan I	14.53	14.34	876.1E6	414.4E6	4.412	4.324
12)	4,4'-DDE	14.46	14.57	877.7E6	391.2E6	4.174	3.975
13)	Dieldrin	14.95	14.82	815.3E6	417.4E6	4.274	4.115
14)	Endrin	15.34	15.34	819.9E6	362.6E6	4.290	4.004
15)	4,4'-DDD	15.48	15.56	701.1E6	334.8E6	4.240	4.053
16)	Endosulfan II	15.72	15.71	825.5E6	378.0E6	4.457	4.227
17)	4,4'-DDT	15.94	16.08	765.1E6	317.8E6	4.288	3.906
18)	Endrin Aldehyde	16.38	16.25	621.5E6	322.2E6	4.414	4.419
19)	Endosulfan Sulfa	17.01	16.66	619.8E6	341.6E6	4.371	4.282
20)	Methoxychlor	16.69	17.06	364.4E6	170.2E6	4.478	4.231
21)	Endrin Ketone	17.39	17.37	694.0E6	369.0E6	4.358	4.266

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32117.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 20:30 (#1); 09 May 2012 20:58 (#2)
 Operator : ECL
 Sample : WG397539-06 PEST ICAL 1 PPB
 Misc : 1,1 STD49531
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: May 10 12:03:02 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Thu May 10 11:59:00 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

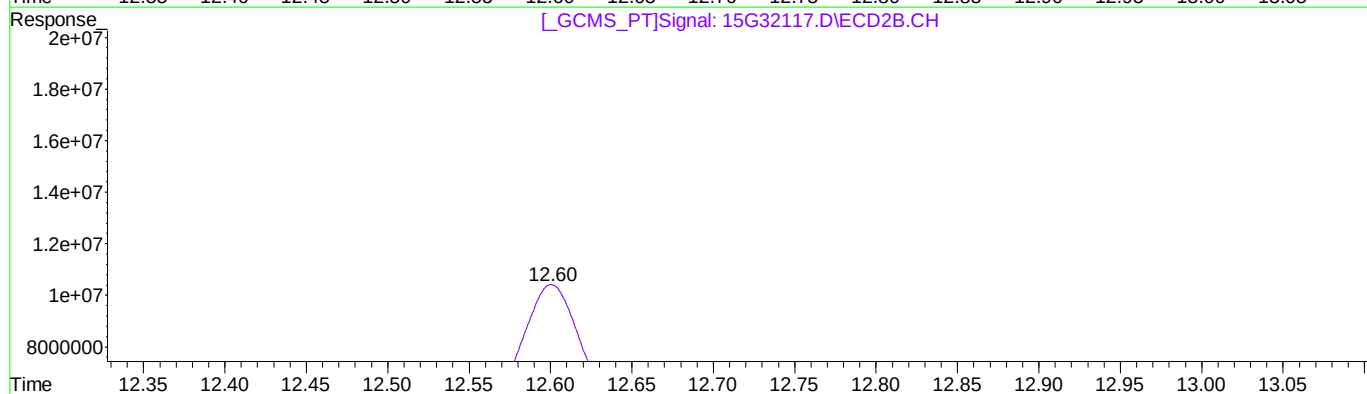
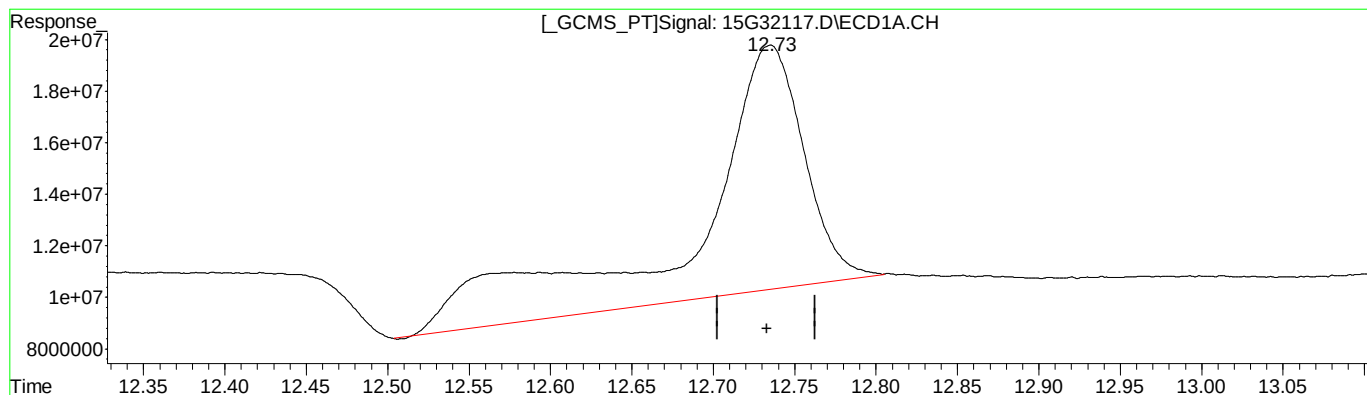
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.26	9.05	206.7E6	101.2E6	1.082	1.086
	Spiked Amount	20.000	Range	30 - 132	Recovery =	5.41%#	5.43%#
22)	S Decachlorobiphen	18.63	18.81	138.9E6	83569583	1.266	1.285
	Spiked Amount	20.000	Range	36 - 144	Recovery =	6.33%#	6.42%#
Target Compounds							
2)	alpha-BHC	10.55	10.40	292.7E6	130.2E6	1.015	0.959
3)	gamma-BHC	11.22	11.13	381.4E6	126.4E6	1.417	0.997 #
4)	beta-BHC	11.42	11.32	129.9E6	65017464	1.103	1.136
5)	delta-BHC	11.76	11.89	269.2E6	125.6E6	1.010	0.999
6)	Heptachlor	12.17	12.00	272.0E6	127.8E6	1.130	1.119
7)	Aldrin	12.73	12.60	263.1E6	116.6E6	1.102m	1.075
8)	Heptachlor Epoxi	13.85	13.65	216.9E6	124.4E6	1.016	1.214
9)	gamma-Chlordane	14.07	13.99	261.8E6	115.2E6	1.139	1.094
10)	alpha-Chlordane	14.30	14.25	277.0E6	125.1E6	1.289	1.203
11)	Endosulfan I	14.53	14.34	229.5E6	109.4E6	1.156m	1.141m
12)	4,4'-DDE	14.46	14.57	225.5E6	99941448	1.072m	1.016m
13)	Dieldrin	14.95	14.82	132.4E6	109.2E6	0.694	1.077 #
14)	Endrin	15.34	15.34	214.4E6	100.9E6	1.122	1.115
15)	4,4'-DDD	15.48	15.56	178.9E6	90288284	1.082	1.093
16)	Endosulfan II	15.72	15.71	213.4E6	103.0E6	1.152	1.152
17)	4,4'-DDT	15.94	16.08	228.7E6	82023324	1.282m	1.008
18)	Endrin Aldehyde	16.38	16.25	174.2E6	80270646	1.237	1.101m
19)	Endosulfan Sulfa	17.01	16.66	156.7E6	96626500	1.105	1.211
20)	Methoxychlor	16.69	17.06	97955549	49791304	1.204	1.238
21)	Endrin Ketone	17.39	17.37	186.9E6	100.5E6	1.174	1.161

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32117.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 20:30 (#1); 09 May 2012 20:58 (#2)
Operator : ECL
Sample : WG397539-06 PEST ICAL 1 PPB
Misc : 1,1 STD49531
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 10 11:59:21 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Thu May 10 11:59:00 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



QEdit

(7) Aldrin
12.74min 1.858UG/L
response 443562205

(7) Aldrin #2
12.60min 1.075UG/L
response 116643051

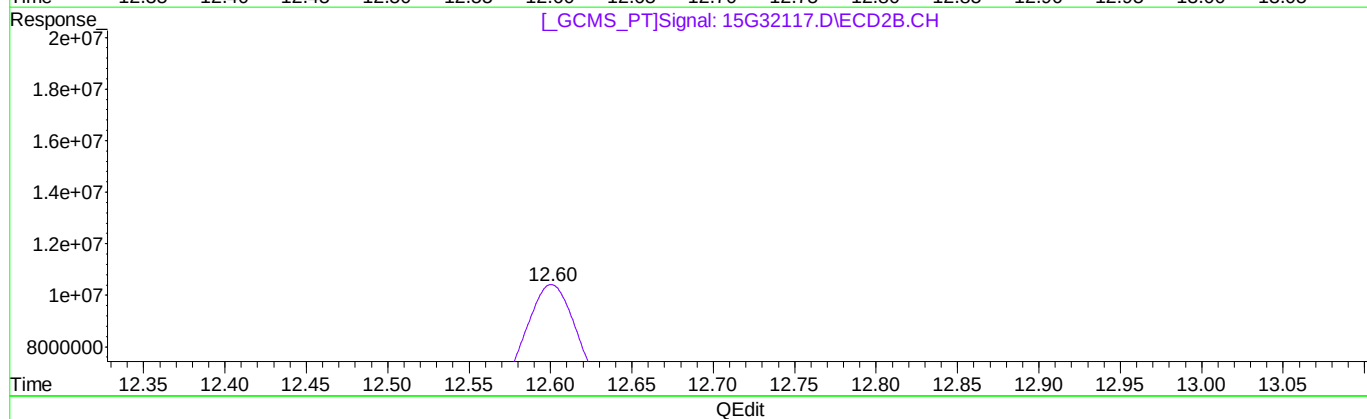
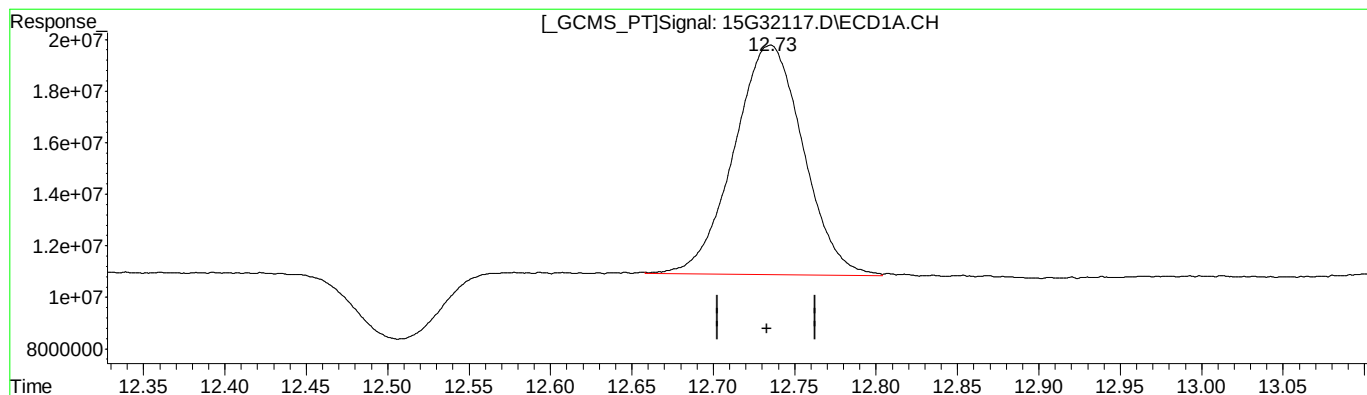
(+) = Expected Retention Time
8081.M Thu May 10 12:00:13 2012

Page: 1

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32117.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 20:30 (#1); 09 May 2012 20:58 (#2)
Operator : ECL
Sample : WG397539-06 PEST ICAL 1 PPB
Misc : 1,1 STD49531
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 10 11:59:21 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Thu May 10 11:59:00 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(7) Aldrin
12.73min 1.102UG/L mint
response 263135381

(7) Aldrin #2
12.60min 1.075UG/L
response 116643051

(+) = Expected Retention Time
8081.M Thu May 10 12:00:19 2012

Analyst: 05/10/2012 14:40

Supervisor: 05/11/2012 11:12

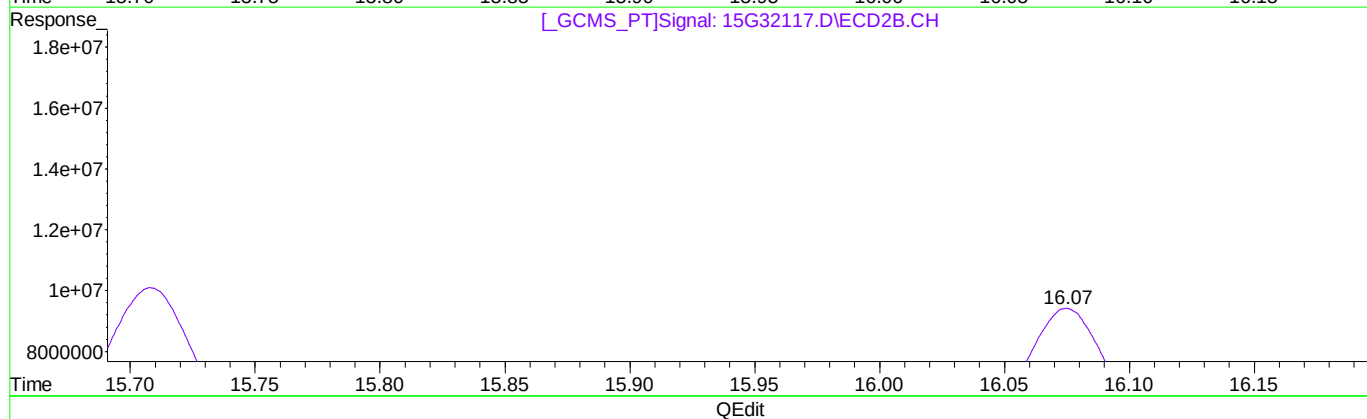
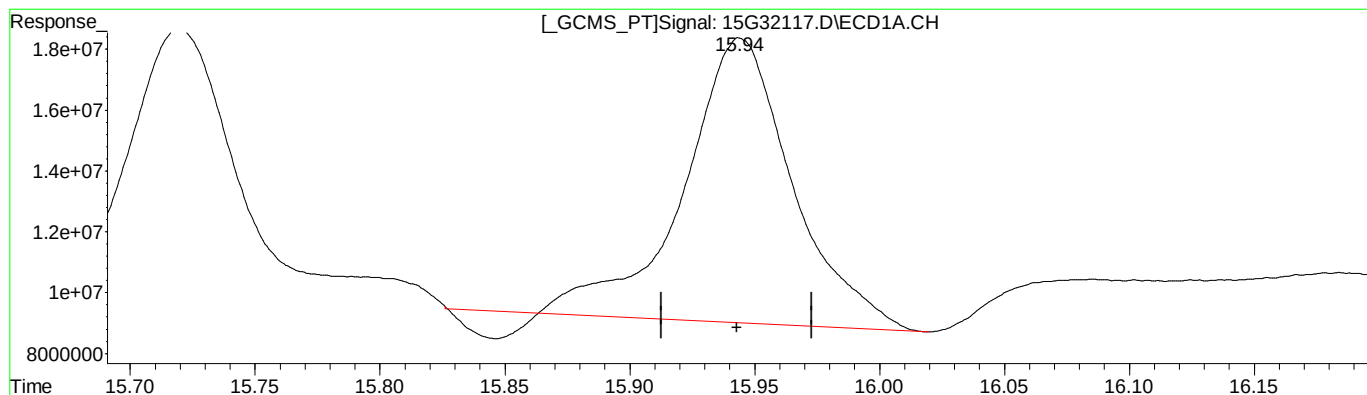
E. C. ...
M. ...
#4 - System establishes incorrect baseline

Page: 1

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32117.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 20:30 (#1); 09 May 2012 20:58 (#2)
Operator : ECL
Sample : WG397539-06 PEST ICAL 1 PPB
Misc : 1,1 STD49531
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 10 11:59:21 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Thu May 10 11:59:00 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(17) 4,4'-DDT
15.94min 1.563UG/L
response 278856378

(17) 4,4'-DDT #2
16.08min 1.008UG/L
response 82023324

(+) = Expected Retention Time
8081.M Thu May 10 12:01:17 2012

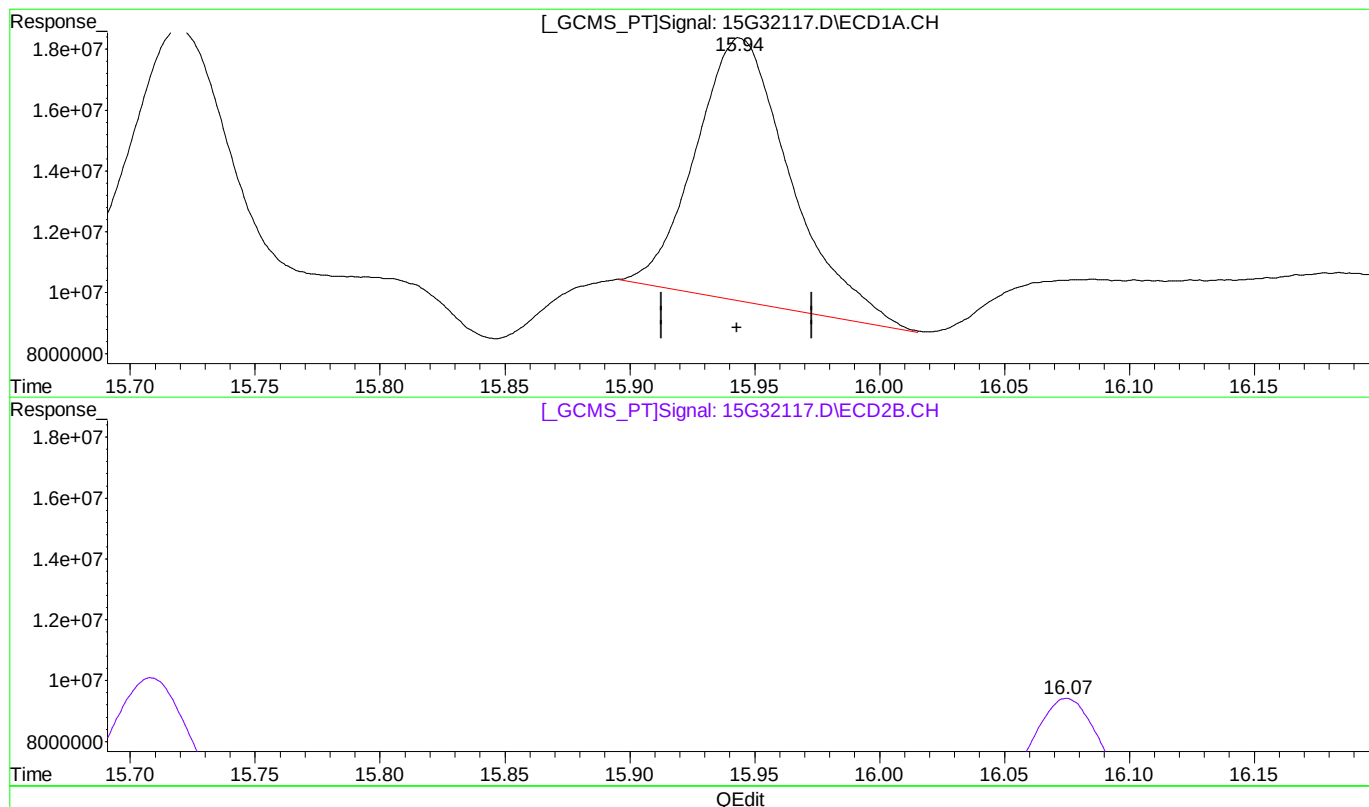
Page: 1

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32117.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 20:30 (#1); 09 May 2012 20:58 (#2)
 Operator : ECL
 Sample : WG397539-06 PEST ICAL 1 PPB
 Misc : 1,1 STD49531
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: May 10 11:59:21 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Thu May 10 11:59:00 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



(17) 4,4'-DDT
 15.94min 1.282UG/L mint
 response 228733514

(17) 4,4'-DDT #2
 16.08min 1.008UG/L
 response 82023324

(+) = Expected Retention Time
 8081.M Thu May 10 12:01:23 2012

Analyst: 05/10/2012 14:41

Supervisor: 05/11/2012 11:12

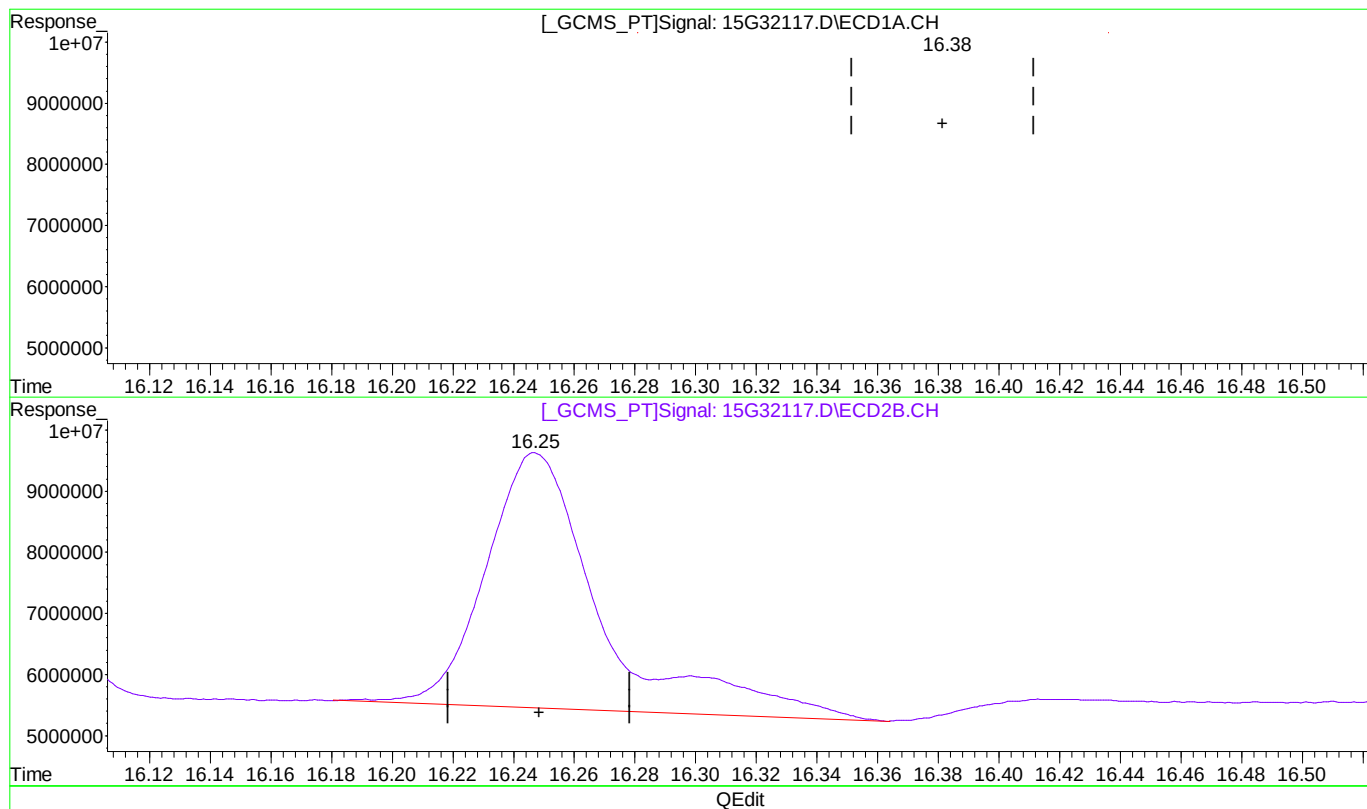
#4 - System establishes incorrect baseline

Page: 1

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32117.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 20:30 (#1); 09 May 2012 20:58 (#2)
Operator : ECL
Sample : WG397539-06 PEST ICAL 1 PPB
Misc : 1,1 STD49531
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 10 11:59:21 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Thu May 10 11:59:00 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(18) Endrin Aldehyde

16.38min 1.237UG/L

response 174173796

(18) Endrin Aldehyde #2

16.25min 1.505UG/L

response 109739284

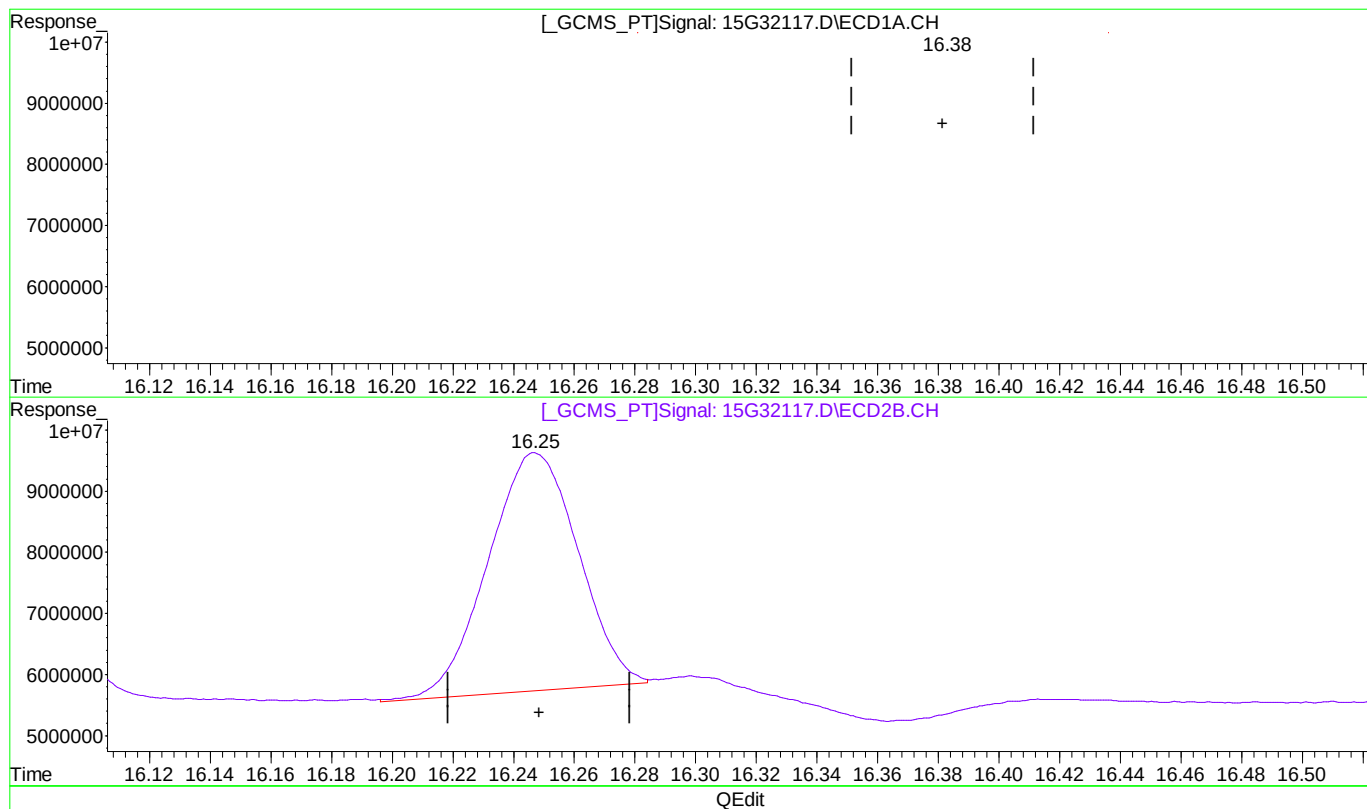
(+) = Expected Retention Time
8081.M Thu May 10 12:01:29 2012

Page: 1

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32117.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 20:30 (#1); 09 May 2012 20:58 (#2)
Operator : ECL
Sample : WG397539-06 PEST ICAL 1 PPB
Misc : 1,1 STD49531
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 10 11:59:21 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Thu May 10 11:59:00 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(18) Endrin Aldehyde

16.38min 1.237UG/L

response 174173796

(18) Endrin Aldehyde #2

16.25min 1.101UG/L mint

response 80270646

(+) = Expected Retention Time
8081.M Thu May 10 12:01:35 2012

Analyst: 05/10/2012 14:41

Supervisor: 05/11/2012 11:12

E. C. Funn

Michael Carls

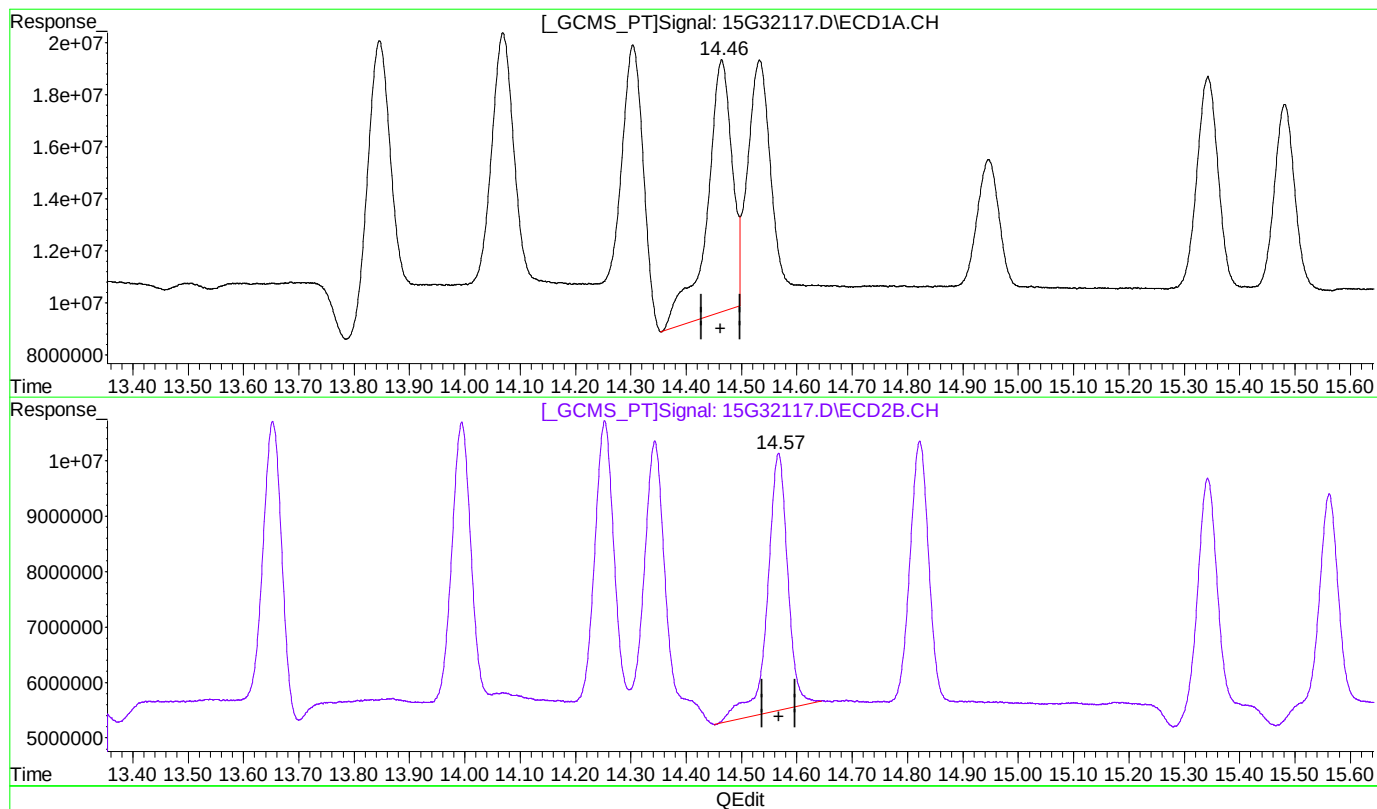
#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Page: 1

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32117.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 20:30 (#1); 09 May 2012 20:58 (#2)
Operator : ECL
Sample : WG397539-06 PEST ICAL 1 PPB
Misc : 1,1 STD49531
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 10 12:01:32 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Thu May 10 11:59:00 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(12) 4,4'-DDE
14.46min 1.461UG/L
response 307180184

(12) 4,4'-DDE #2
14.57min 1.208UG/L
response 118902528

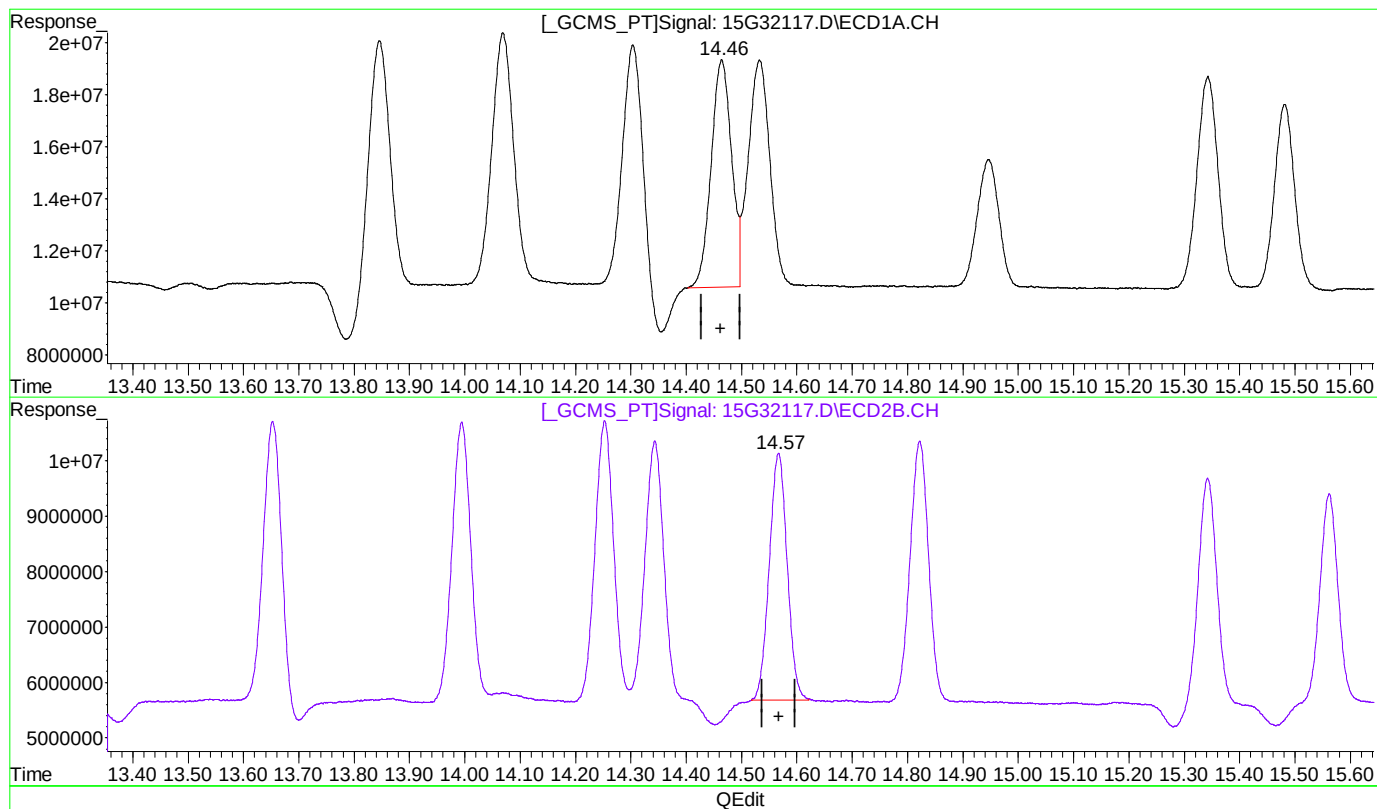
(+) = Expected Retention Time
8081.M Thu May 10 12:02:53 2012

Page: 1

Data Path : C:\MSDCHEM\1\DATA\050912\
Data File : 15G32117.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 May 2012 20:30 (#1); 09 May 2012 20:58 (#2)
Operator : ECL
Sample : WG397539-06 PEST ICAL 1 PPB
Misc : 1,1 STD49531
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 10 12:01:32 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Thu May 10 11:59:00 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(12) 4,4'-DDE
14.46min 1.072UG/L mint
response 225529578

(12) 4,4'-DDE #2
14.57min 1.016UG/L mint
response 99941448

(+) = Expected Retention Time
8081.M Thu May 10 12:03:05 2012

Analyst: 05/10/2012 14:41

Supervisor: 05/11/2012 11:12

E. C. P.

Michael C. P.

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Page: 1

Data Path : C:\MSDCHEM\1\DATA\050912\
 Data File : 15G32118.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 09 May 2012 20:58 (#1); 09 May 2012 21:27 (#2)
 Operator : ECL
 Sample : WG397539-07 PEST ALT 20 PPB
 Misc : 1,1 STD49533
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: May 10 12:06:15 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Thu May 10 12:05:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.26	9.05	3684.2E6	1777.2E6	18.770	18.676
	Spiked Amount	20.000	Range	30 - 132	Recovery =	93.85%	93.38%
22)	S Decachlorobiphen	18.63	18.81	2048.4E6	1174.1E6	19.790	19.404
	Spiked Amount	20.000	Range	36 - 144	Recovery =	98.95%	97.02%
Target Compounds							
2)	alpha-BHC	10.55	10.40	5649.4E6	2670.2E6	19.083	19.263
3)	gamma-BHC	11.22	11.14	5153.4E6	2449.0E6	18.803	18.935
4)	beta-BHC	11.41	11.32	2204.9E6	1071.7E6	18.266	18.310
5)	delta-BHC	11.75	11.89	5425.8E6	2480.5E6	19.843	19.240
6)	Heptachlor	12.16	12.00	4703.6E6	2203.1E6	19.007	18.823
7)	Aldrin	12.73	12.60	4573.3E6	2100.8E6	18.544	18.883
8)	Heptachlor Epoxi	13.84	13.65	4183.4E6	1957.9E6	19.481	18.469
9)	gamma-Chlordane	14.07	13.99	4343.4E6	2035.8E6	18.599	18.690
10)	alpha-Chlordane	14.30	14.25	4163.2E6	1984.2E6	19.532	18.298
11)	Endosulfan I	14.53	14.34	3880.9E6	1851.8E6	18.927	18.657
12)	4,4'-DDE	14.46	14.57	4113.4E6	1909.2E6	18.972	18.971
13)	Dieldrin	14.95	14.82	3956.6E6	1925.8E6	20.499	18.511
14)	Endrin	15.34	15.34	3432.2E6	1573.8E6	17.302	16.889
15)	4,4'-DDD	15.48	15.56	3240.1E6	1593.1E6	18.854	18.615
16)	Endosulfan II	15.72	15.71	3458.9E6	1692.9E6	19.310	18.389
17)	4,4'-DDT	15.94	16.08	3390.5E6	1553.0E6	19.147	18.816
18)	Endrin Aldehyde	16.38	16.25	2740.1E6	1381.6E6	20.532	18.866
19)	Endosulfan Sulfa	17.01	16.66	2730.2E6	1492.5E6	18.722	19.302
20)	Methoxychlor	16.69	17.06	1567.9E6	729.0E6	20.118	19.312
21)	Endrin Ketone	17.39	17.37	3400.4E6	1826.0E6	20.493	20.361

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32776.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 9:47 am (#1); 19 Jun 2012 10:15 am (#2)
 Operator : ECL
 Sample : WG401035-02 PEST CCV 20 PPB
 Misc : 1,1 STD52040
 ALS Vial : 2 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 19 11:16:52 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Tue Jun 19 10:57:33 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

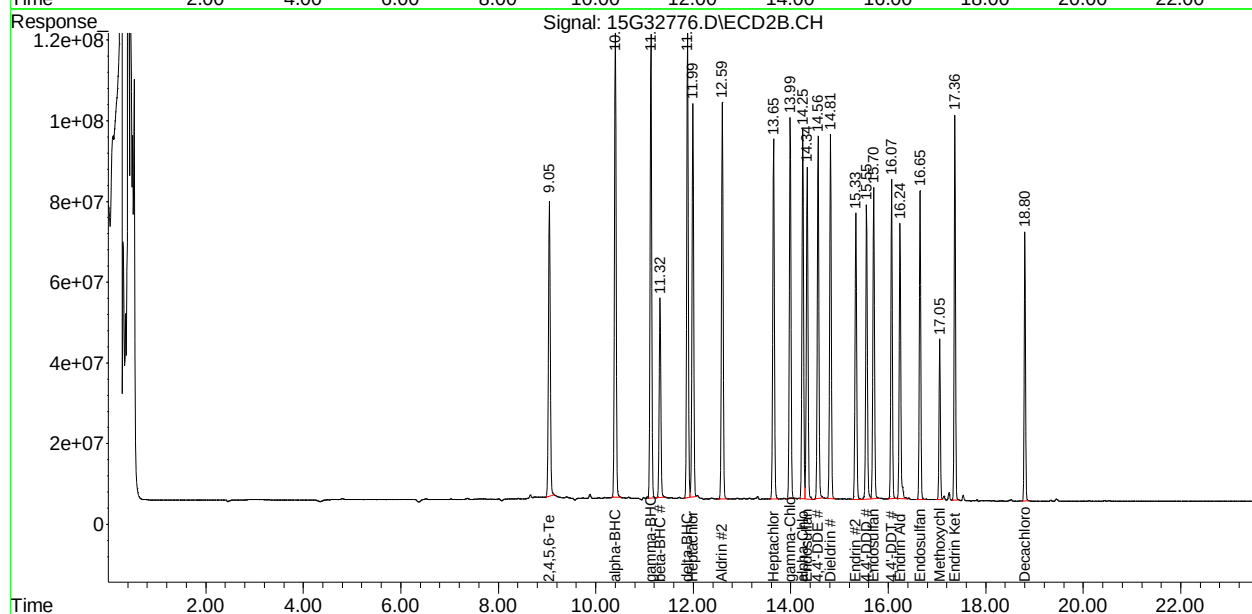
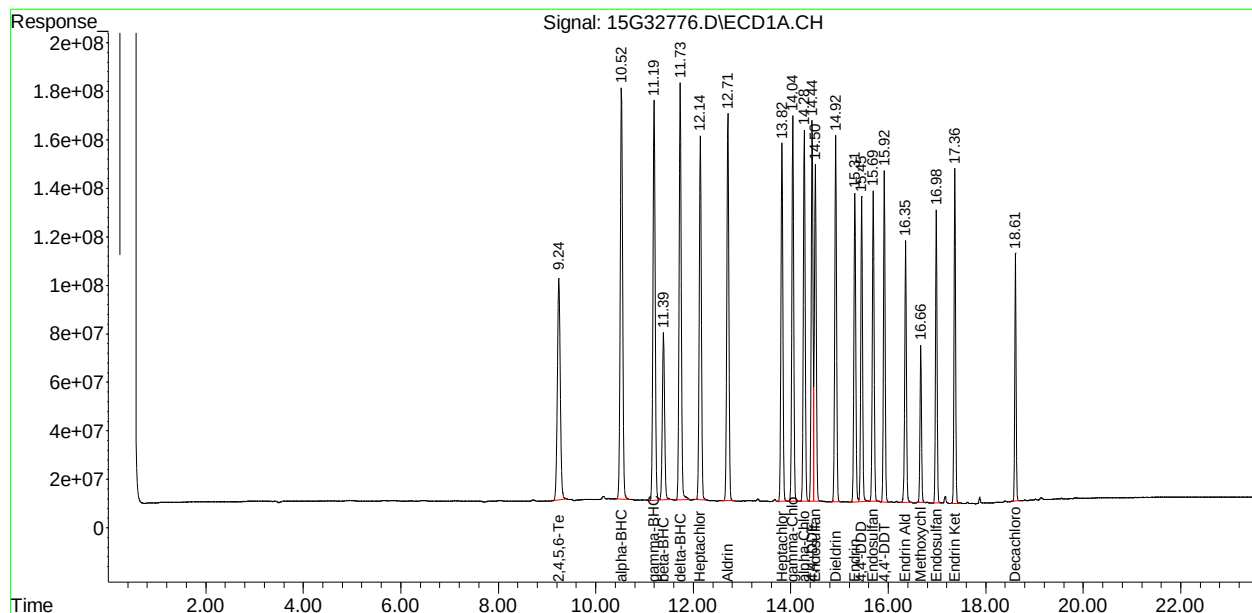
System Monitoring Compounds						
1) S 2,4,5,6-Tetrachl	9.24	9.05	3777.5E6	1905.7E6	19.245	20.026
Spiked Amount	20.000	Range	30 - 132	Recovery =	96.23%	100.13%
22) S Decachlorobiphen	18.61	18.80	1913.6E6	1199.1E6	18.412	19.838
Spiked Amount	20.000	Range	36 - 144	Recovery =	92.06%	99.19%
Target Compounds						
2) alpha-BHC	10.53	10.40	5701.7E6	2848.8E6	19.260	20.551
3) gamma-BHC	11.19	11.13	5193.2E6	2616.3E6	18.951	20.228
4) beta-BHC	11.39	11.32	2205.8E6	1140.9E6	18.273	19.491
5) delta-BHC	11.73	11.88	5227.2E6	2597.3E6	19.116	20.146
6) Heptachlor	12.14	11.99	4528.8E6	2302.1E6	18.301	19.668
7) Aldrin	12.71	12.60	4622.0E6	2294.0E6	18.742	20.619
8) Heptachlor Epoxi	13.82	13.65	4029.6E6	2073.9E6	18.765	19.563
9) gamma-Chlordane	14.04	13.99	4222.8E6	2164.1E6	18.082	19.868
10) alpha-Chlordane	14.28	14.25	4058.5E6	2091.9E6	19.027	19.292
11) Endosulfan I	14.50	14.34	3721.7E6	1936.8E6	18.151	19.514
12) 4,4'-DDE	14.44	14.56	3977.0E6	2008.0E6	18.342	19.953
13) Dieldrin	14.92	14.81	3904.5E6	2049.5E6	20.228	19.701
14) Endrin	15.31	15.33	3364.7E6	1645.8E6	16.962	17.662
15) 4,4'-DDD	15.45	15.55	3110.6E6	1664.2E6	18.100	19.446
16) Endosulfan II	15.69	15.70	3295.1E6	1782.3E6	18.313	19.361
17) 4,4'-DDT	15.92	16.07	3158.2E6	1646.6E6	17.781	19.951
18) Endrin Aldehyde	16.35	16.24	2610.2E6	1500.9E6	19.468	20.495
19) Endosulfan Sulfa	16.98	16.65	2619.1E6	1528.7E6	17.960	19.797
20) Methoxychlor	16.67	17.05	1394.5E6	747.1E6	17.722	19.813
21) Endrin Ketone	17.36	17.36	2980.3E6	1773.8E6	17.961	19.779

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32776.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 9:47 am (#1); 19 Jun 2012 10:15 am (#2)
Operator : ECL
Sample : WG401035-02 PEST CCV 20 PPB
Misc : 1,1 STD52040
ALS Vial : 2 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 19 11:16:52 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Tue Jun 19 10:57:33 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase :
Signal #2 Info :



8081.M Tue Jun 19 11:17:00 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32777.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 11:17 am (#1); 19 Jun 2012 11:46 am (#2)
 Operator : ECL
 Sample : WG401036-01 TOX CCV 500 PPB
 Misc : 1,1 STD50069
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: .E
 Integration File signal 2: EVENTS.E
 Quant Time: Jun 19 14:06:36 2012
 Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
 Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
 QLast Update : Mon May 14 08:48:01 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

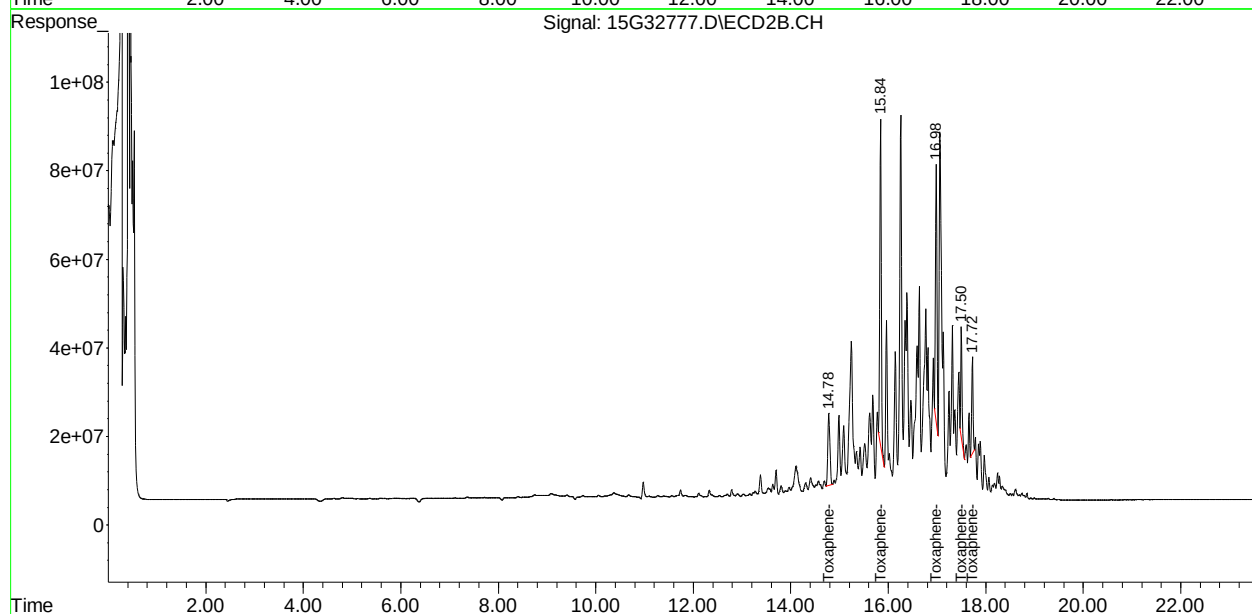
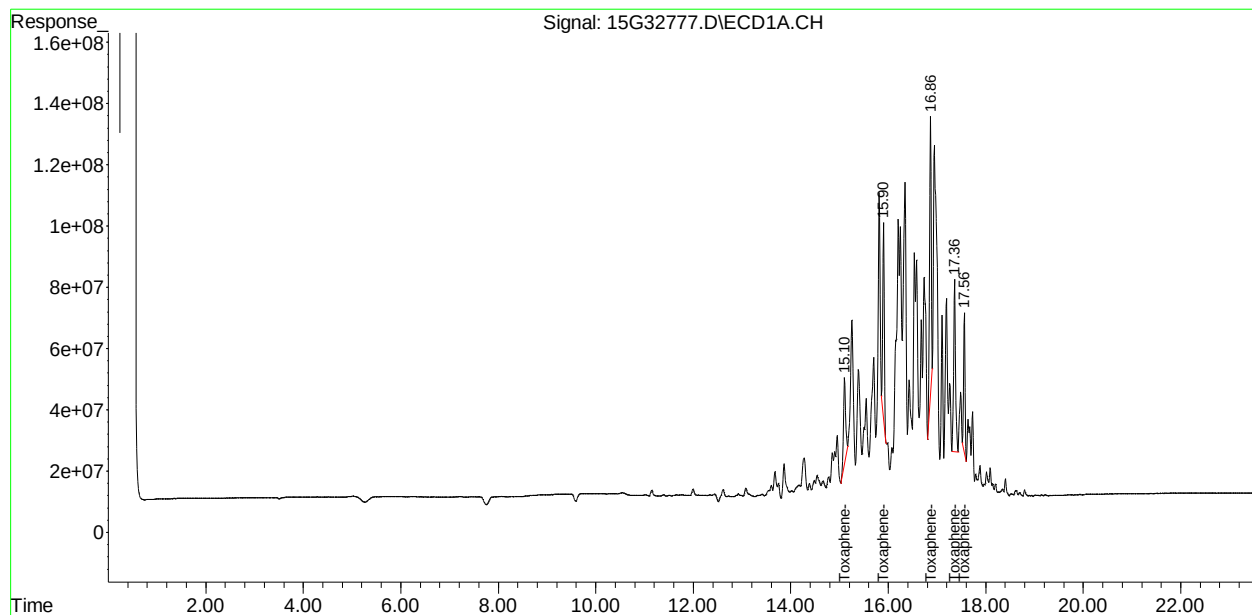
Target Compounds						
1) L1 Toxaphene-1	15.10	14.78	824.2E6	497.2E6	467.106	488.611
2) L1 Toxaphene-2	15.90	15.84	1358.6E6	1600.7E6	462.493	503.671
3) L1 Toxaphene-3	16.86	16.98	2207.8E6	1271.0E6	454.336	507.888
4) L1 Toxaphene-4	17.36	17.50	1519.8E6	447.3E6	459.873	499.340
5) L1 Toxaphene-5	17.56	17.73	921.8E6	425.6E6	459.162	505.849
Sum Toxaphene-1			6832.1E6	4241.7E6	2302.970	2505.359
Average Toxaphene-1					460.594	501.072

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32777.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 11:17 am (#1); 19 Jun 2012 11:46 am (#2)
Operator : ECL
Sample : WG401036-01 TOX CCV 500 PPB
Misc : 1,1 STD50069
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: .E
Integration File signal 2: EVENTS.E
Quant Time: Jun 19 14:06:36 2012
Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
Qlast Update : Mon May 14 08:48:01 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TOX.M Tue Jun 19 14:06:48 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32788.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 4:31 pm (#1); 19 Jun 2012 4:59 pm (#2)
 Operator : ECL
 Sample : WG401035-03 PEST CCV 10 PPB
 Misc : 1,1 STD52040
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:26:29 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Fri May 18 14:52:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

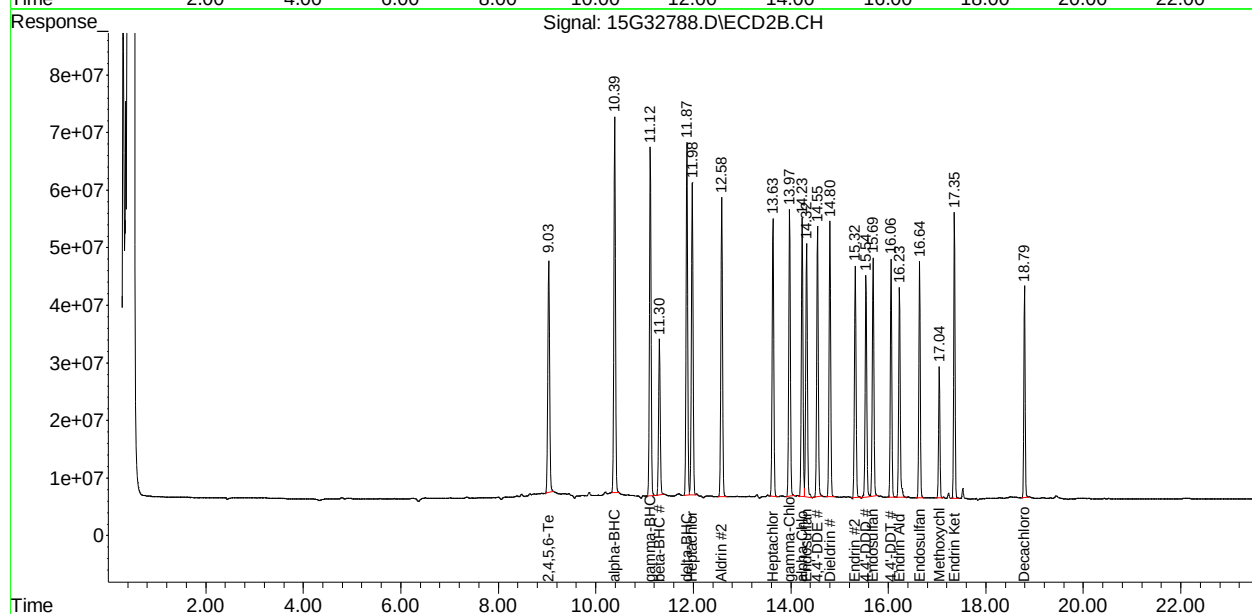
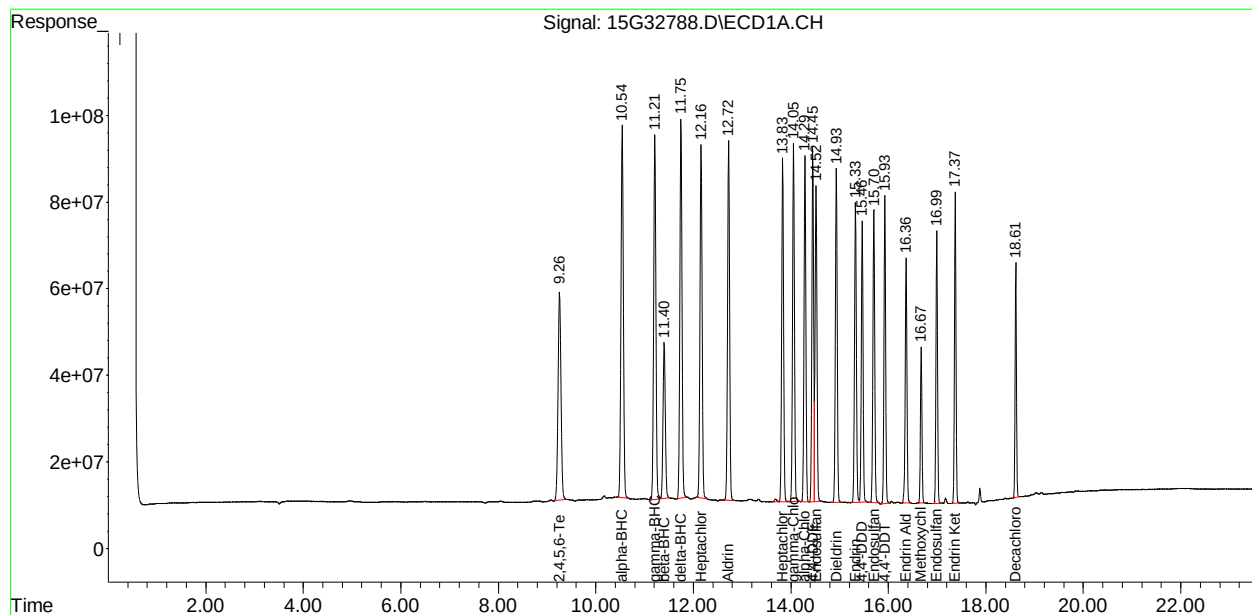
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.26	9.03	1995.9E6	1038.7E6	10.169	10.915
	Spiked Amount	20.000	Range	30 -	132 Recovery =	50.85%	54.57%
22)	S Decachlorobiphen	18.61	18.79	1022.3E6	668.4E6	9.294	10.617
	Spiked Amount	20.000	Range	36 -	144 Recovery =	46.47%	53.09%
Target Compounds							
2)	alpha-BHC	10.54	10.39	2907.7E6	1489.0E6	9.822	10.741
3)	gamma-BHC	11.21	11.12	2688.8E6	1380.0E6	9.664	10.669
4)	beta-BHC	11.40	11.30	1171.8E6	620.5E6	9.708	10.601
5)	delta-BHC	11.75	11.87	2642.3E6	1363.0E6	9.663	10.572
6)	Heptachlor	12.16	11.98	2492.7E6	1286.4E6	10.073	10.991
7)	Aldrin	12.72	12.58	2398.7E6	1212.3E6	9.726	10.896
8)	Heptachlor Epoxi	13.83	13.63	2153.5E6	1112.7E6	10.028	10.496
9)	gamma-Chlordane	14.06	13.97	2192.6E6	1138.0E6	9.389	10.448
10)	alpha-Chlordane	14.29	14.23	2096.0E6	1113.1E6	9.573	10.265
11)	Endosulfan I	14.52	14.32	1958.3E6	1049.1E6	9.551	10.570
12)	4,4'-DDE	14.45	14.55	2039.6E6	1044.0E6	9.407	10.374
13)	Dieldrin	14.93	14.80	2025.0E6	1081.6E6	10.466	10.397
14)	Endrin	15.33	15.32	1822.9E6	933.2E6	9.189	10.015
15)	4,4'-DDD	15.46	15.54	1602.1E6	865.8E6	9.322	10.116
16)	Endosulfan II	15.70	15.69	1743.1E6	951.3E6	8.864	10.333
17)	4,4'-DDT	15.93	16.06	1650.5E6	862.1E6	8.916	10.446
18)	Endrin Aldehyde	16.36	16.23	1380.0E6	809.5E6	9.388	11.054
19)	Endosulfan Sulfa	16.99	16.64	1377.2E6	825.4E6	9.444	10.167
20)	Methoxychlor	16.67	17.04	775.5E6	425.1E6	9.161	10.931
21)	Endrin Ketone	17.37	17.36	1535.8E6	912.8E6	9.256	10.178

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32788.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 4:31 pm (#1); 19 Jun 2012 4:59 pm (#2)
Operator : ECL
Sample : WG401035-03 PEST CCV 10 PPB
Misc : 1,1 STD52040
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:26:29 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Fri May 18 14:52:31 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase :
Signal #2 Info :



8081.M Wed Jun 20 08:26:46 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32789.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 4:59 pm (#1); 19 Jun 2012 5:27 pm (#2)
 Operator : ECL
 Sample : WG401036-02 TOX CCV 200 PPB
 Misc : 1,1 STD50069
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: .E
 Integration File signal 2: EVENTS.E
 Quant Time: Jun 20 08:26:55 2012
 Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
 Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
 QLast Update : Mon May 14 08:48:01 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

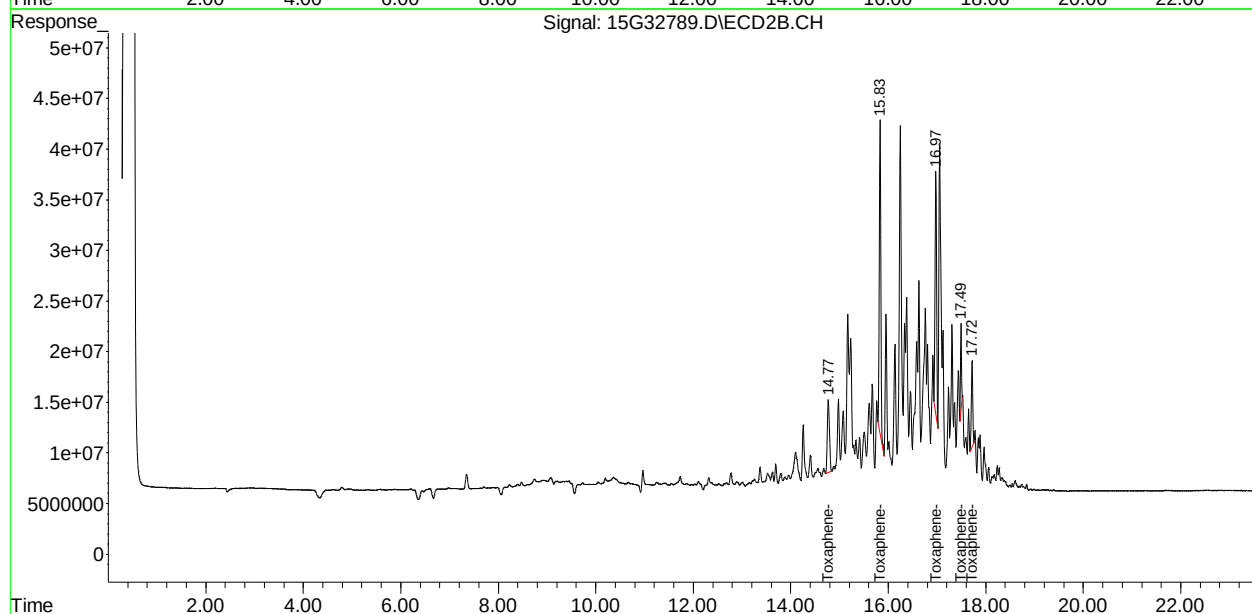
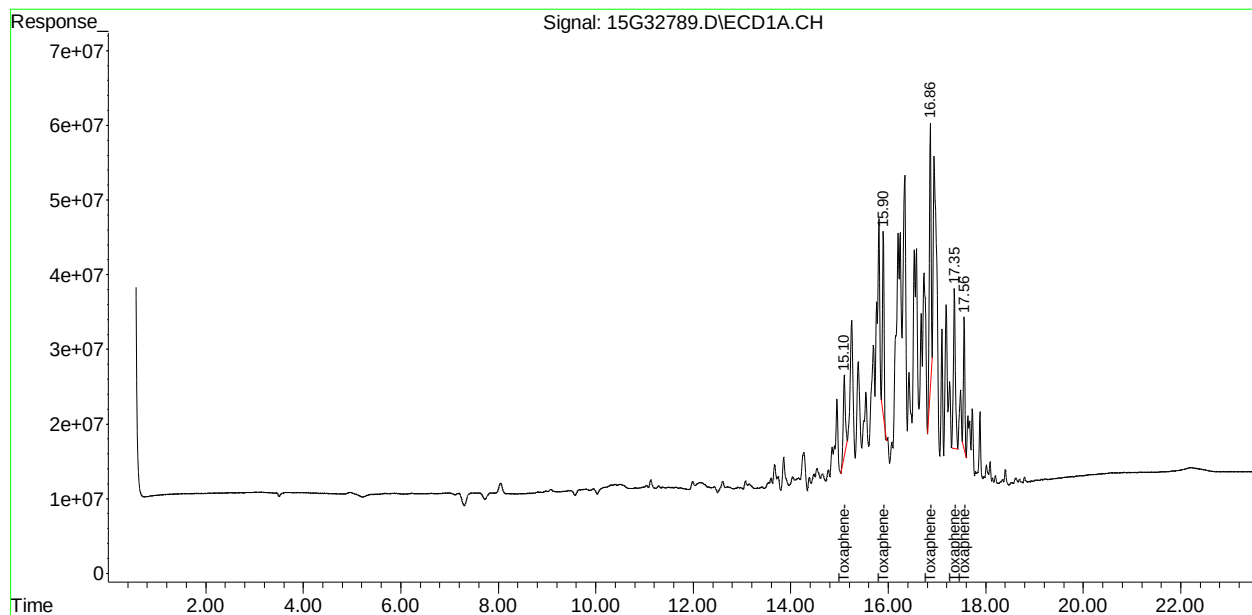
Target Compounds						
1) L1 Toxaphene-1	15.10	14.77	319.3E6	222.3E6	180.990	218.509
2) L1 Toxaphene-2	15.90	15.83	544.9E6	676.9E6	185.482	213.005
3) L1 Toxaphene-3	16.86	16.97	859.1E6	530.3E6	176.799	211.904
4) L1 Toxaphene-4	17.36	17.49	605.1E6	116.2E6	183.110	129.785 #
5) L1 Toxaphene-5	17.56	17.72	361.6E6	168.8E6	180.138	200.627
Sum Toxaphene-1			2690.1E6	1714.6E6	906.519	973.830
Average Toxaphene-1					181.304	194.766

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32789.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 4:59 pm (#1); 19 Jun 2012 5:27 pm (#2)
Operator : ECL
Sample : WG401036-02 TOX CCV 200 PPB
Misc : 1,1 STD50069
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: .E
Integration File signal 2: EVENTS.E
Quant Time: Jun 20 08:26:55 2012
Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
QLast Update : Mon May 14 08:48:01 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TOX.M Wed Jun 20 08:27:21 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32800.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 10:11 pm (#1); 19 Jun 2012 10:40 pm (#2)
 Operator : ECL
 Sample : WG401035-04 PEST CCV 20 PPB
 Misc : 1,1 STD52040
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:27:40 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Fri May 18 14:52:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.25	9.04	3856.9E6	1843.9E6	19.650	19.377
	Spiked Amount	20.000	Range	30 - 132	Recovery =	98.25%	96.89%
22)	S Decachlorobiphen	18.61	18.80	1909.1E6	1134.8E6	18.366	18.721
	Spiked Amount	20.000	Range	36 - 144	Recovery =	91.83%	93.61%
Target Compounds							
2)	alpha-BHC	10.53	10.39	5788.4E6	2774.9E6	19.553	20.018
3)	gamma-BHC	11.20	11.12	5359.8E6	2542.4E6	19.568	19.657
4)	beta-BHC	11.39	11.31	2279.7E6	1107.3E6	18.886	18.919
5)	delta-BHC	11.74	11.88	5255.8E6	2511.7E6	19.221	19.482
6)	Heptachlor	12.15	11.99	4789.8E6	2287.8E6	19.355	19.546
7)	Aldrin	12.71	12.59	4721.5E6	2197.5E6	19.145	19.752
8)	Heptachlor Epoxi	13.82	13.64	3988.8E6	1963.9E6	18.575	18.525
9)	gamma-Chlordane	14.05	13.98	4266.0E6	2075.5E6	18.267	19.055
10)	alpha-Chlordane	14.28	14.24	4041.3E6	2008.4E6	18.944	18.522
11)	Endosulfan I	14.51	14.33	3753.1E6	1878.7E6	18.304	18.929
12)	4,4'-DDE	14.44	14.55	4056.5E6	1940.8E6	18.709	19.285
13)	Dieldrin	14.92	14.81	3520.8E6	1975.0E6	18.235	18.985
14)	Endrin	15.32	15.33	3517.5E6	1627.8E6	17.732	17.469
15)	4,4'-DDD	15.46	15.55	3172.1E6	1618.4E6	18.458	18.910
16)	Endosulfan II	15.70	15.69	3411.6E6	1706.4E6	19.023	18.536
17)	4,4'-DDT	15.92	16.06	3331.2E6	1588.9E6	18.798	19.252
18)	Endrin Aldehyde	16.36	16.23	2676.4E6	1452.5E6	20.010	19.834
19)	Endosulfan Sulfa	16.99	16.65	2632.2E6	1466.1E6	18.049	18.940
20)	Methoxychlor	16.67	17.05	1463.9E6	725.6E6	18.680	19.220
21)	Endrin Ketone	17.37	17.36	2977.5E6	1668.3E6	17.944	18.603

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32801.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 10:40 pm (#1); 19 Jun 2012 11:08 pm (#2)
 Operator : ECL
 Sample : WG401036-03 TOX CCV 500 PPB
 Misc : 1,1 STD50069
 ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: .E
 Integration File signal 2: EVENTS.E
 Quant Time: Jun 20 08:28:42 2012
 Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
 Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
 QLast Update : Mon May 14 08:48:01 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

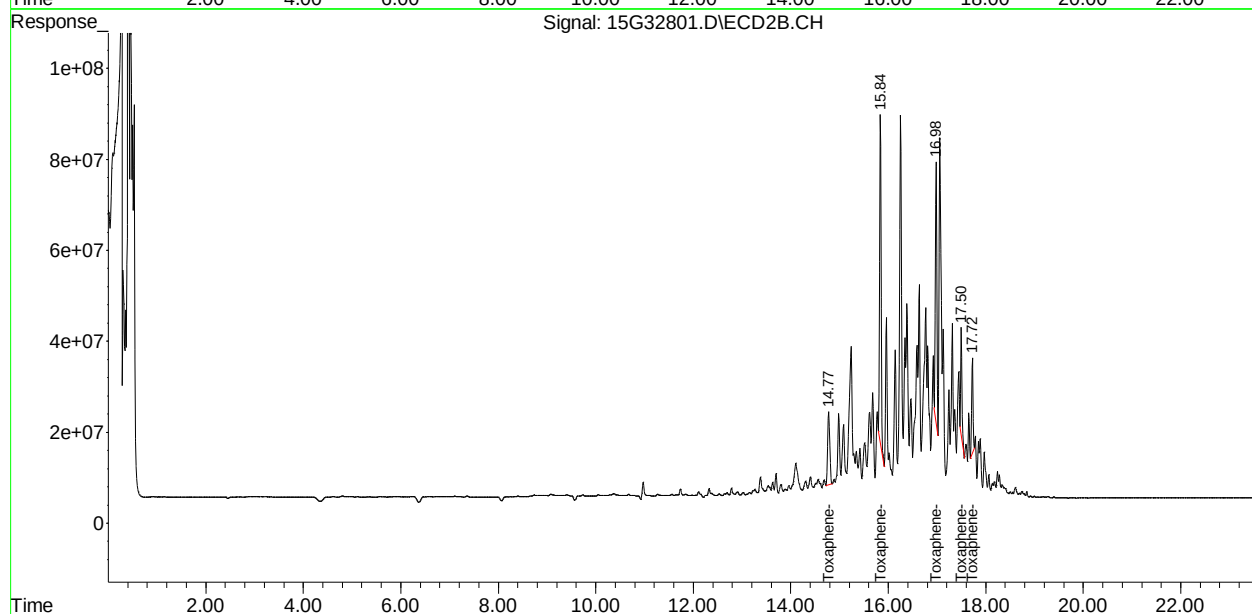
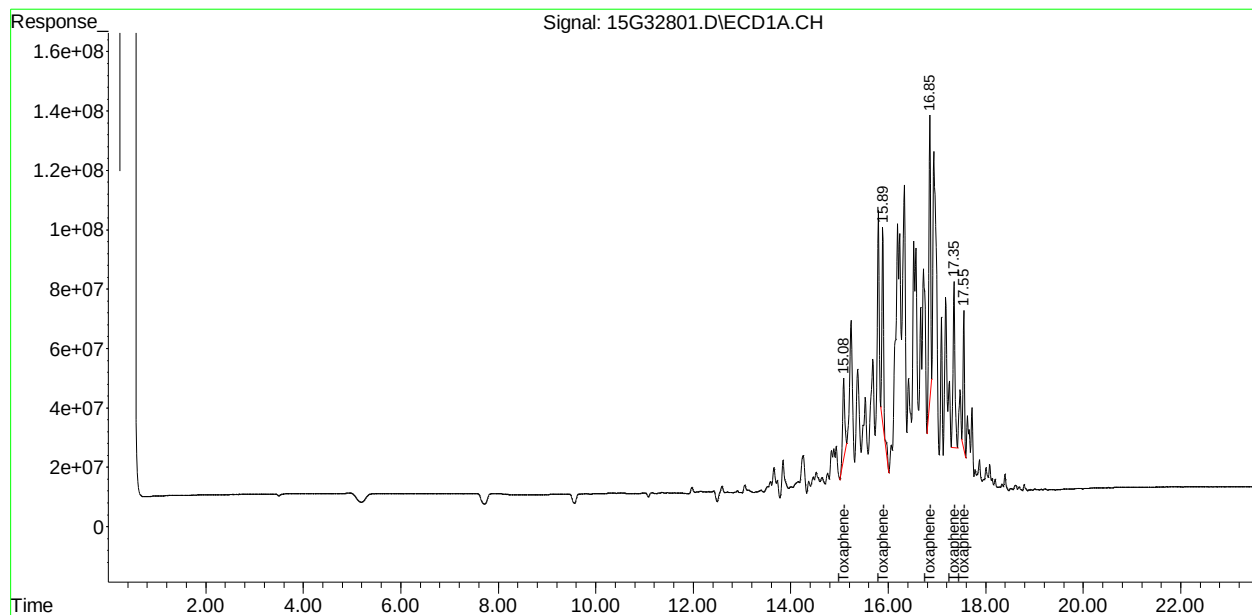
Target Compounds						
1) L1 Toxaphene-1	15.08	14.77	826.0E6	493.8E6	468.114	485.331
2) L1 Toxaphene-2	15.89	15.84	1607.0E6	1574.7E6	547.056	495.514
3) L1 Toxaphene-3	16.85	16.98	2405.1E6	1247.1E6	494.931	498.300
4) L1 Toxaphene-4	17.35	17.50	1519.8E6	429.5E6	459.882	479.547
5) L1 Toxaphene-5	17.55	17.72	938.7E6	404.6E6	467.604	480.903
Sum Toxaphene-1			7296.5E6	4149.8E6	2437.588	2439.595
Average Toxaphene-1					487.518	487.919

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32801.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 10:40 pm (#1); 19 Jun 2012 11:08 pm (#2)
Operator : ECL
Sample : WG401036-03 TOX CCV 500 PPB
Misc : 1,1 STD50069
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: .E
Integration File signal 2: EVENTS.E
Quant Time: Jun 20 08:28:42 2012
Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
QLast Update : Mon May 14 08:48:01 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TOX.M Wed Jun 20 08:28:48 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32806.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Jun 2012 1:01 am (#1); 20 Jun 2012 1:30 am (#2)
 Operator : ECL
 Sample : WG401035-06 PEST CCV 10 PPB
 Misc : 1,1 STD52040
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:51:27 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Fri May 18 14:52:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

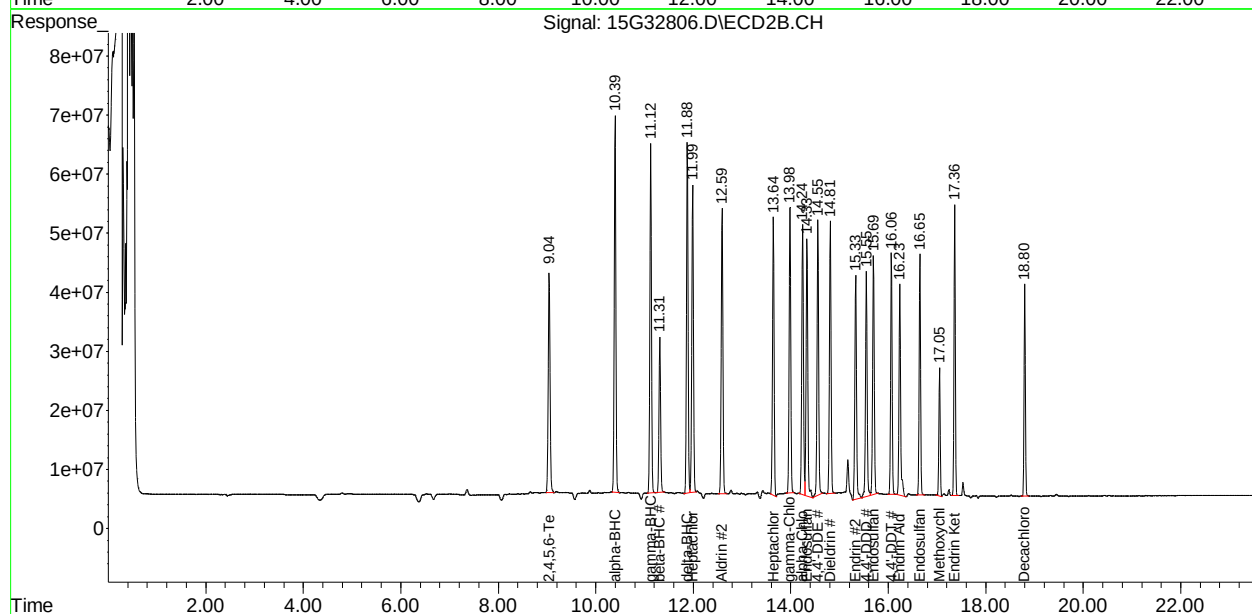
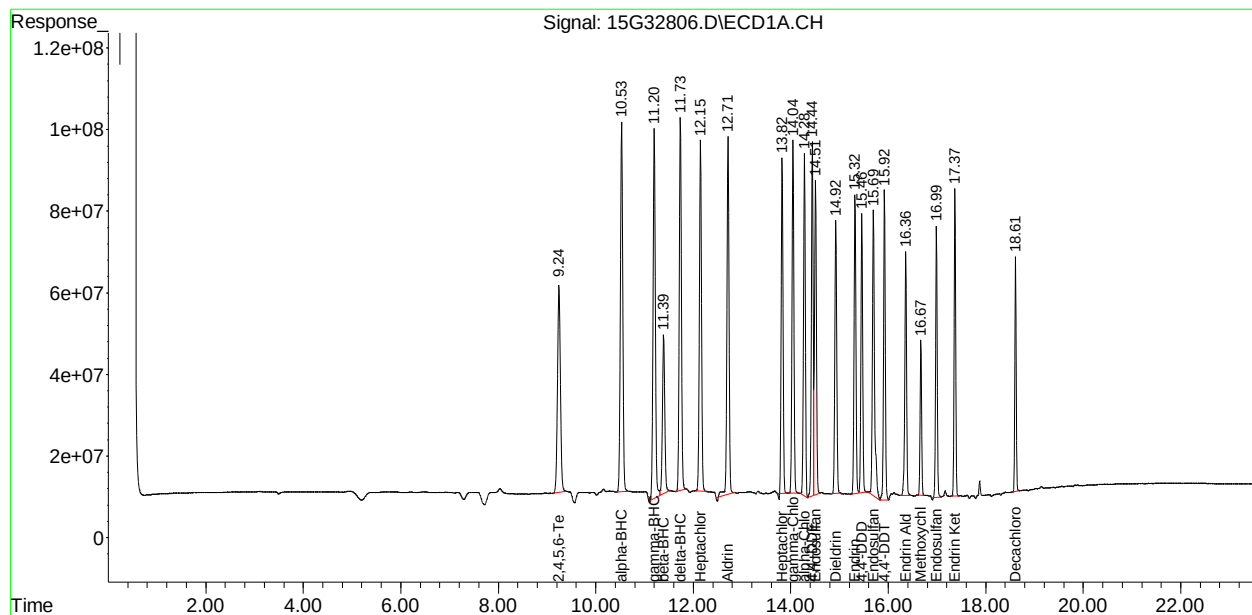
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.24	9.04	2093.4E6	969.7E6	10.665	10.190
	Spiked Amount	20.000	Range	30 - 132	Recovery =	53.33%	50.95%
22)	S Decachlorobiphen	18.61	18.80	1086.9E6	648.8E6	9.954	10.276
	Spiked Amount	20.000	Range	36 - 144	Recovery =	49.77%	51.38%
Target Compounds							
2)	alpha-BHC	10.53	10.40	3066.8E6	1447.2E6	10.359	10.440
3)	gamma-BHC	11.20	11.13	2944.9E6	1333.5E6	10.613	10.310
4)	beta-BHC	11.39	11.31	1287.3E6	602.2E6	10.664	10.288
5)	delta-BHC	11.73	11.88	2782.6E6	1306.6E6	10.176	10.135
6)	Heptachlor	12.15	11.99	2576.5E6	1226.3E6	10.412	10.477
7)	Aldrin	12.71	12.59	2611.8E6	1138.2E6	10.591	10.231
8)	Heptachlor Epoxi	13.82	13.64	2158.8E6	1053.2E6	10.053	9.935
9)	gamma-Chlordane	14.04	13.98	2320.4E6	1105.6E6	9.936	10.150
10)	alpha-Chlordane	14.28	14.24	2203.0E6	1091.8E6	10.088	10.069
11)	Endosulfan I	14.51	14.33	2060.0E6	1058.4E6	10.046	10.664
12)	4,4'-DDE	14.44	14.55	2204.9E6	1053.6E6	10.169	10.470
13)	Dieldrin	14.92	14.81	1819.6E6	1051.8E6	9.400	10.111
14)	Endrin	15.32	15.33	1918.8E6	917.7E6	9.673	9.849
15)	4,4'-DDD	15.46	15.55	1689.4E6	888.0E6	9.830	10.375
16)	Endosulfan II	15.69	15.70	2092.0E6	933.7E6	10.988	10.143
17)	4,4'-DDT	15.92	16.06	1844.6E6	845.4E6	10.057	10.243
18)	Endrin Aldehyde	16.36	16.24	1490.2E6	818.3E6	10.291	11.174
19)	Endosulfan Sulfa	16.99	16.65	1480.0E6	806.5E6	10.148	9.908
20)	Methoxychlor	16.67	17.05	805.0E6	399.2E6	9.569	10.216
21)	Endrin Ketone	17.37	17.36	1635.1E6	910.4E6	9.854	10.151

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32806.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Jun 2012 1:01 am (#1); 20 Jun 2012 1:30 am (#2)
Operator : ECL
Sample : WG401035-06 PEST CCV 10 PPB
Misc : 1,1 STD52040
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:51:27 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Fri May 18 14:52:31 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase :
Signal #2 Info :



8081.M Wed Jun 20 08:51:50 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32807.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Jun 2012 1:30 am (#1); 20 Jun 2012 1:58 am (#2)
 Operator : ECL
 Sample : WG401036-04 TOX CCV 200 PPB
 Misc : 1,1 STD50069
 ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: .E
 Integration File signal 2: EVENTS.E
 Quant Time: Jun 20 08:52:25 2012
 Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
 Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
 QLast Update : Mon May 14 08:48:01 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

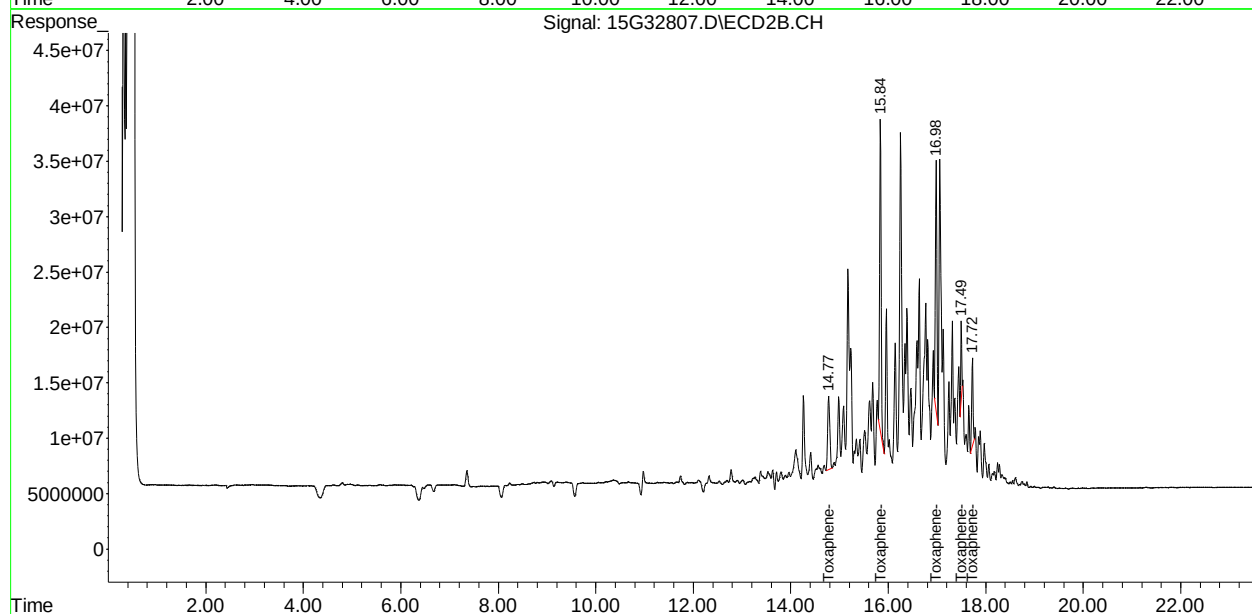
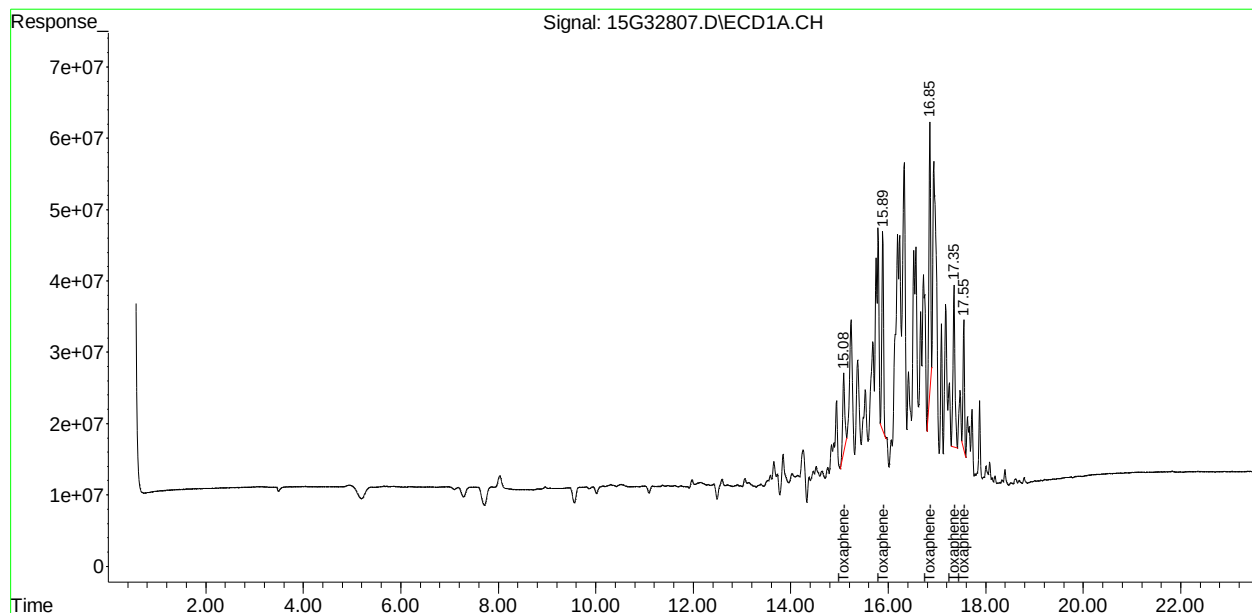
Target Compounds						
1) L1 Toxaphene-1	15.08	14.77	322.1E6	206.0E6	182.530	202.494
2) L1 Toxaphene-2	15.89	15.84	667.6E6	616.8E6	227.283	194.081
3) L1 Toxaphene-3	16.85	16.98	935.2E6	492.9E6	192.449	196.938
4) L1 Toxaphene-4	17.35	17.50	630.5E6	97370659	190.796	108.709 #
5) L1 Toxaphene-5	17.55	17.73	372.9E6	154.7E6	185.738	183.909
Sum Toxaphene-1			2928.3E6	1567.8E6	978.796	886.131
Average Toxaphene-1					195.759	177.226

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32807.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Jun 2012 1:30 am (#1); 20 Jun 2012 1:58 am (#2)
Operator : ECL
Sample : WG401036-04 TOX CCV 200 PPB
Misc : 1,1 STD50069
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: .E
Integration File signal 2: EVENTS.E
Quant Time: Jun 20 08:52:25 2012
Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
QLast Update : Mon May 14 08:48:01 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TOX.M Wed Jun 20 08:52:50 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32775.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 9:18 am (#1); 19 Jun 2012 9:47 am (#2)
 Operator : ECL
 Sample : WG401035-01 ENDRIN/DDT
 Misc : 1,1 STD49547
 ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 19 11:16:39 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Tue Jun 19 10:57:33 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

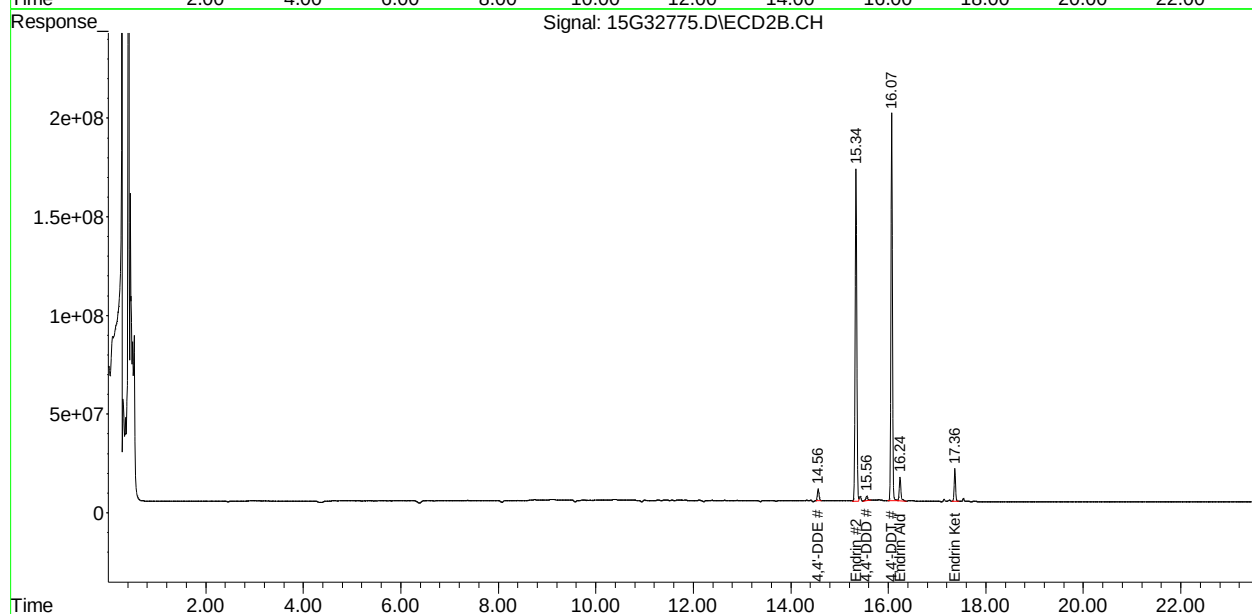
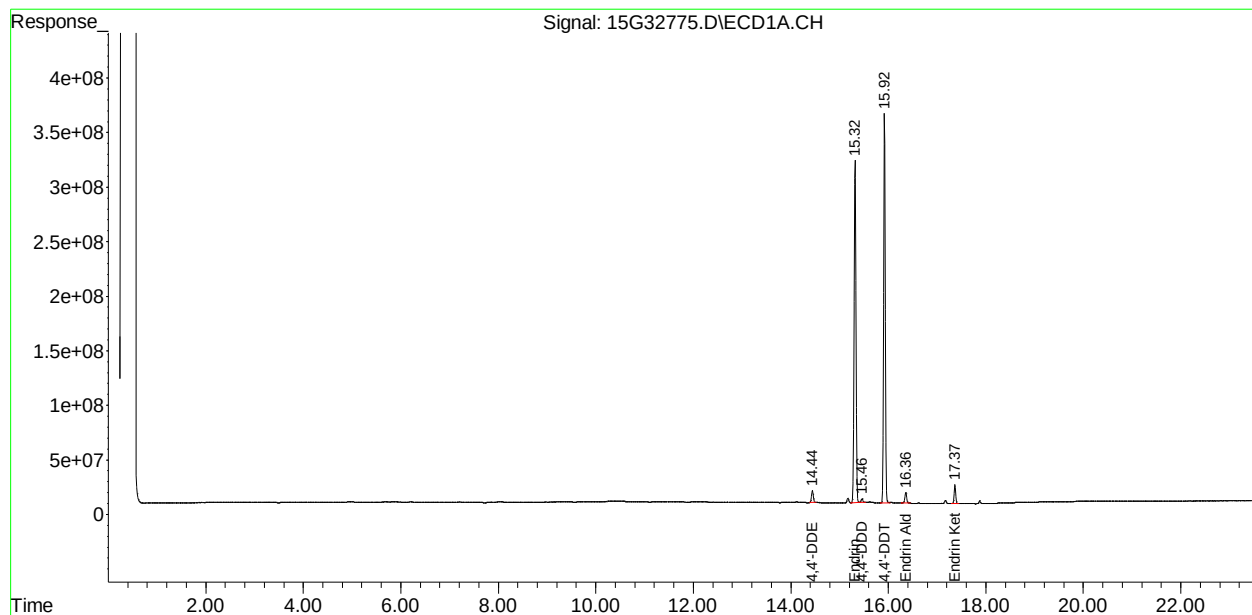
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount	20.000	Range	30 - 132	Recovery	=	0.00%#
22)	S Decachlorobiphen	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount	20.000	Range	36 - 144	Recovery	=	0.00%#
Target Compounds							
2)	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3)	gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
4)	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5)	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6)	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7)	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8)	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
9)	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
10)	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11)	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
12)	4,4'-DDE	14.44	14.56	283.4E6	137.6E6	1.307	1.367
13)	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
14)	Endrin	15.32	15.34	8371.9E6	3940.5E6	42.203	42.287
15)	4,4'-DDD	15.46	15.56	94281806	67722338	0.549	0.791 #
16)	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17)	4,4'-DDT	15.92	16.07	8243.7E6	4116.5E6	47.683	49.877
18)	Endrin Aldehyde	16.36	16.24	249.5E6	280.1E6	0.126	3.825 #
19)	Endosulfan Sulfa	0.00	0.00	0	0	N.D.	N.D.
20)	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21)	Endrin Ketone	17.37	17.37	377.5E6	308.6E6	2.275	3.441 #

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32775.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 9:18 am (#1); 19 Jun 2012 9:47 am (#2)
Operator : ECL
Sample : WG401035-01 ENDRIN/DDT
Misc : 1,1 STD49547
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 19 11:16:39 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Tue Jun 19 10:57:33 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



8081.M Tue Jun 19 11:16:42 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32805.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Jun 2012 12:33 am (#1); 20 Jun 2012 1:01 am (#2)
 Operator : ECL
 Sample : WG401035-05 ENDRIN/DDT
 Misc : 1,1 STD49547
 ALS Vial : 31 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:51:04 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Fri May 18 14:52:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

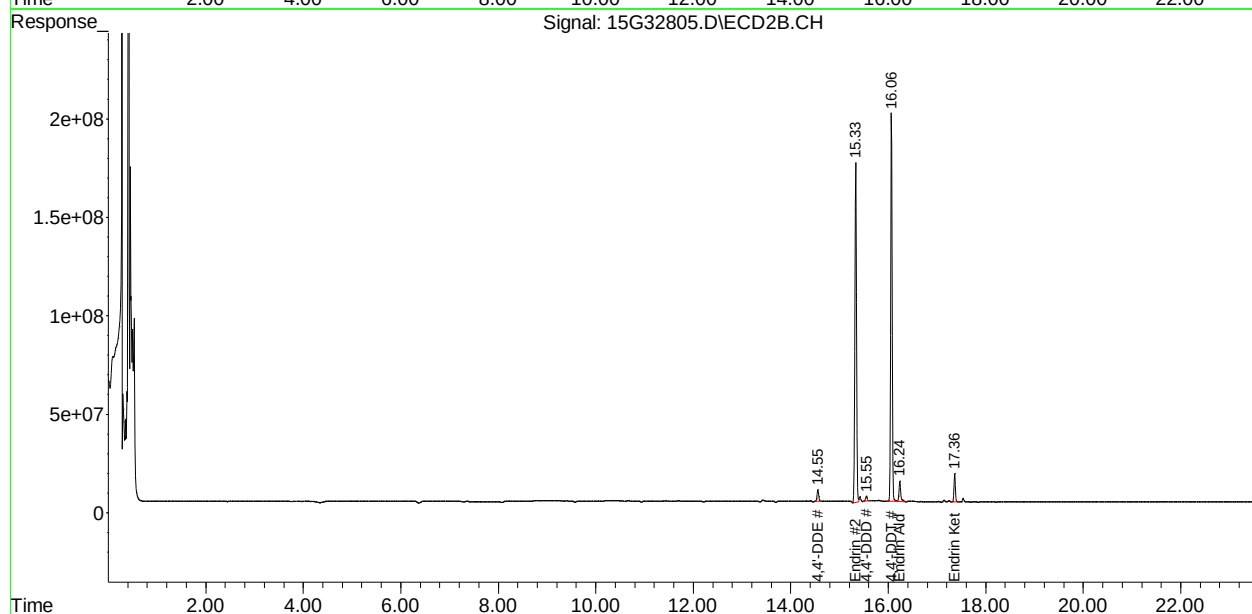
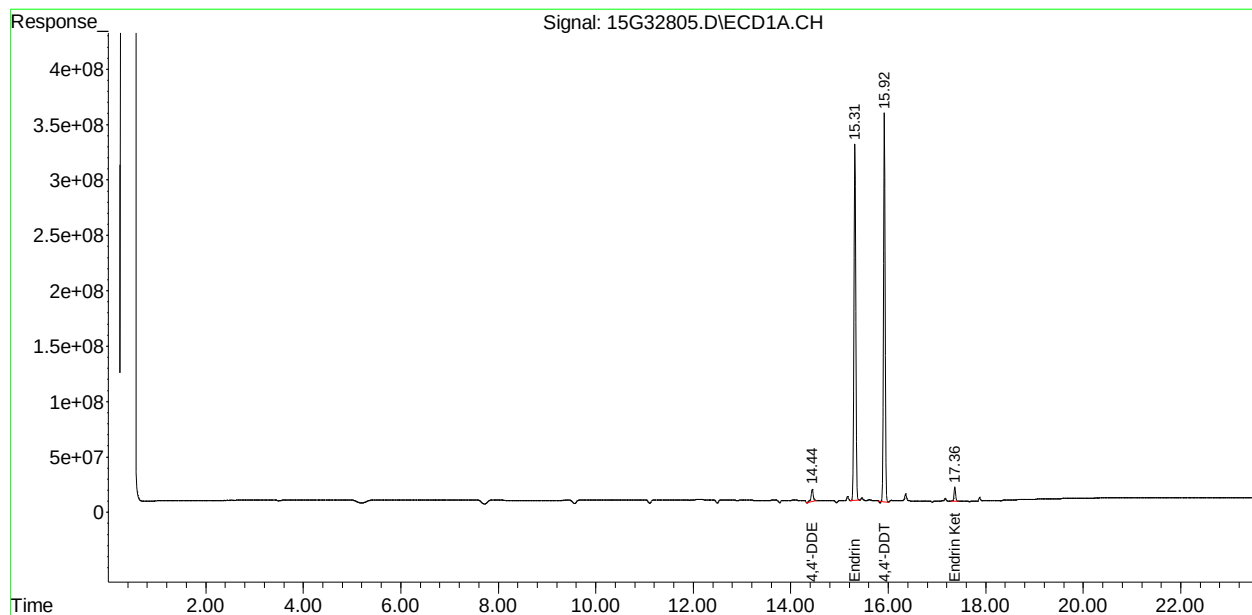
System Monitoring Compounds						
1) S 2,4,5,6-Tetrachl	0.00	0.00	0	0	N.D.	N.D.
Spiked Amount	20.000	Range	30 - 132	Recovery	=	0.00%#
22) S Decachlorobiphen	0.00	0.00	0	0	N.D.	N.D.
Spiked Amount	20.000	Range	36 - 144	Recovery	=	0.00%#
Target Compounds						
2) alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
4) beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
9) gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
10) alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
12) 4,4'-DDE	14.44	14.55	338.1E6	133.4E6	1.560	1.326
13) Dieldrin	0.00	0.00	0	0	N.D.	N.D.
14) Endrin	15.31	15.33	8443.2E6	4026.4E6	42.562	43.209
15) 4,4'-DDD	0.00	15.55	0	55710189	N.D.	0.651 #
16) Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17) 4,4'-DDT	15.92	16.06	8122.4E6	4094.6E6	46.970	49.612
18) Endrin Aldehyde	16.36	16.24	174.7E6	239.1E6	N.D.	3.265
19) Endosulfan Sulfa	0.00	0.00	0	0	N.D.	N.D.
20) Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) Endrin Ketone	17.36	17.36	274.7E6	268.0E6	1.656	2.989 #

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32805.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Jun 2012 12:33 am (#1); 20 Jun 2012 1:01 am (#2)
Operator : ECL
Sample : WG401035-05 ENDRIN/DDT
Misc : 1,1 STD49547
ALS Vial : 31 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:51:04 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Fri May 18 14:52:31 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



8081.M Wed Jun 20 08:51:23 2012

Page: 2

RETENTION TIME WINDOWS

Lab Name: Microbac Laboratories, Inc.

Instrument ID: HP 15

GC Column: RTx-CLP (Front)

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	7/26/11	7/27/11	7/28/11
File #	15G27451	15G27479	15G27493

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
alpha-BHC	10.91	10.92	10.92	0.017
gamma-BHC	11.58	11.59	11.59	0.017
beta-BHC	11.77	11.78	11.78	0.017
delta-BHC	12.12	12.13	12.13	0.017
Heptachlor	12.53	12.54	12.54	0.017
Aldrin	13.10	13.11	13.11	0.017
Heptachlor Epoxide	14.22	14.22	14.22	0.000
gamma-Chlordane	14.44	14.44	14.44	0.000
alpha-Chlordane	14.67	14.68	14.68	0.017
Endosulfan I	14.91	14.92	14.91	0.017
4,4'-DDE	14.82	14.82	14.82	0.000
Dieldrin	15.33	15.33	15.33	0.000
Endrin	15.73	15.73	15.73	0.000
4,4'-DDD	15.84	15.84	15.84	0.000
Endosulfan II	16.09	16.09	16.09	0.000
4,4'-DDT	16.28	16.28	16.28	0.000
Endrin Aldehyde	16.73	16.73	16.73	0.000
Endosulfan Sulfate	17.34	17.34	17.34	0.000
Methoxychlor	16.99	16.99	16.99	0.000
Endrin Ketone	17.70	17.71	17.71	0.017
2,4,5,6-Tetrachloro-M-Xylene	9.62	9.63	9.63	0.017
Decachlorobiphenyl	18.89	18.90	18.90	0.017

RETENTION TIME WINDOWS

Lab Name: Microbac Laboratories, Inc.

Instrument ID: HP 15
 GC Column: RTx-CLP II (Rear)

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	7/26/11	7/27/11	7/28/11
File #	15G27451	15G27479	15G27493

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
alpha-BHC	10.55	10.55	10.55	0.000
gamma-BHC	11.28	11.29	11.28	0.017
beta-BHC	11.46	11.47	11.46	0.017
delta-BHC	12.03	12.03	12.03	0.000
Heptachlor	12.15	12.15	12.15	0.000
Aldrin	12.75	12.76	12.76	0.017
Heptachlor Epoxide	13.81	13.81	13.81	0.000
gamma-Chlordane	14.15	14.15	14.15	0.000
alpha-Chlordane	14.41	14.41	14.41	0.000
Endosulfan I	14.51	14.51	14.50	0.017
4,4'-DDE	14.72	14.72	14.72	0.000
Dieldrin	14.99	14.99	14.98	0.017
Endrin	15.51	15.51	15.51	0.000
4,4'-DDD	15.72	15.72	15.72	0.000
Endosulfan II	15.87	15.87	15.87	0.000
4,4'-DDT	16.22	16.22	16.22	0.000
Endrin Aldehyde	16.40	16.40	16.40	0.000
Endosulfan Sulfate	16.80	16.80	16.80	0.000
Methoxychlor	17.19	17.19	17.19	0.000
Endrin Ketone	17.50	17.51	17.51	0.017
2,4,5,6-Tetrachloro-M-Xylene	9.18	9.19	9.18	0.017
Decachlorobiphenyl	18.93	18.93	18.93	0.000

2.2.4.5 Raw QC Data

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32779.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 12:14 pm (#1); 19 Jun 2012 12:43 pm (#2)
 Operator : ECL
 Sample : WG400885-02 BLANK
 Misc : 1,1 WATER
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:53:07 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Fri May 18 14:52:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

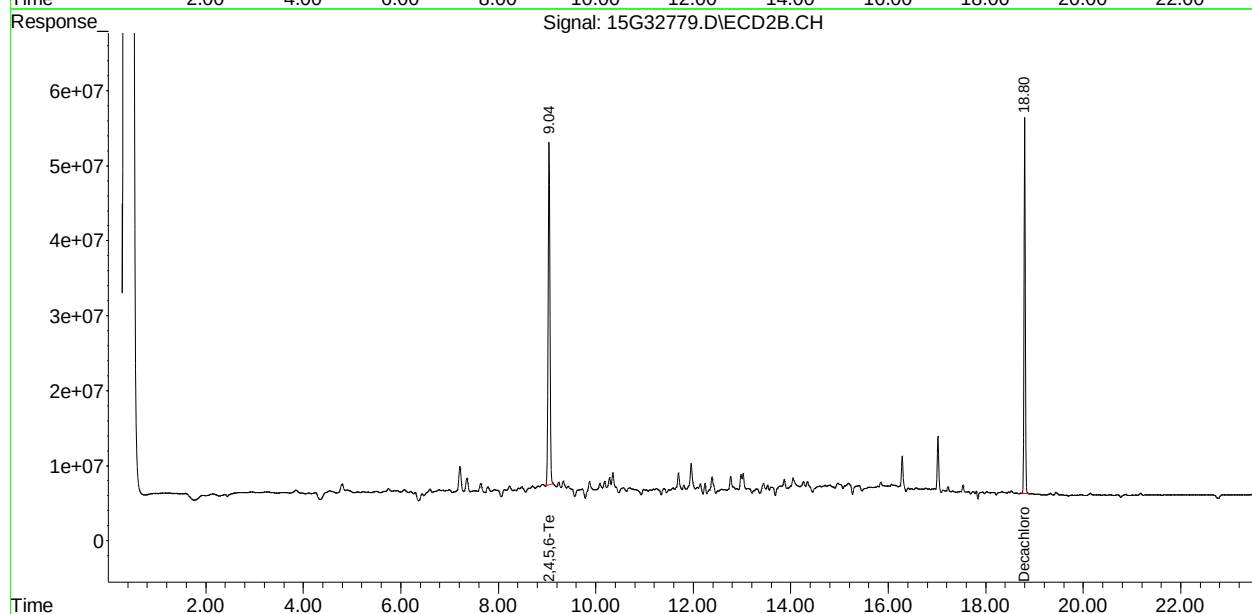
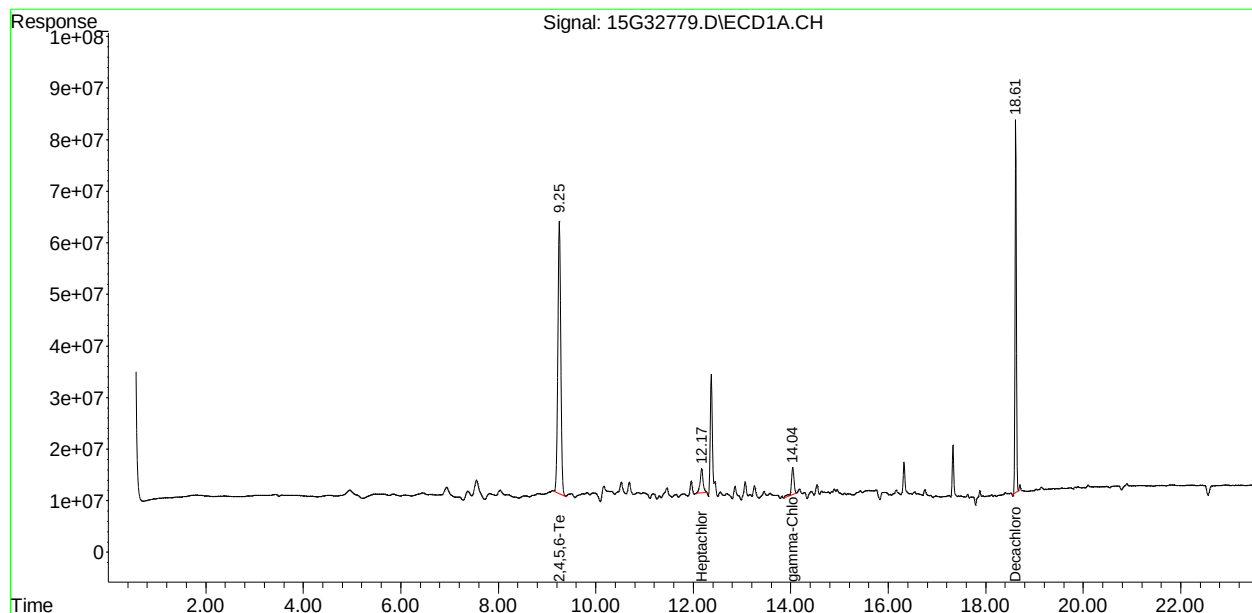
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.25	9.04	2205.3E6	1177.1E6	11.235	12.370
	Spiked Amount	20.000	Range 30 -	132	Recovery =	56.17%	61.85%
22)	S Decachlorobiphen	18.61	18.80	1349.3E6	894.7E6	12.639	14.548
	Spiked Amount	20.000	Range 36 -	144	Recovery =	63.20%	72.74%
Target Compounds							
2)	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3)	gamma-BHC	0.00	0.00	0	0	N.D.	N.D.
4)	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5)	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6)	Heptachlor	12.17f	0.00	197.1E6	0	0.796	N.D. #
7)	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8)	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
9)	gamma-Chlordane	14.04f	0.00	198.8E6	0	0.851	N.D. #
10)	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11)	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
12)	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
13)	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
14)	Endrin	0.00	0.00	0	0	N.D.	N.D.
15)	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
16)	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
17)	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
18)	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
19)	Endosulfan Sulfa	0.00	0.00	0	0	N.D.	N.D.
20)	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21)	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32779.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 12:14 pm (#1); 19 Jun 2012 12:43 pm (#2)
Operator : ECL
Sample : WG400885-02 BLANK
Misc : 1,1 WATER
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:53:07 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Fri May 18 14:52:31 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



8081.M Wed Jun 20 09:00:37 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32780.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 12:43 pm (#1); 19 Jun 2012 1:11 pm (#2)
 Operator : ECL
 Sample : WG400885-03 LCS
 Misc : 1,1 WATER
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Jun 20 08:53:14 2012
 Quant Method : C:\MSDCHEM\1\METHODS\8081.M
 Quant Title : 8081/608 CALIBRATION May 09, 2012
 QLast Update : Fri May 18 14:52:31 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase :
 Signal #1 Info :
 Signal #2 Phase :
 Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

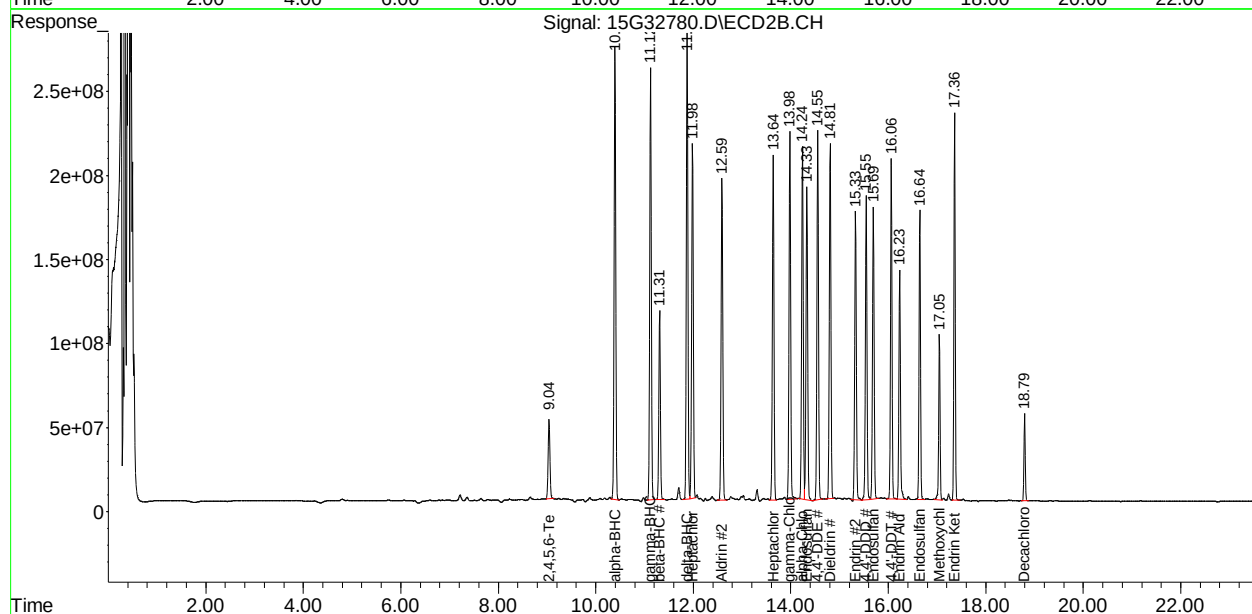
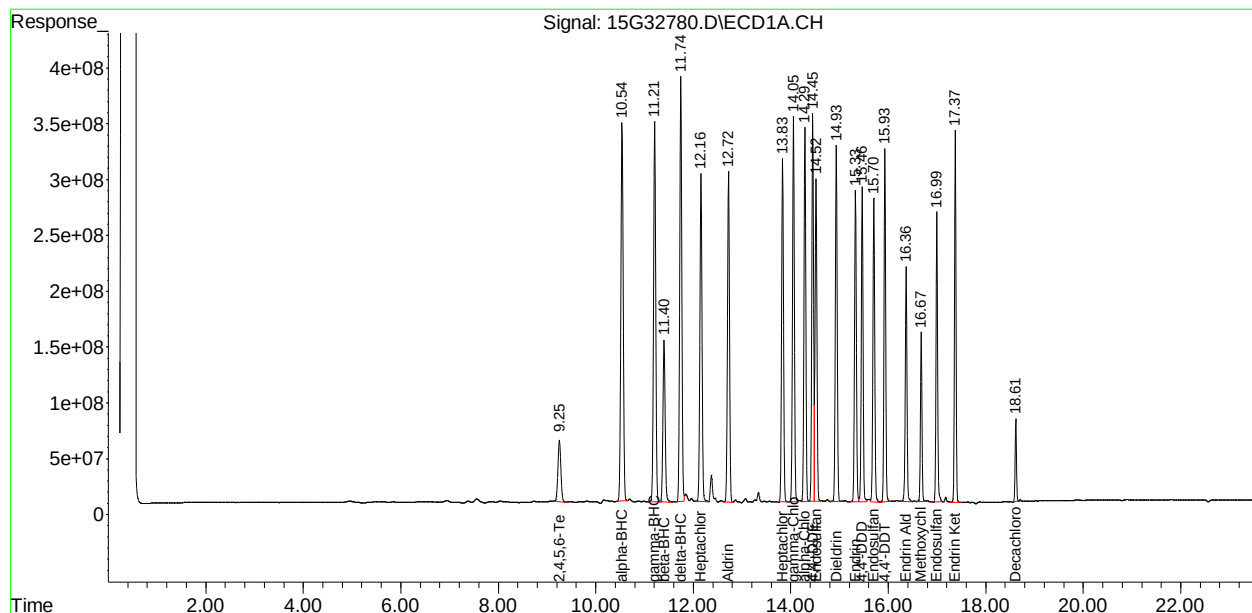
System Monitoring Compounds							
1)	S 2,4,5,6-Tetrachl	9.25	9.04	2295.9E6	1216.3E6	11.697	12.782
	Spiked Amount	20.000	Range	30 - 132	Recovery =	58.48%	63.91%
22)	S Decachlorobiphen	18.61	18.80	1374.0E6	923.7E6	12.891	15.054
	Spiked Amount	20.000	Range	36 - 144	Recovery =	64.45%	75.27%
Target Compounds							
2)	alpha-BHC	10.54	10.39	11315.4E6	6215.4E6	38.222	44.837
3)	gamma-BHC	11.21	11.12	10557.6E6	5835.8E6	38.842	45.120
4)	beta-BHC	11.40	11.31	4598.0E6	2435.8E6	38.091	41.615
5)	delta-BHC	11.74	11.87	11260.3E6	6157.0E6	41.180	47.757
6)	Heptachlor	12.16	11.98	8830.2E6	5000.7E6	35.682	42.724
7)	Aldrin	12.72	12.59	8504.9E6	4505.1E6	34.487	40.493
8)	Heptachlor Epoxi	13.83	13.64	8290.7E6	4628.9E6	38.607	43.664
9)	gamma-Chlordane	14.05	13.98	9096.0E6	5022.2E6	38.949	46.109
10)	alpha-Chlordane	14.29	14.24	8741.1E6	4747.2E6	41.585	43.780
11)	Endosulfan I	14.52	14.33	7706.6E6	4407.9E6	37.585	44.410
12)	4,4'-DDE	14.45	14.55	8629.4E6	4872.7E6	39.800	48.418
13)	Dieldrin	14.93	14.81	8445.6E6	4831.8E6	43.813	46.446
14)	Endrin	15.33	15.33	7305.3E6	3924.0E6	36.826	42.111
15)	4,4'-DDD	15.46	15.55	7045.3E6	4063.6E6	40.995	47.481
16)	Endosulfan II	15.70	15.69	7109.0E6	4009.2E6	41.534	43.551
17)	4,4'-DDT	15.93	16.06	7453.8E6	4168.8E6	43.039	50.511
18)	Endrin Aldehyde	16.37	16.23	5085.3E6	2955.6E6	39.746	40.359
19)	Endosulfan Sulfa	16.99	16.65	5797.7E6	3458.5E6	39.756	46.224
20)	Methoxychlor	16.67	17.05	3233.7E6	1869.6E6	43.153	50.777
21)	Endrin Ketone	17.37	17.36	7046.0E6	4292.6E6	42.464	47.865

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32780.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 12:43 pm (#1); 19 Jun 2012 1:11 pm (#2)
Operator : ECL
Sample : WG400885-03 LCS
Misc : 1,1 WATER
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 20 08:53:14 2012
Quant Method : C:\MSDCHEM\1\METHODS\8081.M
Quant Title : 8081/608 CALIBRATION May 09, 2012
QLast Update : Fri May 18 14:52:31 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase :
Signal #2 Info :



8081.M Wed Jun 20 09:00:39 2012

Page: 2

Data Path : C:\MSDCHEM\1\DATA\061912\
 Data File : 15G32781.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Jun 2012 1:11 pm (#1); 19 Jun 2012 1:40 pm (#2)
 Operator : ECL
 Sample : WG400885-04 TOX LCS
 Misc : 1,1 WATER
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: .E
 Integration File signal 2: EVENTS.E
 Quant Time: Jun 20 09:32:21 2012
 Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
 Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
 QLast Update : Mon May 14 08:48:01 2012
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	UG/L	UG/L

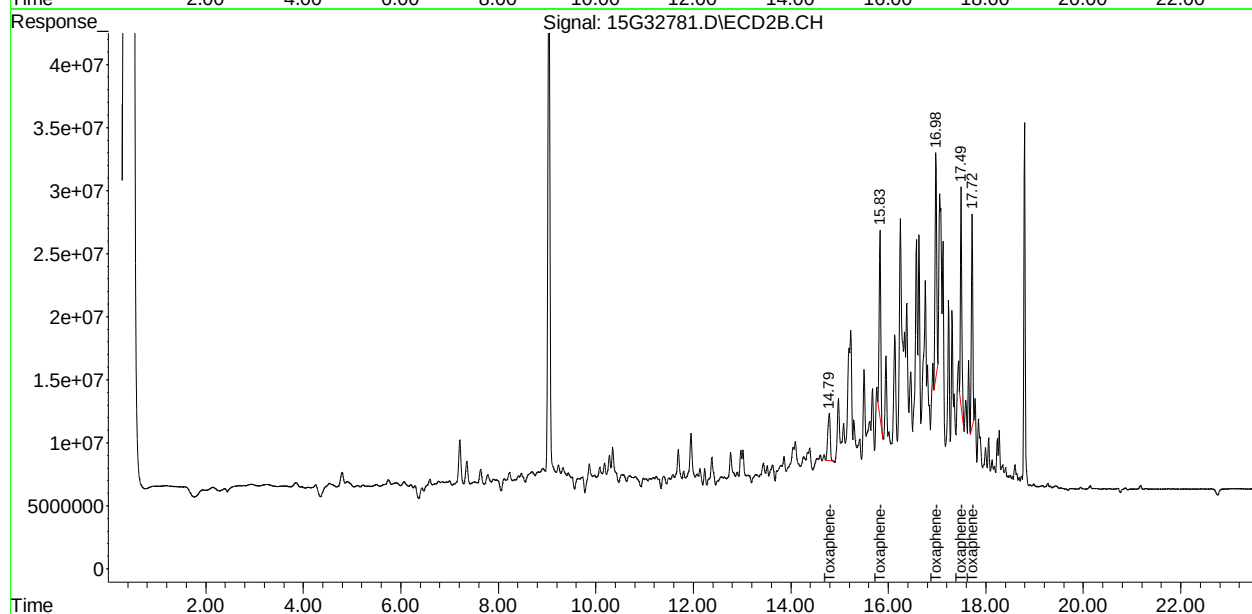
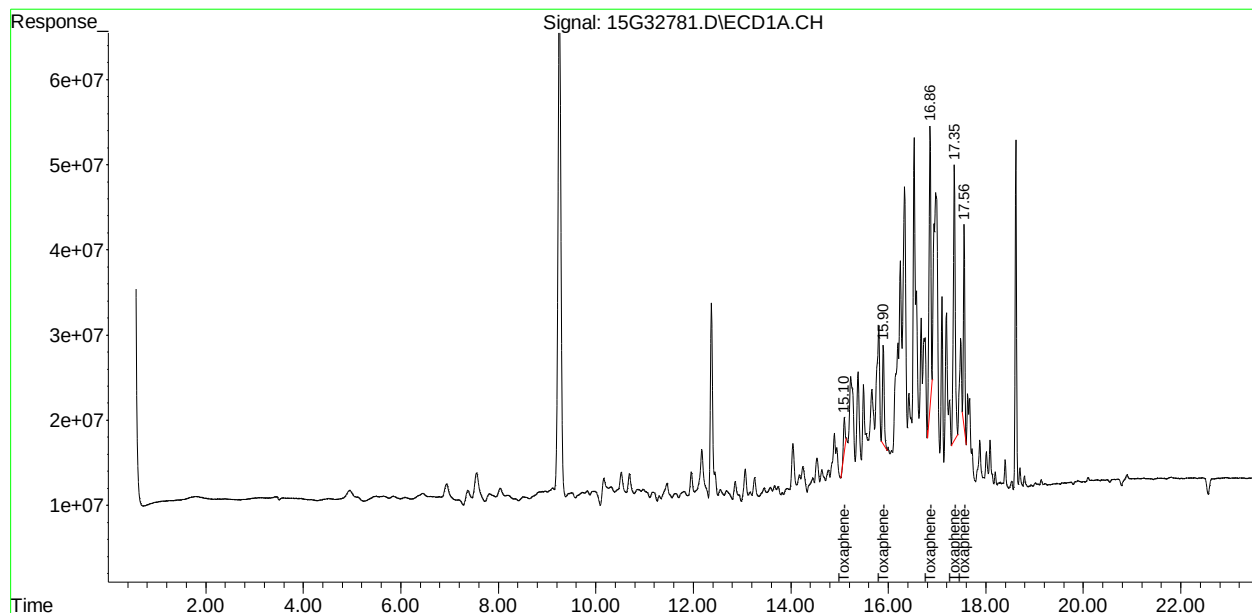
Target Compounds						
1) L1 Toxaphene-1	15.10	14.79	87036315	129.2E6	49.329	126.962 #
2) L1 Toxaphene-2	15.90	15.83	290.3E6	333.7E6	98.829	105.004
3) L1 Toxaphene-3	16.86	16.98	848.7E6	399.0E6	174.644	159.445
4) L1 Toxaphene-4	17.35	17.49	877.5E6	332.6E6	265.539	371.316 #
5) L1 Toxaphene-5	17.56	17.72	452.2E6	335.9E6	225.252	399.205 #
Sum Toxaphene-1			2555.7E6	1530.4E6	813.591	1161.932
Average Toxaphene-1					162.718	232.386

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\061912\
Data File : 15G32781.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Jun 2012 1:11 pm (#1); 19 Jun 2012 1:40 pm (#2)
Operator : ECL
Sample : WG400885-04 TOX LCS
Misc : 1,1 WATER
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: .E
Integration File signal 2: EVENTS.E
Quant Time: Jun 20 09:32:21 2012
Quant Method : C:\MSDCHEM\1\METHODS\TOX.M
Quant Title : HP15 CALIBRATION 8081 TOX May 09, 2012
Qlast Update : Mon May 14 08:48:01 2012
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TOX.M Wed Jun 20 09:32:42 2012

Page: 2

2.3 Metals Data

2.3.1 Metals I C P Data

2.3.1.1 Summary Data



Login Number: L12060445
Department: Metals
Analyst: Kim Rhodes

METHOD

Preparation: SW-846 3005

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG400948 - All acceptance criteria were met.

Matrix Spikes: WG400948 - Sample 05 was chosen by the client for MS/MSD analysis. Samples 06(MS) and 07(MSD) yielded noncompliant recoveries for calcium.

SAMPLES

Samples: WG400948 - Client samples 01, 03, 04, 05, 06MS, 07MSD, 08, 11 and 12 required dilution analyses in order to obtain results for calcium and magnesium within the calibration range.

Narrative ID: 48312

Approved By: Sheri Pfalzgraf

A handwritten signature in black ink, appearing to read "Sheri L. Pfalzgraf".

Certificate of Analysis

Sample #: L12060445-01

PrePrep Method: N/A

Instrument: PE-ICP2

Client ID: 40MW7GW601212

Prep Method: 3005A

Prep Date: 06/18/2012 10:52

Matrix: Water

Analytical Method: 6010B

Cal Date: 06/20/2012 09:37

Workgroup #: WG400948

Analyst: KHR

Run Date: 06/20/2012 13:50

Collect Date: 06/12/2012 10:25

Dilution: 1

File ID: P2.062012.135040

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.0703	J	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Iron, Total	7439-89-6	0.149		0.100	0.0500
Potassium, Total	7440-09-7	1.67		1.00	0.500
Sodium, Total	7440-23-5	4.03		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-01	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW7GW601212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 16:23
Collect Date: 06/12/2012 10:25	Dilution: 10	File ID: P2.062112.162356
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	77.8		2.00	1.00
Magnesium, Total	7439-95-4	36.4		5.00	2.50
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-03	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: LFMW01GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 13:57
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: P2.062012.135735
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.0748	J	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Iron, Total	7439-89-6	0.120		0.100	0.0500
Potassium, Total	7440-09-7	1.74		1.00	0.500
Sodium, Total	7440-23-5	8.45		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-03	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: LFMW01GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 16:30
Collect Date: 06/12/2012 12:59	Dilution: 10	File ID: P2.062112.163050
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	82.8		2.00	1.00
Magnesium, Total	7439-95-4	33.8		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: LFMW01GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:04
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: P2.062012.140430
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Potassium, Dissolved	7440-09-7	1.63		1.00	0.500
Sodium, Dissolved	7440-23-5	8.12		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: LFMW01GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 16:37
Collect Date: 06/12/2012 12:59	Dilution: 10	File ID: P2.062112.163745
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Dissolved	7440-70-2	82.0		2.00	1.00
Magnesium, Dissolved	7439-95-4	32.7		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:11
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: P2.062012.141125
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.230		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Iron, Total	7439-89-6	0.296		0.100	0.0500
Potassium, Total	7440-09-7	1.14		1.00	0.500
Sodium, Total	7440-23-5	5.18		0.500	0.250
Vanadium, Total	7440-62-2	0.00809	J	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 16:44
Collect Date: 06/12/2012 15:02	Dilution: 10	File ID: P2.062112.164440
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	85.3		2.00	1.00
Magnesium, Total	7439-95-4	34.0		5.00	2.50
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6MSGW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:30
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: P2.062012.143016
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	5.60		0.100	0.0500
Beryllium, Total	7440-41-7	0.0240		0.00200	0.00100
Iron, Total	7439-89-6	2.36		0.100	0.0500
Potassium, Total	7440-09-7	26.9		1.00	0.500
Sodium, Total	7440-23-5	30.9		0.500	0.250
Vanadium, Total	7440-62-2	0.517		0.0100	0.00500
Zinc, Total	7440-66-6	0.493		0.0200	0.0100

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6MSGW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 17:04
Collect Date: 06/12/2012 15:02	Dilution: 10	File ID: P2.062112.170428
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	96.7		2.00	1.00
Magnesium, Total	7439-95-4	38.5		5.00	2.50

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6MSDGW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:36
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: P2.062012.143616
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	5.69		0.100	0.0500
Beryllium, Total	7440-41-7	0.0247		0.00200	0.00100
Iron, Total	7439-89-6	2.41		0.100	0.0500
Potassium, Total	7440-09-7	27.3		1.00	0.500
Sodium, Total	7440-23-5	31.7		0.500	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.526		0.0100	0.00500
Zinc, Total	7440-66-6	0.497		0.0200	0.0100

Sample #: L12060445-07

PrePrep Method: N/A

Instrument: PE-ICP2

Client ID: 40MW6MSDGW061212

Prep Method: 3005A

Prep Date: 06/18/2012 10:52

Matrix: Water

Analytical Method: 6010B

Cal Date: 06/21/2012 08:50

Workgroup #: WG400948

Analyst: KHR

Run Date: 06/21/2012 17:10

Collect Date: 06/12/2012 15:02

Dilution: 10

File ID: P2.062112.171026

Sample Tag: DL01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	96.6		2.00	1.00
Magnesium, Total	7439-95-4	38.0		5.00	2.50

Sample #: L12060445-08

PrePrep Method: N/A

Instrument: PE-ICP2

Client ID: 40DUPGW061212

Prep Method: 3005A

Prep Date: 06/18/2012 10:52

Matrix: Water

Analytical Method: 6010B

Cal Date: 06/20/2012 09:37

Workgroup #: WG400948

Analyst: KHR

Run Date: 06/20/2012 14:42

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: P2.062012.144216

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.209		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Iron, Total	7439-89-6	0.238		0.100	0.0500
Potassium, Total	7440-09-7	1.05		1.00	0.500
Sodium, Total	7440-23-5	4.96		0.500	0.250
Vanadium, Total	7440-62-2	0.00642	J	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40DUPGW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 17:16
Collect Date: 06/12/2012 15:02	Dilution: 10	File ID: P2.062112.171626
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	85.0		2.00	1.00
Magnesium, Total	7439-95-4	33.1		5.00	2.50
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40FB061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:48
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: P2.062012.144816
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2		U	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40EQR061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 14:55
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: P2.062012.145512
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	0.177	J	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 15:02
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: P2.062012.150205
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.911		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Iron, Total	7439-89-6	0.950		0.100	0.0500
Potassium, Total	7440-09-7	1.27		1.00	0.500
Sodium, Total	7440-23-5	5.28		0.500	0.250
Vanadium, Total	7440-62-2	0.00874	J	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 17:23
Collect Date: 06/12/2012 17:51	Dilution: 10	File ID: P2.062112.172322
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	89.9		2.00	1.00
Magnesium, Total	7439-95-4	34.7		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-12	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/20/2012 09:37
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/20/2012 15:08
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: P2.062012.150802
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Potassium, Dissolved	7440-09-7	1.24		1.00	0.500
Sodium, Dissolved	7440-23-5	5.17		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-12	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5GW061212	Prep Method: 3005A	Prep Date: 06/18/2012 10:52
Matrix: Water	Analytical Method: 6010B	Cal Date: 06/21/2012 08:50
Workgroup #: WG400948	Analyst: KHR	Run Date: 06/21/2012 17:30
Collect Date: 06/12/2012 17:51	Dilution: 10	File ID: P2.062112.173016
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Dissolved	7440-70-2	88.4		2.00	1.00
Magnesium, Dissolved	7439-95-4	34.6		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

2.3.1.2 QC Summary Data

Example 6010 Calculations
Perkin Elmer Optima 4300 DV

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system in ug/mL (ppm)

Vf = Final volume (mL)

Vi = Initial volume (mL)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/mL (mg/L)

Example:

0.1

50

50

1

0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (mg/L) (ppm)

Vf = Final volume (mL)

Vi = Initial weight (g)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/g (mg/kg)

Example:

0.1

50

1

1

5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (mg/kg)

Example:

5

80

6.25

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG400908
Analyst: VC
Spike Analyst: VC
Method: 3005A
Run Date: 06/18/2012 10:52
Hotblock Start Temp: 94.6 @ 07:30
Hotblock End Temp: 95 @ 11:30

SOP: ME401 Revision 14
Spike Solution: STD51884
Spike Witness: BRG
HCL Lot #: COA16057
HN03 Lot #: COA16174
Digestion Tubes Lot #: COA16074
ICP;WG397704 Filter Lot COA16155

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG400908-03	BLANK	1	50 mL	50 mL		
2	WG400908-04	LCS	1	50 mL	50 mL	5 mL	
3	WG400908-01	REF	1	50 mL	50 mL		
4	L12060422-02	RS02	1	50 mL	50 mL		06/27/12
5	WG400908-05	MS	1	50 mL	50 mL	5 mL	
6	L12060422-04	MS02	1	50 mL	50 mL	5 mL	06/27/12
7	WG400908-06	MSD	1	50 mL	50 mL	5 mL	
8	L12060422-06	SD02	1	50 mL	50 mL	5 mL	06/27/12
9	L12060422-08	SAMP	1	50 mL	50 mL		06/27/12
10	L12060422-10	SAMP	1	50 mL	50 mL		06/27/12
11	L12060422-12	SAMP	1	50 mL	50 mL		06/27/12
12	L12060422-14	SAMP	1	50 mL	50 mL		06/27/12
13	L12060422-16	SAMP	1	50 mL	50 mL		06/27/12
14	L12060422-18	SAMP	1	50 mL	50 mL		06/27/12
15	L12060445-01	SAMP	1	50 mL	50 mL		06/25/12
16	L12060445-03	SAMP	1	50 mL	50 mL		06/25/12
17	L12060445-04	SAMP	1	50 mL	50 mL		06/25/12
18	WG400908-02	REF	1	50 mL	50 mL		
19	L12060445-05	RS01	1	50 mL	50 mL		06/25/12
20	WG400908-07	MS	1	50 mL	50 mL	5 mL	
21	L12060445-06	MS01	1	50 mL	50 mL	5 mL	06/25/12
22	WG400908-08	MSD	1	50 mL	50 mL	5 mL	
23	L12060445-07	SD01	1	50 mL	50 mL	5 mL	06/25/12
24	L12060445-08	SAMP	1	50 mL	50 mL		06/25/12
25	L12060445-09	SAMP	1	50 mL	50 mL		06/25/12
26	L12060445-10	SAMP	1	50 mL	50 mL		06/25/12
27	L12060445-11	SAMP	1	50 mL	50 mL		06/25/12
28	L12060445-12	SAMP	1	50 mL	50 mL		06/25/12
29	L12060472-01	SAMP	1	50 mL	50 mL		06/22/12
30	L12060472-02	SAMP	1	50 mL	50 mL		06/22/12

L12060445-06	filtered digestate
L12060445-07	filtered digestate
L12060445-05	filtered digestate
WG400908-02	filtered digestate
WG400908-07	filtered digestate
WG400908-08	filtered digestate

HB_DIG - Modified 09/30/2009
PDF ID: 2456568
Report generated: 06/18/2012 13:32



Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG400908
Analyst: VC
Spike Analyst: VC
Method: 3005A
Run Date: 06/18/2012 10:52
Hotblock Start Temp: 94.6 @ 07:30
Hotblock End Temp: 95 @ 11:30

SOP: ME401 Revision 14
Spike Solution: STD51884
Spike Witness: BRG
HCL Lot #: COA16057
HN03 Lot #: COA16174
Digestion Tubes Lot #: COA16074
ICP;WG397704 Filter Lot COA16155

Analyst: Vicki Collier

Reviewer: Brenda Gregory

HB_DIG - Modified 09/30/2009
PDF ID: 2456568
Report generated: 06/18/2012 13:32



Microbac Laboratories Inc. **Instrument Run Log**

Instrument: PE-ICP2 Dataset: 062012H.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010 SOP: ME600E Rev: 12
 Maintenance Log ID: 42184

Calibration Std: STD52257 ICV Std: STD52198 Post Spike: STD51883
 ICSA: STD52259 IC SAB: STD52176 Int. Std: RG17310
 CCV: STD51781 LLCCV: _____

401034, 400948, 400942, 401202, 401205

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.062012.091034	WG401193-01	Calibration Point		1		06/20/12 09:10
2	P2.062012.091727	WG401193-02	Calibration Point		1		06/20/12 09:17
3	P2.062012.092422	WG401193-03	Calibration Point		1		06/20/12 09:24
4	P2.062012.093116	WG401193-04	Calibration Point		1		06/20/12 09:31
5	P2.062012.093714	WG401193-05	Calibration Point		1		06/20/12 09:37
6	P2.062012.094317	WG401193-06	Initial Calibration Verification		1		06/20/12 09:43
7	P2.062012.094914	WG401193-07	Initial Calib Blank		1		06/20/12 09:49
8	P2.062012.095607	WG401193-08	Interference Check		1		06/20/12 09:56
9	P2.062012.100203	WG401193-09	Interference Check		1		06/20/12 10:02
10	P2.062012.100800	WG401193-10	CCV		1		06/20/12 10:08
11	P2.062012.101359	WG401193-11	CCB		1		06/20/12 10:13
12	P2.062012.103138	L12060561-04	2051460-04	5/50	5		06/20/12 10:31
13	P2.062012.103833	L-04	04 + 0.5PPM BA		5		06/20/12 10:38
14	P2.062012.104432	L-04	04 + 1.0PPM BA		5		06/20/12 10:44
15	P2.062012.105031	L-04	04 + 1.5PPM BA		5		06/20/12 10:50
16	P2.062012.105633	L12060561-09	2051460-09	5/50	2		06/20/12 10:56
17	P2.062012.110328	L-09	09 + .25PPM PB		2		06/20/12 11:03
18	P2.062012.110926	L-09	09 + .50PPM PB		2		06/20/12 11:09
19	P2.062012.111524	L-09	09 + .75PPM PB		2		06/20/12 11:15
20	P2.062012.112123	WG401193-12	CCV		1		06/20/12 11:21
21	P2.062012.112723	WG401193-13	CCB		1		06/20/12 11:27
22	P2.062012.113416	L12060561-11	2051460-11	5/50	2		06/20/12 11:34
23	P2.062012.114113	L-11	11 + .25PPM PB		2		06/20/12 11:41
24	P2.062012.114713	L-11	11 + .50PPM PB		2		06/20/12 11:47
25	P2.062012.115313	L-11	11 + .75PPM PB		2		06/20/12 11:53
26	P2.062012.115913	L12060561-12	2051460-12	5/50	100		06/20/12 11:59
27	P2.062012.120608	WG401193-14	CCV		1		06/20/12 12:06
28	P2.062012.121207	WG401193-15	CCB		1		06/20/12 12:12
29	P2.062012.121900	WG400908-03	Method/Prep Blank	50/50	1		06/20/12 12:19
30	P2.062012.122555	WG400908-04	Laboratory Control S	50/50	1		06/20/12 12:25
31	P2.062012.123154	WG400908-01	Reference Sample		1	L12060422-02	06/20/12 12:31
32	P2.062012.123753	WG400908-05	Matrix Spike	50/50	1	L12060422-02	06/20/12 12:37
33	P2.062012.124353	WG400908-06	Matrix Spike Duplica	50/50	1	L12060422-02	06/20/12 12:43
34	P2.062012.124954	L12060422-08	MW111S-GW-061212	50/50	1		06/20/12 12:49

Page: 1 Approved: June 21, 2012

Shari L. Bahgat



Microbac Laboratories Inc. Instrument Run Log

Instrument: PE-ICP2 Dataset: 062012H.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010 SOP: ME600E Rev: 12
 Maintenance Log ID: 42184

Calibration Std: STD52257 ICV Std: STD52198 Post Spike: STD51883
 ICSA: STD52259 ICSAB: STD52176 Int. Std: RG17310
 CCV: STD51781 LLCCV: _____

401034, 400948, 400942, 401202, 401205

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	P2.062012.125553	L12060422-10	MW111D-GW-061212	50/50	1		06/20/12 12:55
36	P2.062012.130153	L12060422-12	MW855A-GW-061212	50/50	1		06/20/12 13:01
37	P2.062012.130754	WG400948-03	Post Digestion Spike		1	L12060422-12	06/20/12 13:07
38	P2.062012.131355	WG400948-04	Serial Dilution		5	L12060422-12	06/20/12 13:13
39	P2.062012.131951	WG401193-16	CCV		1		06/20/12 13:19
40	P2.062012.132551	WG401193-17	CCB		1		06/20/12 13:25
41	P2.062012.133244	L12060422-14	MW855A-GW-061212/D	50/50	1		06/20/12 13:32
42	P2.062012.133842	L12060422-16	MW855B-GW-061212	50/50	1		06/20/12 13:38
43	P2.062012.134440	L12060422-18	MW854B-GW-061312	50/50	1		06/20/12 13:44
44	P2.062012.135040	L12060445-01	40MW7GW061212	50/50	1		06/20/12 13:50
45	P2.062012.135735	L12060445-03	LFMW01GW061212	50/50	1		06/20/12 13:57
46	P2.062012.140430	L12060445-04	LFMW01GW061212	50/50	1		06/20/12 14:04
47	P2.062012.141125	WG400908-02	Reference Sample		1	L12060445-05	06/20/12 14:11
48	P2.062012.141723	WG401193-18	CCV		1		06/20/12 14:17
49	P2.062012.142323	WG401193-19	CCB		1		06/20/12 14:23
50	P2.062012.143016	WG400908-07	Matrix Spike	50/50	1	L12060445-05	06/20/12 14:30
51	P2.062012.143616	WG400908-08	Matrix Spike Duplica	50/50	1	L12060445-05	06/20/12 14:36
52	P2.062012.144216	L12060445-08	40DUPGW061212	50/50	1		06/20/12 14:42
53	P2.062012.144816	L12060445-09	40FB061212	50/50	1		06/20/12 14:48
54	P2.062012.145512	L12060445-10	40EQR061212	50/50	1		06/20/12 14:55
55	P2.062012.150205	L12060445-11	40MW5GW061212	50/50	1		06/20/12 15:02
56	P2.062012.150802	L12060445-12	40MW5GW061212	50/50	1		06/20/12 15:08
57	P2.062012.151456	WG401193-20	CCV		1		06/20/12 15:14
58	P2.062012.152056	WG401193-21	CCB		1		06/20/12 15:20
59	P2.062012.152749	WG401193-22	Interference Check		1		06/20/12 15:27
60	P2.062012.153345	WG401193-23	Interference Check		1		06/20/12 15:33
61	P2.062012.153846	WG401193-24	CCV		1		06/20/12 15:38
62	P2.062012.154446	WG401193-25	CCB		1		06/20/12 15:44
63	P2.062012.155139	L12060560-01	2051188-01	5/50	10		06/20/12 15:51
64	P2.062012.155834	L12060560-01	2051188-01		20		06/20/12 15:58
65	P2.062012.160529	WG401193-26	CCV		1		06/20/12 16:05
66	P2.062012.161128	WG401193-27	CCB		1		06/20/12 16:11
67	P2.062012.161821	WG401151-02	Method/Prep Blank	50/50	1		06/20/12 16:18
68	P2.062012.162516	WG401151-03	Laboratory Control S	50/50	1		06/20/12 16:25

Page: 2 Approved: June 21, 2012

Shari L. Bahgaf



Microbac Laboratories Inc.
Instrument Run Log

Instrument: PE-ICP2 Dataset: 062012H.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010 SOP: ME600E Rev: 12
 Maintenance Log ID: 42184

Calibration Std: STD52257 ICV Std: STD52198 Post Spike: STD51883
 ICSA: STD52259 ICSAB: STD52176 Int. Std: RG17310
 CCV: STD51781 LLCCV: _____

401034, 400948, 400942, 401202, 401205

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	P2.062012.163151	L12060564-01	E0123101	50/50	1		06/20/12 16:31
70	P2.062012.163755	L12060565-01	018	50/50	1		06/20/12 16:37
71	P2.062012.164457	L12060565-02	018	50/50	1		06/20/12 16:44
72	P2.062012.165158	L12060569-01	OUTFALL 003	50/50	1		06/20/12 16:51
73	P2.062012.165757	L12060569-02	OUTFALL 009	50/50	1		06/20/12 16:57
74	P2.062012.170356	L12060578-01	OUTFALL 002/COMP	50/50	1		06/20/12 17:03
75	P2.062012.171053	WG401202-01	Post Digestion Spike		1	L12060578-01	06/20/12 17:10
76	P2.062012.171654	WG401202-02	Serial Dilution		5	L12060578-01	06/20/12 17:16
77	P2.062012.172348	WG401193-28	CCV		1		06/20/12 17:23
78	P2.062012.172948	WG401193-29	CCB		1		06/20/12 17:29
79	P2.062012.173641	L12060579-04	OUTFALL 003/COMP	50/50	1		06/20/12 17:36
80	P2.062012.174340	WG401151-01	Reference Sample		1	L12060580-01	06/20/12 17:43
81	P2.062012.175036	WG401151-05	Matrix Spike	50/50	1	L12060580-01	06/20/12 17:50
82	P2.062012.175635	WG401151-04	Duplicate	50/50	1	L12060580-01	06/20/12 17:56
83	P2.062012.180331	WG401193-30	CCV		1		06/20/12 18:03
84	P2.062012.180930	WG401193-31	CCB		1		06/20/12 18:09
85	P2.062012.181623	WG401157-02	Method/Prep Blank	5/50	1		06/20/12 18:16
86	P2.062012.182318	WG401157-03	Laboratory Control S	5/50	1		06/20/12 18:23
87	P2.062012.182917	WG401113-01	TCLP Fluid Blank 1		1		06/20/12 18:29
88	P2.062012.183616	WG401113-02	TCLP Fluid Blank 2		1		06/20/12 18:36
89	P2.062012.184311	L12060509-01	497252	5/50	1		06/20/12 18:43
90	P2.062012.184918	L12060523-01	2060815-01	5/50	1		06/20/12 18:49
91	P2.062012.185520	L12060532-01	FILTER CAKE	5/50	1		06/20/12 18:55
92	P2.062012.190221	WG401205-01	Post Digestion Spike		1	L12060532-01	06/20/12 19:02
93	P2.062012.190820	WG401205-02	Serial Dilution		5	L12060532-01	06/20/12 19:08
94	P2.062012.191516	WG401193-32	CCV		1		06/20/12 19:15
95	P2.062012.192116	WG401193-33	CCB		1		06/20/12 19:21
96	P2.062012.192809	L12060532-03	ROTOCLONE SOLIDS	5/50	1		06/20/12 19:28
97	P2.062012.193510	L12060532-05	SANDING WHEEL PAPER	5/50	1		06/20/12 19:35
98	P2.062012.194209	WG401157-01	Reference Sample		1	L12060535-01	06/20/12 19:42
99	P2.062012.194909	WG401157-04	Matrix Spike	5/50	1	L12060535-01	06/20/12 19:49
100	P2.062012.195509	WG401157-05	Matrix Spike Duplica	5/50	1	L12060535-01	06/20/12 19:55
101	P2.062012.200109	WG401193-34	CCV		1		06/20/12 20:01
102	P2.062012.200709	WG401193-35	CCB		1		06/20/12 20:07

Page: 3 Approved: June 21, 2012

Shari L. Bahgat



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 062112H.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010 SOP: ME600E Rev: 12
 Maintenance Log ID: 42201

Calibration Std: STD52257 ICV Std: STD52198 Post Spike: STD51883
 ICSA: STD52259 ICSAB: STD52176 Int. Std: RG17310
 CCV: STD51781 LLCCV: _____

401208, 400947, 400948

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.062112.082337	WG401310-01	Calibration Point		1		06/21/12 08:23
2	P2.062112.083030	WG401310-02	Calibration Point		1		06/21/12 08:30
3	P2.062112.083725	WG401310-03	Calibration Point		1		06/21/12 08:37
4	P2.062112.084420	WG401310-04	Calibration Point		1		06/21/12 08:44
5	P2.062112.085019	WG401310-05	Calibration Point		1		06/21/12 08:50
6	P2.062112.085623	WG401310-06	Initial Calibration Verification		1		06/21/12 08:56
7	P2.062112.090219	WG401310-07	Initial Calib Blank		1		06/21/12 09:02
8	P2.062112.090912	WG401310-08	Interference Check		1		06/21/12 09:09
9	P2.062112.091508	WG401310-09	Interference Check		1		06/21/12 09:15
10	P2.062112.092125	WG401310-10	CCV		1		06/21/12 09:21
11	P2.062112.092725	WG401310-11	CCB		1		06/21/12 09:27
12	P2.062112.093418	5/8-M8	5/8-M8		1		06/21/12 09:34
13	P2.062112.094113	BLANK	BLANK		1		06/21/12 09:41
14	P2.062112.094808	WG401310-12	CCV		1		06/21/12 09:48
15	P2.062112.095408	WG401310-13	CCB		1		06/21/12 09:54
16	P2.062112.100101	WG401153-02	Method/Prep Blank	50/50	1		06/21/12 10:01
17	P2.062112.100756	WG401153-03	Laboratory Control S	50/50	1		06/21/12 10:07
18	P2.062112.101355	L12060471-01	MW-3	50/50	1		06/21/12 10:13
19	P2.062112.102002	L12060471-02	MW-3	50/50	1		06/21/12 10:20
20	P2.062112.102608	L12060471-03	MW-5	50/50	1		06/21/12 10:26
21	P2.062112.103305	L12060471-04	MW-5	50/50	1		06/21/12 10:33
22	P2.062112.104005	L12060471-05	MW-4	50/50	1		06/21/12 10:40
23	P2.062112.104707	L12060471-06	MW-4	50/50	1		06/21/12 10:47
24	P2.062112.105405	WG401208-01	Post Digestion Spike		1	L12060471-06	06/21/12 10:54
25	P2.062112.110007	WG401208-02	Serial Dilution		5	L12060471-06	06/21/12 11:00
26	P2.062112.110704	WG401310-14	CCV		1		06/21/12 11:07
27	P2.062112.111304	WG401310-15	CCB		1		06/21/12 11:13
28	P2.062112.111957	L12060471-07	DUPE	50/50	1		06/21/12 11:19
29	P2.062112.112656	L12060471-08	DUPE	50/50	1		06/21/12 11:26
30	P2.062112.113355	L12060471-12	EQ RINSE	50/50	1		06/21/12 11:33
31	P2.062112.114049	L12060527-01	6875-W0002	50/50	1		06/21/12 11:40
32	P2.062112.114744	L12060527-02	70151-W0001	50/50	1		06/21/12 11:47
33	P2.062112.115439	L12060530-04	PSEG-05-S	50/50	1		06/21/12 11:54
34	P2.062112.120139	L12060530-05	PSEG-06-S	50/50	1		06/21/12 12:01

Page: 1 Approved: June 25, 2012

Shari L. Bahgaf



Microbac Laboratories Inc.
Instrument Run Log

Instrument: PE-ICP2 Dataset: 062112H.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010 SOP: ME600E Rev: 12
 Maintenance Log ID: 42201

Calibration Std: STD52257 ICV Std: STD52198 Post Spike: STD51883
 ICSA: STD52259 ICSAB: STD52176 Int. Std: RG17310
 CCV: STD51781 LLCCV: _____

401208, 400947, 400948

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	P2.062112.120839	L12060530-06	PSEG-08-S	50/50	1		06/21/12 12:08
36	P2.062112.121540	L12060530-07	PSEG-09-S	50/50	1		06/21/12 12:15
37	P2.062112.122240	WG401310-16	CCV		1		06/21/12 12:22
38	P2.062112.122839	WG401310-17	CCB		1		06/21/12 12:28
39	P2.062112.123532	L12060554-01	POND OUTFALL	50/50	1		06/21/12 12:35
40	P2.062112.124129	L12060555-01	FTGWEF322	50/50	1		06/21/12 12:41
41	P2.062112.124726	WG401153-01	Reference Sample		1	L12060563-01	06/21/12 12:47
42	P2.062112.125323	WG401153-04	Matrix Spike	50/50	1	L12060563-01	06/21/12 12:53
43	P2.062112.125922	WG401153-05	Matrix Spike Duplica	50/50	1	L12060563-01	06/21/12 12:59
44	P2.062112.130521	WG401310-18	CCV		1		06/21/12 13:05
45	P2.062112.131122	WG401310-19	CCB		1		06/21/12 13:11
46	P2.062112.132125	WG400914-02	Method/Prep Blank	50/50	1		06/21/12 13:21
47	P2.062112.132820	WG400914-03	Laboratory Control S	50/50	1		06/21/12 13:28
48	P2.062112.133419	L12060423-01	03-00378-000 W-1	50/50	1		06/21/12 13:34
49	P2.062112.134018	L12060423-02	03-00378-000 DS-1	50/50	1		06/21/12 13:40
50	P2.062112.134617	L12060423-03	03-00378-000 DS-2	50/50	1		06/21/12 13:46
51	P2.062112.135216	L12060496-04	03-00004-000 P-1	50/50	1		06/21/12 13:52
52	P2.062112.135816	L12060497-05	03-00304-000 W-1	50/50	1		06/21/12 13:58
53	P2.062112.140517	L12060498-06	03-00305-001 DS-1	50/50	1		06/21/12 14:05
54	P2.062112.141210	WG400947-01	Post Digestion Spike		1	L12060498-06	06/21/12 14:12
55	P2.062112.141808	WG400947-02	Serial Dilution		5	L12060498-06	06/21/12 14:18
56	P2.062112.142501	WG401310-20	CCV		1		06/21/12 14:25
57	P2.062112.143102	WG401310-21	CCB		1		06/21/12 14:31
58	P2.062112.143755	L12060498-07	03-00305-002 W-1	50/50	1		06/21/12 14:37
59	P2.062112.144534	L12060498-08	03-00305-004 W-1	50/50	1		06/21/12 14:45
60	P2.062112.145233	L12060498-09	03-00305-003 W-1	50/50	1		06/21/12 14:52
61	P2.062112.145932	L12060498-12	03-00305-000 W-1	50/50	1		06/21/12 14:59
62	P2.062112.150627	L12060498-13	03-00305-000 DS-1	50/50	1		06/21/12 15:06
63	P2.062112.151322	L12060499-10	03-00637-002 W-1	50/50	1		06/21/12 15:13
64	P2.062112.151920	L12060499-11	03-00637-001 DS-1	50/50	1		06/21/12 15:19
65	P2.062112.152616	L12060500-14	03-00639-000 W-1	50/50	1		06/21/12 15:26
66	P2.062112.153317	L12060500-15	03-00639-001 W-1	50/50	1		06/21/12 15:33
67	P2.062112.154014	WG401310-22	CCV		1		06/21/12 15:40
68	P2.062112.154613	WG401310-23	CCB		1		06/21/12 15:46

Page: 2 Approved: June 25, 2012

Shari L. Bahgat



Microbac Laboratories Inc.
Instrument Run Log

Instrument: PE-ICP2 Dataset: 062112H.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010 SOP: ME600E Rev: 12
 Maintenance Log ID: 42201

Calibration Std: STD52257 ICV Std: STD52198 Post Spike: STD51883
 ICSA: STD52259 ICSAB: STD52176 Int. Std: RGT17310
 CCV: STD51781 LLCCV: _____

401208, 400947, 400948

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	P2.062112.155306	L12060501-16	03-00024-001 P-1	50/50	1		06/21/12 15:53
70	P2.062112.155903	L12060501-17	03-00024-000 W-1	50/50	1		06/21/12 15:59
71	P2.062112.160501	WG400914-01	Reference Sample		1	L12060502-18	06/21/12 16:05
72	P2.062112.161158	WG400914-04	Matrix Spike	50/50	1	L12060502-18	06/21/12 16:11
73	P2.062112.161757	WG400914-05	Matrix Spike Duplica	50/50	1	L12060502-18	06/21/12 16:17
74	P2.062112.162356	L12060445-01	40MW7GW061212	50/50	10		06/21/12 16:23
75	P2.062112.163050	L12060445-03	LFMW01GW061212	50/50	10		06/21/12 16:30
76	P2.062112.163745	L12060445-04	LFMW01GW061212	50/50	10		06/21/12 16:37
77	P2.062112.164440	WG400908-02	Reference Sample		10	L12060445-05	06/21/12 16:44
78	P2.062112.165135	WG401310-24	CCV		1		06/21/12 16:51
79	P2.062112.165735	WG401310-25	CCB		1		06/21/12 16:57
80	P2.062112.170428	WG400908-07	Matrix Spike	50/50	10	L12060445-05	06/21/12 17:04
81	P2.062112.171026	WG400908-08	Matrix Spike Duplica	50/50	10	L12060445-05	06/21/12 17:10
82	P2.062112.171626	L12060445-08	40DUPGW061212	50/50	10		06/21/12 17:16
83	P2.062112.172322	L12060445-11	40MW5GW061212	50/50	10		06/21/12 17:23
84	P2.062112.173016	L12060445-12	40MW5GW061212	50/50	10		06/21/12 17:30
85	P2.062112.173710	L12060471-01	MW-3	50/50	100		06/21/12 17:37
86	P2.062112.174404	L12060471-02	MW-3	50/50	100		06/21/12 17:44
87	P2.062112.175058	L12060471-05	MW-4	50/50	100		06/21/12 17:50
88	P2.062112.175752	L12060471-06	MW-4	50/50	100		06/21/12 17:57
89	P2.062112.180447	WG401310-26	CCV		1		06/21/12 18:04
90	P2.062112.181048	WG401310-27	CCB		1		06/21/12 18:10
91	P2.062112.181741	WG401208-01	Post Digestion Spike		100	L12060471-06	06/21/12 18:17
92	P2.062112.182340	WG401208-02	Serial Dilution		500	L12060471-06	06/21/12 18:23
93	P2.062112.183035	L12060471-07	DUPE	50/50	100		06/21/12 18:30
94	P2.062112.183730	L12060471-08	DUPE	50/50	100		06/21/12 18:37
95	P2.062112.184425	WG401310-28	CCV		1		06/21/12 18:44
96	P2.062112.185026	WG401310-29	CCB		1		06/21/12 18:50

Page: 3 Approved: June 25, 2012

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 20-JUN-2012

Analyst: KHR

Analyst: NA

Method: 6010

Instrument: PE-ICP2

Curve Workgroup: 401193

Runlog ID: 47397

Analytical Workgroups: 401034, 400948, 400942, 401202, 401205

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	
Level 3	422
Level 4	561, 445, 560
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KHR
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
21-JUN-2012

Ken H. Rhodes

Secondary Reviewer:
21-JUN-2012

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 21-JUN-2012

Analyst: KHR

Analyst: NA

Method: 6010

Instrument: PE-ICP2

Curve Workgroup: 401310

Runlog ID: 47430

Analytical Workgroups: 401208, 400947, 400948

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	
Case Narrative	X
Client Forms	X
Level X	
Level 3	554, 555, 563
Level 4	527, 530, 423, 496, 497, 498, 499
Level 4	500, 501, 502, 445
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KHR
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
22-JUN-2012

Kim H. Rhodes

Secondary Reviewer:
25-JUN-2012

Shari L. Bahguf



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010B

AAB#: WG400948

Login Number: L12060445

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
40MW7GW061212	01	06/12/12					06/18/12	6	180		06/21/12	9.2	180	
40MW7GW061212	01	06/12/12					06/18/12	6	180		06/20/12	8.1	180	
LFMW01GW061212	03	06/12/12					06/18/12	5.9	180		06/21/12	9.1	180	
LFMW01GW061212	03	06/12/12					06/18/12	5.9	180		06/20/12	8	180	
LFMW01GW061212	04	06/12/12					06/18/12	5.9	180		06/21/12	9.2	180	
LFMW01GW061212	04	06/12/12					06/18/12	5.9	180		06/20/12	8	180	
40MW6GW061212	05	06/12/12					06/18/12	5.8	180		06/20/12	8	180	
40MW6GW061212	05	06/12/12					06/18/12	5.8	180		06/21/12	9.1	180	
40MW6MSGW061212	06	06/12/12					06/18/12	5.8	180		06/20/12	8	180	
40MW6MSGW061212	06	06/12/12					06/18/12	5.8	180		06/21/12	9.1	180	
40MW6MSDGW061212	07	06/12/12					06/18/12	5.8	180		06/21/12	9.1	180	
40MW6MSDGW061212	07	06/12/12					06/18/12	5.8	180		06/20/12	8	180	
40DUPGW061212	08	06/12/12					06/18/12	5.8	180		06/20/12	8	180	
40DUPGW061212	08	06/12/12					06/18/12	5.8	180		06/21/12	9.1	180	
40FB061212	09	06/12/12					06/18/12	5.8	180		06/20/12	8	180	
40EQR061212	10	06/12/12					06/18/12	5.8	180		06/20/12	7.9	180	
40MW5GW061212	11	06/12/12					06/18/12	5.7	180		06/20/12	7.9	180	
40MW5GW061212	11	06/12/12					06/18/12	5.7	180		06/21/12	9	180	
40MW5GW061212	12	06/12/12					06/18/12	5.7	180		06/21/12	9	180	
40MW5GW061212	12	06/12/12					06/18/12	5.7	180		06/20/12	7.9	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2461643
Report generated 06/22/2012 09:02



METHOD BLANK SUMMARY

Login Number: L12060445
 Blank File ID: P2.062012.121900
 Prep Date: 06/18/12 10:52
 Analyzed Date: 06/20/12 12:19
 Analyst: KHR

Work Group: WG400948
 Blank Sample ID: WG400908-03
 Instrument ID: PE-ICP2
 Method: 6010B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG400908-04	P2.061912.114539	06/19/12 11:45	01
LCS	WG400908-04	P2.062012.122555	06/20/12 12:25	02
40MW7GW061212	L12060445-01	P2.062012.135040	06/20/12 13:50	01
LFMW01GW061212	L12060445-03	P2.062012.135735	06/20/12 13:57	01
LFMW01GW061212	L12060445-04	P2.062012.140430	06/20/12 14:04	01
40MW6GW061212	L12060445-05	P2.062012.141125	06/20/12 14:11	01
40MW6MSGW061212	L12060445-06	P2.062012.143016	06/20/12 14:30	01
40MW6MSDGW061212	L12060445-07	P2.062012.143616	06/20/12 14:36	01
40DUPGW061212	L12060445-08	P2.062012.144216	06/20/12 14:42	01
40FB061212	L12060445-09	P2.062012.144816	06/20/12 14:48	01
40EQR061212	L12060445-10	P2.062012.145512	06/20/12 14:55	01
40MW5GW061212	L12060445-11	P2.062012.150205	06/20/12 15:02	01
40MW5GW061212	L12060445-12	P2.062012.150802	06/20/12 15:08	01
40MW7GW061212	L12060445-01	P2.062112.162356	06/21/12 16:23	DL01
LFMW01GW061212	L12060445-03	P2.062112.163050	06/21/12 16:30	DL01
LFMW01GW061212	L12060445-04	P2.062112.163745	06/21/12 16:37	DL01
40MW6GW061212	L12060445-05	P2.062112.164440	06/21/12 16:44	DL01
40MW6MSGW061212	L12060445-06	P2.062112.170428	06/21/12 17:04	DL01
40MW6MSDGW061212	L12060445-07	P2.062112.171026	06/21/12 17:10	DL01
40DUPGW061212	L12060445-08	P2.062112.171626	06/21/12 17:16	DL01
40MW5GW061212	L12060445-11	P2.062112.172322	06/21/12 17:23	DL01
40MW5GW061212	L12060445-12	P2.062112.173016	06/21/12 17:30	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 2461644
 Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/18/12 10:52 Sample ID: WG400908-03
Instrument ID: PE-ICP2 Run Date: 06/20/12 12:19 Prep Method: 3005A
File ID: P2.062012.121900 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG400948 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: PE-ICP - 20-JUN-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Beryllium, Total	0.00100	0.00200	0.00100	1	U
Calcium, Total	0.100	0.200	0.100	1	U
Iron, Total	0.0500	0.100	0.0500	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Potassium, Total	0.500	1.00	0.500	1	U
Sodium, Total	0.250	0.500	0.250	1	U
Vanadium, Total	0.00500	0.0100	0.00500	1	U
Zinc, Total	0.0100	0.0200	0.0100	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 2461645
21-JUN-2012 09:01



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L12060445</u>	Run Date: <u>06/20/2012</u>	Sample ID: <u>WG400908-04</u>
Instrument ID: <u>PE-ICP2</u>	Run Time: <u>12:25</u>	Prep Method: <u>3005A</u>
File ID: <u>P2.062012.122555</u>	Analyst: <u>KHR</u>	Method: <u>6010B</u>
Workgroup (AAB#): <u>WG400948</u>	Matrix: <u>Water</u>	Units: <u>mg/L</u>
QC Key: <u>DOD4</u>	Lot#: <u>STD51884</u>	Cal ID: <u>PE-ICP - 20-JUN-12</u>

Analytes	Expected	Found	% Rec	LCS Limits	Q
Aluminum, Total	5.00	4.97	99.5	80 - 120	
Beryllium, Total	0.0250	0.0247	98.7	80 - 120	
Calcium, Total	5.00	5.07	101	80 - 120	
Iron, Total	2.00	1.99	99.3	80 - 120	
Magnesium, Total	5.00	5.06	101	80 - 120	
Potassium, Total	25.0	24.8	99.1	80 - 120	
Sodium, Total	25.0	25.2	101	80 - 120	
Vanadium, Total	0.500	0.505	101	80 - 120	
Zinc, Total	0.500	0.517	103	80 - 120	

LCS - Modified 03/06/2008
 PDF File ID: 2461646
 Report generated: 06/21/2012 09:01



MS/MSD REPORT

Loginnum: L12060445 Cal ID: PE-ICP2- 20-JUN-12
 Instrument ID: PE-ICP2 Contract #: _____
 Parent ID: L12060445-05 File ID: P2.062012.141125 Dil: 1
 Sample ID: L12060445-06 MS File ID: P2.062012.143016 Dil: 1
 Sample ID: L12060445-07 MSD File ID: P2.062012.143616 Dil: 1

Worknum: WG400948
 Prep Method: 3005A
 Method: 6010B
 Matrix: Water
 Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Total	0.230	5.00	5.60	107	5.00	5.69	109	1.57	80 - 120	20	
Beryllium, Total	U	0.0250	0.0240	96.2	0.0250	0.0247	98.8	2.67	80 - 120	20	
Iron, Total	0.296	2.00	2.36	103	2.00	2.41	106	1.93	80 - 120	20	
Potassium, Total	1.14	25.0	26.9	103	25.0	27.3	105	1.78	80 - 120	20	
Sodium, Total	5.18	25.0	30.9	103	25.0	31.7	106	2.57	80 - 120	20	
Vanadium, Total	0.00809	0.500	0.517	102	0.500	0.526	104	1.79	80 - 120	20	
Zinc, Total	U	0.500	0.493	98.6	0.500	0.497	99.5	0.859	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS/MSD REPORT

Loginnum: L12060445 Cal ID: PE-ICP2- 21-JUN-12
 Instrument ID: PE-ICP2 Contract #: _____
 Parent ID: L12060445-05 File ID: P2.062112.164440 Dil: 10
 Sample ID: L12060445-06 MS File ID: P2.062112.170428 Dil: 10
 Sample ID: L12060445-07 MSD File ID: P2.062112.171026 Dil: 10

Worknum: WG400948
 Prep Method: 3005A
 Method: 6010B
 Matrix: Water
 Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Calcium, Total	85.3	5.00	96.7	227	5.00	96.6	224	0.133	80 - 120	20	*
Magnesium, Total	34.0	5.00	38.5	90.3	5.00	38.0	80	1.33	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 2461647

Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12060445 Worknum: WG400948
Instrument: PE-ICP2 Method: 6010B
Serial Dil: WG400948-04 File ID: P2.062012.131355 Dil: 5 Units: mg/L
Sample: L12060422-12 File ID: P2.062012.130153 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Aluminum	ND	U	ND	U		
Beryllium	ND	U	ND	U		
Calcium	14.3		14.2		0.50	
Iron	18.4		19.1		3.92	
Magnesium	5.97	X	6.04	X	1.28	
Potassium	3.23	X	3.25	F	0.55	
Sodium	55.4		54.9		0.92	
Vanadium	ND	U	ND	U		
Zinc	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 50 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2461641

06/21/2012 09:01



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12060445
Instrument ID: PE-ICP2
Post Spike ID: WG400948-03
Sample ID: L12060422-12

Worknum: WG400948
Method: 6010B
Units: mg/L
Matrix: Water
File ID: P2.062012.130754 Dil: 1
File ID: P2.062012.130153 Dil: 1

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ALUMINUM	5.11		0	U	5	102.2	75 - 125	
BERYLLIUM	0.0254		0	U	.025	101.5	75 - 125	
CALCIUM	18.3		14.3		5	108.6	75 - 125	
IRON	18.7		18.4		2	107.8	75 - 125	
MAGNESIUM	10.4		5.97		5	101.2	75 - 125	
POTASSIUM	28.6		3.23		25	102.8	75 - 125	
SODIUM	77.3		55.4		25	109.5	75 - 125	
VANADIUM	0.533		0	U	.5	106.6	75 - 125	
ZINC	0.531		0	U	.5	106.3	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2461642
Report generated: 06/21/2012 09:01



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12060445</u>	Workgroup (AAB#):	<u>WG400948</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>PE-ICP2</u>
ICAL Worknum:	<u>WG401193</u>	Initial Calibration Date:	<u>20-JUN-2012 09:37</u>

	WG401193-01		WG401193-02		WG401193-03		WG401193-04		WG401193-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ALUMINUM	0	35.5	.1	652	.2	1340	10	59900	20	120000	.999999	
BERYLLIUM	0	-1540	.0005	681	.001	1270	.05	61000	.1	119000	.999947	
CALCIUM	0	-70.9	NA	NA	.2	81.1	10	3900	20	7800	1	
IRON	0	-12.7	.04	593	.08	1220	4	57400	8	115000	.999996	
MAGNESIUM	0	42.6	.1	363	.2	723	10	33500	20	67300	.999997	
POTASSIUM	0	-261	.5	1780	1	3270	50	132000	100	262000	.999999	
SODIUM	0	1230	.5	9590	1	19000	50	893000	100	1740000	1	
VANADIUM	0	7660	.01	1810	.02	4240	1	206000	2	411000	.999998	
ZINC	0	59.6	.01	548	.02	1110	1	51600	2	102000	.999981	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2461650
Report generated: 22-JUN-2012 09:02



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12060445</u>	Workgroup (AAB#):	<u>WG400948</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>PE-ICP2</u>
ICAL Worknum:	<u>WG401310</u>	Initial Calibration Date:	<u>21-JUN-2012 08:50</u>

	WG401310-01		WG401310-02		WG401310-03		WG401310-04		WG401310-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ALUMINUM	0	22.7	.1	610	.2	1230	10	59100	20	122000	.999905	
BERYLLIUM	0	-1580	.0005	597	.001	1220	.05	62600	.1	129000	.999913	
CALCIUM	0	-63.1	NA	NA	.2	64.5	10	4050	20	8400	.999848	
IRON	0	-18.2	.04	566	.08	1130	4	56400	8	117000	.999867	
MAGNESIUM	0	33.3	.1	332	.2	672	10	32900	20	68500	.999819	
POTASSIUM	0	-255	.5	1710	1	3070	50	131000	100	268000	.999999	
SODIUM	0	1020	.5	8920	1	17700	50	866000	100	1740000	1	
VANADIUM	0	7310	.01	2070	.02	4530	1	215000	2	439000	.999956	
ZINC	0	6.90	.01	555	.02	1130	1	53900	2	110000	.999952	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2461650
Report generated: 22-JUN-2012 09:02



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12060445 Run Date: 06/20/2012 Sample ID: WG401193-07
Instrument ID: PE-ICP2 Run Time: 09:49 Method: 6010B
File ID: P2.062012.094914 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP2 - 20-JUN-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BERYLLIUM	.001	.002	.001	U
CALCIUM	.1	.2	.1	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
POTASSIUM	.5	1	.5	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2461652
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12060445 Run Date: 06/21/2012 Sample ID: WG401310-07
Instrument ID: PE-ICP2 Run Time: 09:02 Method: 6010B
File ID: P2.062112.090219 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP2 - 21-JUN-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BERYLLIUM	.001	.002	.001	U
CALCIUM	.1	.2	.1	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
POTASSIUM	.5	1	.5	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2461652
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/20/2012 Sample ID: WG401193-11
Instrument ID: PE-ICP2 Run Time: 10:13 Method: 6010B
File ID: P2.062012.101359 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 20-JUN-12
Matrix: WATER QAPP: D0D4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2461655
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/20/2012 Sample ID: WG401193-15
Instrument ID: PE-ICP2 Run Time: 12:12 Method: 6010B
File ID: P2.062012.121207 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 20-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2461655
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/20/2012 Sample ID: WG401193-17
Instrument ID: PE-ICP2 Run Time: 13:25 Method: 6010B
File ID: P2.062012.132551 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 20-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2461655
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/20/2012 Sample ID: WG401193-19
Instrument ID: PE-ICP2 Run Time: 14:23 Method: 6010B
File ID: P2.062012.142323 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 20-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2461655
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/20/2012 Sample ID: WG401193-21
Instrument ID: PE-ICP2 Run Time: 15:20 Method: 6010B
File ID: P2.062012.152056 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 20-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2461655
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/20/2012 Sample ID: WG401193-25
Instrument ID: PE-ICP2 Run Time: 15:44 Method: 6010B
File ID: P2.062012.154446 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 20-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2461655
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/21/2012 Sample ID: WG401310-11
Instrument ID: PE-ICP2 Run Time: 09:27 Method: 6010B
File ID: P2.062112.092725 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 21-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L12060445 Run Date: 06/21/2012 Sample ID: WG401310-23
Instrument ID: PE-ICP2 Run Time: 15:46 Method: 6010B
File ID: P2.062112.154613 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 21-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Login Number: L12060445 Run Date: 06/21/2012 Sample ID: WG401310-25
Instrument ID: PE-ICP2 Run Time: 16:57 Method: 6010B
File ID: P2.062112.165735 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 21-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/21/2012 Sample ID: WG401310-27
Instrument ID: PE-ICP2 Run Time: 18:10 Method: 6010B
File ID: P2.062112.181048 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 21-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12060445 Run Date: 06/20/2012 Sample ID: WG401193-06
Instrument ID: PE-ICP2 Run Time: 09:43 Method: 6010B
File ID: P2.062012.094317 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 20-JUN-12
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	10.2	102	90 - 110	
Beryllium	.05	0.0487	97.4	90 - 110	
Calcium	10	10.3	103	90 - 110	
Iron	4	4.12	103	90 - 110	
Magnesium	10	10.1	101	90 - 110	
Potassium	50	49.9	99.7	90 - 110	
Sodium	50	50.7	101	90 - 110	
Vanadium	1	0.998	99.8	90 - 110	
Zinc	1	1.03	103	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2461651
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12060445 Run Date: 06/21/2012 Sample ID: WG401310-06
Instrument ID: PE-ICP2 Run Time: 08:56 Method: 6010B
File ID: P2.062112.085623 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG400948 Cal ID: PE-ICP - 21-JUN-12
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	9.99	99.9	90 - 110	
Beryllium	.05	0.0498	99.5	90 - 110	
Calcium	10	10.5	105	90 - 110	
Iron	4	4.06	102	90 - 110	
Magnesium	10	9.93	99.3	90 - 110	
Potassium	50	50.1	100	90 - 110	
Sodium	50	49.4	98.8	90 - 110	
Vanadium	1	1.00	100	90 - 110	
Zinc	1	1.03	103	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2461651
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/20/2012</u>	Sample ID: <u>WG401193-10</u>
Instrument ID: <u>PE-ICP2</u>	Run Time: <u>10:08</u>	Method: <u>6010B</u>
File ID: <u>P2.062012.100800</u>	Analyst: <u>KHR</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400948</u>	Cal ID: <u>PE-ICP - 20-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Beryllium		0.0500	0.0504	mg/L	101	90 - 110		
Calcium		10.0	10.4	mg/L	104	90 - 110		
Iron		4.00	4.07	mg/L	102	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	50.9	mg/L	102	90 - 110		
Sodium		50.0	51.0	mg/L	102	90 - 110		
Vanadium		1.00	1.02	mg/L	102	90 - 110		
Zinc		1.00	1.02	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2461654
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/20/2012</u>	Sample ID: <u>WG401193-14</u>
Instrument ID: <u>PE-ICP2</u>	Run Time: <u>12:06</u>	Method: <u>6010B</u>
File ID: <u>P2.062012.120608</u>	Analyst: <u>KHR</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400948</u>	Cal ID: <u>PE-ICP - 20-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.1	mg/L	101	90 - 110		
Beryllium		0.0500	0.0511	mg/L	102	90 - 110		
Calcium		10.0	10.5	mg/L	105	90 - 110		
Iron		4.00	4.09	mg/L	102	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	50.4	mg/L	101	90 - 110		
Sodium		50.0	50.2	mg/L	100	90 - 110		
Vanadium		1.00	1.02	mg/L	102	90 - 110		
Zinc		1.00	1.04	mg/L	104	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2461654
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/20/2012</u>	Sample ID: <u>WG401193-16</u>
Instrument ID: <u>PE-ICP2</u>	Run Time: <u>13:19</u>	Method: <u>6010B</u>
File ID: <u>P2.062012.131951</u>	Analyst: <u>KHR</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400948</u>	Cal ID: <u>PE-ICP - 20-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.3	mg/L	103	90 - 110		
Beryllium		0.0500	0.0514	mg/L	103	90 - 110		
Calcium		10.0	10.7	mg/L	107	90 - 110		
Iron		4.00	4.16	mg/L	104	90 - 110		
Magnesium		10.0	10.4	mg/L	104	90 - 110		
Potassium		50.0	51.4	mg/L	103	90 - 110		
Sodium		50.0	50.7	mg/L	101	90 - 110		
Vanadium		1.00	1.03	mg/L	103	90 - 110		
Zinc		1.00	1.04	mg/L	104	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2461654
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/20/2012</u>	Sample ID: <u>WG401193-18</u>
Instrument ID: <u>PE-ICP2</u>	Run Time: <u>14:17</u>	Method: <u>6010B</u>
File ID: <u>P2.062012.141723</u>	Analyst: <u>KHR</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400948</u>	Cal ID: <u>PE-ICP - 20-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Beryllium		0.0500	0.0506	mg/L	101	90 - 110		
Calcium		10.0	10.6	mg/L	106	90 - 110		
Iron		4.00	4.10	mg/L	102	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	50.9	mg/L	102	90 - 110		
Sodium		50.0	51.4	mg/L	103	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.02	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2461654
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/20/2012</u>	Sample ID: <u>WG401193-20</u>
Instrument ID: <u>PE-ICP2</u>	Run Time: <u>15:14</u>	Method: <u>6010B</u>
File ID: <u>P2.062012.151456</u>	Analyst: <u>KHR</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400948</u>	Cal ID: <u>PE-ICP - 20-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS	Q	
Aluminum		10.0	10.1	mg/L	101	90 - 110		
Beryllium		0.0500	0.0500	mg/L	99.9	90 - 110		
Calcium		10.0	10.5	mg/L	105	90 - 110		
Iron		4.00	4.04	mg/L	101	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Potassium		50.0	50.4	mg/L	101	90 - 110		
Sodium		50.0	49.4	mg/L	98.8	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.02	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2461654
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/20/2012</u>	Sample ID: <u>WG401193-24</u>
Instrument ID: <u>PE-ICP2</u>	Run Time: <u>15:38</u>	Method: <u>6010B</u>
File ID: <u>P2.062012.153846</u>	Analyst: <u>KHR</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400948</u>	Cal ID: <u>PE-ICP - 20-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Beryllium		0.0500	0.0503	mg/L	101	90 - 110		
Calcium		10.0	10.5	mg/L	105	90 - 110		
Iron		4.00	4.10	mg/L	103	90 - 110		
Magnesium		10.0	10.3	mg/L	103	90 - 110		
Potassium		50.0	51.1	mg/L	102	90 - 110		
Sodium		50.0	51.1	mg/L	102	90 - 110		
Vanadium		1.00	1.02	mg/L	102	90 - 110		
Zinc		1.00	1.03	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2461654
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/21/2012</u>	Sample ID: <u>WG401310-10</u>
Instrument ID: <u>PE-ICP2</u>	Run Time: <u>09:21</u>	Method: <u>6010B</u>
File ID: <u>P2.062112.092125</u>	Analyst: <u>KHR</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400948</u>	Cal ID: <u>PE-ICP - 21-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.92	mg/L	99.2	90 - 110		
Beryllium		0.0500	0.0505	mg/L	101	90 - 110		
Calcium		10.0	10.4	mg/L	104	90 - 110		
Iron		4.00	3.96	mg/L	98.9	90 - 110		
Magnesium		10.0	9.91	mg/L	99.1	90 - 110		
Potassium		50.0	50.4	mg/L	101	90 - 110		
Sodium		50.0	50.6	mg/L	101	90 - 110		
Vanadium		1.00	1.01	mg/L	101	90 - 110		
Zinc		1.00	1.02	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2461654
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/21/2012</u>	Sample ID: <u>WG401310-22</u>
Instrument ID: <u>PE-ICP2</u>	Run Time: <u>15:40</u>	Method: <u>6010B</u>
File ID: <u>P2.062112.154014</u>	Analyst: <u>KHR</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400948</u>	Cal ID: <u>PE-ICP - 21-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.82	mg/L	98.2	90 - 110		
Beryllium		0.0500	0.0491	mg/L	98.3	90 - 110		
Calcium		10.0	10.3	mg/L	103	90 - 110		
Iron		4.00	3.86	mg/L	96.4	90 - 110		
Magnesium		10.0	9.70	mg/L	97.0	90 - 110		
Potassium		50.0	50.1	mg/L	100	90 - 110		
Sodium		50.0	49.7	mg/L	99.5	90 - 110		
Vanadium		1.00	0.981	mg/L	98.1	90 - 110		
Zinc		1.00	0.984	mg/L	98.4	90 - 110		

* Exceeds LIMITS Criteria

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PDF File ID: 2461654
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/21/2012</u>	Sample ID: <u>WG401310-24</u>
Instrument ID: <u>PE-ICP2</u>	Run Time: <u>16:51</u>	Method: <u>6010B</u>
File ID: <u>P2.062112.165135</u>	Analyst: <u>KHR</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400948</u>	Cal ID: <u>PE-ICP - 21-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.78	mg/L	97.8	90 - 110		
Beryllium		0.0500	0.0489	mg/L	97.9	90 - 110		
Calcium		10.0	10.3	mg/L	103	90 - 110		
Iron		4.00	3.86	mg/L	96.6	90 - 110		
Magnesium		10.0	9.65	mg/L	96.5	90 - 110		
Potassium		50.0	49.9	mg/L	99.9	90 - 110		
Sodium		50.0	49.9	mg/L	99.8	90 - 110		
Vanadium		1.00	0.988	mg/L	98.8	90 - 110		
Zinc		1.00	0.985	mg/L	98.5	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2461654
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/21/2012</u>	Sample ID: <u>WG401310-26</u>
Instrument ID: <u>PE-ICP2</u>	Run Time: <u>18:04</u>	Method: <u>6010B</u>
File ID: <u>P2.062112.180447</u>	Analyst: <u>KHR</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400948</u>	Cal ID: <u>PE-ICP - 21-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.0	mg/L	100	90 - 110		
Beryllium		0.0500	0.0491	mg/L	98.1	90 - 110		
Calcium		10.0	10.5	mg/L	105	90 - 110		
Iron		4.00	3.99	mg/L	99.8	90 - 110		
Magnesium		10.0	10.0	mg/L	100	90 - 110		
Potassium		50.0	51.2	mg/L	102	90 - 110		
Sodium		50.0	51.7	mg/L	103	90 - 110		
Vanadium		1.00	1.02	mg/L	102	90 - 110		
Zinc		1.00	1.01	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2461654
Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12060445
Instrument ID: PE-ICP2
Sol. A : WG401193-08
Sol. AB : WG401193-09

File ID: P2.062012.095607
File ID: P2.062012.100203

Workgroup (AAB#): WG400948
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	254	102	250	246	98.4	
Beryllium	NS	-0.000120	NS	0.250	0.255	102	
Calcium	250	260	104	250	265	106	
Iron	100	94.5	94.5	100	91.8	91.8	
Magnesium	250	252	101	250	245	98.0	
Potassium	NS	-0.165	NS	5.00	4.89	97.8	
Sodium	NS	-0.0149	NS	5.00	5.03	101	
Vanadium	NS	0.00302	NS	0.250	0.259	104	
Zinc	NS	0.00102	NS	0.500	0.498	99.6	

NS = Not spiked

*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2461653
Report generated 06/22/2012 09:02



**Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES**

Login number: L12060445
Instrument ID: PE-ICP2
Sol. A : WG401193-22
Sol. AB : WG401193-23

File ID: P2.062012.152749
File ID: P2.062012.153345

Workgroup (AAB#): WG400948
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	248	99.2	250	258	103	
Beryllium	NS	0.000300	NS	0.250	0.251	100	
Calcium	250	262	105	250	263	105	
Iron	100	92.7	92.7	100	96.0	96.0	
Magnesium	250	248	99.2	250	256	102	
Potassium	NS	-0.128	NS	5.00	4.92	98.4	
Sodium	NS	-0.0197	NS	5.00	5.03	101	
Vanadium	NS	0.00445	NS	0.250	0.253	101	
Zinc	NS	0.000670	NS	0.500	0.487	97.4	

NS = Not spiked

*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
 PDF File ID: 2461653
 Report generated 06/22/2012 09:02



**Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES**

Login number: L12060445
Instrument ID: PE-ICP2
Sol. A : WG401310-08
Sol. AB : WG401310-09

File ID: P2.062112.090912
File ID: P2.062112.091508

Workgroup (AAB#): WG400948
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	240	96.0	250	250	100	
Beryllium	NS	0.00119	NS	0.250	0.255	102	
Calcium	250	257	103	250	264	106	
Iron	100	90.2	90.2	100	93.3	93.3	
Magnesium	250	240	96.0	250	248	99.2	
Potassium	NS	-0.156	NS	5.00	5.09	102	
Sodium	NS	-0.00468	NS	5.00	5.19	104	
Vanadium	NS	0.00931	NS	0.250	0.262	105	
Zinc	NS	0.00587	NS	0.500	0.496	99.2	

NS = Not spiked

*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
 PDF File ID: 2461653
 Report generated 06/22/2012 09:02



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12060445
Instrument ID: PE-ICP2

Date: 12/30/2011
Method: 6010B

Analyte	Wave Length	AG	AL	AS	B	BA
ALUMINUM	396.15	0	0	0.206	0	0
ANTIMONY	206.84	0	0	-0.740	0	0
ARSENIC	188.98	0	0.0776	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	1.12	0	0	0
CADMIUM	228.80	0	0	3.00	0	0
CALCIUM	227.55	0	0.195	10.0	0	0
CHROMIUM	267.72	0	-0.00252	0	0	0
COBALT	228.62	0	0	0	0	0.337
COPPER	327.39	0	0	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	0	-0.0265	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	-0.185	0	-0.231	-0.0949	-0.230
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0.147	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0	0.200	0	0.0400
ZINC	206.20	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2461649
Report generated: 06/22/2012 09:02



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12060445
Instrument ID: PE-ICP2

Date: 12/30/2011
Method: 6010B

Analyte	Wave Length	BE	CA	CD	CO	CR
ALUMINUM	396.15	0	0	0	0	0
ANTIMONY	206.84	0	0	0	0	6.33
ARSENIC	188.98	0	0.0200	0	0	-6.59
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	-0.0733
BORON	249.68	0	0	24.1	5.90	1.50
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	0	300	0
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	-0.244
COPPER	327.39	0	0	0	0.380	-0.0400
IRON	239.56	0	0	0	1.91	0
LEAD	220.35	0	-0.0480	0	0.116	-0.0700
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	-1.04	0	-0.755	-0.0418	-0.110
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	-0.566	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	-0.300	0	-1.52	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0.400	0	3.48	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	-0.0100	0	0	0.297
VANADIUM	290.88	0	0	0	0	0
ZINC	206.20	0	0	0	0	-3.64

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2461649
Report generated: 06/22/2012 09:02



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12060445
Instrument ID: PE-ICP2

Date: 12/30/2011
Method: 6010B

Analyte	Wave Length	CU	FE	K	LI	MG
ALUMINUM	396.15	0	0.0192	0	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	-0.00250	0	0	0
BARIUM	233.53	0	-0.0187	0	0	0
BERYLLIUM	234.86	0	0.210	0	0	0
BORON	249.68	0	-4.66	0	0	0
CADMIUM	228.80	0	-0.00420	0	0	0
CALCIUM	227.55	-2.00	100	0	0	0.104
CHROMIUM	267.72	0	0.0391	0	0	0
COBALT	228.62	0	0.0262	0	0	0
COPPER	327.39	0	-0.0688	0	0.154	0
IRON	239.56	0	0	0	0	0.0276
LEAD	220.35	0.740	0.0440	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0.540	0	0	0
MANGANESE	257.61	-0.0457	-0.0580	-0.0181	-0.794	0.0147
MOLYBDENUM	202.03	0	-0.0494	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	-0.465	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0.0717	0.0240	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0.120	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0.134	0	0	0
ZINC	206.20	-0.200	0.0198	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2461649
Report generated: 06/22/2012 09:02



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12060445
Instrument ID: PE-ICP2

Date: 12/30/2011
Method: 6010B

Analyte	Wave Length	MN	MO	NA	NI	PB
ALUMINUM	396.15	0	13.5	0	0	0
ANTIMONY	206.84	0	-7.69	0	0	0
ARSENIC	188.98	0	6.00	0	0	0
BARIUM	233.53	0	-0.548	0	0	0
BERYLLIUM	234.86	-0.131	-1.50	0	-0.00974	0
BORON	249.68	0	-2.20	0	0	0
CADMIUM	228.80	0	-0.00900	0	-0.398	0
CALCIUM	227.55	0	-8.00	0	-900	0
CHROMIUM	267.72	0.434	-0.00100	0	0	0
COBALT	228.62	0	-0.125	0	0.129	0
COPPER	327.39	0	-0.0774	0	0.150	0.257
IRON	239.56	0.480	0	0	0	0.407
LEAD	220.35	0.100	-5.00	0	0.100	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-5.00	0	0	0.0252
MANGANESE	257.61	0	-0.0482	-0.00916	-0.0340	-0.0413
MOLYBDENUM	202.03	-0.209	0	0	0.120	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	1.00	0	0
SELENIUM	196.03	0.451	0.300	0	0.0940	0
SILICON	251.61	0	15.0	0	0	0
SILVER	328.07	0.130	0.100	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	-1.50	1.20	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0.578	0	0	0
ZINC	206.20	0	0.180	0	-0.200	-0.100

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2461649
Report generated: 06/22/2012 09:02



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12060445
Instrument ID: PE-ICP2

Date: 12/30/2011
Method: 6010B

Analyte	Wave Length	SB	SE	SI	SN	SR
ALUMINUM	396.15	0	0	0	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	0	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	0	0	0
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	0
COPPER	327.39	0	0.148	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	-0.0100	0	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-0.0924	0	0	0
MANGANESE	257.61	-0.0505	-0.0281	-0.185	-0.0445	-0.625
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	-0.0500	-0.0100	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0.200
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0	0	0	0
ZINC	206.20	-0.300	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2461649
Report generated: 06/22/2012 09:02



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12060445
Instrument ID: PE-ICP2

Date: 12/30/2011
Method: 6010B

Analyte	Wave Length	TI	TL	V	ZN
ALUMINUM	396.15	0	0	0	0
ANTIMONY	206.84	0	0	0.000100	0
ARSENIC	188.98	0	0	0.0930	0
BARIUM	233.53	0	0	-2.29	0
BERYLLIUM	234.86	0	0	0	0
BORON	249.68	0	0	0	0
CADMIUM	228.80	0	0	0.0800	0
CALCIUM	227.55	3.00	0	60.0	0
CHROMIUM	267.72	0	0	-0.567	-0.0400
COBALT	228.62	2.21	0	0	0
COPPER	327.39	-1.05	0	-0.700	-0.0613
IRON	239.56	0	0	0	0
LEAD	220.35	0	0	0.0560	0
LITHIUM	670.78	0	0	0	0
MAGNESIUM	279.08	0	0	0	0
MANGANESE	257.61	-0.00931	-0.0414	-0.0601	-0.0552
MOLYBDENUM	202.03	0	0	-0.288	0
NICKEL	231.60	0	0.617	0	0
POTASSIUM	766.49	0	0	0	0
SELENIUM	196.03	-0.220	0	-0.126	0
SILICON	251.61	0	0	0	0
SILVER	328.07	0	0	-1.67	0
SODIUM	589.59	0	0	0	0
STRONTIUM	407.77	0	0	0	0
THALLIUM	190.80	-12.0	0	-1.41	0
TIN	189.93	0	0	0	0
TITANIUM	334.94	0	0	0	0
VANADIUM	290.88	0	0	0	0
ZINC	206.20	0	0	-0.100	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 2461649
Report generated: 06/22/2012 09:02



Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12060445

Date: 03/27/2012

Instrument ID: PE-ICP2

Method: 6010B

Analyte	Integration Time (Sec.)	Concentration (mg/L)
Aluminum	10.00	450.0
Antimony	10.00	45.0
Arsenic	10.00	9.0
Barium	10.00	9.0
Beryllium	10.00	4.5
Boron	10.00	45.0
Cadmium	10.00	4.5
Calcium	10.00	450.0
Chromium	10.00	45.0
Cobalt	10.00	45.0
Copper	10.00	45.0
Iron	10.00	450.0
Lead	10.00	90.0
Lithium	10.00	1.8
Magnesium	10.00	450.0
Manganese	10.00	27.0
Molybdenum	10.00	45.0
Nickel	10.00	45.0
Potassium	10.00	90.0
Selenium	10.00	45.0
Silicon	10.00	36.0
Silver	10.00	4.5
Sodium	10.00	180.0
Strontium	10.00	1.8
Thallium	10.00	45.0
Tin	10.00	45.0
Titanium	10.00	9.0
Vanadium	10.00	45.0
Zinc	10.00	45.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 2461648
Report generated: 06/22/2012 09:02



2.3.1.3 Raw Data

=====
Analysis Begun

Start Time: 6/20/2012 9:10:31 AM

Plasma On Time: 6/20/2012 6:30:43 AM

Logged In Analyst: peicp2

echnique: ICP Continuous

Spectrometer Model: Optima 4300 DV, S/N 077N401140 Autosampler Model: Cetac

Sample Information File: C:\pe\peicp2\Sample Information\WEDNESDAY1.sif

Batch ID:

Results Data Set: 062012H

Results Library: C:\pe\peicp2\Results\Results.mdb

=====
Method Loaded

Method Name: 200.7-6010 PE-ICP2.1

Method Last Saved: 6/20/2012 6:33:52 AM

IEC File: CA227_LiBeMOD.iec

SIF File:

Method Description: STANDARD

Sequence No.: 1

Autosampler Location: 1

Sample ID: S0

Date Collected: 6/20/2012 9:10:34 AM

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: S0

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2063670.1	34453.60	1.67%		
YRADIAL	262425.6	4783.41	1.82%		
Ga 417.206	1166010.5	7145.95	0.61%		
GaRADIAL	77665.9	1262.14	1.63%		
Ag 328.068†	-293.1	52.60	17.95%	[0.00]	mg/L
Al 396.153†	35.5	6.53	18.39%	[0.00]	mg/L
As 188.979†	-20.0	4.54	22.64%	[0.00]	mg/L
Ba 233.527†	-86.0	16.52	19.19%	[0.00]	mg/L
Be 234.861†	-1541.9	44.18	2.86%	[0.00]	mg/L
B 249.677†	41.3	3.13	7.58%	[0.00]	mg/L
Ca 227.546†	-70.9	13.28	18.74%	[0.00]	mg/L
Cd 228.802†	43.0	5.12	11.91%	[0.00]	mg/L
Co 228.616†	-6.4	13.18	206.73%	[0.00]	mg/L
Cr 267.716†	174.4	4.46	2.56%	[0.00]	mg/L
Cu 327.393†	-648.8	115.51	17.80%	[0.00]	mg/L
Fe 239.562†	-12.7	9.27	73.08%	[0.00]	mg/L
Mg 279.077†	42.6	10.39	24.39%	[0.00]	mg/L
Mn 257.610†	378.7	17.44	4.61%	[0.00]	mg/L
Mo 202.031†	78.3	7.25	9.27%	[0.00]	mg/L
Ni 231.604†	-170.3	27.08	15.90%	[0.00]	mg/L
Pb 220.353†	-109.7	5.07	4.63%	[0.00]	mg/L
Sb 206.836†	7.9	4.60	58.29%	[0.00]	mg/L
Se 196.026†	22.3	3.97	17.79%	[0.00]	mg/L
Si 251.611†	538.6	23.21	4.31%	[0.00]	mg/L
Sn 189.927†	24.1	7.72	32.09%	[0.00]	mg/L
Ti 334.940†	643.5	71.60	11.13%	[0.00]	mg/L
Tl 190.801†	-68.9	0.22	0.33%	[0.00]	mg/L
V 290.880†	7659.2	148.65	1.94%	[0.00]	mg/L
Zn 206.200†	59.6	5.96	10.00%	[0.00]	mg/L
K 766.490†	-260.8	64.26	24.64%	[0.00]	mg/L
Na 589.592†	1233.4	126.14	10.23%	[0.00]	mg/L
Sr 407.771†	-637.5	14.81	2.32%	[0.00]	mg/L
Li 670.784†	152.1	49.42	32.50%	[0.00]	mg/L

Sequence No.: 2

Autosampler Location: 2

Sample ID: S1

Date Collected: 6/20/2012 9:17:27 AM

Approved: June 21, 2012

John H. Rhodes

Analyst:
Initial Sample Wt:
Dilution:

alpha Type: Original
initial Sample Vol:
sample Prep Vol:

Nebulizer Parameters: S1

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: S1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Y 371.029	2113858.3	29850.68	1.41%	
YRADIAL	259265.6	6054.08	2.34%	
Ga 417.206	1187771.1	9156.95	0.77%	
GaRADIAL	76657.9	1537.22	2.01%	
Ag 328.068†	1307.2	36.61	2.80%	[0.0040] mg/L
Al 396.153†	652.2	7.35	1.13%	[0.10] mg/L
Ba 233.527†	1663.4	7.25	0.44%	[0.010] mg/L
Be 234.861†	680.6	32.24	4.74%	[0.0005] mg/L
Cd 228.802†	17.3	5.50	31.84%	[0.00050] mg/L
Co 228.616†	74.3	6.66	8.96%	[0.0020] mg/L
Cr 267.716†	547.1	11.07	2.02%	[0.0050] mg/L
Cu 327.393†	1254.7	37.56	2.99%	[0.0050] mg/L
Fe 239.562†	592.6	16.64	2.81%	[0.040] mg/L
Mg 279.077†	363.1	12.26	3.38%	[0.10] mg/L
Mn 257.610†	4145.1	80.12	1.93%	[0.0050] mg/L
Mo 202.031†	372.2	7.58	2.04%	[0.010] mg/L
Ni 231.604†	355.2	28.24	7.95%	[0.0050] mg/L
Pb 220.353†	74.2	8.93	12.05%	[0.0050] mg/L
Sb 206.836†	50.7	6.70	13.20%	[0.012] mg/L
Si 251.611†	2203.6	11.41	0.52%	[0.050] mg/L
Sn 189.927†	114.9	2.79	2.43%	[0.010] mg/L
Ti 334.940†	9171.5	62.74	0.68%	[0.010] mg/L
V 290.880†	1813.0	232.39	12.82%	[0.010] mg/L
Zn 206.200†	547.8	8.42	1.54%	[0.010] mg/L
K 766.490†	1778.8	41.91	2.36%	[0.50] mg/L
Na 589.592†	9593.8	127.37	1.33%	[0.50] mg/L
Sr 407.771†	25714.1	634.18	2.47%	[0.010] mg/L
Li 670.784†	1480.0	24.04	1.62%	[0.010] mg/L

Sequence No.: 3

Sample ID: S2

Analyst:
Initial Sample Wt:
Dilution:

autosampler Location: 3

Date Collected: 6/20/2012 9:24:22 AM

alpha Type: Original
initial Sample Vol:
sample Prep Vol:

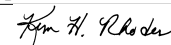
Nebulizer Parameters: S2

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: S2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Y 371.029	2066307.5	29795.91	1.44%	
YRADIAL	257695.8	3222.03	1.25%	
Ga 417.206	1172359.1	15318.34	1.31%	
GaRADIAL	75861.0	1324.68	1.75%	
Ag 328.068†	2355.0	34.54	1.47%	[0.0080] mg/L
Al 396.153†	1338.1	22.26	1.66%	[0.20] mg/L
As 188.979†	24.8	6.65	26.83%	[0.0080] mg/L
Ba 233.527†	3463.7	58.55	1.69%	[0.020] mg/L
Be 234.861†	1274.0	22.29	1.75%	[0.0010] mg/L
B 249.677†	935.2	23.18	2.48%	[0.010] mg/L
Ca 227.546†	81.1	2.19	2.70%	[0.20] mg/L
Cd 228.802†	44.9	4.89	10.90%	[0.0010] mg/L
Co 228.616†	157.3	4.63	2.94%	[0.0040] mg/L
Cr 267.716†	1187.6	12.65	1.07%	[0.010] mg/L

Approved: June 21, 2012



Cu 327.393†	2386.9	153.96	6.45%	[0.010]	mg/L
Fe 239.562†	1218.3	2.04	0.17%	[0.080]	mg/L
Mg 279.077†	722.7	7.25	1.00%	[0.20]	mg/L
Mn 257.610†	8439.4	64.03	0.76%	[0.010]	mg/L
Mo 202.031†	749.8	13.51	1.80%	[0.020]	mg/L
Ni 231.604†	730.6	7.16	0.98%	[0.010]	mg/L
Pb 220.353†	132.4	14.03	10.60%	[0.010]	mg/L
Sb 206.836†	102.2	2.46	2.40%	[0.024]	mg/L
Se 196.026†	14.2	0.91	6.45%	[0.0080]	mg/L
Si 251.611†	4595.3	83.45	1.82%	[0.10]	mg/L
Sn 189.927†	231.2	15.60	6.75%	[0.020]	mg/L
Ti 334.940†	18983.5	95.48	0.50%	[0.020]	mg/L
Tl 190.801†	40.7	5.85	14.38%	[0.010]	mg/L
V 290.880†	4244.7	135.83	3.20%	[0.020]	mg/L
Zn 206.200†	1107.3	17.39	1.57%	[0.020]	mg/L
K 766.490†	3269.5	42.51	1.30%	[1.00]	mg/L
Na 589.592†	19023.9	442.19	2.32%	[1.00]	mg/L
Sr 407.771†	52337.7	1280.01	2.45%	[0.020]	mg/L
Li 670.784†	2933.7	65.70	2.24%	[0.020]	mg/L

Sequence No.: 4

Sample ID: S3

Analyst:

Initial Sample Wt:

Dilution:

Sampler Location: 4

Date Collected: 6/20/2012 9:31:16 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: S3

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: S3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units
Y 371.029	2044231.0	28459.58	1.39%	
YRADIAL	264910.7	8353.52	3.15%	
Ga 417.206	1160930.4	19384.58	1.67%	
GaRADIAL	78775.0	2045.60	2.60%	
Ag 328.068†	118018.6	2919.31	2.47%	[0.40] mg/L
Al 396.153†	59946.7	85.16	0.14%	[10.00] mg/L
As 188.979†	1177.8	16.83	1.43%	[0.40] mg/L
Ba 233.527†	159019.3	1360.59	0.86%	[1.00] mg/L
Be 234.861†	60999.8	1274.54	2.09%	[0.05] mg/L
B 249.677†	43719.4	1151.34	2.63%	[0.50] mg/L
Ca 227.546†	3900.9	72.07	1.85%	[10.00] mg/L
Cd 228.802†	2532.2	98.95	3.91%	[0.05] mg/L
Co 228.616†	7730.1	151.31	1.96%	[0.20] mg/L
Cr 267.716†	54731.3	308.33	0.56%	[0.50] mg/L
Cu 327.393†	113591.5	2954.64	2.60%	[0.50] mg/L
Fe 239.562†	57401.2	312.94	0.55%	[4.00] mg/L
Mg 279.077†	33474.4	257.95	0.77%	[10.00] mg/L
Mn 257.610†	386540.7	3950.20	1.02%	[0.50] mg/L
Mo 202.031†	35403.0	154.40	0.44%	[1.00] mg/L
Ni 231.604†	34414.2	617.36	1.79%	[0.50] mg/L
Pb 220.353†	5881.7	96.52	1.64%	[0.50] mg/L
Sb 206.836†	4826.4	89.31	1.85%	[1.20] mg/L
Se 196.026†	743.5	23.19	3.12%	[0.40] mg/L
Si 251.611†	211207.1	3432.67	1.63%	[5.00] mg/L
Sn 189.927†	11019.5	201.35	1.83%	[1.00] mg/L
Ti 334.940†	891738.2	3287.64	0.37%	[1.00] mg/L
Tl 190.801†	1949.1	15.83	0.81%	[0.50] mg/L
V 290.880†	206094.3	212.53	0.10%	[1.00] mg/L
Zn 206.200†	51587.9	258.73	0.50%	[1.00] mg/L
K 766.490†	131643.0	447.58	0.34%	[50.00] mg/L
Na 589.592†	892552.8	32825.46	3.68%	[50.00] mg/L
Sr 407.771†	2456493.2	106458.87	4.33%	[1.00] mg/L
Li 670.784†	128953.0	598.46	0.46%	[1.00] mg/L

Sequence No.: 5

Sampler Location: 5

Approved: June 21, 2012

John H. Rhodes

Sample ID: S4
 Analyst:
 Initial Sample Wt:
 Dilution:

Sample Collected: 6/20/2012 9:37:14 AM
 Sample Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: S4

Analyte Back Pressure Flow
 All 157.0 kPa 0.50 L/min

Mean Data: S4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units
Y 371.029	2027086.4	17116.66	0.84%	
YRADIAL	260643.1	5417.92	2.08%	
Ga 417.206	1169292.9	24177.14	2.07%	
GaRADIAL	78785.1	1342.41	1.70%	
Ag 328.068†	231957.0	4811.11	2.07%	[0.80] mg/L
Al 396.153†	120013.8	537.03	0.45%	[20.00] mg/L
As 188.979†	2320.7	44.99	1.94%	[0.80] mg/L
Ba 233.527†	315617.3	116.00	0.04%	[2.00] mg/L
Be 234.861†	119426.1	3084.41	2.58%	[0.10] mg/L
B 249.677†	87600.4	1238.05	1.41%	[1.00] mg/L
Ca 227.546†	7797.1	236.88	3.04%	[20.00] mg/L
Cd 228.802†	4982.4	212.72	4.27%	[0.10] mg/L
Co 228.616†	15326.1	179.28	1.17%	[0.40] mg/L
Cr 267.716†	108765.4	299.42	0.28%	[1.00] mg/L
Cu 327.393†	223714.1	3377.02	1.51%	[1.00] mg/L
Fe 239.562†	115422.8	676.83	0.59%	[8.00] mg/L
Mg 279.077†	67266.1	78.91	0.12%	[20.00] mg/L
Mn 257.610†	768378.1	3424.59	0.45%	[1.00] mg/L
Mo 202.031†	70438.2	181.43	0.26%	[2.00] mg/L
Ni 231.604†	66111.7	328.55	0.50%	[1.00] mg/L
Pb 220.353†	11636.9	72.77	0.63%	[1.00] mg/L
Sb 206.836†	9513.0	274.88	2.89%	[2.40] mg/L
Se 196.026†	1453.2	52.51	3.61%	[0.80] mg/L
Si 251.611†	415455.9	6329.96	1.52%	[10.00] mg/L
Sn 189.927†	21875.8	137.76	0.63%	[2.00] mg/L
Ti 334.940†	1790647.0	3182.09	0.18%	[2.00] mg/L
Tl 190.801†	3794.5	37.54	0.99%	[1.00] mg/L
V 290.880†	410685.6	2461.04	0.60%	[2.00] mg/L
Zn 206.200†	101860.5	933.54	0.92%	[2.00] mg/L
K 766.490†	261765.2	2327.15	0.89%	[100.00] mg/L
Na 589.592†	1741719.5	26061.60	1.50%	[100.00] mg/L
Sr 407.771†	4885136.8	172381.17	3.53%	[2.00] mg/L
Li 670.784†	253033.1	3389.31	1.34%	[2.00] mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	4	Lin, Calc Int	311.4	290500	0.00000	0.999964	
Al 396.153	4	Lin, Calc Int	51.9	5996	0.00000	0.999999	
As 188.979	3	Wt. Lin	1.4	2920	0.00000	0.999973	
Ba 233.527	4	Lin, Calc Int	273.6	157900	0.00000	0.999993	
Be 234.861	4	Lin, Calc Int	211.4	1197000	0.00000	0.999947	
B 249.677	3	Lin, Calc Int	12.2	87550	0.00000	0.999999	
Ca 227.546	3	Lin, Calc Int	1.9	389.8	0.00000	1.000000	
Cd 228.802	4	Lin, Calc Int	1.2	49970	0.00000	0.999964	
Co 228.616	4	Lin, Calc Int	8.9	38360	0.00000	0.999991	
Cr 267.716	4	Lin, Calc Int	75.6	108800	0.00000	0.999995	
Cu 327.393	4	Lin, Calc Int	305.5	224000	0.00000	0.999973	
Fe 239.562	4	Lin, Calc Int	-13.8	14410	0.00000	0.999996	
Mg 279.077	4	Lin, Calc Int	4.3	3360	0.00000	0.999997	
Mn 257.610	4	Lin, Calc Int	624.1	768600	0.00000	0.999996	
Mo 202.031	4	Lin, Calc Int	43.4	35230	0.00000	0.999997	
Ni 231.604	4	Lin, Calc Int	198.6	66410	0.00000	0.999806	
Pb 220.353	4	Lin, Calc Int	17.9	11640	0.00000	0.999987	
Sb 206.836	4	Lin, Calc Int	11.9	3969	0.00000	0.999976	
Se 196.026	3	Wt. Lin	-0.5	1839	0.00000	0.999930	
Si 251.611	4	Lin, Calc Int	610.6	41610	0.00000	0.999968	

Approved: June 21, 2012

John H. Rhodes

Sn 189.927	4	Lin, Calc Int	15.8	10940	0.00000	0.999994
Ti 334.940	4	Lin, Calc Int	-41.7	894600	0.00000	0.999998
Tl 190.801	3	Lin, Calc Int	10.7	3802	0.00000	0.999903
V 290.880	4	Lin, Calc Int	61.1	205500	0.00000	0.999998
Zn 206.200	4	Lin, Calc Int	121.7	50990	0.00000	0.999981
K 766.490	4	Non Lin, Calc Int	360.8	2638	-0.23769	0.999999
Na 589.592	4	Non Lin, Calc Int	402.3	18270	-8.60363	1.000000
Sr 407.771	4	Lin, Calc Int	3227.5	2443000	0.00000	0.999996
Li 670.784	4	Lin, Calc Int	496.9	126700	0.00000	0.999959

Sequence No.: 6

Sample ID: ICV 2nd Vendor

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 11

Date Collected: 6/20/2012 9:43:17 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: ICV 2nd Vendor

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: ICV 2nd Vendor

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2048023.8				34273.96	1.67%
YRADIAL	262736.0				8292.77	3.16%
Ga 417.206	1185623.1				12952.33	1.09%
GaRADIAL	77566.6				2544.42	3.28%
Ag 328.068†	111831.1	0.388 mg/L	0.0098	0.388 mg/L	0.0098	2.53%
QC value within limits for Ag		328.068 Recovery = 96.88%				
Al 396.153†	61491.0	10.2 mg/L	0.06	10.2 mg/L	0.06	0.62%
QC value within limits for Al		396.153 Recovery = 101.77%				
As 188.979†	1159.6	0.392 mg/L	0.0039	0.392 mg/L	0.0039	1.00%
QC value within limits for As		188.979 Recovery = 97.93%				
Ba 233.527†	161904.2	1.02 mg/L	0.003	1.02 mg/L	0.003	0.30%
QC value within limits for Ba		233.527 Recovery = 102.40%				
Be 234.861†	59000.0	0.0487 mg/L	0.00096	0.0487 mg/L	0.00096	1.98%
QC value within limits for Be		234.861 Recovery = 97.37%				
B 249.677†	43804.8	0.496 mg/L	0.0123	0.496 mg/L	0.0123	2.48%
QC value within limits for B		249.677 Recovery = 99.26%				
Ca 227.546†	3842.5	10.3 mg/L	0.13	10.3 mg/L	0.13	1.29%
QC value within limits for Ca		227.546 Recovery = 103.37%				
Cd 228.802†	2492.5	0.0485 mg/L	0.00170	0.0485 mg/L	0.00170	3.50%
QC value within limits for Cd		228.802 Recovery = 96.99%				
Co 228.616†	7714.9	0.200 mg/L	0.0043	0.200 mg/L	0.0043	2.15%
QC value within limits for Co		228.616 Recovery = 100.04%				
Cr 267.716†	54861.7	0.504 mg/L	0.0006	0.504 mg/L	0.0006	0.12%
QC value within limits for Cr		267.716 Recovery = 100.77%				
Cu 327.393†	113979.6	0.509 mg/L	0.0131	0.509 mg/L	0.0131	2.57%
QC value within limits for Cu		327.393 Recovery = 101.81%				
Fe 239.562†	59314.5	4.12 mg/L	0.013	4.12 mg/L	0.013	0.32%
QC value within limits for Fe		239.562 Recovery = 102.88%				
Mg 279.077†	33999.0	10.1 mg/L	0.04	10.1 mg/L	0.04	0.35%
QC value within limits for Mg		279.077 Recovery = 101.34%				
Mn 257.610†	392729.1	0.511 mg/L	0.0015	0.511 mg/L	0.0015	0.29%
QC value within limits for Mn		257.610 Recovery = 102.16%				
Mo 202.031†	35551.6	1.01 mg/L	0.016	1.01 mg/L	0.016	1.56%
QC value within limits for Mo		202.031 Recovery = 100.87%				
Ni 231.604†	35218.3	0.527 mg/L	0.0096	0.527 mg/L	0.0096	1.83%
QC value greater than the upper limit for Ni		231.604 Recovery = 105.39%				
Pb 220.353†	5961.3	0.512 mg/L	0.0091	0.512 mg/L	0.0091	1.77%
QC value within limits for Pb		220.353 Recovery = 102.42%				
Sb 206.836†	4874.1	1.22 mg/L	0.020	1.22 mg/L	0.020	1.66%
QC value within limits for Sb		206.836 Recovery = 101.98%				
Se 196.026†	740.8	0.405 mg/L	0.0101	0.405 mg/L	0.0101	2.50%
QC value within limits for Se		196.026 Recovery = 101.30%				
Si 251.611†	208564.3	4.99 mg/L	0.107	4.99 mg/L	0.107	2.14%
QC value within limits for Si		251.611 Recovery = 99.73%				
Sn 189.927†	11282.7	1.03 mg/L	0.018	1.03 mg/L	0.018	1.78%
QC value within limits for Sn		189.927 Recovery = 102.94%				

Approved: June 21, 2012

John H. Rhodes

Ti 334.940†	902490.3	1.01 mg/L	0.002	1.01 mg/L	0.002	0.23%
QC value within limits for Ti 334.940			Recovery = 101.02%			
Tl 190.801†	1978.2	0.532 mg/L	0.0028	0.532 mg/L	0.0028	0.52%
QC value greater than the upper limit for Tl 190.801			Recovery = 106.40%			
V 290.880†	205321.7	0.998 mg/L	0.0037	0.998 mg/L	0.0037	0.37%
QC value within limits for V 290.880			Recovery = 99.82%			
Zn 206.200†	52314.6	1.03 mg/L	0.005	1.03 mg/L	0.005	0.48%
QC value within limits for Zn 206.200			Recovery = 102.84%			
K 766.490†	131450.4	49.9 mg/L	0.30	49.9 mg/L	0.30	0.60%
QC value within limits for K 766.490			Recovery = 99.74%			
Na 589.592†	904365.9	50.7 mg/L	1.60	50.7 mg/L	1.60	3.15%
QC value within limits for Na 589.592			Recovery = 101.36%			
Sr 407.771†	2503655.9	1.02 mg/L	0.029	1.02 mg/L	0.029	2.82%
QC value within limits for Sr 407.771			Recovery = 102.31%			
Li 670.784†	131692.2	1.04 mg/L	0.013	1.04 mg/L	0.013	1.29%
QC value within limits for Li 670.784			Recovery = 103.54%			
QC Failed. Continue with analysis.						

Sequence No.: 7

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 6/20/2012 9:49:14 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: ICB

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2159046.9				20545.51	0.95%
YRADIAL	262242.7				2061.72	0.79%
Ga 417.206	1239135.3				13042.45	1.05%
GaRADIAL	77719.2				1956.58	2.52%
Ag 328.068†	113.3	-0.00069 mg/L	0.000516	-0.00069 mg/L	0.000516	75.15%
QC value within limits for Ag 328.068			Recovery = Not calculated			
Al 396.153†	26.3	-0.00421 mg/L	0.000667	-0.00421 mg/L	0.000667	15.85%
QC value within limits for Al 396.153			Recovery = Not calculated			
As 188.979†	-1.4	-0.00095 mg/L	0.000409	-0.00095 mg/L	0.000409	43.14%
QC value within limits for As 188.979			Recovery = Not calculated			
Ba 233.527†	1.8	-0.00172 mg/L	0.000033	-0.00172 mg/L	0.000033	1.90%
QC value within limits for Ba 233.527			Recovery = Not calculated			
Be 234.861†	88.2	-0.00010 mg/L	0.000016	-0.00010 mg/L	0.000016	15.33%
QC value within limits for Be 234.861			Recovery = Not calculated			
B 249.677†	345.4	0.00381 mg/L	0.000611	0.00381 mg/L	0.000611	16.03%
QC value within limits for B 249.677			Recovery = Not calculated			
Ca 227.546†	11.6	0.0225 mg/L	0.02271	0.0225 mg/L	0.02271	100.88%
QC value within limits for Ca 227.546			Recovery = Not calculated			
Cd 228.802†	-3.9	-0.00010 mg/L	0.000054	-0.00010 mg/L	0.000054	54.48%
QC value within limits for Cd 228.802			Recovery = Not calculated			
Co 228.616†	-8.9	-0.00047 mg/L	0.000201	-0.00047 mg/L	0.000201	43.19%
QC value within limits for Co 228.616			Recovery = Not calculated			
Cr 267.716†	-10.8	-0.00080 mg/L	0.000060	-0.00080 mg/L	0.000060	7.54%
QC value within limits for Cr 267.716			Recovery = Not calculated			
Cu 327.393†	165.4	-0.00063 mg/L	0.000138	-0.00063 mg/L	0.000138	21.98%
QC value within limits for Cu 327.393			Recovery = Not calculated			
Fe 239.562†	4.9	0.00129 mg/L	0.000304	0.00129 mg/L	0.000304	23.54%
QC value within limits for Fe 239.562			Recovery = Not calculated			
Mg 279.077†	20.6	0.00484 mg/L	0.001841	0.00484 mg/L	0.001841	38.07%
QC value within limits for Mg 279.077			Recovery = Not calculated			
Mn 257.610†	7.8	-0.00080 mg/L	0.000014	-0.00080 mg/L	0.000014	1.72%
QC value within limits for Mn 257.610			Recovery = Not calculated			
Mo 202.031†	12.7	-0.00087 mg/L	0.000137	-0.00087 mg/L	0.000137	15.67%
QC value within limits for Mo 202.031			Recovery = Not calculated			
Ni 231.604†	-7.8	-0.00311 mg/L	0.000255	-0.00311 mg/L	0.000255	8.21%
QC value within limits for Ni 231.604			Recovery = Not calculated			
Pb 220.353†	10.5	-0.00064 mg/L	0.000414	-0.00064 mg/L	0.000414	64.64%
QC value within limits for Pb 220.353			Recovery = Not calculated			

Approved: June 21, 2012

John H. Rhodes

Sb 206.836†	4.1	-0.00198 mg/L	0.000945	-0.00198 mg/L	0.000945	47.82%
QC value within limits for Sb 206.836	Recovery =	Not calculated				
Se 196.026†	-0.6	-0.00003 mg/L	0.002021	-0.00003 mg/L	0.002021	>999.9%
QC value within limits for Se 196.026	Recovery =	Not calculated				
Si 251.611†	-5.0	-0.0148 mg/L	0.00046	-0.0148 mg/L	0.00046	3.14%
QC value within limits for Si 251.611	Recovery =	Not calculated				
Sn 189.927†	13.9	-0.00017 mg/L	0.000374	-0.00017 mg/L	0.000374	222.61%
QC value within limits for Sn 189.927	Recovery =	Not calculated				
Ti 334.940†	6.3	0.00006 mg/L	0.000225	0.00006 mg/L	0.000225	390.44%
QC value within limits for Ti 334.940	Recovery =	Not calculated				
Tl 190.801†	-2.1	-0.00336 mg/L	0.002274	-0.00336 mg/L	0.002274	67.70%
QC value within limits for Tl 190.801	Recovery =	Not calculated				
V 290.880†	-452.1	-0.00250 mg/L	0.001394	-0.00250 mg/L	0.001394	55.81%
QC value within limits for V 290.880	Recovery =	Not calculated				
Zn 206.200†	-17.8	-0.00274 mg/L	0.000147	-0.00274 mg/L	0.000147	5.36%
QC value within limits for Zn 206.200	Recovery =	Not calculated				
K 766.490†	161.9	-0.0754 mg/L	0.01904	-0.0754 mg/L	0.01904	25.25%
QC value within limits for K 766.490	Recovery =	Not calculated				
Na 589.592†	40.3	-0.0198 mg/L	0.00533	-0.0198 mg/L	0.00533	26.90%
QC value within limits for Na 589.592	Recovery =	Not calculated				
Sr 407.771†	-24.7	-0.00133 mg/L	0.000023	-0.00133 mg/L	0.000023	1.70%
QC value within limits for Sr 407.771	Recovery =	Not calculated				
Li 670.784†	116.7	-0.00300 mg/L	0.000501	-0.00300 mg/L	0.000501	16.69%
QC value within limits for Li 670.784	Recovery =	Not calculated				
All analyte(s) passed QC.						

Sequence No.: 8

Sample ID: ICSA

Analyst:

Initial Sample Wt:

Dilution:

UAsampler Location: 12

Date Collected: 6/20/2012 9:56:07 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1937499.8				13154.79	0.68%
YRADIAL	258545.7				1952.97	0.76%
Ga 417.206	1149395.5				22717.30	1.98%
GaRADIAL	77982.8				149.92	0.19%
Ag 328.068†	-11872.5	0.00121 mg/L	0.000597	0.00121 mg/L	0.000597	49.45%
QC value within limits for Ag 328.068	Recovery =	Not calculated				
Al 396.153†	1521963.4	254 mg/L	4.2	254 mg/L	4.2	1.65%
QC value within limits for Al 396.153	Recovery =	101.53%				
As 188.979†	-29.0	-0.00420 mg/L	0.002570	-0.00420 mg/L	0.002570	61.20%
QC value within limits for As 188.979	Recovery =	Not calculated				
Ba 233.527†	710.1	0.00039 mg/L	0.000235	0.00039 mg/L	0.000235	59.71%
QC value within limits for Ba 233.527	Recovery =	Not calculated				
Be 234.861†	24284.1	-0.00012 mg/L	0.000142	-0.00012 mg/L	0.000142	116.49%
QC value within limits for Be 234.861	Recovery =	Not calculated				
B 249.677†	4837.8	0.0145 mg/L	0.00203	0.0145 mg/L	0.00203	14.04%
QC value within limits for B 249.677	Recovery =	Not calculated				
Ca 227.546†	100313.8	260 mg/L	7.8	260 mg/L	7.8	3.01%
QC value within limits for Ca 227.546	Recovery =	103.85%				
Cd 228.802†	-10.4	-0.00036 mg/L	0.000221	-0.00036 mg/L	0.000221	61.67%
QC value within limits for Cd 228.802	Recovery =	Not calculated				
Co 228.616†	19.1	-0.00214 mg/L	0.000420	-0.00214 mg/L	0.000420	19.64%
QC value within limits for Co 228.616	Recovery =	Not calculated				
Cr 267.716†	65.1	-0.00126 mg/L	0.000334	-0.00126 mg/L	0.000334	26.44%
QC value within limits for Cr 267.716	Recovery =	Not calculated				
Cu 327.393†	-1304.2	0.00075 mg/L	0.000209	0.00075 mg/L	0.000209	27.96%
QC value within limits for Cu 327.393	Recovery =	Not calculated				
Fe 239.562†	1362857.0	94.5 mg/L	1.18	94.5 mg/L	1.18	1.25%
QC value within limits for Fe 239.562	Recovery =	94.54%				
Mg 279.077†	847113.5	252 mg/L	2.9	252 mg/L	2.9	1.13%
QC value within limits for Mg 279.077	Recovery =	100.83%				

Approved: June 21, 2012

John H. Rhodes

Mn 257.610†	-1893.6	-0.00063 mg/L	0.000623	-0.00063 mg/L	0.000623	99.63%
QC value within limits for Mn 257.610		Recovery =	Not calculated			
Mo 202.031†	-62.8	0.00163 mg/L	0.000292	0.00163 mg/L	0.000292	17.98%
QC value within limits for Mo 202.031		Recovery =	Not calculated			
Ni 231.604†	57.5	-0.00212 mg/L	0.000423	-0.00212 mg/L	0.000423	19.96%
QC value within limits for Ni 231.604		Recovery =	Not calculated			
Pb 220.353†	-458.0	0.00071 mg/L	0.003448	0.00071 mg/L	0.003448	487.43%
QC value within limits for Pb 220.353		Recovery =	Not calculated			
Sb 206.836†	-17.9	-0.00404 mg/L	0.002741	-0.00404 mg/L	0.002741	67.91%
QC value within limits for Sb 206.836		Recovery =	Not calculated			
Se 196.026†	-39.8	0.0149 mg/L	0.00509	0.0149 mg/L	0.00509	34.07%
QC value greater than the upper limit for Se 196.026		Recovery =	Not calculated			
Si 251.611†	3989.8	0.0812 mg/L	0.00150	0.0812 mg/L	0.00150	1.85%
QC value within limits for Si 251.611		Recovery =	Not calculated			
Sn 189.927†	-350.7	-0.0335 mg/L	0.00128	-0.0335 mg/L	0.00128	3.81%
QC value within limits for Sn 189.927		Recovery =	Not calculated			
Ti 334.940†	-31770.1	0.00314 mg/L	0.003086	0.00314 mg/L	0.003086	98.38%
QC value within limits for Ti 334.940		Recovery =	Not calculated			
Tl 190.801†	-51.8	-0.00997 mg/L	0.001890	-0.00997 mg/L	0.001890	18.96%
QC value within limits for Tl 190.801		Recovery =	Not calculated			
V 290.880†	3539.4	0.00302 mg/L	0.005758	0.00302 mg/L	0.005758	190.61%
QC value within limits for V 290.880		Recovery =	Not calculated			
Zn 206.200†	265.7	0.00102 mg/L	0.000313	0.00102 mg/L	0.000313	30.63%
QC value within limits for Zn 206.200		Recovery =	Not calculated			
K 766.490†	-75.3	-0.165 mg/L	0.0090	-0.165 mg/L	0.0090	5.45%
QC value within limits for K 766.490		Recovery =	Not calculated			
Na 589.592†	129.1	-0.0149 mg/L	0.00261	-0.0149 mg/L	0.00261	17.48%
QC value within limits for Na 589.592		Recovery =	Not calculated			
Sr 407.771†	3254.2	-0.00565 mg/L	0.000161	-0.00565 mg/L	0.000161	2.86%
QC value within limits for Sr 407.771		Recovery =	Not calculated			
Li 670.784†	265.8	-0.00182 mg/L	0.000712	-0.00182 mg/L	0.000712	39.06%
QC value within limits for Li 670.784		Recovery =	Not calculated			
QC Failed. Continue with analysis.						

Sequence No.: 9

Sample ID: ICSAB

Analyst:

Initial Sample Wt:

Dilution:

Sampler Location: 13

Date Collected: 6/20/2012 10:02:03 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1912642.4				31525.93	1.65%
YRADIAL	264661.2				4538.39	1.71%
Ga 417.206	1139853.8				33751.25	2.96%
GaRADIAL	79356.1				1509.56	1.90%
Ag 328.068†	139130.1	0.520 mg/L	0.0194	0.520 mg/L	0.0194	3.73%
QC value within limits for Ag 328.068		Recovery =	104.05%			
Al 396.153†	1473763.7	246 mg/L	2.7	246 mg/L	2.7	1.08%
QC value within limits for Al 396.153		Recovery =	98.31%			
As 188.979†	679.1	0.238 mg/L	0.0098	0.238 mg/L	0.0098	4.10%
QC value within limits for As 188.979		Recovery =	95.30%			
Ba 233.527†	40904.1	0.255 mg/L	0.0033	0.255 mg/L	0.0033	1.30%
QC value within limits for Ba 233.527		Recovery =	102.00%			
Be 234.861†	328346.7	0.255 mg/L	0.0100	0.255 mg/L	0.0100	3.93%
QC value within limits for Be 234.861		Recovery =	101.82%			
B 249.677†	3982.6	-0.00759 mg/L	0.003126	-0.00759 mg/L	0.003126	41.18%
QC value within limits for B 249.677		Recovery =	Not calculated			
Ca 227.546†	102125.1	265 mg/L	10.7	265 mg/L	10.7	4.03%
QC value within limits for Ca 227.546		Recovery =	105.83%			
Cd 228.802†	24131.8	0.482 mg/L	0.0151	0.482 mg/L	0.0151	3.13%
QC value within limits for Cd 228.802		Recovery =	96.48%			
Co 228.616†	9286.4	0.239 mg/L	0.0048	0.239 mg/L	0.0048	2.01%
QC value within limits for Co 228.616		Recovery =	95.78%			

Approved: June 21, 2012

John H. Rhodes

Cr	267.716†	27326.5	0.249 mg/L	0.0060	0.249 mg/L	0.0060	2.42%
QC value within limits for Cr 267.716 Recovery = 99.78%							
Cu	327.393†	54707.7	0.251 mg/L	0.0084	0.251 mg/L	0.0084	3.34%
QC value within limits for Cu 327.393 Recovery = 100.21%							
Fe	239.562†	1324016.2	91.8 mg/L	1.12	91.8 mg/L	1.12	1.22%
QC value within limits for Fe 239.562 Recovery = 91.85%							
Mg	279.077†	823650.3	245 mg/L	3.0	245 mg/L	3.0	1.24%
QC value within limits for Mg 279.077 Recovery = 98.04%							
Mn	257.610†	190292.7	0.249 mg/L	0.0021	0.249 mg/L	0.0021	0.84%
QC value within limits for Mn 257.610 Recovery = 99.78%							
Mo	202.031†	-54.0	0.00192 mg/L	0.000121	0.00192 mg/L	0.000121	6.32%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Ni	231.604†	32712.4	0.489 mg/L	0.0097	0.489 mg/L	0.0097	1.98%
QC value within limits for Ni 231.604 Recovery = 97.83%							
Pb	220.353†	5331.1	0.496 mg/L	0.0088	0.496 mg/L	0.0088	1.77%
QC value within limits for Pb 220.353 Recovery = 99.28%							
Sb	206.836†	1974.6	0.496 mg/L	0.0184	0.496 mg/L	0.0184	3.72%
QC value within limits for Sb 206.836 Recovery = 99.26%							
Se	196.026†	402.8	0.255 mg/L	0.0053	0.255 mg/L	0.0053	2.06%
QC value within limits for Se 196.026 Recovery = 101.92%							
Si	251.611†	-140.9	-0.0180 mg/L	0.00055	-0.0180 mg/L	0.00055	3.05%
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn	189.927†	-349.2	-0.0333 mg/L	0.00156	-0.0333 mg/L	0.00156	4.69%
QC value within limits for Sn 189.927 Recovery = Not calculated							
Ti	334.940†	-32052.7	0.00344 mg/L	0.003213	0.00344 mg/L	0.003213	93.31%
QC value within limits for Ti 334.940 Recovery = Not calculated							
Tl	190.801†	1853.2	0.491 mg/L	0.0081	0.491 mg/L	0.0081	1.65%
QC value within limits for Tl 190.801 Recovery = 98.21%							
V	290.880†	56018.2	0.259 mg/L	0.0074	0.259 mg/L	0.0074	2.87%
QC value within limits for V 290.880 Recovery = 103.51%							
Zn	206.200†	25494.5	0.498 mg/L	0.0102	0.498 mg/L	0.0102	2.05%
QC value within limits for Zn 206.200 Recovery = 99.66%							
K	766.490†	13266.9	4.89 mg/L	0.049	4.89 mg/L	0.049	1.00%
QC value within limits for K 766.490 Recovery = 97.80%							
Na	589.592†	92036.1	5.03 mg/L	0.047	5.03 mg/L	0.047	0.94%
QC value within limits for Na 589.592 Recovery = 100.53%							
Sr	407.771†	2423.2	-0.00609 mg/L	0.000238	-0.00609 mg/L	0.000238	3.91%
QC value within limits for Sr 407.771 Recovery = Not calculated							
Li	670.784†	242.3	-0.00201 mg/L	0.000501	-0.00201 mg/L	0.000501	24.93%
QC value within limits for Li 670.784 Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 10

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 6/20/2012 10:08:00 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2068362.3				50008.97	2.42%
YRADIAL	265238.0				4930.71	1.86%
Ga 417.206	1192824.9				57124.75	4.79%
GaRADIAL	78273.6				1093.03	1.40%
Ag 328.068†	118540.6	0.411 mg/L	0.0153	0.411 mg/L	0.0153	3.72%
QC value within limits for Ag 328.068 Recovery = 102.66%						
Al 396.153†	61708.6	10.2 mg/L	0.22	10.2 mg/L	0.22	2.16%
QC value within limits for Al 396.153 Recovery = 102.13%						
As 188.979†	1171.3	0.396 mg/L	0.0170	0.396 mg/L	0.0170	4.30%
QC value within limits for As 188.979 Recovery = 98.91%						
Ba 233.527†	161157.9	1.02 mg/L	0.018	1.02 mg/L	0.018	1.78%
QC value within limits for Ba 233.527 Recovery = 101.93%						
Be 234.861†	61079.5	0.0504 mg/L	0.00234	0.0504 mg/L	0.00234	4.64%
QC value within limits for Be 234.861 Recovery = 100.87%						

Approved: June 21, 2012

John H. Rhodes

B 249.677†	45706.3	0.518 mg/L	0.0162	0.518 mg/L	0.0162	3.12%
QC value within limits for B 249.677		Recovery = 103.60%				
Ca 227.546†	3866.7	10.4 mg/L	0.49	10.4 mg/L	0.49	4.68%
QC value within limits for Ca 227.546		Recovery = 103.91%				
Cd 228.802†	2505.2	0.0487 mg/L	0.00338	0.0487 mg/L	0.00338	6.94%
QC value within limits for Cd 228.802		Recovery = 97.46%				
Co 228.616†	7759.3	0.201 mg/L	0.0045	0.201 mg/L	0.0045	2.25%
QC value within limits for Co 228.616		Recovery = 100.62%				
Cr 267.716†	55543.8	0.510 mg/L	0.0084	0.510 mg/L	0.0084	1.65%
QC value within limits for Cr 267.716		Recovery = 102.03%				
Cu 327.393†	114866.4	0.513 mg/L	0.0176	0.513 mg/L	0.0176	3.44%
QC value within limits for Cu 327.393		Recovery = 102.61%				
Fe 239.562†	58638.3	4.07 mg/L	0.094	4.07 mg/L	0.094	2.30%
QC value within limits for Fe 239.562		Recovery = 101.71%				
Mg 279.077†	34073.3	10.2 mg/L	0.20	10.2 mg/L	0.20	1.95%
QC value within limits for Mg 279.077		Recovery = 101.56%				
Mn 257.610†	392008.1	0.510 mg/L	0.0085	0.510 mg/L	0.0085	1.67%
QC value within limits for Mn 257.610		Recovery = 101.97%				
Mo 202.031†	35778.7	1.02 mg/L	0.022	1.02 mg/L	0.022	2.19%
QC value within limits for Mo 202.031		Recovery = 101.51%				
Ni 231.604†	34697.7	0.519 mg/L	0.0128	0.519 mg/L	0.0128	2.46%
QC value within limits for Ni 231.604		Recovery = 103.82%				
Pb 220.353†	5926.8	0.509 mg/L	0.0116	0.509 mg/L	0.0116	2.28%
QC value within limits for Pb 220.353		Recovery = 101.84%				
Sb 206.836†	4783.4	1.20 mg/L	0.063	1.20 mg/L	0.063	5.26%
QC value within limits for Sb 206.836		Recovery = 100.07%				
Se 196.026†	744.3	0.407 mg/L	0.0249	0.407 mg/L	0.0249	6.13%
QC value within limits for Se 196.026		Recovery = 101.76%				
Si 251.611†	225560.8	5.39 mg/L	0.175	5.39 mg/L	0.175	3.24%
QC value within limits for Si 251.611		Recovery = 107.89%				
Sn 189.927†	10974.8	1.00 mg/L	0.025	1.00 mg/L	0.025	2.50%
QC value within limits for Sn 189.927		Recovery = 100.13%				
Ti 334.940†	906806.5	1.01 mg/L	0.013	1.01 mg/L	0.013	1.29%
QC value within limits for Ti 334.940		Recovery = 101.50%				
Tl 190.801†	1969.3	0.530 mg/L	0.0181	0.530 mg/L	0.0181	3.42%
QC value within limits for Tl 190.801		Recovery = 105.95%				
V 290.880†	209576.9	1.02 mg/L	0.019	1.02 mg/L	0.019	1.82%
QC value within limits for V 290.880		Recovery = 101.89%				
Zn 206.200†	51795.8	1.02 mg/L	0.024	1.02 mg/L	0.024	2.34%
QC value within limits for Zn 206.200		Recovery = 101.82%				
K 766.490†	134253.4	50.9 mg/L	0.80	50.9 mg/L	0.80	1.57%
QC value within limits for K 766.490		Recovery = 101.89%				
Na 589.592†	909359.8	51.0 mg/L	0.99	51.0 mg/L	0.99	1.94%
QC value within limits for Na 589.592		Recovery = 101.93%				
Sr 407.771†	2474064.0	1.01 mg/L	0.020	1.01 mg/L	0.020	2.02%
QC value within limits for Sr 407.771		Recovery = 101.10%				
Li 670.784†	134830.9	1.06 mg/L	0.018	1.06 mg/L	0.018	1.74%
QC value within limits for Li 670.784		Recovery = 106.02%				

All analyte(s) passed QC.

Sequence No.: 11

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 6/20/2012 10:13:59 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2105031.1				15434.17	0.73%
YRADIAL	269690.0				1309.52	0.49%
Ga 417.206	1202942.3				21457.41	1.78%
GARADIAL	79819.1				2316.26	2.90%
Ag 328.068†	78.7	-0.00080 mg/L	0.000379	-0.00080 mg/L	0.000379	47.35%
QC value within limits for Ag 328.068		Recovery = Not calculated				

Approved: June 21, 2012

John H. Rhodes

Al 396.153†	17.1	-0.00573 mg/L	0.000415	-0.00573 mg/L	0.000415	7.25%
QC value within limits for Al 396.153	Recovery = Not calculated					
As 188.979†	-3.3	-0.00161 mg/L	0.002725	-0.00161 mg/L	0.002725	168.84%
QC value within limits for As 188.979	Recovery = Not calculated					
Ba 233.527†	3.1	-0.00171 mg/L	0.000053	-0.00171 mg/L	0.000053	3.09%
QC value within limits for Ba 233.527	Recovery = Not calculated					
Be 234.861†	27.2	-0.00016 mg/L	0.000004	-0.00016 mg/L	0.000004	2.48%
QC value within limits for Be 234.861	Recovery = Not calculated					
B 249.677†	268.9	0.00294 mg/L	0.000315	0.00294 mg/L	0.000315	10.73%
QC value within limits for B 249.677	Recovery = Not calculated					
Ca 227.546†	16.3	0.0346 mg/L	0.02405	0.0346 mg/L	0.02405	69.49%
QC value within limits for Ca 227.546	Recovery = Not calculated					
Cd 228.802†	-3.5	-0.00009 mg/L	0.000085	-0.00009 mg/L	0.000085	98.06%
QC value within limits for Cd 228.802	Recovery = Not calculated					
Co 228.616†	1.9	-0.00018 mg/L	0.000109	-0.00018 mg/L	0.000109	59.65%
QC value within limits for Co 228.616	Recovery = Not calculated					
Cr 267.716†	-10.0	-0.00079 mg/L	0.000038	-0.00079 mg/L	0.000038	4.88%
QC value within limits for Cr 267.716	Recovery = Not calculated					
Cu 327.393†	153.5	-0.00068 mg/L	0.000226	-0.00068 mg/L	0.000226	33.32%
QC value within limits for Cu 327.393	Recovery = Not calculated					
Fe 239.562†	31.2	0.00312 mg/L	0.000299	0.00312 mg/L	0.000299	9.59%
QC value within limits for Fe 239.562	Recovery = Not calculated					
Mg 279.077†	66.9	0.0186 mg/L	0.00298	0.0186 mg/L	0.00298	16.02%
QC value within limits for Mg 279.077	Recovery = Not calculated					
Mn 257.610†	57.6	-0.00074 mg/L	0.000014	-0.00074 mg/L	0.000014	1.90%
QC value within limits for Mn 257.610	Recovery = Not calculated					
Mo 202.031†	7.1	-0.00103 mg/L	0.000161	-0.00103 mg/L	0.000161	15.62%
QC value within limits for Mo 202.031	Recovery = Not calculated					
Ni 231.604†	-7.3	-0.00310 mg/L	0.000129	-0.00310 mg/L	0.000129	4.17%
QC value within limits for Ni 231.604	Recovery = Not calculated					
Pb 220.353†	6.2	-0.00100 mg/L	0.002362	-0.00100 mg/L	0.002362	235.76%
QC value within limits for Pb 220.353	Recovery = Not calculated					
Sb 206.836†	5.4	-0.00163 mg/L	0.000648	-0.00163 mg/L	0.000648	39.75%
QC value within limits for Sb 206.836	Recovery = Not calculated					
Se 196.026†	-2.5	-0.00105 mg/L	0.000723	-0.00105 mg/L	0.000723	68.94%
QC value within limits for Se 196.026	Recovery = Not calculated					
Si 251.611†	11.7	-0.0144 mg/L	0.00068	-0.0144 mg/L	0.00068	4.72%
QC value within limits for Si 251.611	Recovery = Not calculated					
Sn 189.927†	13.6	-0.00020 mg/L	0.000263	-0.00020 mg/L	0.000263	132.32%
QC value within limits for Sn 189.927	Recovery = Not calculated					
Ti 334.940†	11.1	0.00006 mg/L	0.000014	0.00006 mg/L	0.000014	21.93%
QC value within limits for Ti 334.940	Recovery = Not calculated					
Tl 190.801†	-0.4	-0.00292 mg/L	0.000178	-0.00292 mg/L	0.000178	6.08%
QC value within limits for Tl 190.801	Recovery = Not calculated					
V 290.880†	-151.1	-0.00103 mg/L	0.000850	-0.00103 mg/L	0.000850	82.25%
QC value within limits for V 290.880	Recovery = Not calculated					
Zn 206.200†	-0.6	-0.00241 mg/L	0.000073	-0.00241 mg/L	0.000073	3.05%
QC value within limits for Zn 206.200	Recovery = Not calculated					
K 766.490†	128.8	-0.0879 mg/L	0.02635	-0.0879 mg/L	0.02635	29.97%
QC value within limits for K 766.490	Recovery = Not calculated					
Na 589.592†	-10.9	-0.0226 mg/L	0.00354	-0.0226 mg/L	0.00354	15.67%
QC value within limits for Na 589.592	Recovery = Not calculated					
Sr 407.771†	139.5	-0.00126 mg/L	0.000037	-0.00126 mg/L	0.000037	2.95%
QC value within limits for Sr 407.771	Recovery = Not calculated					
Li 670.784†	-16.6	-0.00405 mg/L	0.000411	-0.00405 mg/L	0.000411	10.14%
QC value within limits for Li 670.784	Recovery = Not calculated					
All analyte(s) passed QC.						
User canceled analysis.						

Approved: June 21, 2012

John H. Rhodes

=====
Analysis Begun

Start Time: 6/20/2012 10:31:37 AM

Plasma On Time: 6/20/2012 6:30:43 AM

Logged In Analyst: peicp2

Technique: ICP Continuous

Spectrometer Model: Optima 4300 DV, S/N 077N401140 Autosampler Model: Cetac

Sample Information File: C:\pe\peicp2\Sample Information\WEDNESDAY1.sif

Batch ID:

Results Data Set: 062012H

Results Library: C:\pe\peicp2\Results\Results.mdb

Sequence No.: 1

Autosampler Location: 71

Sample ID: L1206056104 0.2

Date Collected: 6/20/2012 10:31:38 AM

Analyst: KHR

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: L1206056104 0.2

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Mean Data: L1206056104 0.2

Analyste	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Std.Dev.	RSD
Y 371.029	2129632.8					18730.55	0.88%
Y RADIAL	272196.7					4025.24	1.48%
Ga 417.206	1288661.0					22961.88	1.78%
Ga RADIAL	81528.9					977.79	1.20%
Ag 328.068†	-63.7	-0.00107	mg/L	0.000487	-0.00107	0.000487	45.48%
Al 396.153†	310.4	0.0404	mg/L	0.00149	0.0404	0.00149	3.70%
As 188.979†	-0.8	-0.00090	mg/L	0.000374	-0.00090	0.000374	41.41%
Ba 233.527†	327659.1	2.07	mg/L	0.006	2.07	0.006	0.28%
Be 234.861†	281.4	-0.00003	mg/L	0.000058	-0.00003	0.000058	170.60%
B 249.677†	44524.7	0.508	mg/L	0.0187	0.508	0.0187	3.69%
Ca 227.546†	569.3	1.46	mg/L	0.028	1.46	0.028	1.92%
Cd 228.802†	6.7	0.00015	mg/L	0.000035	0.00015	0.000035	24.01%
Co 228.616†	395.0	0.00943	mg/L	0.000093	0.00943	0.000093	0.98%
Cr 267.716†	72.2	0.00000	mg/L	0.000109	0.00000	0.000109	>999.9%
Cu 327.393†	311.8	0.00016	mg/L	0.000283	0.00016	0.000283	182.58%
Fe 239.562†	7397.4	0.514	mg/L	0.0036	0.514	0.0036	0.71%
Mg 279.077†	579.7	0.172	mg/L	0.0037	0.172	0.0037	2.15%
Mn 257.610†	23508.0	0.0299	mg/L	0.00037	0.0299	0.00037	1.23%
Mo 202.031†	1437.8	0.0396	mg/L	0.00064	0.0396	0.00064	1.62%
Ni 231.604†	18.3	-0.00272	mg/L	0.000138	-0.00272	0.000138	5.07%
Pb 220.353†	23.0	0.00041	mg/L	0.001197	0.00041	0.001197	291.02%
Sb 206.836†	4.3	-0.00186	mg/L	0.002317	-0.00186	0.002317	124.77%
Se 196.026†	1.4	0.00119	mg/L	0.002807	0.00119	0.002807	236.82%
Si 251.611†	6228.4	0.135	mg/L	0.0063	0.135	0.0063	4.66%
Sn 189.927†	-9.6	-0.00232	mg/L	0.000700	-0.00232	0.000700	30.20%
Ti 334.940†	304.1	0.00060	mg/L	0.000202	0.00060	0.000202	33.47%
Tl 190.801†	-8.8	-0.00515	mg/L	0.002586	-0.00515	0.002586	50.23%
V 290.880†	-27.0	-0.00056	mg/L	0.001115	-0.00056	0.001115	197.93%
Zn 206.200†	68820.6	1.35	mg/L	0.018	1.35	0.018	1.32%
K 766.490†	696.3	0.0967	mg/L	0.00822	0.0967	0.00822	8.50%
Na 589.592†	549594.7	30.5	mg/L	0.60	30.5	0.60	1.98%
Sr 407.771†	101728.3	0.0403	mg/L	0.00088	0.0403	0.00088	2.18%
Li 670.784†	113.5	-0.00303	mg/L	0.000099	-0.00303	0.000099	3.27%

Sequence No.: 2

Autosampler Location: 72

Sample ID: 04 + 0.5PPM BA

Date Collected: 6/20/2012 10:38:33 AM

Analyst: KHR

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: 04 + 0.5PPM BA

Approved: June 21, 2012

John H. Rhodes

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: 04 + 0.5PPM BA

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2093755.1					13621.33	0.65%
YRADIAL	269430.7					1740.74	0.65%
Ga 417.206	1234987.8					44020.06	3.56%
GaRADIAL	79222.4					273.69	0.35%
Ag 328.068†	57888.8	0.200 mg/L		0.0080	0.200 mg/L	0.0080	4.02%
Al 396.153†	31085.6	5.14 mg/L		0.007	5.14 mg/L	0.007	0.13%
As 188.979†	566.2	0.191 mg/L		0.0077	0.191 mg/L	0.0077	4.04%
Ba 233.527†	400690.5	2.54 mg/L		0.023	2.54 mg/L	0.023	0.92%
Be 234.861†	29354.2	0.0241 mg/L		0.00094	0.0241 mg/L	0.00094	3.89%
B 249.677†	132554.1	1.51 mg/L		0.051	1.51 mg/L	0.051	3.35%
Ca 227.546†	2459.0	6.54 mg/L		0.245	6.54 mg/L	0.245	3.74%
Cd 228.802†	1229.5	0.0240 mg/L		0.00138	0.0240 mg/L	0.00138	5.77%
Co 228.616†	4264.0	0.110 mg/L		0.0008	0.110 mg/L	0.0008	0.73%
Cr 267.716†	27734.6	0.254 mg/L		0.0030	0.254 mg/L	0.0030	1.17%
Cu 327.393†	56411.9	0.251 mg/L		0.0088	0.251 mg/L	0.0088	3.51%
Fe 239.562†	35982.0	2.50 mg/L		0.005	2.50 mg/L	0.005	0.19%
Mg 279.077†	17467.7	5.21 mg/L		0.040	5.21 mg/L	0.040	0.77%
Mn 257.610†	219719.5	0.285 mg/L		0.0019	0.285 mg/L	0.0019	0.67%
Mo 202.031†	19288.6	0.547 mg/L		0.0032	0.547 mg/L	0.0032	0.58%
Ni 231.604†	16950.9	0.252 mg/L		0.0008	0.252 mg/L	0.0008	0.32%
Pb 220.353†	2949.8	0.253 mg/L		0.0014	0.253 mg/L	0.0014	0.55%
Sb 206.836†	2343.3	0.587 mg/L		0.0227	0.587 mg/L	0.0227	3.87%
Se 196.026†	356.4	0.195 mg/L		0.0065	0.195 mg/L	0.0065	3.35%
Si 251.611†	113100.1	2.70 mg/L		0.083	2.70 mg/L	0.083	3.09%
Sn 189.927†	-46.2	-0.00567 mg/L		0.000181	-0.00567 mg/L	0.000181	3.19%
Ti 334.940†	447561.0	0.501 mg/L		0.0039	0.501 mg/L	0.0039	0.79%
Tl 190.801†	977.3	0.261 mg/L		0.0008	0.261 mg/L	0.0008	0.29%
V 290.880†	105179.3	0.511 mg/L		0.0043	0.511 mg/L	0.0043	0.85%
Zn 206.200†	93691.0	1.84 mg/L		0.020	1.84 mg/L	0.020	1.08%
K 766.490†	67197.7	25.3 mg/L		0.06	25.3 mg/L	0.06	0.22%
Na 589.592†	1013410.9	57.0 mg/L		0.68	57.0 mg/L	0.68	1.20%
Sr 407.771†	1331763.1	0.544 mg/L		0.0026	0.544 mg/L	0.0026	0.48%
Li 670.784†	68618.2	0.538 mg/L		0.0030	0.538 mg/L	0.0030	0.57%

Sequence No.: 3

Sample ID: 04 + 1.0PPM BA

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 73

Date Collected: 6/20/2012 10:44:32 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: 04 + 1.0PPM BA

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: 04 + 1.0PPM BA

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2065608.8					23842.56	1.15%
YRADIAL	270236.5					3848.86	1.42%
Ga 417.206	1217581.9					33390.20	2.74%
GaRADIAL	79172.0					971.36	1.23%
Ag 328.068†	117510.3	0.407 mg/L		0.0172	0.407 mg/L	0.0172	4.21%
Al 396.153†	61223.8	10.1 mg/L		0.03	10.1 mg/L	0.03	0.27%
As 188.979†	1123.7	0.379 mg/L		0.0124	0.379 mg/L	0.0124	3.27%
Ba 233.527†	477942.5	3.03 mg/L		0.020	3.03 mg/L	0.020	0.65%
Be 234.861†	58788.4	0.0485 mg/L		0.00207	0.0485 mg/L	0.00207	4.28%
B 249.677†	218393.0	2.49 mg/L		0.071	2.49 mg/L	0.071	2.84%
Ca 227.546†	4424.1	11.8 mg/L		0.31	11.8 mg/L	0.31	2.62%
Cd 228.802†	2462.2	0.0480 mg/L		0.00223	0.0480 mg/L	0.00223	4.64%
Co 228.616†	8138.7	0.211 mg/L		0.0032	0.211 mg/L	0.0032	1.51%
Cr 267.716†	55756.5	0.512 mg/L		0.0109	0.512 mg/L	0.0109	2.13%
Cu 327.393†	114055.9	0.510 mg/L		0.0227	0.510 mg/L	0.0227	4.46%

Approved: June 21, 2012

John H. Rhodes

Fe 239.562†	63763.4	4.42 mg/L	0.029	4.42 mg/L	0.029	0.66%
Mg 279.077†	34103.9	10.2 mg/L	0.09	10.2 mg/L	0.09	0.84%
Mn 257.610†	420697.6	0.547 mg/L	0.0051	0.547 mg/L	0.0051	0.94%
Mo 202.031†	37210.2	1.06 mg/L	0.016	1.06 mg/L	0.016	1.50%
Ni 231.604†	33680.8	0.504 mg/L	0.0058	0.504 mg/L	0.0058	1.15%
Pb 220.353†	5919.0	0.508 mg/L	0.0042	0.508 mg/L	0.0042	0.83%
Sb 206.836†	4746.0	1.19 mg/L	0.033	1.19 mg/L	0.033	2.79%
Se 196.026†	718.5	0.393 mg/L	0.0111	0.393 mg/L	0.0111	2.81%
Si 251.611†	222759.2	5.33 mg/L	0.179	5.33 mg/L	0.179	3.37%
Sn 189.927†	-99.4	-0.0105 mg/L	0.00021	-0.0105 mg/L	0.00021	1.99%
Ti 334.940†	894252.5	1.00 mg/L	0.004	1.00 mg/L	0.004	0.45%
Tl 190.801†	1937.4	0.521 mg/L	0.0062	0.521 mg/L	0.0062	1.20%
V 290.880†	212913.8	1.04 mg/L	0.018	1.04 mg/L	0.018	1.74%
Zn 206.200†	118871.4	2.33 mg/L	0.041	2.33 mg/L	0.041	1.75%
K 766.490†	132627.2	50.3 mg/L	0.10	50.3 mg/L	0.10	0.21%
Na 589.592†	1475049.0	84.0 mg/L	2.26	84.0 mg/L	2.26	2.69%
Sr 407.771†	2545929.8	1.04 mg/L	0.027	1.04 mg/L	0.027	2.64%
Li 670.784†	134063.4	1.05 mg/L	0.008	1.05 mg/L	0.008	0.76%

Sequence No.: 4

Sample ID: 04 + 1.5PPM BA

Analyst: KHR

Initial Sample Wt:

Dilution:

Udosampler Location: 74

Date Collected: 6/20/2012 10:50:31 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: 04 + 1.5PPM BA

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: 04 + 1.5PPM BA

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2039343.4				27461.37	1.35%
YRADIAL	263936.0				6940.27	2.63%
Ga 417.206	1218865.4				29770.75	2.44%
GaRADIAL	78862.1				1206.27	1.53%
Ag 328.068†	172625.6	0.599 mg/L	0.0115	0.599 mg/L	0.0115	1.91%
Al 396.153†	92919.4	15.4 mg/L	0.03	15.4 mg/L	0.03	0.20%
As 188.979†	1701.9	0.575 mg/L	0.0149	0.575 mg/L	0.0149	2.60%
Ba 233.527†	567025.9	3.59 mg/L	0.012	3.59 mg/L	0.012	0.35%
Be 234.861†	87920.7	0.0726 mg/L	0.00149	0.0726 mg/L	0.00149	2.06%
B 249.677†	309667.7	3.53 mg/L	0.060	3.53 mg/L	0.060	1.69%
Ca 227.546†	6349.4	17.0 mg/L	0.45	17.0 mg/L	0.45	2.67%
Cd 228.802†	3662.6	0.0713 mg/L	0.00285	0.0713 mg/L	0.00285	3.99%
Co 228.616†	12002.4	0.311 mg/L	0.0045	0.311 mg/L	0.0045	1.43%
Cr 267.716†	83609.8	0.768 mg/L	0.0051	0.768 mg/L	0.0051	0.67%
Cu 327.393†	167722.0	0.750 mg/L	0.0130	0.750 mg/L	0.0130	1.73%
Fe 239.562†	94420.5	6.55 mg/L	0.075	6.55 mg/L	0.075	1.15%
Mg 279.077†	52373.5	15.6 mg/L	0.20	15.6 mg/L	0.20	1.30%
Mn 257.610†	607025.2	0.790 mg/L	0.0043	0.790 mg/L	0.0043	0.55%
Mo 202.031†	55438.9	1.57 mg/L	0.008	1.57 mg/L	0.008	0.53%
Ni 231.604†	50595.1	0.758 mg/L	0.0048	0.758 mg/L	0.0048	0.63%
Pb 220.353†	8839.4	0.760 mg/L	0.0074	0.760 mg/L	0.0074	0.97%
Sb 206.836†	7054.3	1.77 mg/L	0.049	1.77 mg/L	0.049	2.77%
Se 196.026†	1082.5	0.592 mg/L	0.0152	0.592 mg/L	0.0152	2.56%
Si 251.611†	323465.9	7.74 mg/L	0.126	7.74 mg/L	0.126	1.63%
Sn 189.927†	-118.7	-0.0123 mg/L	0.00070	-0.0123 mg/L	0.00070	5.73%
Ti 334.940†	1365901.4	1.53 mg/L	0.004	1.53 mg/L	0.004	0.27%
Tl 190.801†	2900.1	0.782 mg/L	0.0123	0.782 mg/L	0.0123	1.57%
V 290.880†	315297.3	1.53 mg/L	0.009	1.53 mg/L	0.009	0.57%
Zn 206.200†	145275.4	2.85 mg/L	0.024	2.85 mg/L	0.024	0.85%
K 766.490†	200961.0	76.5 mg/L	0.28	76.5 mg/L	0.28	0.36%
Na 589.592†	1903082.2	110 mg/L	3.3	110 mg/L	3.3	2.99%
Sr 407.771†	3790118.4	1.55 mg/L	0.032	1.55 mg/L	0.032	2.08%
Li 670.784†	200398.6	1.58 mg/L	0.029	1.58 mg/L	0.029	1.82%

Sequence No.: 5

Sample ID: L1206056109 0.5

Udosampler Location: 75

Date Collected: 6/20/2012 10:56:33 AM

Approved: June 21, 2012

John H. Rhodes

Analyst: KHR
Initial Sample Wt:
Dilution:

data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1206056109 0.5

Analyte Back Pressure Flow
All 156.0 kPa 0.50 L/min

Mean Data: L1206056109 0.5

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2111786.9				14605.58	0.69%
YRADIAL	261505.8				2823.94	1.08%
Ga 417.206	1279596.2				35200.05	2.75%
GaRADIAL	78577.1				2277.14	2.90%
Ag 328.068†	-121.4	-0.00078 mg/L	0.000044	-0.00078 mg/L	0.000044	5.64%
Al 396.153†	1408.6	0.226 mg/L	0.0044	0.226 mg/L	0.0044	1.96%
As 188.979†	-7.2	-0.00277 mg/L	0.000353	-0.00277 mg/L	0.000353	12.73%
Ba 233.527†	4071.5	0.0240 mg/L	0.00031	0.0240 mg/L	0.00031	1.30%
Be 234.861†	393.3	-0.00019 mg/L	0.000051	-0.00019 mg/L	0.000051	26.97%
B 249.677†	2943.2	0.0324 mg/L	0.00196	0.0324 mg/L	0.00196	6.04%
Ca 227.546†	4234.7	10.9 mg/L	0.32	10.9 mg/L	0.32	2.90%
Cd 228.802†	174.0	0.00359 mg/L	0.000182	0.00359 mg/L	0.000182	5.07%
Co 228.616†	1254.7	0.0324 mg/L	0.00031	0.0324 mg/L	0.00031	0.95%
Cr 267.716†	4600.4	0.0415 mg/L	0.00033	0.0415 mg/L	0.00033	0.79%
Cu 327.393†	46864.6	0.208 mg/L	0.0063	0.208 mg/L	0.0063	3.01%
Fe 239.562†	23186.2	1.61 mg/L	0.014	1.61 mg/L	0.014	0.86%
Mg 279.077†	758.1	0.223 mg/L	0.0054	0.223 mg/L	0.0054	2.41%
Mn 257.610†	31504.2	0.0403 mg/L	0.00064	0.0403 mg/L	0.00064	1.58%
Mo 202.031†	47.6	0.00021 mg/L	0.000196	0.00021 mg/L	0.000196	94.49%
Ni 231.604†	443.8	0.00366 mg/L	0.000158	0.00366 mg/L	0.000158	4.33%
Pb 220.353†	2677.4	0.228 mg/L	0.0010	0.228 mg/L	0.0010	0.45%
Sb 206.836†	6.9	-0.00159 mg/L	0.000942	-0.00159 mg/L	0.000942	59.37%
Se 196.026†	-2.6	-0.00062 mg/L	0.002223	-0.00062 mg/L	0.002223	359.88%
Si 251.611†	5948.7	0.128 mg/L	0.0041	0.128 mg/L	0.0041	3.22%
Sn 189.927†	-91.9	-0.00984 mg/L	0.000760	-0.00984 mg/L	0.000760	7.72%
Ti 334.940†	2910.6	0.00492 mg/L	0.000546	0.00492 mg/L	0.000546	11.11%
Tl 190.801†	-29.1	-0.0105 mg/L	0.00118	-0.0105 mg/L	0.00118	11.26%
V 290.880†	-35.5	-0.00060 mg/L	0.001312	-0.00060 mg/L	0.001312	217.91%
Zn 206.200†	26769.2	0.523 mg/L	0.0056	0.523 mg/L	0.0056	1.06%
K 766.490†	1618.2	0.400 mg/L	0.0081	0.400 mg/L	0.0081	2.02%
Na 589.592†	1356195.6	77.0 mg/L	2.44	77.0 mg/L	2.44	3.17%
Sr 407.771†	37394.8	0.0137 mg/L	0.00045	0.0137 mg/L	0.00045	3.29%
Li 670.784†	184.5	-0.00247 mg/L	0.000042	-0.00247 mg/L	0.000042	1.72%

Sequence No.: 6

Sample ID: 09 + .25PPM PB

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 76

Date Collected: 6/20/2012 11:03:28 AM

data Type: Original

Initial Sample Vol:

Sample Prep Vol:

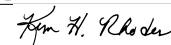
Nebulizer Parameters: 09 + .25PPM PB

Analyte Back Pressure Flow
All 156.0 kPa 0.50 L/min

Mean Data: 09 + .25PPM PB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2092946.0				31347.34	1.50%
YRADIAL	270607.0				7350.13	2.72%
Ga 417.206	1224745.1				22671.27	1.85%
GaRADIAL	79665.1				1965.30	2.47%
Ag 328.068†	57916.0	0.201 mg/L	0.0041	0.201 mg/L	0.0041	2.06%
Al 396.153†	32073.8	5.31 mg/L	0.011	5.31 mg/L	0.011	0.21%
As 188.979†	562.6	0.190 mg/L	0.0046	0.190 mg/L	0.0046	2.44%
Ba 233.527†	84525.1	0.534 mg/L	0.0067	0.534 mg/L	0.0067	1.26%
Be 234.861†	29565.0	0.0240 mg/L	0.00064	0.0240 mg/L	0.00064	2.68%

Approved: June 21, 2012



B 249.677†	86422.6	0.984 mg/L	0.0191	0.984 mg/L	0.0191	1.94%
Ca 227.546†	6330.2	16.5 mg/L	0.29	16.5 mg/L	0.29	1.74%
Cd 228.802†	1402.3	0.0275 mg/L	0.00106	0.0275 mg/L	0.00106	3.86%
Co 228.616†	5130.5	0.133 mg/L	0.0033	0.133 mg/L	0.0033	2.52%
Cr 267.716†	32340.6	0.297 mg/L	0.0029	0.297 mg/L	0.0029	0.96%
Cu 327.393†	104299.4	0.465 mg/L	0.0103	0.465 mg/L	0.0103	2.20%
Fe 239.562†	50799.4	3.52 mg/L	0.027	3.52 mg/L	0.027	0.77%
Mg 279.077†	17614.7	5.25 mg/L	0.042	5.25 mg/L	0.042	0.79%
Mn 257.610†	227269.5	0.295 mg/L	0.0048	0.295 mg/L	0.0048	1.62%
Mo 202.031†	18074.7	0.512 mg/L	0.0058	0.512 mg/L	0.0058	1.13%
Ni 231.604†	17320.3	0.258 mg/L	0.0041	0.258 mg/L	0.0041	1.61%
Pb 220.353†	5558.9	0.477 mg/L	0.0093	0.477 mg/L	0.0093	1.94%
Sb 206.836†	2376.0	0.595 mg/L	0.0122	0.595 mg/L	0.0122	2.05%
Se 196.026†	358.0	0.196 mg/L	0.0059	0.196 mg/L	0.0059	2.99%
Si 251.611†	112998.9	2.70 mg/L	0.055	2.70 mg/L	0.055	2.04%
Sn 189.927†	-112.4	-0.0117 mg/L	0.00034	-0.0117 mg/L	0.00034	2.90%
Ti 334.940†	456221.0	0.512 mg/L	0.0023	0.512 mg/L	0.0023	0.45%
Tl 190.801†	954.6	0.256 mg/L	0.0050	0.256 mg/L	0.0050	1.96%
V 290.880†	106003.0	0.515 mg/L	0.0070	0.515 mg/L	0.0070	1.37%
Zn 206.200†	51801.5	1.02 mg/L	0.017	1.02 mg/L	0.017	1.66%
K 766.490†	68220.4	25.7 mg/L	0.01	25.7 mg/L	0.01	0.04%
Na 589.592†	1764057.0	101 mg/L	2.8	101 mg/L	2.8	2.80%
Sr 407.771†	1244620.0	0.508 mg/L	0.0129	0.508 mg/L	0.0129	2.53%
Li 670.784†	67406.2	0.528 mg/L	0.0039	0.528 mg/L	0.0039	0.73%

Sequence No.: 7

Sample ID: 09 + .50PPM PB

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 77

Date Collected: 6/20/2012 11:09:26 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: 09 + .50PPM PB

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: 09 + .50PPM PB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2024947.6						26511.64	1.31%
YRADIAL	267685.0						3162.35	1.18%
Ga 417.206	1180906.8						20819.73	1.76%
GaRADIAL	78498.6						388.84	0.50%
Ag 328.068†	118429.3	0.411 mg/L		0.0081	0.411 mg/L		0.0081	1.97%
Al 396.153†	63575.7	10.5 mg/L		0.03	10.5 mg/L		0.03	0.26%
As 188.979†	1165.1	0.394 mg/L		0.0107	0.394 mg/L		0.0107	2.72%
Ba 233.527†	168405.3	1.07 mg/L		0.013	1.07 mg/L		0.013	1.22%
Be 234.861†	60591.1	0.0497 mg/L		0.00091	0.0497 mg/L		0.00091	1.83%
B 249.677†	177437.9	2.02 mg/L		0.037	2.02 mg/L		0.037	1.82%
Ca 227.546†	8474.9	22.3 mg/L		0.37	22.3 mg/L		0.37	1.64%
Cd 228.802†	2719.3	0.0532 mg/L		0.00158	0.0532 mg/L		0.00158	2.97%
Co 228.616†	9173.3	0.238 mg/L		0.0057	0.238 mg/L		0.0057	2.40%
Cr 267.716†	61496.0	0.565 mg/L		0.0015	0.565 mg/L		0.0015	0.26%
Cu 327.393†	164104.8	0.733 mg/L		0.0154	0.733 mg/L		0.0154	2.10%
Fe 239.562†	80371.1	5.58 mg/L		0.026	5.58 mg/L		0.026	0.46%
Mg 279.077†	34824.0	10.4 mg/L		0.09	10.4 mg/L		0.09	0.86%
Mn 257.610†	426711.0	0.555 mg/L		0.0083	0.555 mg/L		0.0083	1.49%
Mo 202.031†	36939.6	1.05 mg/L		0.017	1.05 mg/L		0.017	1.65%
Ni 231.604†	35649.5	0.533 mg/L		0.0109	0.533 mg/L		0.0109	2.04%
Pb 220.353†	8575.6	0.737 mg/L		0.0144	0.737 mg/L		0.0144	1.96%
Sb 206.836†	4888.3	1.23 mg/L		0.024	1.23 mg/L		0.024	1.97%
Se 196.026†	743.2	0.407 mg/L		0.0123	0.407 mg/L		0.0123	3.02%
Si 251.611†	223023.8	5.33 mg/L		0.067	5.33 mg/L		0.067	1.25%
Sn 189.927†	-149.7	-0.0151 mg/L		0.00065	-0.0151 mg/L		0.00065	4.31%
Ti 334.940†	927410.6	1.04 mg/L		0.008	1.04 mg/L		0.008	0.77%
Tl 190.801†	1935.2	0.521 mg/L		0.0012	0.521 mg/L		0.0012	0.23%
V 290.880†	214816.9	1.04 mg/L		0.007	1.04 mg/L		0.007	0.63%
Zn 206.200†	78715.5	1.55 mg/L		0.028	1.55 mg/L		0.028	1.82%
K 766.490†	135974.0	51.5 mg/L		0.16	51.5 mg/L		0.16	0.31%
Na 589.592†	2257589.3	132 mg/L		2.4	132 mg/L		2.4	1.85%

Approved: June 21, 2012

John H. Rhodes

Sr 407.771†	2484349.3	1.01 mg/L	0.024	1.01 mg/L	0.024	2.33%
Li 670.784†	135145.7	1.06 mg/L	0.006	1.06 mg/L	0.006	0.61%

Sequence No.: 8

Sample ID: 09 + .75PPM PB

Analyst: KHR

Initial Sample Wt:

Dilution:

Udosampler Location: 78

Date Collected: 6/20/2012 11:15:24 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: 09 + .75PPM PB

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: 09 + .75PPM PB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2026780.0				15000.85	0.74%
YRADIAL	257256.9				3147.10	1.22%
Ga 417.206	1185061.0				9702.38	0.82%
GaRADIAL	77835.5				945.04	1.21%
Ag 328.068†	175655.7	0.610 mg/L	0.0083	0.610 mg/L	0.0083	1.35%
Al 396.153†	95426.3	15.8 mg/L	0.09	15.8 mg/L	0.09	0.54%
As 188.979†	1742.4	0.589 mg/L	0.0045	0.589 mg/L	0.0045	0.76%
Ba 233.527†	247364.3	1.57 mg/L	0.009	1.57 mg/L	0.009	0.59%
Be 234.861†	89554.2	0.0737 mg/L	0.00109	0.0737 mg/L	0.00109	1.48%
B 249.677†	264727.3	3.02 mg/L	0.060	3.02 mg/L	0.060	1.98%
Ca 227.546†	10409.4	27.4 mg/L	0.28	27.4 mg/L	0.28	1.03%
Cd 228.802†	3944.0	0.0770 mg/L	0.00141	0.0770 mg/L	0.00141	1.83%
Co 228.616†	12915.8	0.335 mg/L	0.0065	0.335 mg/L	0.0065	1.95%
Cr 267.716†	88949.9	0.817 mg/L	0.0024	0.817 mg/L	0.0024	0.29%
Cu 327.393†	218658.3	0.977 mg/L	0.0207	0.977 mg/L	0.0207	2.12%
Fe 239.562†	111116.5	7.71 mg/L	0.061	7.71 mg/L	0.061	0.79%
Mg 279.077†	53321.1	15.9 mg/L	0.16	15.9 mg/L	0.16	1.00%
Mn 257.610†	616509.4	0.802 mg/L	0.0069	0.802 mg/L	0.0069	0.86%
Mo 202.031†	54438.8	1.55 mg/L	0.006	1.55 mg/L	0.006	0.37%
Ni 231.604†	50774.2	0.761 mg/L	0.0046	0.761 mg/L	0.0046	0.61%
Pb 220.353†	11424.8	0.982 mg/L	0.0121	0.982 mg/L	0.0121	1.24%
Sb 206.836†	7257.6	1.82 mg/L	0.012	1.82 mg/L	0.012	0.65%
Se 196.026†	1101.4	0.603 mg/L	0.0098	0.603 mg/L	0.0098	1.63%
Si 251.611†	326703.8	7.82 mg/L	0.087	7.82 mg/L	0.087	1.12%
Sn 189.927†	-158.0	-0.0159 mg/L	0.00068	-0.0159 mg/L	0.00068	4.26%
Ti 334.940†	1375184.2	1.54 mg/L	0.001	1.54 mg/L	0.001	0.04%
Tl 190.801†	2872.7	0.775 mg/L	0.0028	0.775 mg/L	0.0028	0.36%
V 290.880†	318497.2	1.55 mg/L	0.006	1.55 mg/L	0.006	0.37%
Zn 206.200†	103586.7	2.04 mg/L	0.010	2.04 mg/L	0.010	0.47%
K 766.490†	204313.0	77.7 mg/L	0.22	77.7 mg/L	0.22	0.29%
Na 589.592†	2721302.4	161 mg/L	2.7	161 mg/L	2.7	1.65%
Sr 407.771†	3831860.3	1.57 mg/L	0.025	1.57 mg/L	0.025	1.60%
Li 670.784†	200635.4	1.58 mg/L	0.004	1.58 mg/L	0.004	0.28%

Sequence No.: 9

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Udosampler Location: 6

Date Collected: 6/20/2012 11:21:23 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2088597.7				12889.40	0.62%
YRADIAL	261750.8				477.23	0.18%
Ga 417.206	1196075.8				41758.36	3.49%

Approved: June 21, 2012

John H. Rhodes

Ag	328.068†	119371.4	0.414 mg/L	0.0125	0.414 mg/L	312.08	0.40%
QC value	within limits	for Ag	328.068	Recovery = 103.38%		0.0125	3.03%
Al	396.153†	61720.6	10.2 mg/L	0.02	10.2 mg/L	0.02	0.15%
QC value	within limits	for Al	396.153	Recovery = 102.13%			
As	188.979†	1185.4	0.400 mg/L	0.0144	0.400 mg/L	0.0144	3.61%
QC value	within limits	for As	188.979	Recovery = 100.08%			
Ba	233.527†	162185.5	1.03 mg/L	0.004	1.03 mg/L	0.004	0.44%
QC value	within limits	for Ba	233.527	Recovery = 102.58%			
Be	234.861†	61860.2	0.0511 mg/L	0.00159	0.0511 mg/L	0.00159	3.10%
QC value	within limits	for Be	234.861	Recovery = 102.18%			
B	249.677†	47718.8	0.541 mg/L	0.0198	0.541 mg/L	0.0198	3.67%
QC value	within limits	for B	249.677	Recovery = 108.19%			
Ca	227.546†	3922.8	10.5 mg/L	0.36	10.5 mg/L	0.36	3.46%
QC value	within limits	for Ca	227.546	Recovery = 105.38%			
Cd	228.802†	2573.3	0.0501 mg/L	0.00244	0.0501 mg/L	0.00244	4.88%
QC value	within limits	for Cd	228.802	Recovery = 100.14%			
Co	228.616†	7818.5	0.203 mg/L	0.0022	0.203 mg/L	0.0022	1.06%
QC value	within limits	for Co	228.616	Recovery = 101.42%			
Cr	267.716†	56245.4	0.517 mg/L	0.0016	0.517 mg/L	0.0016	0.30%
QC value	within limits	for Cr	267.716	Recovery = 103.32%			
Cu	327.393†	115206.2	0.515 mg/L	0.0141	0.515 mg/L	0.0141	2.75%
QC value	within limits	for Cu	327.393	Recovery = 102.91%			
Fe	239.562†	59191.3	4.11 mg/L	0.021	4.11 mg/L	0.021	0.51%
QC value	within limits	for Fe	239.562	Recovery = 102.66%			
Mg	279.077†	34364.3	10.2 mg/L	0.05	10.2 mg/L	0.05	0.49%
QC value	within limits	for Mg	279.077	Recovery = 102.43%			
Mn	257.610†	393647.8	0.512 mg/L	0.0044	0.512 mg/L	0.0044	0.86%
QC value	within limits	for Mn	257.610	Recovery = 102.40%			
Mo	202.031†	36820.0	1.04 mg/L	0.006	1.04 mg/L	0.006	0.57%
QC value	within limits	for Mo	202.031	Recovery = 104.47%			
Ni	231.604†	34915.6	0.522 mg/L	0.0037	0.522 mg/L	0.0037	0.70%
QC value	within limits	for Ni	231.604	Recovery = 104.47%			
Pb	220.353†	5970.2	0.513 mg/L	0.0036	0.513 mg/L	0.0036	0.69%
QC value	within limits	for Pb	220.353	Recovery = 102.58%			
Sb	206.836†	4849.0	1.22 mg/L	0.048	1.22 mg/L	0.048	3.92%
QC value	within limits	for Sb	206.836	Recovery = 101.45%			
Se	196.026†	737.3	0.403 mg/L	0.0165	0.403 mg/L	0.0165	4.09%
QC value	within limits	for Se	196.026	Recovery = 100.82%			
Si	251.611†	226919.5	5.43 mg/L	0.117	5.43 mg/L	0.117	2.16%
QC value	within limits	for Si	251.611	Recovery = 108.54%			
Sn	189.927†	11086.6	1.01 mg/L	0.007	1.01 mg/L	0.007	0.65%
QC value	within limits	for Sn	189.927	Recovery = 101.15%			
Ti	334.940†	907715.1	1.02 mg/L	0.003	1.02 mg/L	0.003	0.26%
QC value	within limits	for Ti	334.940	Recovery = 101.60%			
Tl	190.801†	1983.4	0.533 mg/L	0.0038	0.533 mg/L	0.0038	0.72%
QC value	within limits	for Tl	190.801	Recovery = 106.70%			
V	290.880†	210336.5	1.02 mg/L	0.005	1.02 mg/L	0.005	0.52%
QC value	within limits	for V	290.880	Recovery = 102.26%			
Zn	206.200†	52598.9	1.03 mg/L	0.003	1.03 mg/L	0.003	0.34%
QC value	within limits	for Zn	206.200	Recovery = 103.41%			
K	766.490†	133451.5	50.6 mg/L	0.22	50.6 mg/L	0.22	0.44%
QC value	within limits	for K	766.490	Recovery = 101.27%			
Na	589.592†	902478.8	50.6 mg/L	0.52	50.6 mg/L	0.52	1.02%
QC value	within limits	for Na	589.592	Recovery = 101.14%			
Sr	407.771†	2455856.9	1.00 mg/L	0.011	1.00 mg/L	0.011	1.09%
QC value	within limits	for Sr	407.771	Recovery = 100.36%			
Li	670.784†	132368.9	1.04 mg/L	0.005	1.04 mg/L	0.005	0.46%
QC value	within limits	for Li	670.784	Recovery = 104.08%			

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

autosampler Location: 1

Date Collected: 6/20/2012 11:27:23 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Approved: June 21, 2012

John H. Rhodes

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2204066.3				40057.58	1.82%
YRADIAL	264445.0				8216.52	3.11%
Ga 417.206	1263959.0				15848.88	1.25%
GaRADIAL	78378.4				1565.21	2.00%
Ag 328.068†	160.1	-0.00052 mg/L	0.000347	-0.00052 mg/L	0.000347	66.26%
QC value within limits for Ag	328.068	Recovery =	Not calculated			
Al 396.153†	32.4	-0.00320 mg/L	0.000508	-0.00320 mg/L	0.000508	15.87%
QC value within limits for Al	396.153	Recovery =	Not calculated			
As 188.979†	3.9	0.00084 mg/L	0.000501	0.00084 mg/L	0.000501	60.03%
QC value within limits for As	188.979	Recovery =	Not calculated			
Ba 233.527†	45.1	-0.00145 mg/L	0.000228	-0.00145 mg/L	0.000228	15.77%
QC value within limits for Ba	233.527	Recovery =	Not calculated			
Be 234.861†	129.6	-0.00007 mg/L	0.000033	-0.00007 mg/L	0.000033	48.11%
QC value within limits for Be	234.861	Recovery =	Not calculated			
B 249.677†	735.9	0.00827 mg/L	0.000629	0.00827 mg/L	0.000629	7.61%
QC value within limits for B	249.677	Recovery =	Not calculated			
Ca 227.546†	10.9	0.0211 mg/L	0.01267	0.0211 mg/L	0.01267	60.09%
QC value within limits for Ca	227.546	Recovery =	Not calculated			
Cd 228.802†	-1.7	-0.00006 mg/L	0.000101	-0.00006 mg/L	0.000101	160.61%
QC value within limits for Cd	228.802	Recovery =	Not calculated			
Co 228.616†	3.0	-0.00015 mg/L	0.000209	-0.00015 mg/L	0.000209	135.20%
QC value within limits for Co	228.616	Recovery =	Not calculated			
Cr 267.716†	-1.8	-0.00071 mg/L	0.000122	-0.00071 mg/L	0.000122	17.12%
QC value within limits for Cr	267.716	Recovery =	Not calculated			
Cu 327.393†	236.9	-0.00031 mg/L	0.000404	-0.00031 mg/L	0.000404	132.14%
QC value within limits for Cu	327.393	Recovery =	Not calculated			
Fe 239.562†	30.6	0.00308 mg/L	0.000376	0.00308 mg/L	0.000376	12.22%
QC value within limits for Fe	239.562	Recovery =	Not calculated			
Mg 279.077†	27.7	0.00694 mg/L	0.002201	0.00694 mg/L	0.002201	31.70%
QC value within limits for Mg	279.077	Recovery =	Not calculated			
Mn 257.610†	122.3	-0.00065 mg/L	0.000015	-0.00065 mg/L	0.000015	2.37%
QC value within limits for Mn	257.610	Recovery =	Not calculated			
Mo 202.031†	15.4	-0.00079 mg/L	0.000265	-0.00079 mg/L	0.000265	33.31%
QC value within limits for Mo	202.031	Recovery =	Not calculated			
Ni 231.604†	18.3	-0.00271 mg/L	0.000145	-0.00271 mg/L	0.000145	5.33%
QC value within limits for Ni	231.604	Recovery =	Not calculated			
Pb 220.353†	1.3	-0.00142 mg/L	0.000510	-0.00142 mg/L	0.000510	35.79%
QC value within limits for Pb	220.353	Recovery =	Not calculated			
Sb 206.836†	3.1	-0.00221 mg/L	0.001251	-0.00221 mg/L	0.001251	56.72%
QC value within limits for Sb	206.836	Recovery =	Not calculated			
Se 196.026†	-4.8	-0.00233 mg/L	0.001268	-0.00233 mg/L	0.001268	54.39%
QC value within limits for Se	196.026	Recovery =	Not calculated			
Si 251.611†	78.9	-0.0128 mg/L	0.00067	-0.0128 mg/L	0.00067	5.28%
QC value within limits for Si	251.611	Recovery =	Not calculated			
Sn 189.927†	7.0	-0.00080 mg/L	0.000397	-0.00080 mg/L	0.000397	49.73%
QC value within limits for Sn	189.927	Recovery =	Not calculated			
Ti 334.940†	265.7	0.00035 mg/L	0.000071	0.00035 mg/L	0.000071	20.43%
QC value within limits for Ti	334.940	Recovery =	Not calculated			
Tl 190.801†	5.1	-0.00146 mg/L	0.001006	-0.00146 mg/L	0.001006	68.68%
QC value within limits for Tl	190.801	Recovery =	Not calculated			
V 290.880†	-413.2	-0.00231 mg/L	0.000553	-0.00231 mg/L	0.000553	23.93%
QC value within limits for V	290.880	Recovery =	Not calculated			
Zn 206.200†	-1.0	-0.00241 mg/L	0.000110	-0.00241 mg/L	0.000110	4.57%
QC value within limits for Zn	206.200	Recovery =	Not calculated			
K 766.490†	63.6	-0.113 mg/L	0.0367	-0.113 mg/L	0.0367	32.56%
QC value within limits for K	766.490	Recovery =	Not calculated			
Na 589.592†	119.5	-0.0155 mg/L	0.00341	-0.0155 mg/L	0.00341	22.04%
QC value within limits for Na	589.592	Recovery =	Not calculated			
Sr 407.771†	61.6	-0.00130 mg/L	0.000058	-0.00130 mg/L	0.000058	4.51%
QC value within limits for Sr	407.771	Recovery =	Not calculated			
Li 670.784†	92.4	-0.00319 mg/L	0.000324	-0.00319 mg/L	0.000324	10.15%
QC value within limits for Li	670.784	Recovery =	Not calculated			

All analyte(s) passed QC.

Sequence No.: 11

Sample ID: L1206056111 0.5

Udosampler Location: 79

Date Collected: 6/20/2012 11:34:16 AM

Approved: June 21, 2012

John H. Rhodes

Analyst: KHR
Initial Sample Wt:
Dilution:

data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1206056111 0.5

Analyte Back Pressure Flow
All 156.0 kPa 0.50 L/min

Mean Data: L1206056111 0.5

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2173763.7				12319.87	0.57%
YRADIAL	269730.7				1748.28	0.65%
Ga 417.206	1321060.7				12674.92	0.96%
GA RADIAL	82050.9				2756.01	3.36%
Ag 328.068†	-1.7	-0.00106 mg/L	0.000444	-0.00106 mg/L	0.000444	41.93%
Al 396.153†	247.0	0.0326 mg/L	0.00109	0.0326 mg/L	0.00109	3.35%
As 188.979†	-5.1	-0.00222 mg/L	0.000268	-0.00222 mg/L	0.000268	12.04%
Ba 233.527†	2543.2	0.0144 mg/L	0.00022	0.0144 mg/L	0.00022	1.55%
Be 234.861†	-82.4	-0.00026 mg/L	0.000040	-0.00026 mg/L	0.000040	15.61%
B 249.677†	638.8	0.00669 mg/L	0.000222	0.00669 mg/L	0.000222	3.33%
Ca 227.546†	1333.0	3.41 mg/L	0.065	3.41 mg/L	0.065	1.91%
Cd 228.802†	586.4	0.0118 mg/L	0.00033	0.0118 mg/L	0.00033	2.83%
Co 228.616†	1069.8	0.0277 mg/L	0.00016	0.0277 mg/L	0.00016	0.57%
Cr 267.716†	36.4	0.00163 mg/L	0.000164	0.00163 mg/L	0.000164	10.08%
Cu 327.393†	901.7	0.00571 mg/L	0.000538	0.00571 mg/L	0.000538	9.42%
Fe 239.562†	834.5	0.0588 mg/L	0.00127	0.0588 mg/L	0.00127	2.16%
Mg 279.077†	423.3	0.125 mg/L	0.0034	0.125 mg/L	0.0034	2.76%
Mn 257.610†	13698.5	0.0198 mg/L	0.00030	0.0198 mg/L	0.00030	1.50%
Mo 202.031†	20.7	-0.00064 mg/L	0.000044	-0.00064 mg/L	0.000044	6.94%
Ni 231.604†	142.0	-0.00088 mg/L	0.000130	-0.00088 mg/L	0.000130	14.80%
Pb 220.353†	2673.8	0.228 mg/L	0.0015	0.228 mg/L	0.0015	0.65%
Sb 206.836†	4.8	-0.00180 mg/L	0.000396	-0.00180 mg/L	0.000396	22.00%
Se 196.026†	6.4	0.00380 mg/L	0.000829	0.00380 mg/L	0.000829	21.84%
Si 251.611†	3267.8	0.0639 mg/L	0.00062	0.0639 mg/L	0.00062	0.96%
Sn 189.927†	-29.6	-0.00415 mg/L	0.000272	-0.00415 mg/L	0.000272	6.55%
Ti 334.940†	-270.4	0.00026 mg/L	0.000109	0.00026 mg/L	0.000109	42.57%
Tl 190.801†	-9.3	-0.00531 mg/L	0.002480	-0.00531 mg/L	0.002480	46.72%
V 290.880†	-147.7	-0.00102 mg/L	0.001601	-0.00102 mg/L	0.001601	156.37%
Zn 206.200†	2535567.7	49.7 mg/L	0.52	49.7 mg/L	0.52	1.05%
K 766.490†	820.4	0.102 mg/L	0.0050	0.102 mg/L	0.0050	4.87%
Na 589.592†	1276979.1	72.3 mg/L	1.72	72.3 mg/L	1.72	2.38%
Sr 407.771†	58471.1	0.0225 mg/L	0.00042	0.0225 mg/L	0.00042	1.87%
Li 670.784†	115.5	-0.00301 mg/L	0.000047	-0.00301 mg/L	0.000047	1.55%

Sequence No.: 12

Sample ID: 11 + .25PPM PB

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 80

Date Collected: 6/20/2012 11:41:13 AM

data Type: Original

Initial Sample Vol:

Sample Prep Vol:

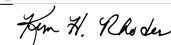
Nebulizer Parameters: 11 + .25PPM PB

Analyte Back Pressure Flow
All 155.0 kPa 0.50 L/min

Mean Data: 11 + .25PPM PB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2101732.2				14685.58	0.70%
YRADIAL	267582.9				5077.70	1.90%
Ga 417.206	1230846.0				48391.68	3.93%
GA RADIAL	77987.0				815.45	1.05%
Ag 328.068†	57675.1	0.199 mg/L	0.0097	0.199 mg/L	0.0097	4.88%
Al 396.153†	30982.8	5.12 mg/L	0.008	5.12 mg/L	0.008	0.17%
As 188.979†	561.9	0.189 mg/L	0.0041	0.189 mg/L	0.0041	2.17%
Ba 233.527†	82583.4	0.521 mg/L	0.0083	0.521 mg/L	0.0083	1.59%
Be 234.861†	28758.1	0.0236 mg/L	0.00119	0.0236 mg/L	0.00119	5.03%

Approved: June 21, 2012



B 249.677†	84049.0	0.957 mg/L	0.0483	0.957 mg/L	0.0483	5.05%
Ca 227.546†	3315.9	8.73 mg/L	0.322	8.73 mg/L	0.322	3.70%
Cd 228.802†	1879.7	0.0370 mg/L	0.00195	0.0370 mg/L	0.00195	5.27%
Co 228.616†	4985.3	0.129 mg/L	0.0005	0.129 mg/L	0.0005	0.40%
Cr 267.716†	27633.9	0.256 mg/L	0.0049	0.256 mg/L	0.0049	1.92%
Cu 327.393†	56642.8	0.255 mg/L	0.0131	0.255 mg/L	0.0131	5.14%
Fe 239.562†	29658.0	2.06 mg/L	0.007	2.06 mg/L	0.007	0.32%
Mg 279.077†	17362.5	5.17 mg/L	0.053	5.17 mg/L	0.053	1.03%
Mn 257.610†	208755.6	0.274 mg/L	0.0031	0.274 mg/L	0.0031	1.13%
Mo 202.031†	17750.4	0.503 mg/L	0.0087	0.503 mg/L	0.0087	1.73%
Ni 231.604†	16729.6	0.249 mg/L	0.0034	0.249 mg/L	0.0034	1.38%
Pb 220.353†	5640.1	0.484 mg/L	0.0009	0.484 mg/L	0.0009	0.18%
Sb 206.836†	2371.3	0.594 mg/L	0.0225	0.594 mg/L	0.0225	3.79%
Se 196.026†	363.1	0.199 mg/L	0.0088	0.199 mg/L	0.0088	4.44%
Si 251.611†	108885.5	2.60 mg/L	0.103	2.60 mg/L	0.103	3.98%
Sn 189.927†	-85.1	-0.00921 mg/L	0.000547	-0.00921 mg/L	0.000547	5.94%
Ti 334.940†	451647.7	0.506 mg/L	0.0005	0.506 mg/L	0.0005	0.10%
Tl 190.801†	959.0	0.257 mg/L	0.0044	0.257 mg/L	0.0044	1.71%
V 290.880†	104969.9	0.510 mg/L	0.0098	0.510 mg/L	0.0098	1.91%
Zn 206.200†	2636669.9	51.7 mg/L	0.72	51.7 mg/L	0.72	1.39%
K 766.490†	67042.8	25.2 mg/L	0.06	25.2 mg/L	0.06	0.22%
Na 589.592†	1785185.8	103 mg/L	2.4	103 mg/L	2.4	2.30%
Sr 407.771†	1274557.8	0.520 mg/L	0.0151	0.520 mg/L	0.0151	2.91%
Li 670.784†	66892.4	0.524 mg/L	0.0048	0.524 mg/L	0.0048	0.91%

Sequence No.: 13

Sample ID: 11 + .50PPM PB

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 81

Date Collected: 6/20/2012 11:47:13 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: 11 + .50PPM PB

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: 11 + .50PPM PB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Std.Dev.	RSD
Y 371.029	2114014.6					23360.08	1.11%
YRADIAL	268600.7					4052.51	1.51%
Ga 417.206	1243570.0					14281.06	1.15%
GaRADIAL	79041.5					1303.57	1.65%
Ag 328.068†	113199.0	0.392 mg/L		0.0056	0.392 mg/L	0.0056	1.43%
Al 396.153†	60449.6	10.0 mg/L		0.03	10.0 mg/L	0.03	0.29%
As 188.979†	1102.5	0.372 mg/L		0.0047	0.372 mg/L	0.0047	1.27%
Ba 233.527†	160102.7	1.01 mg/L		0.003	1.01 mg/L	0.003	0.31%
Be 234.861†	57100.5	0.0471 mg/L		0.00069	0.0471 mg/L	0.00069	1.46%
B 249.677†	167643.9	1.91 mg/L		0.027	1.91 mg/L	0.027	1.44%
Ca 227.546†	5069.2	13.5 mg/L		0.12	13.5 mg/L	0.12	0.90%
Cd 228.802†	3011.9	0.0591 mg/L		0.00165	0.0591 mg/L	0.00165	2.79%
Co 228.616†	8561.9	0.222 mg/L		0.0030	0.222 mg/L	0.0030	1.37%
Cr 267.716†	54485.7	0.502 mg/L		0.0015	0.502 mg/L	0.0015	0.30%
Cu 327.393†	110580.1	0.497 mg/L		0.0081	0.497 mg/L	0.0081	1.63%
Fe 239.562†	57035.7	3.96 mg/L		0.017	3.96 mg/L	0.017	0.44%
Mg 279.077†	33735.6	10.1 mg/L		0.06	10.1 mg/L	0.06	0.63%
Mn 257.610†	393238.1	0.514 mg/L		0.0035	0.514 mg/L	0.0035	0.68%
Mo 202.031†	35239.4	1.000 mg/L		0.0060	1.000 mg/L	0.0060	0.60%
Ni 231.604†	33576.0	0.502 mg/L		0.0051	0.502 mg/L	0.0051	1.01%
Pb 220.353†	8247.2	0.709 mg/L		0.0061	0.709 mg/L	0.0061	0.86%
Sb 206.836†	4593.3	1.15 mg/L		0.013	1.15 mg/L	0.013	1.16%
Se 196.026†	703.2	0.385 mg/L		0.0066	0.385 mg/L	0.0066	1.70%
Si 251.611†	208391.1	4.98 mg/L		0.045	4.98 mg/L	0.045	0.91%
Sn 189.927†	-106.6	-0.0112 mg/L		0.00076	-0.0112 mg/L	0.00076	6.81%
Ti 334.940†	886205.2	0.992 mg/L		0.0006	0.992 mg/L	0.0006	0.06%
Tl 190.801†	1855.2	0.499 mg/L		0.0053	0.499 mg/L	0.0053	1.06%
V 290.880†	205681.0	1.000 mg/L		0.0035	1.000 mg/L	0.0035	0.35%
Zn 206.200†	2560990.6	50.2 mg/L		0.16	50.2 mg/L	0.16	0.33%
K 766.490†	130985.8	49.6 mg/L		0.19	49.6 mg/L	0.19	0.39%
Na 589.592†	2226435.8	130 mg/L		4.6	130 mg/L	4.6	3.54%

Approved: June 21, 2012

John H. Rhodes

Sr 407.771†	2498691.7	1.02 mg/L	0.027	1.02 mg/L	0.027	2.66%
Li 670.784†	130519.6	1.03 mg/L	0.002	1.03 mg/L	0.002	0.21%

Sequence No.: 14

Sample ID: 11 + .75PPM PB

Analyst: KHR

Initial Sample Wt:

Dilution:

Udosampler Location: 82

Date Collected: 6/20/2012 11:53:13 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: 11 + .75PPM PB

Analyte

Back Pressure

Flow

All

155.0 kPa

0.50 L/min

Mean Data: 11 + .75PPM PB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	2042582.9					5840.52	0.29%
YRADIAL	262280.3					5713.31	2.18%
Ga 417.206	1192823.9					10030.51	0.84%
GaRADIAL	78151.2					1443.43	1.85%
Ag 328.068†	175566.1	0.609 mg/L	0.0118		0.609 mg/L	0.0118	1.94%
Al 396.153†	92264.5	15.3 mg/L	0.09		15.3 mg/L	0.09	0.57%
As 188.979†	1724.1	0.582 mg/L	0.0004		0.582 mg/L	0.0004	0.07%
Ba 233.527†	244945.0	1.55 mg/L	0.010		1.55 mg/L	0.010	0.64%
Be 234.861†	88463.1	0.0731 mg/L	0.00169		0.0731 mg/L	0.00169	2.31%
B 249.677†	262413.8	2.99 mg/L	0.063		2.99 mg/L	0.063	2.09%
Ca 227.546†	7272.3	19.3 mg/L	0.17		19.3 mg/L	0.17	0.89%
Cd 228.802†	4379.6	0.0857 mg/L	0.00203		0.0857 mg/L	0.00203	2.36%
Co 228.616†	12657.6	0.329 mg/L	0.0047		0.329 mg/L	0.0047	1.43%
Cr 267.716†	84127.3	0.775 mg/L	0.0069		0.775 mg/L	0.0069	0.89%
Cu 327.393†	171028.0	0.768 mg/L	0.0168		0.768 mg/L	0.0168	2.19%
Fe 239.562†	87056.7	6.04 mg/L	0.044		6.04 mg/L	0.044	0.73%
Mg 279.077†	51765.3	15.4 mg/L	0.16		15.4 mg/L	0.16	1.04%
Mn 257.610†	597386.5	0.780 mg/L	0.0040		0.780 mg/L	0.0040	0.51%
Mo 202.031†	54134.1	1.54 mg/L	0.012		1.54 mg/L	0.012	0.81%
Ni 231.604†	50158.5	0.752 mg/L	0.0061		0.752 mg/L	0.0061	0.81%
Pb 220.353†	11411.5	0.981 mg/L	0.0099		0.981 mg/L	0.0099	1.01%
Sb 206.836†	7169.9	1.80 mg/L	0.016		1.80 mg/L	0.016	0.90%
Se 196.026†	1081.4	0.591 mg/L	0.0143		0.591 mg/L	0.0143	2.42%
Si 251.611†	320253.0	7.66 mg/L	0.129		7.66 mg/L	0.129	1.69%
Sn 189.927†	-139.8	-0.0142 mg/L	0.00102		-0.0142 mg/L	0.00102	7.17%
Ti 334.940†	136666.3	1.53 mg/L	0.015		1.53 mg/L	0.015	0.96%
Tl 190.801†	2839.8	0.766 mg/L	0.0041		0.766 mg/L	0.0041	0.53%
V 290.880†	316826.2	1.54 mg/L	0.019		1.54 mg/L	0.019	1.24%
Zn 206.200†	2664598.5	52.3 mg/L	0.42		52.3 mg/L	0.42	0.81%
K 766.490†	199997.9	76.1 mg/L	0.45		76.1 mg/L	0.45	0.59%
Na 589.592†	2649781.3	157 mg/L	3.7		157 mg/L	3.7	2.34%
Sr 407.771†	3712466.2	1.52 mg/L	0.042		1.52 mg/L	0.042	2.78%
Li 670.784†	197716.0	1.56 mg/L	0.009		1.56 mg/L	0.009	0.58%

Sequence No.: 15

Sample ID: L1206056112 0.01

Analyst: KHR

Initial Sample Wt:

Dilution:

Udosampler Location: 83

Date Collected: 6/20/2012 11:59:13 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206056112 0.01

Analyte

Back Pressure

Flow

All

155.0 kPa

0.50 L/min

Mean Data: L1206056112 0.01

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	2094976.2					20601.37	0.98%
YRADIAL	262259.9					2103.77	0.80%
Ga 417.206	1179947.6					9506.72	0.81%

Approved: June 21, 2012

John H. Rhodes

GA RADIAL	76897.9					1898.14	2.47%
Ag 328.068†	37.6	-0.00094 mg/L	0.000284	-0.00094 mg/L	0.000284	30.16%	
Al 396.153†	57.9	0.00104 mg/L	0.004840	0.00104 mg/L	0.004840	465.65%	
As 188.979†	-0.2	-0.00055 mg/L	0.001156	-0.00055 mg/L	0.001156	209.70%	
Ba 233.527†	133.9	-0.00089 mg/L	0.000343	-0.00089 mg/L	0.000343	38.78%	
Be 234.861†	1.8	-0.00018 mg/L	0.000033	-0.00018 mg/L	0.000033	18.93%	
B 249.677†	1654.4	0.0188 mg/L	0.00205	0.0188 mg/L	0.00205	10.94%	
Ca 227.546†	22.9	0.0518 mg/L	0.00481	0.0518 mg/L	0.00481	9.29%	
Cd 228.802†	1.6	0.00001 mg/L	0.000162	0.00001 mg/L	0.000162	>999.9%	
Co 228.616†	25.7	0.00044 mg/L	0.000160	0.00044 mg/L	0.000160	36.62%	
Cr 267.716†	22.4	-0.00049 mg/L	0.000113	-0.00049 mg/L	0.000113	23.10%	
Cu 327.393†	5811.8	0.0246 mg/L	0.00046	0.0246 mg/L	0.00046	1.87%	
Fe 239.562†	77.3	0.00632 mg/L	0.001251	0.00632 mg/L	0.001251	19.81%	
Mg 279.077†	34.3	0.00892 mg/L	0.002096	0.00892 mg/L	0.002096	23.51%	
Mn 257.610†	613.5	-0.00001 mg/L	0.000034	-0.00001 mg/L	0.000034	271.82%	
Mo 202.031†	20.6	-0.00065 mg/L	0.000298	-0.00065 mg/L	0.000298	46.11%	
Ni 231.604†	12.1	-0.00281 mg/L	0.000366	-0.00281 mg/L	0.000366	13.05%	
Pb 220.353†	14169.8	1.22 mg/L	0.030	1.22 mg/L	0.030	2.48%	
Sb 206.836†	7.8	-0.00103 mg/L	0.000351	-0.00103 mg/L	0.000351	34.05%	
Se 196.026†	2.7	0.00177 mg/L	0.002858	0.00177 mg/L	0.002858	161.64%	
Si 251.611†	250.6	-0.00865 mg/L	0.000883	-0.00865 mg/L	0.000883	10.22%	
Sn 189.927†	-3.8	-0.00179 mg/L	0.000716	-0.00179 mg/L	0.000716	39.96%	
Ti 334.940†	414.9	0.00052 mg/L	0.000169	0.00052 mg/L	0.000169	32.51%	
Tl 190.801†	-2.2	-0.00337 mg/L	0.002336	-0.00337 mg/L	0.002336	69.30%	
V 290.880†	33.7	-0.00013 mg/L	0.001025	-0.00013 mg/L	0.001025	765.73%	
Zn 206.200†	1471.6	0.0266 mg/L	0.00373	0.0266 mg/L	0.00373	14.04%	
K 766.490†	51.9	-0.119 mg/L	0.0320	-0.119 mg/L	0.0320	26.96%	
Na 589.592†	30026.2	1.62 mg/L	0.017	1.62 mg/L	0.017	1.04%	
Sr 407.771†	887.4	-0.00096 mg/L	0.000287	-0.00096 mg/L	0.000287	29.89%	
Li 670.784†	135.1	-0.00286 mg/L	0.000904	-0.00286 mg/L	0.000904	31.65%	

Sequence No.: 16

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

autosampler Location: 6

Date Collected: 6/20/2012 12:06:08 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2089262.3				14271.12	0.68%
Y RADIAL	261651.8				5020.14	1.92%
Ga 417.206	1175984.6				28537.78	2.43%
GA RADIAL	76828.8				1302.00	1.69%
Ag 328.068†	120408.5	0.417 mg/L	0.0122	0.417 mg/L	0.0122	2.93%
QC value within limits for Ag 328.068 Recovery = 104.27%						
Al 396.153†	61111.2	10.1 mg/L	0.04	10.1 mg/L	0.04	0.35%
QC value within limits for Al 396.153 Recovery = 101.11%						
As 188.979†	1194.6	0.404 mg/L	0.0106	0.404 mg/L	0.0106	2.63%
QC value within limits for As 188.979 Recovery = 100.88%						
Ba 233.527†	161816.5	1.02 mg/L	0.011	1.02 mg/L	0.011	1.06%
QC value within limits for Ba 233.527 Recovery = 102.35%						
Be 234.861†	61820.8	0.0511 mg/L	0.00126	0.0511 mg/L	0.00126	2.46%
QC value within limits for Be 234.861 Recovery = 102.12%						
B 249.677†	46854.4	0.531 mg/L	0.0110	0.531 mg/L	0.0110	2.08%
QC value within limits for B 249.677 Recovery = 106.21%						
Ca 227.546†	3927.0	10.5 mg/L	0.25	10.5 mg/L	0.25	2.41%
QC value within limits for Ca 227.546 Recovery = 105.48%						
Cd 228.802†	2595.6	0.0505 mg/L	0.00174	0.0505 mg/L	0.00174	3.45%
QC value within limits for Cd 228.802 Recovery = 101.00%						
Co 228.616†	7795.4	0.202 mg/L	0.0032	0.202 mg/L	0.0032	1.58%
QC value within limits for Co 228.616 Recovery = 101.12%						
Cr 267.716†	56025.6	0.515 mg/L	0.0021	0.515 mg/L	0.0021	0.41%
QC value within limits for Cr 267.716 Recovery = 102.91%						
Cu 327.393†	115731.3	0.517 mg/L	0.0144	0.517 mg/L	0.0144	2.78%

Approved: June 21, 2012

John H. Rhodes

QC value within limits for Cu	327.393	Recovery = 103.38%				
Fe 239.562†	58923.3	4.09 mg/L	0.038	0.92%		
QC value within limits for Fe	239.562	Recovery = 102.20%				
Mg 279.077†	34140.9	10.2 mg/L	0.08	0.83%		
QC value within limits for Mg	279.077	Recovery = 101.77%				
Mn 257.610†	391902.3	0.510 mg/L	0.0076	1.48%		
QC value within limits for Mn	257.610	Recovery = 101.95%				
Mo 202.031†	36775.2	1.04 mg/L	0.011	1.02%		
QC value within limits for Mo	202.031	Recovery = 104.34%				
Ni 231.604†	34923.0	0.522 mg/L	0.0072	1.38%		
QC value within limits for Ni	231.604	Recovery = 104.50%				
Pb 220.353†	5964.5	0.512 mg/L	0.0061	1.19%		
QC value within limits for Pb	220.353	Recovery = 102.48%				
Sb 206.836†	4892.0	1.23 mg/L	0.033	2.66%		
QC value within limits for Sb	206.836	Recovery = 102.35%				
Se 196.026†	750.1	0.410 mg/L	0.0094	2.30%		
QC value within limits for Se	196.026	Recovery = 102.56%				
Si 251.611†	227297.5	5.44 mg/L	0.082	1.51%		
QC value within limits for Si	251.611	Recovery = 108.72%				
Sn 189.927†	11078.2	1.01 mg/L	0.013	1.31%		
QC value within limits for Sn	189.927	Recovery = 101.07%				
Ti 334.940†	901673.8	1.01 mg/L	0.007	0.67%		
QC value within limits for Ti	334.940	Recovery = 100.93%				
Tl 190.801†	1976.3	0.532 mg/L	0.0008	0.15%		
QC value within limits for Tl	190.801	Recovery = 106.31%				
V 290.880†	209083.2	1.02 mg/L	0.006	0.62%		
QC value within limits for V	290.880	Recovery = 101.65%				
Zn 206.200†	53047.5	1.04 mg/L	0.010	1.00%		
QC value within limits for Zn	206.200	Recovery = 104.28%				
K 766.490†	132719.7	50.4 mg/L	0.13	0.25%		
QC value within limits for K	766.490	Recovery = 100.71%				
Na 589.592†	896748.8	50.2 mg/L	0.87	1.74%		
QC value within limits for Na	589.592	Recovery = 100.48%				
Sr 407.771†	2417125.9	0.988 mg/L	0.0205	2.08%		
QC value within limits for Sr	407.771	Recovery = 98.77%				
Li 670.784†	129313.5	1.02 mg/L	0.003	0.33%		
QC value within limits for Li	670.784	Recovery = 101.67%				

All analyte(s) passed QC.

Sequence No.: 17

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 6/20/2012 12:12:07 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2145458.9					9806.65	0.46%
YRADIAL	260543.8					4464.26	1.71%
Ga 417.206	1221200.3					17502.64	1.43%
GaRADIAL	77364.4					1712.85	2.21%
Ag 328.068†	90.0	-0.00076 mg/L		0.000334	-0.00076 mg/L	0.000334	43.62%
QC value within limits for Ag	328.068	Recovery = Not calculated					
Al 396.153†	55.5	0.00065 mg/L		0.002565	0.00065 mg/L	0.002565	393.01%
QC value within limits for Al	396.153	Recovery = Not calculated					
As 188.979†	-3.6	-0.00171 mg/L		0.001325	-0.00171 mg/L	0.001325	77.55%
QC value within limits for As	188.979	Recovery = Not calculated					
Ba 233.527†	22.7	-0.00159 mg/L		0.000159	-0.00159 mg/L	0.000159	10.01%
QC value within limits for Ba	233.527	Recovery = Not calculated					
Be 234.861†	49.2	-0.00014 mg/L		0.000026	-0.00014 mg/L	0.000026	19.24%
QC value within limits for Be	234.861	Recovery = Not calculated					
B 249.677†	548.5	0.00613 mg/L		0.000557	0.00613 mg/L	0.000557	9.08%
QC value within limits for B	249.677	Recovery = Not calculated					
Ca 227.546†	3.6	0.00238 mg/L		0.025919	0.00238 mg/L	0.025919	>999.9%

Approved: June 21, 2012

John H. Rhodes

Cd	228.802†	QC value within limits for Cd	228.802	Recovery = Not calculated	0.000117	-0.00012	mg/L	0.000117	100.59%
Co	228.616†	QC value within limits for Co	228.616	Recovery = Not calculated	0.000399	-0.00041	mg/L	0.000399	97.85%
Cr	267.716†	QC value within limits for Cr	267.716	Recovery = Not calculated	0.000110	-0.00060	mg/L	0.000110	18.19%
Cu	327.393†	QC value within limits for Cu	327.393	Recovery = Not calculated	0.000337	0.00011	mg/L	0.000337	318.58%
Fe	239.562†	QC value within limits for Fe	239.562	Recovery = Not calculated	0.000578	0.00285	mg/L	0.000578	20.28%
Mg	279.077†	QC value within limits for Mg	279.077	Recovery = Not calculated	0.00217	0.0116	mg/L	0.00217	18.65%
Mn	257.610†	QC value within limits for Mn	257.610	Recovery = Not calculated	0.000030	-0.00071	mg/L	0.000030	4.20%
Mo	202.031†	QC value within limits for Mo	202.031	Recovery = Not calculated	0.000210	-0.00076	mg/L	0.000210	27.56%
Ni	231.604†	QC value within limits for Ni	231.604	Recovery = Not calculated	0.000209	-0.00284	mg/L	0.000209	7.35%
Pb	220.353†	QC value within limits for Pb	220.353	Recovery = Not calculated	0.000566	-0.00018	mg/L	0.000566	309.40%
Sb	206.836†	QC value within limits for Sb	206.836	Recovery = Not calculated	0.000365	-0.00180	mg/L	0.000365	20.32%
Se	196.026†	QC value within limits for Se	196.026	Recovery = Not calculated	0.000850	-0.00039	mg/L	0.000850	220.03%
Si	251.611†	QC value within limits for Si	251.611	Recovery = Not calculated	0.00070	-0.0131	mg/L	0.00070	5.38%
Sn	189.927†	QC value within limits for Sn	189.927	Recovery = Not calculated	0.000677	-0.00044	mg/L	0.000677	155.26%
Ti	334.940†	QC value within limits for Ti	334.940	Recovery = Not calculated	0.000104	0.00022	mg/L	0.000104	46.13%
Tl	190.801†	QC value within limits for Tl	190.801	Recovery = Not calculated	0.000712	-0.00397	mg/L	0.000712	17.95%
V	290.880†	QC value within limits for V	290.880	Recovery = Not calculated	0.000298	-0.00191	mg/L	0.000298	15.63%
Zn	206.200†	QC value within limits for Zn	206.200	Recovery = Not calculated	0.000211	-0.00155	mg/L	0.000211	13.64%
K	766.490†	QC value within limits for K	766.490	Recovery = Not calculated	0.01387	-0.0859	mg/L	0.01387	16.14%
Na	589.592†	QC value within limits for Na	589.592	Recovery = Not calculated	0.006789	0.00083	mg/L	0.006789	817.68%
Sr	407.771†	QC value within limits for Sr	407.771	Recovery = Not calculated	0.000089	-0.00102	mg/L	0.000089	8.67%
Li	670.784†	QC value within limits for Li	670.784	Recovery = Not calculated	0.000298	-0.00337	mg/L	0.000298	8.82%

All analyte(s) passed QC.

Sequence No.: 18

Sample ID: PBW 87 WG400908-03

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 14

Date Collected: 6/20/2012 12:19:00 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: PBW 87 WG400908-03

Analyste	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: PBW 87 WG400908-03

Analyste	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2129003.3					22574.27	1.06%
YRADIAL	271306.4					5640.91	2.08%
Ga 417.206	1240093.5					44875.89	3.62%
GARADIAL	80686.7					1279.21	1.59%
Ag 328.068†	131.2	-0.00062	mg/L	0.000088	-0.00062	0.000088	14.12%
Al 396.153†	34.7	-0.00281	mg/L	0.001242	-0.00281	0.001242	44.20%
As 188.979†	4.5	0.00106	mg/L	0.000822	0.00106	0.000822	77.91%
Ba 233.527†	29.4	-0.00155	mg/L	0.000181	-0.00155	0.000181	11.71%
Be 234.861†	65.3	-0.00012	mg/L	0.000038	-0.00012	0.000038	31.05%

Approved: June 21, 2012

John H. Rhodes

B 249.677†	330.7	0.00364 mg/L	0.000127	0.00364 mg/L	0.000127	3.47%
Ca 227.546†	5.0	0.00576 mg/L	0.016530	0.00576 mg/L	0.016530	286.92%
Cd 228.802†	-4.4	-0.00012 mg/L	0.000150	-0.00012 mg/L	0.000150	126.03%
Co 228.616†	-7.1	-0.00042 mg/L	0.000165	-0.00042 mg/L	0.000165	39.25%
Cr 267.716†	-15.4	-0.00084 mg/L	0.000089	-0.00084 mg/L	0.000089	10.65%
Cu 327.393†	125.4	-0.00080 mg/L	0.000197	-0.00080 mg/L	0.000197	24.53%
Fe 239.562†	27.3	0.00285 mg/L	0.000663	0.00285 mg/L	0.000663	23.27%
Mg 279.077†	22.4	0.00537 mg/L	0.002087	0.00537 mg/L	0.002087	38.87%
Mn 257.610†	94.0	-0.00069 mg/L	0.000003	-0.00069 mg/L	0.000003	0.46%
Mo 202.031†	13.4	-0.00085 mg/L	0.000313	-0.00085 mg/L	0.000313	36.66%
Ni 231.604†	12.7	-0.00280 mg/L	0.000152	-0.00280 mg/L	0.000152	5.41%
Pb 220.353†	18.4	0.00004 mg/L	0.001758	0.00004 mg/L	0.001758	>999.9%
Sb 206.836†	4.2	-0.00194 mg/L	0.000673	-0.00194 mg/L	0.000673	34.75%
Se 196.026†	-2.9	-0.00127 mg/L	0.001565	-0.00127 mg/L	0.001565	123.65%
Si 251.611†	138.6	-0.0113 mg/L	0.00069	-0.0113 mg/L	0.00069	6.13%
Sn 189.927†	1.1	-0.00134 mg/L	0.000398	-0.00134 mg/L	0.000398	29.62%
Ti 334.940†	199.0	0.00027 mg/L	0.000136	0.00027 mg/L	0.000136	50.15%
Tl 190.801†	3.6	-0.00186 mg/L	0.002623	-0.00186 mg/L	0.002623	141.32%
V 290.880†	-403.9	-0.00226 mg/L	0.000845	-0.00226 mg/L	0.000845	37.31%
Zn 206.200†	122.6	0.00001 mg/L	0.000198	0.00001 mg/L	0.000198	>999.9%
K 766.490†	89.1	-0.103 mg/L	0.0333	-0.103 mg/L	0.0333	32.30%
Na 589.592†	-48.9	-0.0247 mg/L	0.00630	-0.0247 mg/L	0.00630	25.51%
Sr 407.771†	166.8	-0.00125 mg/L	0.000015	-0.00125 mg/L	0.000015	1.20%
Li 670.784†	-18.4	-0.00407 mg/L	0.000249	-0.00407 mg/L	0.000249	6.12%

Sequence No.: 19

Sample ID: LCSW 87 WG400908-04

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 15

Date Collected: 6/20/2012 12:25:55 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: LCSW 87 WG400908-04

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: LCSW 87 WG400908-04

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2158612.2					26263.09	1.22%
YRADIAL	268982.0					6854.55	2.55%
Ga 417.206	1243704.4					29618.29	2.38%
GaRADIAL	78903.8					1523.57	1.93%
Ag 328.068†	58971.9	0.204 mg/L	0.0059	0.0059	0.204 mg/L	0.0059	2.91%
Al 396.153†	30085.5	4.97 mg/L	0.037	0.037	4.97 mg/L	0.037	0.74%
As 188.979†	573.4	0.193 mg/L	0.0030	0.0030	0.193 mg/L	0.0030	1.55%
Ba 233.527†	80125.2	0.506 mg/L	0.0086	0.0086	0.506 mg/L	0.0086	1.70%
Be 234.861†	29998.8	0.0247 mg/L	0.00081	0.00081	0.0247 mg/L	0.00081	3.29%
B 249.677†	86951.2	0.991 mg/L	0.0313	0.0313	0.991 mg/L	0.0313	3.16%
Ca 227.546†	1886.6	5.07 mg/L	0.052	0.052	5.07 mg/L	0.052	1.02%
Cd 228.802†	1252.4	0.0244 mg/L	0.00085	0.00085	0.0244 mg/L	0.00085	3.49%
Co 228.616†	3886.9	0.101 mg/L	0.0026	0.0026	0.101 mg/L	0.0026	2.58%
Cr 267.716†	27694.4	0.254 mg/L	0.0022	0.0022	0.254 mg/L	0.0022	0.86%
Cu 327.393†	56355.4	0.251 mg/L	0.0078	0.0078	0.251 mg/L	0.0078	3.13%
Fe 239.562†	28615.1	1.99 mg/L	0.016	0.016	1.99 mg/L	0.016	0.82%
Mg 279.077†	16967.6	5.06 mg/L	0.067	0.067	5.06 mg/L	0.067	1.33%
Mn 257.610†	195729.9	0.254 mg/L	0.0051	0.0051	0.254 mg/L	0.0051	2.02%
Mo 202.031†	17748.3	0.503 mg/L	0.0072	0.0072	0.503 mg/L	0.0072	1.43%
Ni 231.604†	16902.4	0.251 mg/L	0.0049	0.0049	0.251 mg/L	0.0049	1.95%
Pb 220.353†	2970.6	0.254 mg/L	0.0074	0.0074	0.254 mg/L	0.0074	2.91%
Sb 206.836†	2378.9	0.596 mg/L	0.0107	0.0107	0.596 mg/L	0.0107	1.80%
Se 196.026†	369.6	0.202 mg/L	0.0076	0.0076	0.202 mg/L	0.0076	3.78%
Si 251.611†	107276.7	2.56 mg/L	0.055	0.055	2.56 mg/L	0.055	2.16%
Sn 189.927†	5833.9	0.532 mg/L	0.0140	0.0140	0.532 mg/L	0.0140	2.64%
Ti 334.940†	441682.5	0.494 mg/L	0.0050	0.0050	0.494 mg/L	0.0050	1.01%
Tl 190.801†	991.5	0.265 mg/L	0.0048	0.0048	0.265 mg/L	0.0048	1.81%
V 290.880†	103895.6	0.505 mg/L	0.0038	0.0038	0.505 mg/L	0.0038	0.76%
Zn 206.200†	26364.5	0.517 mg/L	0.0058	0.0058	0.517 mg/L	0.0058	1.13%
K 766.490†	65654.8	24.8 mg/L	0.25	0.25	24.8 mg/L	0.25	1.03%
Na 589.592†	455243.4	25.2 mg/L	0.69	0.69	25.2 mg/L	0.69	2.75%

Approved: June 21, 2012

John H. Rhodes

Sr 407.771†	1192348.2	0.487 mg/L	0.0199	0.487 mg/L	0.0199	4.08%
Li 670.784†	65723.8	0.515 mg/L	0.0050	0.515 mg/L	0.0050	0.96%

Sequence No.: 20

Sample ID: L1206042202 WG400908-01

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 16

Date Collected: 6/20/2012 12:31:54 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042202 WG400908-01

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: L1206042202 WG400908-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2135863.8				6706.69	0.31%
YRADIAL	267686.2				4532.85	1.69%
Ga 417.206	1260486.4				19347.36	1.53%
GaRADIAL	79861.7				1172.85	1.47%
Ag 328.068†	-3199.4	-0.00037 mg/L	0.000725	-0.00037 mg/L	0.000725	196.04%
Al 396.153†	-1.3	-0.00567 mg/L	0.010605	-0.00567 mg/L	0.010605	186.91%
As 188.979†	-2.2	0.00165 mg/L	0.002727	0.00165 mg/L	0.002727	165.19%
Ba 233.527†	20244.5	0.126 mg/L	0.0017	0.126 mg/L	0.0017	1.38%
Be 234.861†	7019.0	0.00025 mg/L	0.000212	0.00025 mg/L	0.000212	83.20%
B 249.677†	1884.9	0.0101 mg/L	0.00030	0.0101 mg/L	0.00030	3.00%
Ca 227.546†	5630.1	15.1 mg/L	0.54	15.1 mg/L	0.54	3.57%
Cd 228.802†	-0.6	-0.00008 mg/L	0.000112	-0.00008 mg/L	0.000112	144.04%
Co 228.616†	30.1	-0.00017 mg/L	0.000288	-0.00017 mg/L	0.000288	166.93%
Cr 267.716†	-43.1	-0.00205 mg/L	0.000099	-0.00205 mg/L	0.000099	4.85%
Cu 327.393†	-134.6	0.00024 mg/L	0.000071	0.00024 mg/L	0.000071	29.30%
Fe 239.562†	377514.3	26.2 mg/L	0.09	26.2 mg/L	0.09	0.35%
Mg 279.077†	20146.2	5.98 mg/L	0.107	5.98 mg/L	0.107	1.78%
Mn 257.610†	1325067.6	1.72 mg/L	0.030	1.72 mg/L	0.030	1.73%
Mo 202.031†	0.9	0.00044 mg/L	0.000349	0.00044 mg/L	0.000349	79.19%
Ni 231.604†	239.3	0.00061 mg/L	0.000581	0.00061 mg/L	0.000581	94.71%
Pb 220.353†	22.2	-0.00282 mg/L	0.001088	-0.00282 mg/L	0.001088	38.59%
Sb 206.836†	1.1	-0.00175 mg/L	0.001529	-0.00175 mg/L	0.001529	87.52%
Se 196.026†	-18.0	-0.00216 mg/L	0.003133	-0.00216 mg/L	0.003133	145.40%
Si 251.611†	448911.8	10.8 mg/L	0.06	10.8 mg/L	0.06	0.57%
Sn 189.927†	-119.9	-0.0124 mg/L	0.00016	-0.0124 mg/L	0.00016	1.30%
Ti 334.940†	-1816.4	0.00018 mg/L	0.000241	0.00018 mg/L	0.000241	131.93%
Tl 190.801†	-10.3	-0.00726 mg/L	0.002010	-0.00726 mg/L	0.002010	27.69%
V 290.880†	1112.1	0.00292 mg/L	0.001794	0.00292 mg/L	0.001794	61.48%
Zn 206.200†	138.2	-0.00018 mg/L	0.000146	-0.00018 mg/L	0.000146	79.54%
K 766.490†	4829.6	1.67 mg/L	0.056	1.67 mg/L	0.056	3.37%
Na 589.592†	526647.6	29.2 mg/L	0.06	29.2 mg/L	0.06	0.21%
Sr 407.771†	180922.2	0.0724 mg/L	0.00057	0.0724 mg/L	0.00057	0.79%
Li 670.784†	288.6	-0.00164 mg/L	0.000610	-0.00164 mg/L	0.000610	37.10%

Sequence No.: 21

Sample ID: L1206042204S WG400908-05

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 17

Date Collected: 6/20/2012 12:37:53 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042204S WG400908-05

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: L1206042204S WG400908-05

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2070177.2				18514.80	0.89%
YRADIAL	264441.3				4372.32	1.65%
Ga 417.206	1212119.5				46752.50	3.86%

Approved: June 21, 2012

John H. Rhodes

GA RADIAL	78330.7					1031.50	1.32%
Ag 328.068†	56289.0	0.206 mg/L	0.0079	0.206 mg/L	0.0079	0.0079	3.84%
Al 396.153†	30921.7	5.12 mg/L	0.001	5.12 mg/L	0.001	0.001	0.02%
As 188.979†	581.9	0.199 mg/L	0.0049	0.199 mg/L	0.0049	0.0049	2.46%
Ba 233.527†	101904.0	0.643 mg/L	0.0034	0.643 mg/L	0.0034	0.0034	0.54%
Be 234.861†	37249.4	0.0254 mg/L	0.00095	0.0254 mg/L	0.00095	0.00095	3.76%
B 249.677†	90374.5	1.02 mg/L	0.038	1.02 mg/L	0.038	0.038	3.77%
Ca 227.546†	7812.9	20.9 mg/L	0.91	20.9 mg/L	0.91	0.91	4.37%
Cd 228.802†	1270.8	0.0247 mg/L	0.00138	0.0247 mg/L	0.00138	0.00138	5.59%
Co 228.616†	3985.8	0.103 mg/L	0.0011	0.103 mg/L	0.0011	0.0011	1.05%
Cr 267.716†	28035.7	0.256 mg/L	0.0016	0.256 mg/L	0.0016	0.0016	0.61%
Cu 327.393†	56214.7	0.253 mg/L	0.0103	0.253 mg/L	0.0103	0.0103	4.07%
Fe 239.562†	402355.2	27.9 mg/L	0.28	27.9 mg/L	0.28	0.28	1.02%
Mg 279.077†	37290.7	11.1 mg/L	0.11	11.1 mg/L	0.11	0.11	1.02%
Mn 257.610†	1532275.1	1.99 mg/L	0.015	1.99 mg/L	0.015	0.015	0.73%
Mo 202.031†	18079.9	0.514 mg/L	0.0037	0.514 mg/L	0.0037	0.0037	0.72%
Ni 231.604†	17239.4	0.256 mg/L	0.0009	0.256 mg/L	0.0009	0.0009	0.35%
Pb 220.353†	3051.0	0.258 mg/L	0.0025	0.258 mg/L	0.0025	0.0025	0.98%
Sb 206.836†	2415.5	0.606 mg/L	0.0226	0.606 mg/L	0.0226	0.0226	3.73%
Se 196.026†	355.5	0.202 mg/L	0.0110	0.202 mg/L	0.0110	0.0110	5.45%
Si 251.611†	564357.4	13.5 mg/L	0.33	13.5 mg/L	0.33	0.33	2.44%
Sn 189.927†	5911.4	0.539 mg/L	0.0043	0.539 mg/L	0.0043	0.0043	0.79%
Ti 334.940†	451210.3	0.507 mg/L	0.0017	0.507 mg/L	0.0017	0.0017	0.33%
Tl 190.801†	991.0	0.263 mg/L	0.0048	0.263 mg/L	0.0048	0.0048	1.82%
V 290.880†	106851.2	0.517 mg/L	0.0030	0.517 mg/L	0.0030	0.0030	0.58%
Zn 206.200†	26743.1	0.524 mg/L	0.0045	0.524 mg/L	0.0045	0.0045	0.85%
K 766.490†	71900.2	27.1 mg/L	0.15	27.1 mg/L	0.15	0.15	0.55%
Na 589.592†	995634.0	55.9 mg/L	0.37	55.9 mg/L	0.37	0.37	0.66%
Sr 407.771†	1417516.5	0.578 mg/L	0.0042	0.578 mg/L	0.0042	0.0042	0.73%
Li 670.784†	67124.7	0.526 mg/L	0.0026	0.526 mg/L	0.0026	0.0026	0.49%

Sequence No.: 22

Sample ID: L1206042206SD WG400908-06

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 18

Date Collected: 6/20/2012 12:43:53 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042206SD WG400908-06

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: L1206042206SD WG400908-06

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2069152.0						17134.19	0.83%
Y RADIAL	262259.1						3396.67	1.30%
Ga 417.206	1222836.1						17529.13	1.43%
GA RADIAL	78391.3						1259.25	1.61%
Ag 328.068†	55348.4	0.203 mg/L	0.0043	0.0043	0.203 mg/L	0.0043	0.0043	2.13%
Al 396.153†	30560.4	5.06 mg/L	0.021	0.021	5.06 mg/L	0.021	0.021	0.42%
As 188.979†	576.0	0.197 mg/L	0.0019	0.0019	0.197 mg/L	0.0019	0.0019	0.96%
Ba 233.527†	102703.8	0.648 mg/L	0.0139	0.0139	0.648 mg/L	0.0139	0.0139	2.14%
Be 234.861†	37036.5	0.0250 mg/L	0.00056	0.00056	0.0250 mg/L	0.00056	0.00056	2.24%
B 249.677†	89882.7	1.01 mg/L	0.025	0.025	1.01 mg/L	0.025	0.025	2.45%
Ca 227.546†	7961.9	21.3 mg/L	0.32	0.32	21.3 mg/L	0.32	0.32	1.49%
Cd 228.802†	1255.0	0.0244 mg/L	0.00072	0.00072	0.0244 mg/L	0.00072	0.00072	2.94%
Co 228.616†	3973.5	0.102 mg/L	0.0020	0.0020	0.102 mg/L	0.0020	0.0020	1.92%
Cr 267.716†	27848.3	0.254 mg/L	0.0018	0.0018	0.254 mg/L	0.0018	0.0018	0.70%
Cu 327.393†	55576.6	0.250 mg/L	0.0067	0.0067	0.250 mg/L	0.0067	0.0067	2.69%
Fe 239.562†	416294.3	28.9 mg/L	0.16	0.16	28.9 mg/L	0.16	0.16	0.55%
Mg 279.077†	37739.5	11.2 mg/L	0.03	0.03	11.2 mg/L	0.03	0.03	0.29%
Mn 257.610†	1579374.5	2.06 mg/L	0.038	0.038	2.06 mg/L	0.038	0.038	1.86%
Mo 202.031†	18002.3	0.512 mg/L	0.0076	0.0076	0.512 mg/L	0.0076	0.0076	1.48%
Ni 231.604†	17511.7	0.260 mg/L	0.0049	0.0049	0.260 mg/L	0.0049	0.0049	1.87%
Pb 220.353†	3042.8	0.257 mg/L	0.0056	0.0056	0.257 mg/L	0.0056	0.0056	2.18%
Sb 206.836†	2392.4	0.600 mg/L	0.0063	0.0063	0.600 mg/L	0.0063	0.0063	1.05%
Se 196.026†	359.8	0.204 mg/L	0.0023	0.0023	0.204 mg/L	0.0023	0.0023	1.12%
Si 251.611†	577122.9	13.8 mg/L	0.08	0.08	13.8 mg/L	0.08	0.08	0.55%
Sn 189.927†	5780.4	0.527 mg/L	0.0089	0.0089	0.527 mg/L	0.0089	0.0089	1.69%

Approved: June 21, 2012

John H. Rhodes

Ti 334.940†	451492.5	0.508 mg/L	0.0058	0.508 mg/L	0.0058	1.15%
Tl 190.801†	988.7	0.263 mg/L	0.0039	0.263 mg/L	0.0039	1.49%
V 290.880†	107311.8	0.519 mg/L	0.0073	0.519 mg/L	0.0073	1.41%
Zn 206.200†	26586.1	0.521 mg/L	0.0096	0.521 mg/L	0.0096	1.84%
K 766.490†	71621.1	27.0 mg/L	0.33	27.0 mg/L	0.33	1.22%
Na 589.592†	1016187.6	57.1 mg/L	0.57	57.1 mg/L	0.57	1.00%
Sr 407.771†	1434984.2	0.586 mg/L	0.0054	0.586 mg/L	0.0054	0.92%
Li 670.784†	66748.5	0.523 mg/L	0.0006	0.523 mg/L	0.0006	0.11%

Sequence No.: 23

Sample ID: L1206042208

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 19

Date Collected: 6/20/2012 12:49:54 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042208

Analyte

Back Pressure

Flow

All

155.0 kPa

0.50 L/min

Mean Data: L1206042208

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2141712.3				39085.67	1.82%
YRADIAL	266457.0				4382.41	1.64%
Ga 417.206	1260750.6				20259.25	1.61%
GaRADIAL	79519.1				1549.81	1.95%
Ag 328.068†	-883.7	0.00036 mg/L	0.000163	0.00036 mg/L	0.000163	44.98%
Al 396.153†	9.4	-0.00565 mg/L	0.006628	-0.00565 mg/L	0.006628	117.31%
As 188.979†	9.0	0.00388 mg/L	0.003353	0.00388 mg/L	0.003353	86.38%
Ba 233.527†	25234.4	0.158 mg/L	0.0063	0.158 mg/L	0.0063	4.01%
Be 234.861†	2921.3	0.00043 mg/L	0.000114	0.00043 mg/L	0.000114	26.60%
B 249.677†	1647.9	0.0135 mg/L	0.00054	0.0135 mg/L	0.00054	4.02%
Ca 227.546†	5453.1	14.3 mg/L	0.16	14.3 mg/L	0.16	1.11%
Cd 228.802†	24.1	0.00051 mg/L	0.000080	0.00051 mg/L	0.000080	15.52%
Co 228.616†	935.2	0.0238 mg/L	0.00041	0.0238 mg/L	0.00041	1.73%
Cr 267.716†	82.6	-0.00036 mg/L	0.000111	-0.00036 mg/L	0.000111	30.52%
Cu 327.393†	699.6	0.00274 mg/L	0.000286	0.00274 mg/L	0.000286	10.42%
Fe 239.562†	170023.4	11.8 mg/L	0.09	11.8 mg/L	0.09	0.73%
Mg 279.077†	23981.5	7.13 mg/L	0.237	7.13 mg/L	0.237	3.32%
Mn 257.610†	5304238.5	6.90 mg/L	0.049	6.90 mg/L	0.049	0.71%
Mo 202.031†	21.9	0.00141 mg/L	0.000139	0.00141 mg/L	0.000139	9.84%
Ni 231.604†	2335.6	0.0322 mg/L	0.00043	0.0322 mg/L	0.00043	1.32%
Pb 220.353†	17.1	-0.00513 mg/L	0.001293	-0.00513 mg/L	0.001293	25.21%
Sb 206.836†	-3.4	-0.00342 mg/L	0.001255	-0.00342 mg/L	0.001255	36.75%
Se 196.026†	-4.7	-0.00075 mg/L	0.004438	-0.00075 mg/L	0.004438	591.65%
Si 251.611†	452031.3	10.8 mg/L	0.21	10.8 mg/L	0.21	1.97%
Sn 189.927†	-118.2	-0.0122 mg/L	0.00016	-0.0122 mg/L	0.00016	1.29%
Ti 334.940†	-2107.0	-0.00021 mg/L	0.000107	-0.00021 mg/L	0.000107	50.94%
Tl 190.801†	-3.8	-0.0108 mg/L	0.00247	-0.0108 mg/L	0.00247	22.93%
V 290.880†	885.6	0.00290 mg/L	0.000864	0.00290 mg/L	0.000864	29.76%
Zn 206.200†	1558.0	0.0280 mg/L	0.00071	0.0280 mg/L	0.00071	2.54%
K 766.490†	1010.1	0.238 mg/L	0.0429	0.238 mg/L	0.0429	18.02%
Na 589.592†	147682.4	8.09 mg/L	0.083	8.09 mg/L	0.083	1.03%
Sr 407.771†	193856.7	0.0777 mg/L	0.00043	0.0777 mg/L	0.00043	0.56%
Li 670.784†	304.2	-0.00152 mg/L	0.000811	-0.00152 mg/L	0.000811	53.31%

Sequence No.: 24

Sample ID: L1206042210

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 20

Date Collected: 6/20/2012 12:55:53 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042210

Analyte

Back Pressure

Flow

All

155.0 kPa

0.50 L/min

Approved: June 21, 2012

John H. Rhodes

Mean Data: L1206042210

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2060935.4				31807.79	1.54%
YRADIAL	257303.4				4549.87	1.77%
Ga 417.206	1209927.2				6950.81	0.57%
GA RADIAL	77684.4				826.42	1.06%
Ag 328.068†	-2643.8	-0.00044 mg/L	0.000499	-0.00044 mg/L	0.000499	114.27%
Al 396.153†	1130.5	0.183 mg/L	0.0112	0.183 mg/L	0.0112	6.13%
As 188.979†	-2.0	0.00122 mg/L	0.001676	0.00122 mg/L	0.001676	137.47%
Ba 233.527†	27108.4	0.169 mg/L	0.0025	0.169 mg/L	0.0025	1.45%
Be 234.861†	6013.3	0.00033 mg/L	0.000176	0.00033 mg/L	0.000176	52.85%
B 249.677†	1545.8	0.00815 mg/L	0.000176	0.00815 mg/L	0.000176	2.16%
Ca 227.546†	5758.8	15.3 mg/L	0.17	15.3 mg/L	0.17	1.13%
Cd 228.802†	11.4	0.00017 mg/L	0.000153	0.00017 mg/L	0.000153	90.41%
Co 228.616†	10.5	-0.00059 mg/L	0.000239	-0.00059 mg/L	0.000239	40.42%
Cr 267.716†	54.5	-0.00099 mg/L	0.000063	-0.00099 mg/L	0.000063	6.41%
Cu 327.393†	116.3	0.00099 mg/L	0.000354	0.00099 mg/L	0.000354	35.70%
Fe 239.562†	313844.8	21.8 mg/L	0.02	21.8 mg/L	0.02	0.10%
Mg 279.077†	24552.3	7.29 mg/L	0.158	7.29 mg/L	0.158	2.17%
Mn 257.610†	1113942.3	1.45 mg/L	0.017	1.45 mg/L	0.017	1.18%
Mo 202.031†	3.9	0.00025 mg/L	0.000167	0.00025 mg/L	0.000167	66.06%
Ni 231.604†	332.9	0.00202 mg/L	0.000495	0.00202 mg/L	0.000495	24.46%
Pb 220.353†	16.8	-0.00269 mg/L	0.001512	-0.00269 mg/L	0.001512	56.15%
Sb 206.836†	-5.9	-0.00369 mg/L	0.000935	-0.00369 mg/L	0.000935	25.36%
Se 196.026†	-4.6	0.00391 mg/L	0.003574	0.00391 mg/L	0.003574	91.46%
Si 251.611†	461202.8	11.1 mg/L	0.11	11.1 mg/L	0.11	1.03%
Sn 189.927†	-120.8	-0.0125 mg/L	0.00054	-0.0125 mg/L	0.00054	4.29%
Ti 334.940†	1180.1	0.00358 mg/L	0.000329	0.00358 mg/L	0.000329	9.19%
Tl 190.801†	-9.2	-0.00664 mg/L	0.000758	-0.00664 mg/L	0.000758	11.41%
V 290.880†	1251.2	0.00390 mg/L	0.001485	0.00390 mg/L	0.001485	38.06%
Zn 206.200†	425.8	0.00555 mg/L	0.000101	0.00555 mg/L	0.000101	1.82%
K 766.490†	4220.5	1.44 mg/L	0.042	1.44 mg/L	0.042	2.94%
Na 589.592†	338257.5	18.7 mg/L	0.16	18.7 mg/L	0.16	0.85%
Sr 407.771†	206470.9	0.0829 mg/L	0.00013	0.0829 mg/L	0.00013	0.16%
Li 670.784†	248.6	-0.00196 mg/L	0.000555	-0.00196 mg/L	0.000555	28.33%

Sequence No.: 25

Sample ID: L1206042212

Analyst: KHR

Initial Sample Wt:

Dilution:

Sampler Location: 21

Date Collected: 6/20/2012 1:01:53 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042212

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: L1206042212

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2075051.8				17873.45	0.86%
YRADIAL	260476.7				5501.87	2.11%
Ga 417.206	1222329.0				22898.03	1.87%
GA RADIAL	78345.2				1158.92	1.48%
Ag 328.068†	-2098.7	-0.00006 mg/L	0.000477	-0.00006 mg/L	0.000477	765.02%
Al 396.153†	-26.6	-0.0108 mg/L	0.00611	-0.0108 mg/L	0.00611	56.38%
As 188.979†	-0.3	0.00144 mg/L	0.002778	0.00144 mg/L	0.002778	193.13%
Ba 233.527†	23547.2	0.147 mg/L	0.0031	0.147 mg/L	0.0031	2.09%
Be 234.861†	5415.2	0.00053 mg/L	0.000112	0.00053 mg/L	0.000112	21.13%
B 249.677†	1151.0	0.00507 mg/L	0.000906	0.00507 mg/L	0.000906	17.87%
Ca 227.546†	5386.5	14.3 mg/L	0.29	14.3 mg/L	0.29	2.03%
Cd 228.802†	-2.5	-0.00009 mg/L	0.000189	-0.00009 mg/L	0.000189	207.80%
Co 228.616†	163.2	0.00349 mg/L	0.000264	0.00349 mg/L	0.000264	7.55%
Cr 267.716†	-34.9	-0.00169 mg/L	0.000025	-0.00169 mg/L	0.000025	1.49%
Cu 327.393†	-132.5	-0.00041 mg/L	0.000900	-0.00041 mg/L	0.000900	221.11%
Fe 239.562†	265435.8	18.4 mg/L	0.14	18.4 mg/L	0.14	0.76%
Mg 279.077†	20088.1	5.97 mg/L	0.093	5.97 mg/L	0.093	1.56%
Mn 257.610†	941900.3	1.23 mg/L	0.020	1.23 mg/L	0.020	1.63%
Mo 202.031†	8.0	0.00016 mg/L	0.000197	0.00016 mg/L	0.000197	126.06%

Approved: June 21, 2012

John H. Rhodes

Ni 231.604†	506.3	0.00463 mg/L	0.000266	0.00463 mg/L	0.000266	5.74%
Pb 220.353†	25.3	-0.00159 mg/L	0.001272	-0.00159 mg/L	0.001272	80.21%
Sb 206.836†	-0.7	-0.00250 mg/L	0.000720	-0.00250 mg/L	0.000720	28.82%
Se 196.026†	-5.2	0.00260 mg/L	0.003391	0.00260 mg/L	0.003391	130.31%
Si 251.611†	351337.7	8.43 mg/L	0.258	8.43 mg/L	0.258	3.06%
Sn 189.927†	-111.9	-0.0117 mg/L	0.00025	-0.0117 mg/L	0.00025	2.14%
Ti 334.940†	-2065.8	-0.00019 mg/L	0.000221	-0.00019 mg/L	0.000221	116.17%
Tl 190.801†	-3.3	-0.00491 mg/L	0.001671	-0.00491 mg/L	0.001671	34.01%
V 290.880†	875.4	0.00237 mg/L	0.000842	0.00237 mg/L	0.000842	35.55%
Zn 206.200†	182.6	0.00084 mg/L	0.000131	0.00084 mg/L	0.000131	15.64%
K 766.490†	9025.5	3.23 mg/L	0.070	3.23 mg/L	0.070	2.18%
Na 589.592†	986801.4	55.4 mg/L	0.61	55.4 mg/L	0.61	1.10%
Sr 407.771†	155661.1	0.0621 mg/L	0.00019	0.0621 mg/L	0.00019	0.31%
Li 670.784†	508.2	0.00009 mg/L	0.000567	0.00009 mg/L	0.000567	634.33%

Sequence No.: 26

Sample ID: L1206042212PS WG400948-01

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 22

Date Collected: 6/20/2012 1:07:54 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042212PS WG400948-01

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: L1206042212PS WG400948-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2053409.3				6686.90	0.33%
YRADIAL	265920.4				3958.79	1.49%
Ga 417.206	1214884.0				33029.07	2.72%
GaRADIAL	78502.5				1174.50	1.50%
Ag 328.068†	58357.6	0.209 mg/L	0.0093	0.209 mg/L	0.0093	4.45%
Al 396.153†	30894.2	5.11 mg/L	0.015	5.11 mg/L	0.015	0.29%
As 188.979†	590.7	0.201 mg/L	0.0066	0.201 mg/L	0.0066	3.30%
Ba 233.527†	104761.0	0.662 mg/L	0.0051	0.662 mg/L	0.0051	0.77%
Be 234.861†	34969.6	0.0254 mg/L	0.00058	0.0254 mg/L	0.00058	2.30%
B 249.677†	91726.6	1.04 mg/L	0.047	1.04 mg/L	0.047	4.57%
Ca 227.546†	6869.4	18.3 mg/L	0.57	18.3 mg/L	0.57	3.12%
Cd 228.802†	1274.0	0.0248 mg/L	0.00135	0.0248 mg/L	0.00135	5.44%
Co 228.616†	4168.6	0.108 mg/L	0.0012	0.108 mg/L	0.0012	1.11%
Cr 267.716†	28583.4	0.262 mg/L	0.0033	0.262 mg/L	0.0033	1.25%
Cu 327.393†	57852.7	0.259 mg/L	0.0130	0.259 mg/L	0.0130	5.02%
Fe 239.562†	269986.0	18.7 mg/L	0.20	18.7 mg/L	0.20	1.05%
Mg 279.077†	35055.0	10.4 mg/L	0.07	10.4 mg/L	0.07	0.71%
Mn 257.610†	1044781.1	1.36 mg/L	0.008	1.36 mg/L	0.008	0.62%
Mo 202.031†	18457.2	0.524 mg/L	0.0076	0.524 mg/L	0.0076	1.45%
Ni 231.604†	17985.9	0.268 mg/L	0.0016	0.268 mg/L	0.0016	0.58%
Pb 220.353†	3060.2	0.260 mg/L	0.0036	0.260 mg/L	0.0036	1.38%
Sb 206.836†	2454.6	0.615 mg/L	0.0202	0.615 mg/L	0.0202	3.28%
Se 196.026†	369.5	0.207 mg/L	0.0060	0.207 mg/L	0.0060	2.91%
Si 251.611†	434629.7	10.4 mg/L	0.40	10.4 mg/L	0.40	3.86%
Sn 189.927†	-139.9	-0.0142 mg/L	0.00005	-0.0142 mg/L	0.00005	0.33%
Ti 334.940†	457041.7	0.513 mg/L	0.0016	0.513 mg/L	0.0016	0.30%
Tl 190.801†	1013.1	0.270 mg/L	0.0021	0.270 mg/L	0.0021	0.78%
V 290.880†	109992.5	0.533 mg/L	0.0061	0.533 mg/L	0.0061	1.15%
Zn 206.200†	27103.0	0.531 mg/L	0.0053	0.531 mg/L	0.0053	0.99%
K 766.490†	75811.2	28.6 mg/L	0.06	28.6 mg/L	0.06	0.20%
Na 589.592†	1360746.8	77.3 mg/L	3.28	77.3 mg/L	3.28	4.25%
Sr 407.771†	1384152.5	0.565 mg/L	0.0237	0.565 mg/L	0.0237	4.20%
Li 670.784†	67863.5	0.532 mg/L	0.0041	0.532 mg/L	0.0041	0.77%

Sequence No.: 27

Sample ID: L1206042212DL WG400948-02

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 23

Date Collected: 6/20/2012 1:13:55 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Approved: June 21, 2012

John H. Rhodes

Nebulizer Parameters: L1206042212DL WG400948-02

Analyte Back Pressure Flow
All 155.0 kPa 0.50 L/min

Mean Data: L1206042212DL WG400948-02

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2103777.3					17507.19	0.83%
YRADIAL	263020.7					5625.78	2.14%
Ga 417.206	1196794.5					19348.06	1.62%
GaRADIAL	77904.7					956.87	1.23%
Ag 328.068†	-356.1	-0.00058 mg/L		0.000578	-0.00058 mg/L	0.000578	98.79%
Al 396.153†	-34.1	-0.0138 mg/L		0.00483	-0.0138 mg/L	0.00483	34.90%
As 188.979†	-0.4	-0.00021 mg/L		0.000814	-0.00021 mg/L	0.000814	393.75%
Ba 233.527†	4963.0	0.0296 mg/L		0.00047	0.0296 mg/L	0.00047	1.59%
Be 234.861†	1193.6	0.00003 mg/L		0.000060	0.00003 mg/L	0.000060	220.98%
B 249.677†	839.6	0.00780 mg/L		0.000846	0.00780 mg/L	0.000846	10.86%
Ca 227.546†	1072.6	2.84 mg/L		0.023	2.84 mg/L	0.023	0.81%
Cd 228.802†	7.4	0.00012 mg/L		0.000079	0.00012 mg/L	0.000079	63.12%
Co 228.616†	48.7	0.00093 mg/L		0.000325	0.00093 mg/L	0.000325	35.04%
Cr 267.716†	-9.1	-0.00092 mg/L		0.000180	-0.00092 mg/L	0.000180	19.64%
Cu 327.393†	1.7	-0.00103 mg/L		0.000464	-0.00103 mg/L	0.000464	44.92%
Fe 239.562†	55158.1	3.83 mg/L		0.048	3.83 mg/L	0.048	1.26%
Mg 279.077†	4072.7	1.21 mg/L		0.009	1.21 mg/L	0.009	0.73%
Mn 257.610†	198311.7	0.257 mg/L		0.0038	0.257 mg/L	0.0038	1.47%
Mo 202.031†	16.5	-0.00052 mg/L		0.000288	-0.00052 mg/L	0.000288	55.42%
Ni 231.604†	130.1	-0.00103 mg/L		0.000546	-0.00103 mg/L	0.000546	52.93%
Pb 220.353†	-13.2	-0.00314 mg/L		0.002332	-0.00314 mg/L	0.002332	74.38%
Sb 206.836†	-2.2	-0.00341 mg/L		0.000529	-0.00341 mg/L	0.000529	15.49%
Se 196.026†	-1.3	0.00066 mg/L		0.001096	0.00066 mg/L	0.001096	165.89%
Si 251.611†	72444.5	1.73 mg/L		0.026	1.73 mg/L	0.026	1.52%
Sn 189.927†	-29.5	-0.00414 mg/L		0.000350	-0.00414 mg/L	0.000350	8.47%
Ti 334.940†	-397.2	0.00001 mg/L		0.000094	0.00001 mg/L	0.000094	629.83%
Tl 190.801†	2.1	-0.00253 mg/L		0.001732	-0.00253 mg/L	0.001732	68.53%
V 290.880†	394.8	0.00129 mg/L		0.000820	0.00129 mg/L	0.000820	63.37%
Zn 206.200†	102.3	-0.00046 mg/L		0.000069	-0.00046 mg/L	0.000069	15.05%
K 766.490†	2103.1	0.650 mg/L		0.0172	0.650 mg/L	0.0172	2.64%
Na 589.592†	200071.5	11.0 mg/L		0.03	11.0 mg/L	0.03	0.28%
Sr 407.771†	31180.5	0.0114 mg/L		0.00007	0.0114 mg/L	0.00007	0.61%
Li 670.784†	202.8	-0.00232 mg/L		0.000539	-0.00232 mg/L	0.000539	23.22%

Sequence No.: 28

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 6/20/2012 1:19:51 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte Back Pressure Flow
All 156.0 kPa 0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2042627.2					7046.54	0.34%
YRADIAL	259199.2					1891.94	0.73%
Ga 417.206	1160116.7					30556.50	2.63%
GaRADIAL	76991.5					914.10	1.19%
Ag 328.068†	120718.7	0.418 mg/L		0.0114	0.418 mg/L	0.0114	2.72%
QC value within limits for Ag 328.068 Recovery = 104.55%							
Al 396.153†	62344.8	10.3 mg/L		0.08	10.3 mg/L	0.08	0.75%
QC value within limits for Al 396.153 Recovery = 103.18%							
As 188.979†	1214.4	0.410 mg/L		0.0082	0.410 mg/L	0.0082	2.00%
QC value within limits for As 188.979 Recovery = 102.58%							
Ba 233.527†	163095.9	1.03 mg/L		0.004	1.03 mg/L	0.004	0.37%
QC value within limits for Ba 233.527 Recovery = 103.16%							
Be 234.861†	62288.1	0.0514 mg/L		0.00140	0.0514 mg/L	0.00140	2.73%

Approved: June 21, 2012

John H. Rhodes

QC value within limits for Be	234.861	Recovery = 102.86%			
B 249.677†	46538.4	0.527 mg/L	0.0114	2.15%	
QC value within limits for B	249.677	Recovery = 105.48%			
Ca 227.546†	3995.5	10.7 mg/L	0.26	2.38%	
QC value within limits for Ca	227.546	Recovery = 107.31%			
Cd 228.802†	2614.2	0.0509 mg/L	0.00221	4.34%	
QC value within limits for Cd	228.802	Recovery = 101.71%			
Co 228.616†	7945.8	0.206 mg/L	0.0015	0.74%	
QC value within limits for Co	228.616	Recovery = 103.05%			
Cr 267.716†	56514.0	0.519 mg/L	0.0032	0.62%	
QC value within limits for Cr	267.716	Recovery = 103.81%			
Cu 327.393†	116516.9	0.520 mg/L	0.0139	2.67%	
QC value within limits for Cu	327.393	Recovery = 104.08%			
Fe 239.562†	59928.7	4.16 mg/L	0.025	0.61%	
QC value within limits for Fe	239.562	Recovery = 103.94%			
Mg 279.077†	34859.8	10.4 mg/L	0.10	0.94%	
QC value within limits for Mg	279.077	Recovery = 103.90%			
Mn 257.610†	396298.3	0.515 mg/L	0.0015	0.29%	
QC value within limits for Mn	257.610	Recovery = 103.09%			
Mo 202.031†	36328.4	1.03 mg/L	0.007	0.72%	
QC value within limits for Mo	202.031	Recovery = 103.08%			
Ni 231.604†	35407.8	0.530 mg/L	0.0028	0.52%	
QC value within limits for Ni	231.604	Recovery = 105.95%			
Pb 220.353†	6067.7	0.521 mg/L	0.0032	0.61%	
QC value within limits for Pb	220.353	Recovery = 104.26%			
Sb 206.836†	4960.9	1.25 mg/L	0.034	2.74%	
QC value within limits for Sb	206.836	Recovery = 103.80%			
Se 196.026†	759.4	0.415 mg/L	0.0140	3.37%	
QC value within limits for Se	196.026	Recovery = 103.83%			
Si 251.611†	228129.3	5.46 mg/L	0.100	1.83%	
QC value within limits for Si	251.611	Recovery = 109.13%			
Sn 189.927†	11244.5	1.03 mg/L	0.004	0.43%	
QC value within limits for Sn	189.927	Recovery = 102.59%			
Ti 334.940†	913116.5	1.02 mg/L	0.003	0.27%	
QC value within limits for Ti	334.940	Recovery = 102.21%			
Tl 190.801†	2003.6	0.539 mg/L	0.0031	0.58%	
QC value within limits for Tl	190.801	Recovery = 107.78%			
V 290.880†	211427.4	1.03 mg/L	0.007	0.70%	
QC value within limits for V	290.880	Recovery = 102.79%			
Zn 206.200†	53129.4	1.04 mg/L	0.004	0.39%	
QC value within limits for Zn	206.200	Recovery = 104.45%			
K 766.490†	135410.1	51.4 mg/L	0.33	0.65%	
QC value within limits for K	766.490	Recovery = 102.77%			
Na 589.592†	904641.6	50.7 mg/L	0.69	1.35%	
QC value within limits for Na	589.592	Recovery = 101.39%			
Sr 407.771†	2488340.6	1.02 mg/L	0.008	0.74%	
QC value within limits for Sr	407.771	Recovery = 101.68%			
Li 670.784†	132080.5	1.04 mg/L	0.007	0.72%	
QC value within limits for Li	670.784	Recovery = 103.85%			
All analyte(s) passed QC.					

Sequence No.: 29

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

autosampler Location: 1

Date Collected: 6/20/2012 1:25:51 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2095372.6				22106.61	1.06%
YRADIAL	257137.1				5726.64	2.23%
Ga 417.206	1194731.6				17993.32	1.51%
GaRADIAL	76182.1				1557.77	2.04%
Ag 328.068†	-58.8	-0.00128 mg/L	0.000228	-0.00128 mg/L	0.000228	17.85%

Approved: June 21, 2012

John H. Rhodes

QC value within limits for Ag	328.068	Recovery = Not calculated			
Al 396.153†	19.7	-0.00532 mg/L	0.000607	-0.00532 mg/L	0.000607 11.40%
QC value within limits for Al	396.153	Recovery = Not calculated			
As 188.979†	-0.4	-0.00064 mg/L	0.001365	-0.00064 mg/L	0.001365 214.35%
QC value within limits for As	188.979	Recovery = Not calculated			
Ba 233.527†	-10.5	-0.00180 mg/L	0.000083	-0.00180 mg/L	0.000083 4.62%
QC value within limits for Ba	233.527	Recovery = Not calculated			
Be 234.861†	18.1	-0.00016 mg/L	0.000019	-0.00016 mg/L	0.000019 11.60%
QC value within limits for Be	234.861	Recovery = Not calculated			
B 249.677†	324.0	0.00357 mg/L	0.000287	0.00357 mg/L	0.000287 8.06%
QC value within limits for B	249.677	Recovery = Not calculated			
Ca 227.546†	6.0	0.00809 mg/L	0.043806	0.00809 mg/L	0.043806 541.62%
QC value within limits for Ca	227.546	Recovery = Not calculated			
Cd 228.802†	-5.6	-0.00013 mg/L	0.000048	-0.00013 mg/L	0.000048 36.09%
QC value within limits for Cd	228.802	Recovery = Not calculated			
Co 228.616†	-8.0	-0.00044 mg/L	0.000074	-0.00044 mg/L	0.000074 16.83%
QC value within limits for Co	228.616	Recovery = Not calculated			
Cr 267.716†	-0.4	-0.00070 mg/L	0.000055	-0.00070 mg/L	0.000055 7.93%
QC value within limits for Cr	267.716	Recovery = Not calculated			
Cu 327.393†	110.9	-0.00087 mg/L	0.000786	-0.00087 mg/L	0.000786 90.52%
QC value within limits for Cu	327.393	Recovery = Not calculated			
Fe 239.562†	15.6	0.00204 mg/L	0.000404	0.00204 mg/L	0.000404 19.80%
QC value within limits for Fe	239.562	Recovery = Not calculated			
Mg 279.077†	28.3	0.00712 mg/L	0.001333	0.00712 mg/L	0.001333 18.72%
QC value within limits for Mg	279.077	Recovery = Not calculated			
Mn 257.610†	84.7	-0.00070 mg/L	0.000024	-0.00070 mg/L	0.000024 3.44%
QC value within limits for Mn	257.610	Recovery = Not calculated			
Mo 202.031†	10.0	-0.00095 mg/L	0.000116	-0.00095 mg/L	0.000116 12.28%
QC value within limits for Mo	202.031	Recovery = Not calculated			
Ni 231.604†	-11.1	-0.00316 mg/L	0.000128	-0.00316 mg/L	0.000128 4.07%
QC value within limits for Ni	231.604	Recovery = Not calculated			
Pb 220.353†	13.0	-0.00042 mg/L	0.000581	-0.00042 mg/L	0.000581 137.56%
QC value within limits for Pb	220.353	Recovery = Not calculated			
Sb 206.836†	8.1	-0.00095 mg/L	0.002231	-0.00095 mg/L	0.002231 234.95%
QC value within limits for Sb	206.836	Recovery = Not calculated			
Se 196.026†	-1.8	-0.00068 mg/L	0.001020	-0.00068 mg/L	0.001020 150.94%
QC value within limits for Se	196.026	Recovery = Not calculated			
Si 251.611†	38.3	-0.0137 mg/L	0.00013	-0.0137 mg/L	0.00013 0.92%
QC value within limits for Si	251.611	Recovery = Not calculated			
Sn 189.927†	9.4	-0.00058 mg/L	0.000211	-0.00058 mg/L	0.000211 36.18%
QC value within limits for Sn	189.927	Recovery = Not calculated			
Ti 334.940†	9.1	0.00006 mg/L	0.000100	0.00006 mg/L	0.000100 170.32%
QC value within limits for Ti	334.940	Recovery = Not calculated			
Tl 190.801†	-7.1	-0.00467 mg/L	0.002088	-0.00467 mg/L	0.002088 44.74%
QC value within limits for Tl	190.801	Recovery = Not calculated			
V 290.880†	-164.0	-0.00110 mg/L	0.000907	-0.00110 mg/L	0.000907 82.83%
QC value within limits for V	290.880	Recovery = Not calculated			
Zn 206.200†	-5.9	-0.00251 mg/L	0.000094	-0.00251 mg/L	0.000094 3.75%
QC value within limits for Zn	206.200	Recovery = Not calculated			
K 766.490†	53.1	-0.117 mg/L	0.0331	-0.117 mg/L	0.0331 28.35%
QC value within limits for K	766.490	Recovery = Not calculated			
Na 589.592†	15.6	-0.0212 mg/L	0.01015	-0.0212 mg/L	0.01015 47.95%
QC value within limits for Na	589.592	Recovery = Not calculated			
Sr 407.771†	158.3	-0.00126 mg/L	0.000016	-0.00126 mg/L	0.000016 1.29%
QC value within limits for Sr	407.771	Recovery = Not calculated			
Li 670.784†	123.3	-0.00295 mg/L	0.000521	-0.00295 mg/L	0.000521 17.65%
QC value within limits for Li	670.784	Recovery = Not calculated			

All analyte(s) passed QC.

Sequence No.: 30

Sample ID: L1206042214

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 24

Date Collected: 6/20/2012 1:32:44 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042214

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Approved: June 21, 2012

John H. Rhodes

Mean Data: L1206042214

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2129255.4				14263.09	0.67%
YRADIAL	266428.2				3569.45	1.34%
Ga 417.206	1253129.9				29810.76	2.38%
GA RADIAL	80648.6				838.31	1.04%
Ag 328.068†	-2212.8	-0.00041 mg/L	0.000490	-0.00041 mg/L	0.000490	119.45%
Al 396.153†	15.3	-0.00385 mg/L	0.007754	-0.00385 mg/L	0.007754	201.42%
As 188.979†	0.4	0.00170 mg/L	0.002856	0.00170 mg/L	0.002856	168.20%
Ba 233.527†	23086.9	0.144 mg/L	0.0013	0.144 mg/L	0.0013	0.91%
Be 234.861†	5321.4	0.00043 mg/L	0.000035	0.00043 mg/L	0.000035	8.07%
B 249.677†	1118.8	0.00466 mg/L	0.000345	0.00466 mg/L	0.000345	7.41%
Ca 227.546†	5276.1	14.0 mg/L	0.38	14.0 mg/L	0.38	2.69%
Cd 228.802†	-0.1	-0.00004 mg/L	0.000167	-0.00004 mg/L	0.000167	375.29%
Co 228.616†	164.3	0.00352 mg/L	0.000092	0.00352 mg/L	0.000092	2.62%
Cr 267.716†	-24.8	-0.00160 mg/L	0.000187	-0.00160 mg/L	0.000187	11.68%
Cu 327.393†	6.0	0.00022 mg/L	0.000486	0.00022 mg/L	0.000486	221.75%
Fe 239.562†	266754.8	18.5 mg/L	0.08	18.5 mg/L	0.08	0.45%
Mg 279.077†	19909.8	5.91 mg/L	0.109	5.91 mg/L	0.109	1.84%
Mn 257.610†	927427.3	1.21 mg/L	0.015	1.21 mg/L	0.015	1.23%
Mo 202.031†	9.6	0.00020 mg/L	0.000122	0.00020 mg/L	0.000122	60.56%
Ni 231.604†	498.8	0.00452 mg/L	0.000200	0.00452 mg/L	0.000200	4.44%
Pb 220.353†	9.2	-0.00297 mg/L	0.001841	-0.00297 mg/L	0.001841	62.05%
Sb 206.836†	-6.3	-0.00390 mg/L	0.000598	-0.00390 mg/L	0.000598	15.34%
Se 196.026†	-8.1	0.00108 mg/L	0.002530	0.00108 mg/L	0.002530	233.49%
Si 251.611†	347364.8	8.33 mg/L	0.152	8.33 mg/L	0.152	1.82%
Sn 189.927†	-106.6	-0.0112 mg/L	0.00018	-0.0112 mg/L	0.00018	1.58%
Ti 334.940†	-2072.7	-0.00024 mg/L	0.000181	-0.00024 mg/L	0.000181	75.16%
Tl 190.801†	-7.5	-0.00602 mg/L	0.000893	-0.00602 mg/L	0.000893	14.84%
V 290.880†	968.0	0.00281 mg/L	0.001625	0.00281 mg/L	0.001625	57.75%
Zn 206.200†	161.5	0.00042 mg/L	0.000005	0.00042 mg/L	0.000005	1.19%
K 766.490†	8947.8	3.20 mg/L	0.058	3.20 mg/L	0.058	1.81%
Na 589.592†	984759.3	55.3 mg/L	0.44	55.3 mg/L	0.44	0.79%
Sr 407.771†	158557.8	0.0633 mg/L	0.00021	0.0633 mg/L	0.00021	0.33%
Li 670.784†	460.6	-0.00029 mg/L	0.000251	-0.00029 mg/L	0.000251	87.61%

Sequence No.: 31

Sample ID: L1206042216

Analyst: KHR

Initial Sample Wt:

Dilution:

Sampler Location: 25

Date Collected: 6/20/2012 1:38:42 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042216

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: L1206042216

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2102493.2				27389.88	1.30%
YRADIAL	264415.3				2486.13	0.94%
Ga 417.206	1247452.3				24796.20	1.99%
GA RADIAL	79814.6				391.22	0.49%
Ag 328.068†	-2122.3	-0.00015 mg/L	0.000762	-0.00015 mg/L	0.000762	500.05%
Al 396.153†	-22.1	-0.0101 mg/L	0.00714	-0.0101 mg/L	0.00714	70.75%
As 188.979†	-2.3	0.00074 mg/L	0.002634	0.00074 mg/L	0.002634	356.96%
Ba 233.527†	26914.3	0.168 mg/L	0.0035	0.168 mg/L	0.0035	2.10%
Be 234.861†	5325.2	0.00043 mg/L	0.000092	0.00043 mg/L	0.000092	21.31%
B 249.677†	1281.4	0.00666 mg/L	0.002133	0.00666 mg/L	0.002133	32.01%
Ca 227.546†	6046.8	15.9 mg/L	0.39	15.9 mg/L	0.39	2.44%
Cd 228.802†	2.1	-0.00001 mg/L	0.000131	-0.00001 mg/L	0.000131	>999.9%
Co 228.616†	5.6	-0.00062 mg/L	0.000042	-0.00062 mg/L	0.000042	6.74%
Cr 267.716†	22.1	-0.00116 mg/L	0.000105	-0.00116 mg/L	0.000105	9.06%
Cu 327.393†	39.7	0.00035 mg/L	0.000455	0.00035 mg/L	0.000455	131.27%
Fe 239.562†	262550.0	18.2 mg/L	0.06	18.2 mg/L	0.06	0.33%
Mg 279.077†	26335.5	7.83 mg/L	0.065	7.83 mg/L	0.065	0.84%
Mn 257.610†	449750.1	0.585 mg/L	0.0126	0.585 mg/L	0.0126	2.16%
Mo 202.031†	1.7	-0.00016 mg/L	0.000286	-0.00016 mg/L	0.000286	173.67%

Approved: June 21, 2012

John H. Rhodes

Ni 231.604†	404.7	0.00310 mg/L	0.000577	0.00310 mg/L	0.000577	18.58%
Pb 220.353†	26.2	-0.00109 mg/L	0.001343	-0.00109 mg/L	0.001343	122.90%
Sb 206.836†	2.3	-0.00175 mg/L	0.000502	-0.00175 mg/L	0.000502	28.61%
Se 196.026†	-9.3	0.00054 mg/L	0.004721	0.00054 mg/L	0.004721	870.29%
Si 251.611†	362888.1	8.71 mg/L	0.167	8.71 mg/L	0.167	1.91%
Sn 189.927†	-120.0	-0.0124 mg/L	0.00091	-0.0124 mg/L	0.00091	7.31%
Ti 334.940†	-2266.6	-0.00016 mg/L	0.000268	-0.00016 mg/L	0.000268	166.76%
Tl 190.801†	-2.5	-0.00408 mg/L	0.001431	-0.00408 mg/L	0.001431	35.08%
V 290.880†	1205.0	0.00394 mg/L	0.000783	0.00394 mg/L	0.000783	19.88%
Zn 206.200†	178.2	0.00076 mg/L	0.000169	0.00076 mg/L	0.000169	22.29%
K 766.490†	5212.9	1.78 mg/L	0.022	1.78 mg/L	0.022	1.25%
Na 589.592†	1035213.8	58.2 mg/L	0.40	58.2 mg/L	0.40	0.69%
Sr 407.771†	203490.8	0.0816 mg/L	0.00071	0.0816 mg/L	0.00071	0.87%
Li 670.784†	339.4	-0.00124 mg/L	0.000282	-0.00124 mg/L	0.000282	22.68%

Sequence No.: 32

Sample ID: L1206042218

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 26

Date Collected: 6/20/2012 1:44:40 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042218

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: L1206042218

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2070888.3				29644.89	1.43%
YRADIAL	262420.3				5250.34	2.00%
Ga 417.206	1232685.1				492.65	0.04%
GaRADIAL	79373.3				1673.20	2.11%
Ag 328.068†	-5405.0	0.00052 mg/L	0.001147	0.00052 mg/L	0.001147	222.17%
Al 396.153†	-1.0	-0.00340 mg/L	0.009133	-0.00340 mg/L	0.009133	268.76%
As 188.979†	-18.1	-0.00175 mg/L	0.002767	-0.00175 mg/L	0.002767	157.86%
Ba 233.527†	41577.4	0.260 mg/L	0.0029	0.260 mg/L	0.0029	1.12%
Be 234.861†	11597.3	0.00006 mg/L	0.000216	0.00006 mg/L	0.000216	374.87%
B 249.677†	2315.1	0.00707 mg/L	0.001377	0.00707 mg/L	0.001377	19.49%
Ca 227.546†	19284.0	50.5 mg/L	0.28	50.5 mg/L	0.28	0.56%
Cd 228.802†	0.1	-0.00006 mg/L	0.000173	-0.00006 mg/L	0.000173	275.10%
Co 228.616†	115.6	0.00154 mg/L	0.000120	0.00154 mg/L	0.000120	7.83%
Cr 267.716†	75.5	-0.00163 mg/L	0.000060	-0.00163 mg/L	0.000060	3.66%
Cu 327.393†	-455.7	0.00036 mg/L	0.000287	0.00036 mg/L	0.000287	79.36%
Fe 239.562†	644270.1	44.7 mg/L	0.19	44.7 mg/L	0.19	0.42%
Mg 279.077†	40762.2	12.1 mg/L	0.13	12.1 mg/L	0.13	1.11%
Mn 257.610†	846898.2	1.10 mg/L	0.007	1.10 mg/L	0.007	0.63%
Mo 202.031†	-13.2	0.00082 mg/L	0.000112	0.00082 mg/L	0.000112	13.72%
Ni 231.604†	315.7	0.00176 mg/L	0.000628	0.00176 mg/L	0.000628	35.62%
Pb 220.353†	64.5	-0.00014 mg/L	0.001790	-0.00014 mg/L	0.001790	>999.9%
Sb 206.836†	-7.6	-0.00327 mg/L	0.000281	-0.00327 mg/L	0.000281	8.58%
Se 196.026†	-19.9	0.00254 mg/L	0.001590	0.00254 mg/L	0.001590	62.59%
Si 251.611†	421669.2	10.1 mg/L	0.09	10.1 mg/L	0.09	0.89%
Sn 189.927†	-234.4	-0.0229 mg/L	0.00090	-0.0229 mg/L	0.00090	3.94%
Ti 334.940†	-6703.6	-0.00003 mg/L	0.000548	-0.00003 mg/L	0.000548	>999.9%
Tl 190.801†	-16.5	-0.00831 mg/L	0.003165	-0.00831 mg/L	0.003165	38.10%
V 290.880†	1799.7	0.00466 mg/L	0.001479	0.00466 mg/L	0.001479	31.75%
Zn 206.200†	185.7	0.00040 mg/L	0.000015	0.00040 mg/L	0.000015	3.80%
K 766.490†	5459.3	1.89 mg/L	0.003	1.89 mg/L	0.003	0.14%
Na 589.592†	762622.7	42.6 mg/L	0.20	42.6 mg/L	0.20	0.47%
Sr 407.771†	762359.9	0.310 mg/L	0.0011	0.310 mg/L	0.0011	0.36%
Li 670.784†	599.1	0.00081 mg/L	0.000611	0.00081 mg/L	0.000611	75.79%

Sequence No.: 33

Sample ID: L1206044501

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 27

Date Collected: 6/20/2012 1:50:40 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Approved: June 21, 2012

John H. Rhodes

Nebulizer Parameters: L1206044501

Analyte Back Pressure Flow
All 156.0 kPa 0.50 L/min

Mean Data: L1206044501

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2048429.4					24956.12	1.22%
YRADIAL	259949.2					5628.57	2.17%
Ga 417.206	1282203.9					31372.54	2.45%
GaRADIAL	80910.4					944.70	1.17%
Ag 328.068†	592.7	0.00099 mg/L		0.000541	0.00099 mg/L	0.000541	54.68%
Al 396.153†	473.6	0.0703 mg/L		0.00198	0.0703 mg/L	0.00198	2.81%
As 188.979†	-7.9	-0.00319 mg/L		0.001204	-0.00319 mg/L	0.001204	37.81%
Ba 233.527†	24867.9	0.156 mg/L		0.0019	0.156 mg/L	0.0019	1.23%
Be 234.861†	191.4	-0.00005 mg/L		0.000016	-0.00005 mg/L	0.000016	33.25%
B 249.677†	315.3	0.00341 mg/L		0.000260	0.00341 mg/L	0.000260	7.62%
Ca 227.546†	31243.5	80.1 mg/L		2.01	80.1 mg/L	2.01	2.51%
Cd 228.802†	-14.1	-0.00029 mg/L		0.000037	-0.00029 mg/L	0.000037	12.64%
Co 228.616†	-14.6	-0.00064 mg/L		0.000343	-0.00064 mg/L	0.000343	53.31%
Cr 267.716†	253.6	0.00163 mg/L		0.000180	0.00163 mg/L	0.000180	11.02%
Cu 327.393†	-55.5	-0.00161 mg/L		0.000756	-0.00161 mg/L	0.000756	46.87%
Fe 239.562†	2139.2	0.149 mg/L		0.0020	0.149 mg/L	0.0020	1.34%
Mg 279.077†	122178.6	36.4 mg/L		0.50	36.4 mg/L	0.50	1.39%
Mn 257.610†	4451.5	0.00498 mg/L		0.000117	0.00498 mg/L	0.000117	2.35%
Mo 202.031†	46.4	0.00009 mg/L		0.000120	0.00009 mg/L	0.000120	128.52%
Ni 231.604†	29.1	-0.00255 mg/L		0.000146	-0.00255 mg/L	0.000146	5.74%
Pb 220.353†	41.8	0.00269 mg/L		0.001955	0.00269 mg/L	0.001955	72.54%
Sb 206.836†	2.2	-0.00246 mg/L		0.001351	-0.00246 mg/L	0.001351	54.86%
Se 196.026†	-0.9	-0.00016 mg/L		0.001242	-0.00016 mg/L	0.001242	794.56%
Si 251.611†	234576.4	5.62 mg/L		0.080	5.62 mg/L	0.080	1.42%
Sn 189.927†	-273.3	-0.0264 mg/L		0.00029	-0.0264 mg/L	0.00029	1.09%
Ti 334.940†	-10070.8	0.00081 mg/L		0.000750	0.00081 mg/L	0.000750	92.34%
Tl 190.801†	-35.9	-0.0124 mg/L		0.00089	-0.0124 mg/L	0.00089	7.15%
V 290.880†	364.3	0.00051 mg/L		0.001667	0.00051 mg/L	0.001667	325.00%
Zn 206.200†	79.7	-0.00081 mg/L		0.000092	-0.00081 mg/L	0.000092	11.33%
K 766.490†	4773.9	1.67 mg/L		0.018	1.67 mg/L	0.018	1.09%
Na 589.592†	73840.2	4.03 mg/L		0.099	4.03 mg/L	0.099	2.46%
Sr 407.771†	610709.1	0.247 mg/L		0.0058	0.247 mg/L	0.0058	2.34%
Li 670.784†	3527.0	0.0239 mg/L		0.00030	0.0239 mg/L	0.00030	1.25%

Sequence No.: 34

Sample ID: L1206044503

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 28

Date Collected: 6/20/2012 1:57:35 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

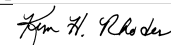
Nebulizer Parameters: L1206044503

Analyte Back Pressure Flow
All 156.0 kPa 0.50 L/min

Mean Data: L1206044503

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2026859.8					6614.47	0.33%
YRADIAL	254236.1					4663.93	1.83%
Ga 417.206	1272186.1					14184.71	1.11%
GaRADIAL	79128.2					2771.80	3.50%
Ag 328.068†	626.2	0.00112 mg/L		0.000369	0.00112 mg/L	0.000369	32.97%
Al 396.153†	500.3	0.0748 mg/L		0.00199	0.0748 mg/L	0.00199	2.66%
As 188.979†	-7.7	-0.00310 mg/L		0.003281	-0.00310 mg/L	0.003281	105.72%
Ba 233.527†	10915.8	0.0674 mg/L		0.00032	0.0674 mg/L	0.00032	0.47%
Be 234.861†	182.6	-0.00005 mg/L		0.000041	-0.00005 mg/L	0.000041	82.08%
B 249.677†	1873.8	0.0212 mg/L		0.00039	0.0212 mg/L	0.00039	1.86%
Ca 227.546†	33419.7	85.7 mg/L		0.96	85.7 mg/L	0.96	1.12%
Cd 228.802†	-5.0	-0.00011 mg/L		0.000065	-0.00011 mg/L	0.000065	58.25%
Co 228.616†	-13.4	-0.00058 mg/L		0.000286	-0.00058 mg/L	0.000286	49.55%

Approved: June 21, 2012



Cr 267.716†	354.9	0.00256 mg/L	0.000149	0.00256 mg/L	0.000149	5.80%
Cu 327.393†	51.0	-0.00114 mg/L	0.000498	-0.00114 mg/L	0.000498	43.62%
Fe 239.562†	1721.3	0.120 mg/L	0.0026	0.120 mg/L	0.0026	2.14%
Mg 279.077†	114186.2	34.0 mg/L	0.18	34.0 mg/L	0.18	0.53%
Mn 257.610†	1173.4	0.00072 mg/L	0.000096	0.00072 mg/L	0.000096	13.40%
Mo 202.031†	39.1	-0.00011 mg/L	0.000385	-0.00011 mg/L	0.000385	341.00%
Ni 231.604†	12.1	-0.00280 mg/L	0.000061	-0.00280 mg/L	0.000061	2.18%
Pb 220.353†	35.1	0.00217 mg/L	0.001027	0.00217 mg/L	0.001027	47.29%
Sb 206.836†	0.0	-0.00301 mg/L	0.000728	-0.00301 mg/L	0.000728	24.16%
Se 196.026†	0.4	0.00055 mg/L	0.002095	0.00055 mg/L	0.002095	380.50%
Si 251.611†	203381.1	4.87 mg/L	0.068	4.87 mg/L	0.068	1.39%
Sn 189.927†	-276.6	-0.0267 mg/L	0.00048	-0.0267 mg/L	0.00048	1.79%
Ti 334.940†	-11317.1	0.00026 mg/L	0.000339	0.00026 mg/L	0.000339	132.52%
Tl 190.801†	-39.6	-0.0134 mg/L	0.00282	-0.0134 mg/L	0.00282	21.06%
V 290.880†	664.0	0.00204 mg/L	0.001889	0.00204 mg/L	0.001889	92.61%
Zn 206.200†	61.4	-0.00116 mg/L	0.000188	-0.00116 mg/L	0.000188	16.12%
K 766.490†	4969.0	1.74 mg/L	0.033	1.74 mg/L	0.033	1.87%
Na 589.592†	154281.9	8.45 mg/L	0.226	8.45 mg/L	0.226	2.67%
Sr 407.771†	307529.0	0.123 mg/L	0.0025	0.123 mg/L	0.0025	2.03%
Li 670.784†	4064.4	0.0282 mg/L	0.00149	0.0282 mg/L	0.00149	5.30%

Sequence No.: 35

Sample ID: L1206044504

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 29

Date Collected: 6/20/2012 2:04:30 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044504

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: L1206044504

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2051101.0				13979.29	0.68%
YRADIAL	261632.8				4091.06	1.56%
Ga 417.206	1286533.3				22587.35	1.76%
GaRADIAL	81148.3				1099.80	1.36%
Ag 328.068†	577.9	0.00090 mg/L	0.000295	0.00090 mg/L	0.000295	32.71%
Al 396.153†	45.9	-0.00100 mg/L	0.001274	-0.00100 mg/L	0.001274	127.19%
As 188.979†	-6.6	-0.00273 mg/L	0.001461	-0.00273 mg/L	0.001461	53.50%
Ba 233.527†	10469.7	0.0646 mg/L	0.00066	0.0646 mg/L	0.00066	1.02%
Be 234.861†	171.1	-0.00004 mg/L	0.000017	-0.00004 mg/L	0.000017	47.46%
B 249.677†	1812.5	0.0206 mg/L	0.00030	0.0206 mg/L	0.00030	1.47%
Ca 227.546†	31881.2	81.8 mg/L	1.74	81.8 mg/L	1.74	2.12%
Cd 228.802†	-4.7	-0.00011 mg/L	0.000054	-0.00011 mg/L	0.000054	50.74%
Co 228.616†	-12.8	-0.00056 mg/L	0.000256	-0.00056 mg/L	0.000256	46.14%
Cr 267.716†	331.4	0.00235 mg/L	0.000220	0.00235 mg/L	0.000220	9.34%
Cu 327.393†	-48.9	-0.00160 mg/L	0.000304	-0.00160 mg/L	0.000304	19.03%
Fe 239.562†	167.1	0.0119 mg/L	0.00113	0.0119 mg/L	0.00113	9.51%
Mg 279.077†	106198.1	31.6 mg/L	0.06	31.6 mg/L	0.06	0.19%
Mn 257.610†	159.7	-0.00060 mg/L	0.000019	-0.00060 mg/L	0.000019	3.08%
Mo 202.031†	43.0	-0.00001 mg/L	0.000265	-0.00001 mg/L	0.000265	>999.9%
Ni 231.604†	8.9	-0.00285 mg/L	0.000268	-0.00285 mg/L	0.000268	9.38%
Pb 220.353†	29.4	0.00165 mg/L	0.001304	0.00165 mg/L	0.001304	79.25%
Sb 206.836†	2.6	-0.00237 mg/L	0.001285	-0.00237 mg/L	0.001285	54.31%
Se 196.026†	3.2	0.00203 mg/L	0.002341	0.00203 mg/L	0.002341	115.29%
Si 251.611†	190626.1	4.57 mg/L	0.069	4.57 mg/L	0.069	1.51%
Sn 189.927†	-274.4	-0.0265 mg/L	0.00054	-0.0265 mg/L	0.00054	2.03%
Ti 334.940†	-12500.4	-0.00166 mg/L	0.000688	-0.00166 mg/L	0.000688	41.45%
Tl 190.801†	-26.2	-0.00986 mg/L	0.002152	-0.00986 mg/L	0.002152	21.83%
V 290.880†	303.8	0.00036 mg/L	0.001455	0.00036 mg/L	0.001455	408.36%
Zn 206.200†	42.7	-0.00153 mg/L	0.000125	-0.00153 mg/L	0.000125	8.17%
K 766.490†	4669.8	1.63 mg/L	0.035	1.63 mg/L	0.035	2.16%
Na 589.592†	148201.7	8.12 mg/L	0.158	8.12 mg/L	0.158	1.95%
Sr 407.771†	293245.7	0.117 mg/L	0.0020	0.117 mg/L	0.0020	1.72%
Li 670.784†	3736.7	0.0256 mg/L	0.00051	0.0256 mg/L	0.00051	2.00%

Approved: June 21, 2012

John H. Rhodes

Sequence No.: 36
 Sample ID: L1206044505 WG400908-02
 Analyst: KHR
 Initial Sample Wt:
 Dilution:

Autosampler Location: 30
 Date Collected: 6/20/2012 2:11:25 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: L1206044505 WG400908-02

Analyte Back Pressure Flow
 All 157.0 kPa 0.50 L/min

Mean Data: L1206044505 WG400908-02

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2023095.5					11224.46	0.55%
YRADIAL	265995.7					9260.81	3.48%
Ga 417.206	1248161.7					21770.64	1.74%
GaRADIAL	79081.0					3057.42	3.87%
Ag 328.068†	736.4	0.00159 mg/L		0.000312	0.00159 mg/L	0.000312	19.57%
Al 396.153†	1431.9	0.230 mg/L		0.0185	0.230 mg/L	0.0185	8.05%
As 188.979†	-13.4	-0.00504 mg/L		0.001799	-0.00504 mg/L	0.001799	35.68%
Ba 233.527†	8824.6	0.0541 mg/L		0.00051	0.0541 mg/L	0.00051	0.94%
Be 234.861†	308.4	0.00002 mg/L		0.000045	0.00002 mg/L	0.000045	252.87%
B 249.677†	773.8	0.00857 mg/L		0.000143	0.00857 mg/L	0.000143	1.67%
Ca 227.546†	36397.0	93.4 mg/L		1.60	93.4 mg/L	1.60	1.71%
Cd 228.802†	-0.3	-0.00001 mg/L		0.000085	-0.00001 mg/L	0.000085	>999.9%
Co 228.616†	4.5	-0.00012 mg/L		0.000272	-0.00012 mg/L	0.000272	228.45%
Cr 267.716†	203.9	0.00118 mg/L		0.000061	0.00118 mg/L	0.000061	5.23%
Cu 327.393†	133.2	-0.00075 mg/L		0.000370	-0.00075 mg/L	0.000370	48.98%
Fe 239.562†	4256.9	0.296 mg/L		0.0179	0.296 mg/L	0.0179	6.07%
Mg 279.077†	111453.0	33.2 mg/L		0.35	33.2 mg/L	0.35	1.07%
Mn 257.610†	1689.5	0.00140 mg/L		0.000044	0.00140 mg/L	0.000044	3.12%
Mo 202.031†	46.9	0.00012 mg/L		0.000134	0.00012 mg/L	0.000134	114.05%
Ni 231.604†	82.0	-0.00175 mg/L		0.000282	-0.00175 mg/L	0.000282	16.11%
Pb 220.353†	21.8	0.00110 mg/L		0.001871	0.00110 mg/L	0.001871	170.49%
Sb 206.836†	-2.9	-0.00373 mg/L		0.000804	-0.00373 mg/L	0.000804	21.54%
Se 196.026†	0.4	0.00059 mg/L		0.000783	0.00059 mg/L	0.000783	133.77%
Si 251.611†	248991.1	5.97 mg/L		0.091	5.97 mg/L	0.091	1.53%
Sn 189.927†	-284.9	-0.0275 mg/L		0.00055	-0.0275 mg/L	0.00055	1.99%
Ti 334.940†	-8699.7	0.00433 mg/L		0.000853	0.00433 mg/L	0.000853	19.70%
Tl 190.801†	-40.9	-0.0136 mg/L		0.00122	-0.0136 mg/L	0.00122	8.97%
V 290.880†	1905.1	0.00809 mg/L		0.003276	0.00809 mg/L	0.003276	40.50%
Zn 206.200†	353.7	0.00455 mg/L		0.000065	0.00455 mg/L	0.000065	1.42%
K 766.490†	3387.0	1.14 mg/L		0.061	1.14 mg/L	0.061	5.37%
Na 589.592†	94810.8	5.18 mg/L		0.044	5.18 mg/L	0.044	0.84%
Sr 407.771†	285944.6	0.114 mg/L		0.0008	0.114 mg/L	0.0008	0.67%
Li 670.784†	4187.3	0.0291 mg/L		0.00219	0.0291 mg/L	0.00219	7.53%

Sequence No.: 37
 Sample ID: CCV
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 6
 Date Collected: 6/20/2012 2:17:23 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

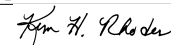
Nebulizer Parameters: CCV

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2053603.2					26744.71	1.30%
YRADIAL	257499.9					6530.72	2.54%
Ga 417.206	1174016.5					44436.45	3.78%
GaRADIAL	77106.7					1925.37	2.50%
Ag 328.068†	119109.7	0.413 mg/L		0.0135	0.413 mg/L	0.0135	3.27%
QC value within limits for Ag 328.068 Recovery = 103.15%							
Al 396.153†	61436.2	10.2 mg/L		0.03	10.2 mg/L	0.03	0.28%

Approved: June 21, 2012



QC value within limits for Al	396.153	Recovery = 101.67%			
As 188.979†	1187.3	0.401 mg/L	0.0161	4.02%	
QC value within limits for As	188.979	Recovery = 100.28%			
Ba 233.527†	161229.6	1.02 mg/L	0.003	0.30%	
QC value within limits for Ba	233.527	Recovery = 101.98%			
Be 234.861†	61258.8	0.0506 mg/L	0.00168	3.32%	
QC value within limits for Be	234.861	Recovery = 101.16%			
B 249.677†	45914.5	0.520 mg/L	0.0122	2.34%	
QC value within limits for B	249.677	Recovery = 104.06%			
Ca 227.546†	3957.1	10.6 mg/L	0.38	3.62%	
QC value within limits for Ca	227.546	Recovery = 106.27%			
Cd 228.802†	2565.7	0.0499 mg/L	0.00278	5.56%	
QC value within limits for Cd	228.802	Recovery = 99.84%			
Co 228.616†	7864.8	0.204 mg/L	0.0019	0.92%	
QC value within limits for Co	228.616	Recovery = 102.00%			
Cr 267.716†	55815.2	0.513 mg/L	0.0050	0.98%	
QC value within limits for Cr	267.716	Recovery = 102.53%			
Cu 327.393†	115109.1	0.514 mg/L	0.0146	2.84%	
QC value within limits for Cu	327.393	Recovery = 102.82%			
Fe 239.562†	59092.9	4.10 mg/L	0.024	0.57%	
QC value within limits for Fe	239.562	Recovery = 102.49%			
Mg 279.077†	34375.3	10.2 mg/L	0.08	0.81%	
QC value within limits for Mg	279.077	Recovery = 102.46%			
Mn 257.610†	392864.8	0.511 mg/L	0.0015	0.30%	
QC value within limits for Mn	257.610	Recovery = 102.20%			
Mo 202.031†	35921.8	1.02 mg/L	0.002	0.23%	
QC value within limits for Mo	202.031	Recovery = 101.92%			
Ni 231.604†	34980.7	0.523 mg/L	0.0063	1.21%	
QC value within limits for Ni	231.604	Recovery = 104.67%			
Pb 220.353†	6004.3	0.516 mg/L	0.0042	0.82%	
QC value within limits for Pb	220.353	Recovery = 103.17%			
Sb 206.836†	4883.5	1.23 mg/L	0.049	3.97%	
QC value within limits for Sb	206.836	Recovery = 102.17%			
Se 196.026†	745.8	0.408 mg/L	0.0170	4.18%	
QC value within limits for Se	196.026	Recovery = 101.98%			
Si 251.611†	225833.8	5.40 mg/L	0.130	2.41%	
QC value within limits for Si	251.611	Recovery = 108.03%			
Sn 189.927†	11126.1	1.02 mg/L	0.011	1.13%	
QC value within limits for Sn	189.927	Recovery = 101.51%			
Ti 334.940†	904628.4	1.01 mg/L	0.006	0.56%	
QC value within limits for Ti	334.940	Recovery = 101.26%			
Tl 190.801†	1979.4	0.532 mg/L	0.0104	1.95%	
QC value within limits for Tl	190.801	Recovery = 106.48%			
V 290.880†	208553.1	1.01 mg/L	0.009	0.86%	
QC value within limits for V	290.880	Recovery = 101.39%			
Zn 206.200†	52087.6	1.02 mg/L	0.012	1.14%	
QC value within limits for Zn	206.200	Recovery = 102.40%			
K 766.490†	134046.0	50.9 mg/L	0.21	0.42%	
QC value within limits for K	766.490	Recovery = 101.73%			
Na 589.592†	916472.1	51.4 mg/L	0.81	1.58%	
QC value within limits for Na	589.592	Recovery = 102.75%			
Sr 407.771†	2537784.4	1.04 mg/L	0.013	1.26%	
QC value within limits for Sr	407.771	Recovery = 103.71%			
Li 670.784†	130852.4	1.03 mg/L	0.005	0.52%	
QC value within limits for Li	670.784	Recovery = 102.88%			
All analyte(s) passed QC.					

Sequence No.: 38

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Sampler Location: 1

Date Collected: 6/20/2012 2:23:23 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: CCB

Mean Corrected

Calib.

Sample

Approved: June 21, 2012

John H. Rhodes

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	2070900.2				27033.31	1.31%
YRADIAL	258857.7				5723.01	2.21%
Ga 417.206	1178588.1				8154.10	0.69%
GaRADIAL	77287.7				2011.44	2.60%
Ag 328.068†	47.3	-0.00091 mg/L	0.000382	-0.00091 mg/L	0.000382	41.97%
QC value within limits for Ag	328.068	Recovery =	Not calculated			
Al 396.153†	30.5	-0.00350 mg/L	0.002793	-0.00350 mg/L	0.002793	79.69%
QC value within limits for Al	396.153	Recovery =	Not calculated			
As 188.979†	-3.6	-0.00173 mg/L	0.001615	-0.00173 mg/L	0.001615	93.21%
QC value within limits for As	188.979	Recovery =	Not calculated			
Ba 233.527†	-9.7	-0.00180 mg/L	0.000116	-0.00180 mg/L	0.000116	6.46%
QC value within limits for Ba	233.527	Recovery =	Not calculated			
Be 234.861†	-12.9	-0.00019 mg/L	0.000014	-0.00019 mg/L	0.000014	7.22%
QC value within limits for Be	234.861	Recovery =	Not calculated			
B 249.677†	237.5	0.00258 mg/L	0.000321	0.00258 mg/L	0.000321	12.43%
QC value within limits for B	249.677	Recovery =	Not calculated			
Ca 227.546†	5.3	0.00652 mg/L	0.011362	0.00652 mg/L	0.011362	174.38%
QC value within limits for Ca	227.546	Recovery =	Not calculated			
Cd 228.802†	-8.0	-0.00018 mg/L	0.000051	-0.00018 mg/L	0.000051	29.20%
QC value within limits for Cd	228.802	Recovery =	Not calculated			
Co 228.616†	-8.4	-0.00045 mg/L	0.000287	-0.00045 mg/L	0.000287	63.45%
QC value within limits for Co	228.616	Recovery =	Not calculated			
Cr 267.716†	2.9	-0.00067 mg/L	0.000149	-0.00067 mg/L	0.000149	22.36%
QC value within limits for Cr	267.716	Recovery =	Not calculated			
Cu 327.393†	103.7	-0.00090 mg/L	0.000995	-0.00090 mg/L	0.000995	110.59%
QC value within limits for Cu	327.393	Recovery =	Not calculated			
Fe 239.562†	12.4	0.00182 mg/L	0.000382	0.00182 mg/L	0.000382	21.01%
QC value within limits for Fe	239.562	Recovery =	Not calculated			
Mg 279.077†	39.4	0.0104 mg/L	0.00211	0.0104 mg/L	0.00211	20.22%
QC value within limits for Mg	279.077	Recovery =	Not calculated			
Mn 257.610†	76.4	-0.00071 mg/L	0.000017	-0.00071 mg/L	0.000017	2.45%
QC value within limits for Mn	257.610	Recovery =	Not calculated			
Mo 202.031†	3.7	-0.00113 mg/L	0.000035	-0.00113 mg/L	0.000035	3.08%
QC value within limits for Mo	202.031	Recovery =	Not calculated			
Ni 231.604†	-6.1	-0.00308 mg/L	0.000211	-0.00308 mg/L	0.000211	6.86%
QC value within limits for Ni	231.604	Recovery =	Not calculated			
Pb 220.353†	14.8	-0.00027 mg/L	0.001361	-0.00027 mg/L	0.001361	507.24%
QC value within limits for Pb	220.353	Recovery =	Not calculated			
Sb 206.836†	4.8	-0.00179 mg/L	0.001177	-0.00179 mg/L	0.001177	65.59%
QC value within limits for Sb	206.836	Recovery =	Not calculated			
Se 196.026†	-2.4	-0.00103 mg/L	0.002919	-0.00103 mg/L	0.002919	283.50%
QC value within limits for Se	196.026	Recovery =	Not calculated			
Si 251.611†	112.0	-0.0120 mg/L	0.00020	-0.0120 mg/L	0.00020	1.70%
QC value within limits for Si	251.611	Recovery =	Not calculated			
Sn 189.927†	8.4	-0.00067 mg/L	0.000237	-0.00067 mg/L	0.000237	35.34%
QC value within limits for Sn	189.927	Recovery =	Not calculated			
Ti 334.940†	141.9	0.00021 mg/L	0.000160	0.00021 mg/L	0.000160	77.31%
QC value within limits for Ti	334.940	Recovery =	Not calculated			
Tl 190.801†	3.0	-0.00201 mg/L	0.002326	-0.00201 mg/L	0.002326	115.49%
QC value within limits for Tl	190.801	Recovery =	Not calculated			
V 290.880†	-127.1	-0.00092 mg/L	0.000441	-0.00092 mg/L	0.000441	48.11%
QC value within limits for V	290.880	Recovery =	Not calculated			
Zn 206.200†	-6.3	-0.00252 mg/L	0.000128	-0.00252 mg/L	0.000128	5.07%
QC value within limits for Zn	206.200	Recovery =	Not calculated			
K 766.490†	148.6	-0.0804 mg/L	0.00572	-0.0804 mg/L	0.00572	7.11%
QC value within limits for K	766.490	Recovery =	Not calculated			
Na 589.592†	23.4	-0.0207 mg/L	0.00158	-0.0207 mg/L	0.00158	7.61%
QC value within limits for Na	589.592	Recovery =	Not calculated			
Sr 407.771†	250.9	-0.00122 mg/L	0.000066	-0.00122 mg/L	0.000066	5.38%
QC value within limits for Sr	407.771	Recovery =	Not calculated			
Li 670.784†	58.6	-0.00346 mg/L	0.000358	-0.00346 mg/L	0.000358	10.34%
QC value within limits for Li	670.784	Recovery =	Not calculated			
All analyte(s) passed QC.						

Sequence No.: 39

Sample ID: L1206044506S WG400908-07

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 31

Date Collected: 6/20/2012 2:30:16 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Approved: June 21, 2012

John H. Rhodes

Nebulizer Parameters: L1206044506S WG400908-07

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206044506S WG400908-07

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2059786.3					21359.78	1.04%
YRADIAL	269436.9					2076.39	0.77%
Ga 417.206	1267094.5					24588.18	1.94%
GaRADIAL	80172.6					601.41	0.75%
Ag 328.068†	56826.0	0.197 mg/L		0.0044	0.197 mg/L	0.0044	2.26%
Al 396.153†	33845.4	5.60 mg/L		0.027	5.60 mg/L	0.027	0.48%
As 188.979†	553.3	0.187 mg/L		0.0044	0.187 mg/L	0.0044	2.36%
Ba 233.527†	88134.1	0.557 mg/L		0.0095	0.557 mg/L	0.0095	1.70%
Be 234.861†	29319.2	0.0240 mg/L		0.00049	0.0240 mg/L	0.00049	2.05%
B 249.677†	85123.1	0.970 mg/L		0.0238	0.970 mg/L	0.0238	2.45%
Ca 227.546†	36767.8	94.6 mg/L		2.56	94.6 mg/L	2.56	2.71%
Cd 228.802†	1177.8	0.0229 mg/L		0.00093	0.0229 mg/L	0.00093	4.06%
Co 228.616†	3816.4	0.0989 mg/L		0.00174	0.0989 mg/L	0.00174	1.76%
Cr 267.716†	27643.1	0.254 mg/L		0.0028	0.254 mg/L	0.0028	1.09%
Cu 327.393†	53105.5	0.237 mg/L		0.0060	0.237 mg/L	0.0060	2.54%
Fe 239.562†	34046.2	2.36 mg/L		0.015	2.36 mg/L	0.015	0.63%
Mg 279.077†	124564.1	37.1 mg/L		0.19	37.1 mg/L	0.19	0.51%
Mn 257.610†	197412.9	0.256 mg/L		0.0053	0.256 mg/L	0.0053	2.05%
Mo 202.031†	17936.8	0.508 mg/L		0.0092	0.508 mg/L	0.0092	1.80%
Ni 231.604†	16385.0	0.244 mg/L		0.0045	0.244 mg/L	0.0045	1.83%
Pb 220.353†	3000.1	0.258 mg/L		0.0042	0.258 mg/L	0.0042	1.64%
Sb 206.836†	2309.4	0.578 mg/L		0.0096	0.578 mg/L	0.0096	1.65%
Se 196.026†	357.0	0.196 mg/L		0.0047	0.196 mg/L	0.0047	2.38%
Si 251.611†	380267.9	9.12 mg/L		0.166	9.12 mg/L	0.166	1.82%
Sn 189.927†	5640.3	0.514 mg/L		0.0091	0.514 mg/L	0.0091	1.77%
Ti 334.940†	445546.9	0.512 mg/L		0.0030	0.512 mg/L	0.0030	0.58%
Tl 190.801†	778.8	0.209 mg/L		0.0016	0.209 mg/L	0.0016	0.75%
V 290.880†	106570.6	0.517 mg/L		0.0056	0.517 mg/L	0.0056	1.09%
Zn 206.200†	25141.0	0.493 mg/L		0.0029	0.493 mg/L	0.0029	0.58%
K 766.490†	71108.0	26.9 mg/L		0.13	26.9 mg/L	0.13	0.48%
Na 589.592†	556838.8	30.9 mg/L		0.47	30.9 mg/L	0.47	1.53%
Sr 407.771†	1511257.9	0.615 mg/L		0.0015	0.615 mg/L	0.0015	0.24%
Li 670.784†	72131.2	0.565 mg/L		0.0038	0.565 mg/L	0.0038	0.67%

Sequence No.: 40

Sample ID: L1206044507SD WG400908-08

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 32

Date Collected: 6/20/2012 2:36:16 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044507SD WG400908-08

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206044507SD WG400908-08

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2069073.9					20155.40	0.97%
YRADIAL	262812.1					4152.05	1.58%
Ga 417.206	1253948.5					13752.60	1.10%
GaRADIAL	78538.3					1684.04	2.14%
Ag 328.068†	58598.6	0.203 mg/L		0.0021	0.203 mg/L	0.0021	1.04%
Al 396.153†	34378.3	5.69 mg/L		0.022	5.69 mg/L	0.022	0.38%
As 188.979†	564.6	0.190 mg/L		0.0032	0.190 mg/L	0.0032	1.70%
Ba 233.527†	88655.4	0.560 mg/L		0.0077	0.560 mg/L	0.0077	1.37%
Be 234.861†	30104.9	0.0247 mg/L		0.00030	0.0247 mg/L	0.00030	1.22%
B 249.677†	89154.4	1.02 mg/L		0.015	1.02 mg/L	0.015	1.47%
Ca 227.546†	37698.0	96.9 mg/L		1.36	96.9 mg/L	1.36	1.40%
Cd 228.802†	1199.2	0.0233 mg/L		0.00073	0.0233 mg/L	0.00073	3.12%
Co 228.616†	3840.2	0.0995 mg/L		0.00167	0.0995 mg/L	0.00167	1.68%

Approved: June 21, 2012

John H. Rhodes

Cr 267.716†	28112.8	0.258 mg/L	0.0030	0.258 mg/L	0.0030	1.17%
Cu 327.393†	55103.7	0.245 mg/L	0.0032	0.245 mg/L	0.0032	1.29%
Fe 239.562†	34710.3	2.41 mg/L	0.021	2.41 mg/L	0.021	0.87%
Mg 279.077†	125736.5	37.4 mg/L	0.25	37.4 mg/L	0.25	0.68%
Mn 257.610†	200063.0	0.260 mg/L	0.0035	0.260 mg/L	0.0035	1.33%
Mo 202.031†	18182.9	0.515 mg/L	0.0065	0.515 mg/L	0.0065	1.25%
Ni 231.604†	16648.7	0.248 mg/L	0.0040	0.248 mg/L	0.0040	1.60%
Pb 220.353†	3011.5	0.259 mg/L	0.0034	0.259 mg/L	0.0034	1.30%
Sb 206.836†	2358.5	0.591 mg/L	0.0065	0.591 mg/L	0.0065	1.10%
Se 196.026†	365.0	0.200 mg/L	0.0042	0.200 mg/L	0.0042	2.12%
Si 251.611†	401418.7	9.63 mg/L	0.021	9.63 mg/L	0.021	0.22%
Sn 189.927†	5664.7	0.516 mg/L	0.0068	0.516 mg/L	0.0068	1.32%
Ti 334.940†	450059.5	0.518 mg/L	0.0030	0.518 mg/L	0.0030	0.58%
Tl 190.801†	741.3	0.200 mg/L	0.0036	0.200 mg/L	0.0036	1.81%
V 290.880†	108493.5	0.526 mg/L	0.0071	0.526 mg/L	0.0071	1.34%
Zn 206.200†	25355.8	0.497 mg/L	0.0062	0.497 mg/L	0.0062	1.24%
K 766.490†	72378.7	27.3 mg/L	0.08	27.3 mg/L	0.08	0.28%
Na 589.592†	571110.9	31.7 mg/L	0.50	31.7 mg/L	0.50	1.58%
Sr 407.771†	1556599.6	0.634 mg/L	0.0052	0.634 mg/L	0.0052	0.82%
Li 670.784†	73682.6	0.578 mg/L	0.0025	0.578 mg/L	0.0025	0.43%

Sequence No.: 41

Sample ID: L1206044508

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 33

Date Collected: 6/20/2012 2:42:16 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044508

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: L1206044508

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2081583.4				32366.26	1.55%
YRADIAL	263970.1				4749.67	1.80%
Ga 417.206	1258114.3				56419.66	4.48%
GA RADIAL	79610.1				1302.38	1.64%
Ag 328.068†	750.8	0.00161 mg/L	0.000294	0.00161 mg/L	0.000294	18.20%
Al 396.153†	1308.1	0.209 mg/L	0.0080	0.209 mg/L	0.0080	3.80%
As 188.979†	-8.6	-0.00343 mg/L	0.002651	-0.00343 mg/L	0.002651	77.35%
Ba 233.527†	8381.1	0.0513 mg/L	0.00078	0.0513 mg/L	0.00078	1.52%
Be 234.861†	299.7	0.00002 mg/L	0.000031	0.00002 mg/L	0.000031	134.90%
B 249.677†	1265.8	0.0142 mg/L	0.00147	0.0142 mg/L	0.00147	10.32%
Ca 227.546†	35515.5	91.1 mg/L	4.72	91.1 mg/L	4.72	5.18%
Cd 228.802†	-1.9	-0.00005 mg/L	0.000096	-0.00005 mg/L	0.000096	208.27%
Co 228.616†	-1.5	-0.00027 mg/L	0.000058	-0.00027 mg/L	0.000058	21.31%
Cr 267.716†	186.2	0.00101 mg/L	0.000135	0.00101 mg/L	0.000135	13.34%
Cu 327.393†	295.4	-0.00004 mg/L	0.000504	-0.00004 mg/L	0.000504	>999.9%
Fe 239.562†	3421.9	0.238 mg/L	0.0028	0.238 mg/L	0.0028	1.17%
Mg 279.077†	109661.6	32.6 mg/L	0.24	32.6 mg/L	0.24	0.72%
Mn 257.610†	1181.6	0.00073 mg/L	0.000055	0.00073 mg/L	0.000055	7.49%
Mo 202.031†	52.7	0.00028 mg/L	0.000265	0.00028 mg/L	0.000265	94.92%
Ni 231.604†	69.9	-0.00193 mg/L	0.000391	-0.00193 mg/L	0.000391	20.21%
Pb 220.353†	16.7	0.00065 mg/L	0.001948	0.00065 mg/L	0.001948	301.80%
Sb 206.836†	-1.4	-0.00336 mg/L	0.001109	-0.00336 mg/L	0.001109	33.01%
Se 196.026†	-9.3	-0.00468 mg/L	0.001737	-0.00468 mg/L	0.001737	37.08%
Si 251.611†	218615.8	5.24 mg/L	0.241	5.24 mg/L	0.241	4.61%
Sn 189.927†	-272.1	-0.0263 mg/L	0.00104	-0.0263 mg/L	0.00104	3.95%
Ti 334.940†	-8132.6	0.00462 mg/L	0.001039	0.00462 mg/L	0.001039	22.48%
Tl 190.801†	-22.0	-0.00869 mg/L	0.002880	-0.00869 mg/L	0.002880	33.16%
V 290.880†	1558.6	0.00642 mg/L	0.002370	0.00642 mg/L	0.002370	36.92%
Zn 206.200†	108.7	-0.00025 mg/L	0.000297	-0.00025 mg/L	0.000297	117.78%
K 766.490†	3156.0	1.05 mg/L	0.020	1.05 mg/L	0.020	1.86%
Na 589.592†	90802.8	4.96 mg/L	0.017	4.96 mg/L	0.017	0.34%
Sr 407.771†	281668.7	0.112 mg/L	0.0003	0.112 mg/L	0.0003	0.26%
Li 670.784†	3886.8	0.0268 mg/L	0.00025	0.0268 mg/L	0.00025	0.94%

Approved: June 21, 2012

John H. Rhodes

Sequence No.: 42
 Sample ID: L1206044509
 Analyst: KHR
 Initial Sample Wt:
 Dilution:

Autosampler Location: 34
 Date Collected: 6/20/2012 2:48:16 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: L1206044509

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: L1206044509

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	2144909.1					13841.39	0.65%
YRADIAL	267426.5					4587.44	1.72%
Ga 417.206	1270342.1					21481.14	1.69%
GaRADIAL	80533.5					2319.97	2.88%
Ag 328.068†	-105.4	-0.00143 mg/L		0.000152	-0.00143 mg/L	0.000152	10.58%
Al 396.153†	12.6	-0.00649 mg/L		0.000369	-0.00649 mg/L	0.000369	5.68%
As 188.979†	-1.4	-0.00096 mg/L		0.001310	-0.00096 mg/L	0.001310	135.79%
Ba 233.527†	-20.3	-0.00186 mg/L		0.000152	-0.00186 mg/L	0.000152	8.17%
Be 234.861†	71.2	-0.00012 mg/L		0.000015	-0.00012 mg/L	0.000015	12.55%
B 249.677†	209.2	0.00225 mg/L		0.000134	0.00225 mg/L	0.000134	5.96%
Ca 227.546†	18.1	0.0394 mg/L		0.02272	0.0394 mg/L	0.02272	57.60%
Cd 228.802†	-6.9	-0.00016 mg/L		0.000073	-0.00016 mg/L	0.000073	46.06%
Co 228.616†	-4.9	-0.00036 mg/L		0.000060	-0.00036 mg/L	0.000060	16.69%
Cr 267.716†	43.1	-0.00030 mg/L		0.000052	-0.00030 mg/L	0.000052	17.24%
Cu 327.393†	163.1	-0.00063 mg/L		0.000462	-0.00063 mg/L	0.000462	72.79%
Fe 239.562†	36.0	0.00345 mg/L		0.000612	0.00345 mg/L	0.000612	17.72%
Mg 279.077†	25.0	0.00615 mg/L		0.002612	0.00615 mg/L	0.002612	42.47%
Mn 257.610†	29.5	-0.00077 mg/L		0.000026	-0.00077 mg/L	0.000026	3.41%
Mo 202.031†	4.0	-0.00112 mg/L		0.000301	-0.00112 mg/L	0.000301	26.94%
Ni 231.604†	6.1	-0.00290 mg/L		0.000116	-0.00290 mg/L	0.000116	4.00%
Pb 220.353†	14.9	-0.00026 mg/L		0.000372	-0.00026 mg/L	0.000372	143.04%
Sb 206.836†	-0.8	-0.00319 mg/L		0.000789	-0.00319 mg/L	0.000789	24.73%
Se 196.026†	-3.0	-0.00133 mg/L		0.002256	-0.00133 mg/L	0.002256	169.09%
Si 251.611†	442.3	-0.00403 mg/L		0.000897	-0.00403 mg/L	0.000897	22.25%
Sn 189.927†	3.6	-0.00111 mg/L		0.000883	-0.00111 mg/L	0.000883	79.60%
Ti 334.940†	30.9	0.00009 mg/L		0.000155	0.00009 mg/L	0.000155	177.32%
Tl 190.801†	-3.9	-0.00384 mg/L		0.003554	-0.00384 mg/L	0.003554	92.53%
V 290.880†	-140.2	-0.00098 mg/L		0.000256	-0.00098 mg/L	0.000256	26.12%
Zn 206.200†	48.2	-0.00145 mg/L		0.000244	-0.00145 mg/L	0.000244	16.88%
K 766.490†	89.0	-0.103 mg/L		0.0257	-0.103 mg/L	0.0257	24.90%
Na 589.592†	171.7	-0.0126 mg/L		0.00308	-0.0126 mg/L	0.00308	24.43%
Sr 407.771†	26.6	-0.00131 mg/L		0.000063	-0.00131 mg/L	0.000063	4.78%
Li 670.784†	-18.0	-0.00406 mg/L		0.000404	-0.00406 mg/L	0.000404	9.95%

Sequence No.: 43
 Sample ID: L1206044510
 Analyst: KHR
 Initial Sample Wt:
 Dilution:

Autosampler Location: 35
 Date Collected: 6/20/2012 2:55:12 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

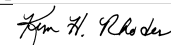
Nebulizer Parameters: L1206044510

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: L1206044510

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	2122899.8					52285.56	2.46%
YRADIAL	262409.6					7426.79	2.83%
Ga 417.206	1258093.7					22422.30	1.78%
GaRADIAL	78540.7					395.32	0.50%
Ag 328.068†	50.0	-0.00090 mg/L		0.000332	-0.00090 mg/L	0.000332	36.83%
Al 396.153†	13.9	-0.00627 mg/L		0.002451	-0.00627 mg/L	0.002451	39.09%
As 188.979†	0.5	-0.00031 mg/L		0.001581	-0.00031 mg/L	0.001581	517.90%

Approved: June 21, 2012



Ba 233.527†	-37.6	-0.00197 mg/L	0.000084	-0.00197 mg/L	0.000084	4.26%
Be 234.861†	46.1	-0.00014 mg/L	0.000033	-0.00014 mg/L	0.000033	24.03%
B 249.677†	110.2	0.00112 mg/L	0.000200	0.00112 mg/L	0.000200	17.82%
Ca 227.546†	71.8	0.177 mg/L	0.0134	0.177 mg/L	0.0134	7.57%
Cd 228.802†	-3.3	-0.00009 mg/L	0.000075	-0.00009 mg/L	0.000075	84.29%
Co 228.616†	-9.9	-0.00049 mg/L	0.000153	-0.00049 mg/L	0.000153	31.26%
Cr 267.716†	-3.6	-0.00073 mg/L	0.000029	-0.00073 mg/L	0.000029	4.03%
Cu 327.393†	256.5	-0.00022 mg/L	0.000181	-0.00022 mg/L	0.000181	82.98%
Fe 239.562†	32.4	0.00320 mg/L	0.000349	0.00320 mg/L	0.000349	10.88%
Mg 279.077†	26.6	0.00663 mg/L	0.002000	0.00663 mg/L	0.002000	30.15%
Mn 257.610†	28.3	-0.00078 mg/L	0.000009	-0.00078 mg/L	0.000009	1.19%
Mo 202.031†	6.1	-0.00106 mg/L	0.000191	-0.00106 mg/L	0.000191	18.05%
Ni 231.604†	-11.4	-0.00316 mg/L	0.000195	-0.00316 mg/L	0.000195	6.17%
Pb 220.353†	6.5	-0.00098 mg/L	0.000738	-0.00098 mg/L	0.000738	75.26%
Sb 206.836†	4.7	-0.00182 mg/L	0.001665	-0.00182 mg/L	0.001665	91.67%
Se 196.026†	-5.1	-0.00245 mg/L	0.001469	-0.00245 mg/L	0.001469	59.88%
Si 251.611†	377.7	-0.00559 mg/L	0.000268	-0.00559 mg/L	0.000268	4.79%
Sn 189.927†	-4.2	-0.00183 mg/L	0.000063	-0.00183 mg/L	0.000063	3.47%
Ti 334.940†	-39.0	0.00003 mg/L	0.000112	0.00003 mg/L	0.000112	372.20%
Tl 190.801†	-3.8	-0.00380 mg/L	0.001154	-0.00380 mg/L	0.001154	30.36%
V 290.880†	-242.3	-0.00148 mg/L	0.000897	-0.00148 mg/L	0.000897	60.75%
Zn 206.200†	76.9	-0.00089 mg/L	0.000096	-0.00089 mg/L	0.000096	10.82%
K 766.490†	61.4	-0.113 mg/L	0.0428	-0.113 mg/L	0.0428	37.71%
Na 589.592†	215.3	-0.0102 mg/L	0.00327	-0.0102 mg/L	0.00327	31.96%
Sr 407.771†	162.5	-0.00126 mg/L	0.000043	-0.00126 mg/L	0.000043	3.39%
Li 670.784†	44.9	-0.00357 mg/L	0.001105	-0.00357 mg/L	0.001105	30.99%

Sequence No.: 44

Sample ID: L1206044511

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 36

Date Collected: 6/20/2012 3:02:05 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044511

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: L1206044511

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1969611.3				17681.91	0.90%
YRADIAL	255064.7				2479.14	0.97%
Ga 417.206	1193793.9				9420.96	0.79%
GARADIAL	77891.3				386.31	0.50%
Ag 328.068†	692.6	0.00174 mg/L	0.000469	0.00174 mg/L	0.000469	26.99%
Al 396.153†	5514.4	0.911 mg/L	0.0206	0.911 mg/L	0.0206	2.26%
As 188.979†	-11.8	-0.00444 mg/L	0.002378	-0.00444 mg/L	0.002378	53.56%
Ba 233.527†	10000.7	0.0616 mg/L	0.00049	0.0616 mg/L	0.00049	0.80%
Be 234.861†	524.0	0.00006 mg/L	0.000139	0.00006 mg/L	0.000139	238.28%
B 249.677†	900.8	0.00974 mg/L	0.000245	0.00974 mg/L	0.000245	2.51%
Ca 227.546†	38902.2	99.8 mg/L	3.03	99.8 mg/L	3.03	3.04%
Cd 228.802†	1.5	0.00003 mg/L	0.000236	0.00003 mg/L	0.000236	878.48%
Co 228.616†	12.4	0.00003 mg/L	0.000201	0.00003 mg/L	0.000201	587.49%
Cr 267.716†	321.1	0.00224 mg/L	0.000076	0.00224 mg/L	0.000076	3.42%
Cu 327.393†	246.6	-0.00018 mg/L	0.000450	-0.00018 mg/L	0.000450	253.99%
Fe 239.562†	13683.6	0.950 mg/L	0.0212	0.950 mg/L	0.0212	2.23%
Mg 279.077†	120312.2	35.8 mg/L	0.82	35.8 mg/L	0.82	2.29%
Mn 257.610†	4246.8	0.00474 mg/L	0.000096	0.00474 mg/L	0.000096	2.03%
Mo 202.031†	58.3	0.00048 mg/L	0.000168	0.00048 mg/L	0.000168	35.16%
Ni 231.604†	108.2	-0.00136 mg/L	0.000422	-0.00136 mg/L	0.000422	31.09%
Pb 220.353†	24.1	0.00142 mg/L	0.001378	0.00142 mg/L	0.001378	97.30%
Sb 206.836†	-1.2	-0.00327 mg/L	0.000115	-0.00327 mg/L	0.000115	3.51%
Se 196.026†	0.6	0.00095 mg/L	0.002603	0.00095 mg/L	0.002603	273.16%
Si 251.611†	277848.2	6.66 mg/L	0.138	6.66 mg/L	0.138	2.08%
Sn 189.927†	-284.6	-0.0274 mg/L	0.00063	-0.0274 mg/L	0.00063	2.29%
Ti 334.940†	5451.6	0.0211 mg/L	0.00084	0.0211 mg/L	0.00084	3.97%
Tl 190.801†	-39.2	-0.0130 mg/L	0.00259	-0.0130 mg/L	0.00259	19.90%
V 290.880†	2064.6	0.00874 mg/L	0.004161	0.00874 mg/L	0.004161	47.58%
Zn 206.200†	178.9	0.00112 mg/L	0.000141	0.00112 mg/L	0.000141	12.57%

Approved: June 21, 2012

John H. Rhodes

K 766.490†	3736.9	1.27 mg/L	0.045	1.27 mg/L	0.045	3.51%
Na 589.592†	96626.7	5.28 mg/L	0.009	5.28 mg/L	0.009	0.18%
Sr 407.771†	312143.9	0.124 mg/L	0.0006	0.124 mg/L	0.0006	0.50%
Li 670.784†	4799.6	0.0340 mg/L	0.00065	0.0340 mg/L	0.00065	1.92%

Sequence No.: 45

Sample ID: L1206044512

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 37

Date Collected: 6/20/2012 3:08:02 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044512

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: L1206044512

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	2047792.4					12886.74	0.63%
YRADIAL	253377.7					6255.41	2.47%
Ga 417.206	1283750.5					18237.68	1.42%
GaRADIAL	78789.0					1644.96	2.09%
Ag 328.068†	742.1	0.00146 mg/L		0.000183	0.00146 mg/L	0.000183	12.54%
Al 396.153†	15.6	-0.00604 mg/L		0.000826	-0.00604 mg/L	0.000826	13.66%
As 188.979†	-16.6	-0.00618 mg/L		0.000990	-0.00618 mg/L	0.000990	16.01%
Ba 233.527†	9396.5	0.0578 mg/L		0.00046	0.0578 mg/L	0.00046	0.80%
Be 234.861†	128.7	-0.00007 mg/L		0.000022	-0.00007 mg/L	0.000022	31.82%
B 249.677†	773.2	0.00869 mg/L		0.000316	0.00869 mg/L	0.000316	3.63%
Ca 227.546†	35782.5	91.8 mg/L		1.70	91.8 mg/L	1.70	1.85%
Cd 228.802†	-3.0	-0.00006 mg/L		0.000115	-0.00006 mg/L	0.000115	207.39%
Co 228.616†	-15.4	-0.00062 mg/L		0.000141	-0.00062 mg/L	0.000141	22.81%
Cr 267.716†	151.3	0.00070 mg/L		0.000028	0.00070 mg/L	0.000028	3.97%
Cu 327.393†	-27.9	-0.00151 mg/L		0.000480	-0.00151 mg/L	0.000480	31.85%
Fe 239.562†	41.2	0.00313 mg/L		0.000264	0.00313 mg/L	0.000264	8.43%
Mg 279.077†	114440.8	34.1 mg/L		0.46	34.1 mg/L	0.46	1.36%
Mn 257.610†	86.8	-0.00070 mg/L		0.000038	-0.00070 mg/L	0.000038	5.47%
Mo 202.031†	38.6	-0.00014 mg/L		0.000206	-0.00014 mg/L	0.000206	151.14%
Ni 231.604†	9.3	-0.00285 mg/L		0.000211	-0.00285 mg/L	0.000211	7.42%
Pb 220.353†	40.4	0.00266 mg/L		0.000851	0.00266 mg/L	0.000851	31.92%
Sb 206.836†	3.1	-0.00222 mg/L		0.000690	-0.00222 mg/L	0.000690	31.09%
Se 196.026†	1.3	0.00097 mg/L		0.004883	0.00097 mg/L	0.004883	502.73%
Si 251.611†	204194.3	4.89 mg/L		0.047	4.89 mg/L	0.047	0.96%
Sn 189.927†	-290.7	-0.0280 mg/L		0.00016	-0.0280 mg/L	0.00016	0.56%
Ti 334.940†	-14103.1	-0.00195 mg/L		0.000569	-0.00195 mg/L	0.000569	29.19%
Tl 190.801†	-31.3	-0.0112 mg/L		0.00189	-0.0112 mg/L	0.00189	16.84%
V 290.880†	187.7	-0.00027 mg/L		0.001630	-0.00027 mg/L	0.001630	601.97%
Zn 206.200†	68.1	-0.00105 mg/L		0.000306	-0.00105 mg/L	0.000306	29.22%
K 766.490†	3634.1	1.24 mg/L		0.035	1.24 mg/L	0.035	2.84%
Na 589.592†	94618.8	5.17 mg/L		0.112	5.17 mg/L	0.112	2.17%
Sr 407.771†	307824.1	0.123 mg/L		0.0036	0.123 mg/L	0.0036	2.92%
Li 670.784†	3622.4	0.0247 mg/L		0.00038	0.0247 mg/L	0.00038	1.53%

Sequence No.: 46

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 6/20/2012 3:14:56 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	2059208.7					25131.03	1.22%

Approved: June 21, 2012

John H. Rhodes

YRADIAL	266876.2				5081.15	1.90%
Ga 417.206	1181652.3				24915.04	2.11%
GA RADIAL	79687.0				1767.48	2.22%
Ag 328.068†	117657.1	0.408 mg/L	0.0109	0.408 mg/L	0.0109	2.67%
QC value within limits for Ag 328.068			Recovery = 101.89%			
Al 396.153†	60735.6	10.1 mg/L	0.01	10.1 mg/L	0.01	0.11%
QC value within limits for Al 396.153			Recovery = 100.50%			
As 188.979†	1175.4	0.397 mg/L	0.0076	0.397 mg/L	0.0076	1.91%
QC value within limits for As 188.979			Recovery = 99.26%			
Ba 233.527†	160949.4	1.02 mg/L	0.004	1.02 mg/L	0.004	0.38%
QC value within limits for Ba 233.527			Recovery = 101.80%			
Be 234.861†	60515.7	0.0500 mg/L	0.00119	0.0500 mg/L	0.00119	2.38%
QC value within limits for Be 234.861			Recovery = 99.94%			
B 249.677†	45240.5	0.513 mg/L	0.0119	0.513 mg/L	0.0119	2.32%
QC value within limits for B 249.677			Recovery = 102.53%			
Ca 227.546†	3903.3	10.5 mg/L	0.20	10.5 mg/L	0.20	1.89%
QC value within limits for Ca 227.546			Recovery = 104.85%			
Cd 228.802†	2536.2	0.0493 mg/L	0.00189	0.0493 mg/L	0.00189	3.83%
QC value within limits for Cd 228.802			Recovery = 98.69%			
Co 228.616†	7808.5	0.203 mg/L	0.0047	0.203 mg/L	0.0047	2.33%
QC value within limits for Co 228.616			Recovery = 101.27%			
Cr 267.716†	55258.8	0.508 mg/L	0.0026	0.508 mg/L	0.0026	0.51%
QC value within limits for Cr 267.716			Recovery = 101.50%			
Cu 327.393†	113512.5	0.507 mg/L	0.0121	0.507 mg/L	0.0121	2.38%
QC value within limits for Cu 327.393			Recovery = 101.40%			
Fe 239.562†	58209.2	4.04 mg/L	0.006	4.04 mg/L	0.006	0.15%
QC value within limits for Fe 239.562			Recovery = 100.96%			
Mg 279.077†	33742.2	10.1 mg/L	0.03	10.1 mg/L	0.03	0.34%
QC value within limits for Mg 279.077			Recovery = 100.57%			
Mn 257.610†	391257.2	0.509 mg/L	0.0053	0.509 mg/L	0.0053	1.04%
QC value within limits for Mn 257.610			Recovery = 101.78%			
Mo 202.031†	35780.4	1.02 mg/L	0.006	1.02 mg/L	0.006	0.60%
QC value within limits for Mo 202.031			Recovery = 101.52%			
Ni 231.604†	34757.2	0.520 mg/L	0.0109	0.520 mg/L	0.0109	2.09%
QC value within limits for Ni 231.604			Recovery = 104.00%			
Pb 220.353†	5950.5	0.511 mg/L	0.0093	0.511 mg/L	0.0093	1.81%
QC value within limits for Pb 220.353			Recovery = 102.24%			
Sb 206.836†	4802.3	1.21 mg/L	0.026	1.21 mg/L	0.026	2.16%
QC value within limits for Sb 206.836			Recovery = 100.47%			
Se 196.026†	741.5	0.406 mg/L	0.0166	0.406 mg/L	0.0166	4.09%
QC value within limits for Se 196.026			Recovery = 101.38%			
Si 251.611†	223912.3	5.36 mg/L	0.088	5.36 mg/L	0.088	1.63%
QC value within limits for Si 251.611			Recovery = 107.10%			
Sn 189.927†	11041.3	1.01 mg/L	0.018	1.01 mg/L	0.018	1.81%
QC value within limits for Sn 189.927			Recovery = 100.74%			
Ti 334.940†	900061.3	1.01 mg/L	0.006	1.01 mg/L	0.006	0.56%
QC value within limits for Ti 334.940			Recovery = 100.75%			
Tl 190.801†	1962.2	0.528 mg/L	0.0064	0.528 mg/L	0.0064	1.20%
QC value within limits for Tl 190.801			Recovery = 105.56%			
V 290.880†	207794.2	1.01 mg/L	0.006	1.01 mg/L	0.006	0.59%
QC value within limits for V 290.880			Recovery = 101.02%			
Zn 206.200†	51950.4	1.02 mg/L	0.006	1.02 mg/L	0.006	0.60%
QC value within limits for Zn 206.200			Recovery = 102.13%			
K 766.490†	132929.0	50.4 mg/L	0.22	50.4 mg/L	0.22	0.44%
QC value within limits for K 766.490			Recovery = 100.88%			
Na 589.592†	881692.2	49.4 mg/L	1.30	49.4 mg/L	1.30	2.64%
QC value within limits for Na 589.592			Recovery = 98.75%			
Sr 407.771†	2436763.6	0.996 mg/L	0.0209	0.996 mg/L	0.0209	2.10%
QC value within limits for Sr 407.771			Recovery = 99.57%			
Li 670.784†	129628.3	1.02 mg/L	0.002	1.02 mg/L	0.002	0.21%
QC value within limits for Li 670.784			Recovery = 101.92%			
All analyte(s) passed QC.						

Sequence No.: 47

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Sampler Location: 1

Date Collected: 6/20/2012 3:20:56 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Approved: June 21, 2012

John H. Rhodes

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2076895.5				35287.32	1.70%
YRADIAL	263636.5				2554.58	0.97%
Ga 417.206	1199476.4				24012.71	2.00%
GaRADIAL	78510.2				2508.14	3.19%
Ag 328.068†	59.2	-0.00087 mg/L	0.000290	-0.00087 mg/L	0.000290	33.44%
QC value within limits for Ag	328.068	Recovery = Not calculated				
Al 396.153†	37.2	-0.00239 mg/L	0.001353	-0.00239 mg/L	0.001353	56.67%
QC value within limits for Al	396.153	Recovery = Not calculated				
As 188.979†	-1.3	-0.00093 mg/L	0.001394	-0.00093 mg/L	0.001394	149.73%
QC value within limits for As	188.979	Recovery = Not calculated				
Ba 233.527†	-3.8	-0.00176 mg/L	0.000087	-0.00176 mg/L	0.000087	4.98%
QC value within limits for Ba	233.527	Recovery = Not calculated				
Be 234.861†	8.9	-0.00017 mg/L	0.000025	-0.00017 mg/L	0.000025	14.93%
QC value within limits for Be	234.861	Recovery = Not calculated				
B 249.677†	217.0	0.00234 mg/L	0.000111	0.00234 mg/L	0.000111	4.74%
QC value within limits for B	249.677	Recovery = Not calculated				
Ca 227.546†	12.5	0.0248 mg/L	0.05136	0.0248 mg/L	0.05136	206.82%
QC value within limits for Ca	227.546	Recovery = Not calculated				
Cd 228.802†	-4.4	-0.00011 mg/L	0.000171	-0.00011 mg/L	0.000171	157.02%
QC value within limits for Cd	228.802	Recovery = Not calculated				
Co 228.616†	-3.5	-0.00033 mg/L	0.000125	-0.00033 mg/L	0.000125	38.39%
QC value within limits for Co	228.616	Recovery = Not calculated				
Cr 267.716†	2.3	-0.00067 mg/L	0.000118	-0.00067 mg/L	0.000118	17.55%
QC value within limits for Cr	267.716	Recovery = Not calculated				
Cu 327.393†	104.3	-0.00090 mg/L	0.000551	-0.00090 mg/L	0.000551	61.35%
QC value within limits for Cu	327.393	Recovery = Not calculated				
Fe 239.562†	20.5	0.00238 mg/L	0.000175	0.00238 mg/L	0.000175	7.36%
QC value within limits for Fe	239.562	Recovery = Not calculated				
Mg 279.077†	34.5	0.00898 mg/L	0.001747	0.00898 mg/L	0.001747	19.46%
QC value within limits for Mg	279.077	Recovery = Not calculated				
Mn 257.610†	78.9	-0.00071 mg/L	0.000012	-0.00071 mg/L	0.000012	1.76%
QC value within limits for Mn	257.610	Recovery = Not calculated				
Mo 202.031†	8.6	-0.00099 mg/L	0.000138	-0.00099 mg/L	0.000138	13.95%
QC value within limits for Mo	202.031	Recovery = Not calculated				
Ni 231.604†	-7.2	-0.00310 mg/L	0.000272	-0.00310 mg/L	0.000272	8.76%
QC value within limits for Ni	231.604	Recovery = Not calculated				
Pb 220.353†	2.3	-0.00134 mg/L	0.000869	-0.00134 mg/L	0.000869	64.68%
QC value within limits for Pb	220.353	Recovery = Not calculated				
Sb 206.836†	4.6	-0.00183 mg/L	0.001707	-0.00183 mg/L	0.001707	93.31%
QC value within limits for Sb	206.836	Recovery = Not calculated				
Se 196.026†	-5.5	-0.00272 mg/L	0.001488	-0.00272 mg/L	0.001488	54.62%
QC value within limits for Se	196.026	Recovery = Not calculated				
Si 251.611†	94.7	-0.0124 mg/L	0.00054	-0.0124 mg/L	0.00054	4.39%
QC value within limits for Si	251.611	Recovery = Not calculated				
Sn 189.927†	13.5	-0.00021 mg/L	0.000195	-0.00021 mg/L	0.000195	94.77%
QC value within limits for Sn	189.927	Recovery = Not calculated				
Ti 334.940†	66.2	0.00012 mg/L	0.000216	0.00012 mg/L	0.000216	173.12%
QC value within limits for Ti	334.940	Recovery = Not calculated				
Tl 190.801†	-1.0	-0.00307 mg/L	0.000290	-0.00307 mg/L	0.000290	9.44%
QC value within limits for Tl	190.801	Recovery = Not calculated				
V 290.880†	-118.8	-0.00088 mg/L	0.000607	-0.00088 mg/L	0.000607	69.37%
QC value within limits for V	290.880	Recovery = Not calculated				
Zn 206.200†	7.7	-0.00224 mg/L	0.000197	-0.00224 mg/L	0.000197	8.78%
QC value within limits for Zn	206.200	Recovery = Not calculated				
K 766.490†	28.1	-0.126 mg/L	0.0335	-0.126 mg/L	0.0335	26.57%
QC value within limits for K	766.490	Recovery = Not calculated				
Na 589.592†	-14.1	-0.0228 mg/L	0.00773	-0.0228 mg/L	0.00773	33.93%
QC value within limits for Na	589.592	Recovery = Not calculated				
Sr 407.771†	291.4	-0.00120 mg/L	0.000045	-0.00120 mg/L	0.000045	3.73%
QC value within limits for Sr	407.771	Recovery = Not calculated				
Li 670.784†	64.5	-0.00341 mg/L	0.000382	-0.00341 mg/L	0.000382	11.19%
QC value within limits for Li	670.784	Recovery = Not calculated				

All analyte(s) passed QC.

Approved: June 21, 2012

John H. Rhodes

Sequence No.: 48
 Sample ID: ICSA
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 12
 Date Collected: 6/20/2012 3:27:49 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1941866.5				12169.86	0.63%
YRADIAL	259164.8				2730.94	1.05%
Ga 417.206	1145388.2				39988.61	3.49%
GaRADIAL	78286.3				1056.78	1.35%
Ag 328.068†	-12038.2	-0.00021 mg/L	0.000310	-0.00021 mg/L	0.000310	144.50%
QC value within limits for Ag						
Al 396.153†	1487068.8	248 mg/L	4.2	248 mg/L	4.2	1.68%
QC value within limits for Al						
As 188.979†	-35.3	-0.00645 mg/L	0.002941	-0.00645 mg/L	0.002941	45.56%
QC value within limits for As						
Ba 233.527†	723.8	0.00053 mg/L	0.000354	0.00053 mg/L	0.000354	67.29%
QC value within limits for Ba						
Be 234.861†	24313.1	0.00030 mg/L	0.000477	0.00030 mg/L	0.000477	157.13%
QC value within limits for Be						
B 249.677†	4857.7	0.0155 mg/L	0.00058	0.0155 mg/L	0.00058	3.75%
QC value within limits for B						
Ca 227.546†	101230.3	262 mg/L	7.7	262 mg/L	7.7	2.96%
QC value within limits for Ca						
Cd 228.802†	-3.5	-0.00021 mg/L	0.000060	-0.00021 mg/L	0.000060	29.18%
QC value within limits for Cd						
Co 228.616†	14.0	-0.00222 mg/L	0.000266	-0.00222 mg/L	0.000266	11.95%
QC value within limits for Co						
Cr 267.716†	53.4	-0.00135 mg/L	0.000120	-0.00135 mg/L	0.000120	8.84%
QC value within limits for Cr						
Cu 327.393†	-1354.1	0.00037 mg/L	0.000125	0.00037 mg/L	0.000125	33.91%
QC value within limits for Cu						
Fe 239.562†	1335844.8	92.7 mg/L	1.47	92.7 mg/L	1.47	1.58%
QC value within limits for Fe						
Mg 279.077†	832444.9	248 mg/L	3.7	248 mg/L	3.7	1.50%
QC value within limits for Mg						
Mn 257.610†	-1907.1	-0.00070 mg/L	0.000608	-0.00070 mg/L	0.000608	87.43%
QC value within limits for Mn						
Mo 202.031†	-58.4	0.00166 mg/L	0.000553	0.00166 mg/L	0.000553	33.32%
QC value within limits for Mo						
Ni 231.604†	55.3	-0.00215 mg/L	0.000324	-0.00215 mg/L	0.000324	15.02%
QC value within limits for Ni						
Pb 220.353†	-450.1	0.00047 mg/L	0.002897	0.00047 mg/L	0.002897	615.55%
QC value within limits for Pb						
Sb 206.836†	-20.5	-0.00478 mg/L	0.001199	-0.00478 mg/L	0.001199	25.08%
QC value within limits for Sb						
Se 196.026†	-39.9	0.0142 mg/L	0.00326	0.0142 mg/L	0.00326	23.02%
QC value greater than the upper limit for Se						
Si 251.611†	4254.7	0.00876 mg/L	0.00393	0.00876 mg/L	0.00393	4.49%
QC value within limits for Si						
Sn 189.927†	-372.6	-0.0355 mg/L	0.00062	-0.0355 mg/L	0.00062	1.74%
QC value within limits for Sn						
Ti 334.940†	-31747.3	0.00352 mg/L	0.003433	0.00352 mg/L	0.003433	97.66%
QC value within limits for Ti						
Tl 190.801†	-35.5	-0.00583 mg/L	0.004643	-0.00583 mg/L	0.004643	79.69%
QC value within limits for Tl						
V 290.880†	3779.4	0.00445 mg/L	0.002967	0.00445 mg/L	0.002967	66.68%
QC value within limits for V						
Zn 206.200†	246.1	0.00067 mg/L	0.000449	0.00067 mg/L	0.000449	67.10%
QC value within limits for Zn						
K 766.490†	23.6	-0.128 mg/L	0.0174	-0.128 mg/L	0.0174	13.61%
QC value within limits for K						
Na 589.592†	43.0	-0.0197 mg/L	0.00566	-0.0197 mg/L	0.00566	28.82%

Approved: June 21, 2012

John H. Rhodes

QC value within limits for Na 589.592 Recovery = Not calculated
 Sr 407.771† 3341.2 -0.00567 mg/L 0.000166 -0.00567 mg/L 0.000166 2.93%
 QC value within limits for Sr 407.771 Recovery = Not calculated
 Li 670.784† 208.1 -0.00228 mg/L 0.000542 -0.00228 mg/L 0.000542 23.76%
 QC value within limits for Li 670.784 Recovery = Not calculated
 QC Failed. Continue with analysis.

Sequence No.: 49

Sampler Location: 13

Sample ID: ICSAB

Date Collected: 6/20/2012 3:33:45 PM

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: ICSAB

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: ICSAB

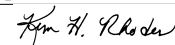
Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1941329.6				10948.77	0.56%
YRADIAL	254018.0				5952.16	2.34%
Ga 417.206	1155404.4				31591.06	2.73%
GaRADIAL	76745.2				1716.96	2.24%
Ag 328.068†	138135.8	0.519 mg/L	0.0134	0.519 mg/L	0.0134	2.59%
QC value within limits for Ag 328.068			Recovery = 103.74%			
Al 396.153†	1545997.6	258 mg/L	6.7	258 mg/L	6.7	2.61%
QC value within limits for Al 396.153			Recovery = 103.13%			
As 188.979†	666.5	0.234 mg/L	0.0046	0.234 mg/L	0.0046	1.96%
QC value within limits for As 188.979			Recovery = 93.67%			
Ba 233.527†	40459.7	0.252 mg/L	0.0018	0.252 mg/L	0.0018	0.70%
QC value within limits for Ba 233.527			Recovery = 100.83%			
Be 234.861†	324665.4	0.251 mg/L	0.0063	0.251 mg/L	0.0063	2.53%
QC value within limits for Be 234.861			Recovery = 100.24%			
B 249.677†	3772.4	-0.0117 mg/L	0.00249	-0.0117 mg/L	0.00249	21.36%
QC value within limits for B 249.677			Recovery = Not calculated			
Ca 227.546†	101397.7	263 mg/L	7.4	263 mg/L	7.4	2.83%
QC value within limits for Ca 227.546			Recovery = 105.12%			
Cd 228.802†	23912.9	0.478 mg/L	0.0144	0.478 mg/L	0.0144	3.01%
QC value within limits for Cd 228.802			Recovery = 95.61%			
Co 228.616†	9214.3	0.237 mg/L	0.0025	0.237 mg/L	0.0025	1.06%
QC value within limits for Co 228.616			Recovery = 94.99%			
Cr 267.716†	28236.8	0.258 mg/L	0.0018	0.258 mg/L	0.0018	0.70%
QC value within limits for Cr 267.716			Recovery = 103.11%			
Cu 327.393†	54800.5	0.251 mg/L	0.0053	0.251 mg/L	0.0053	2.12%
QC value within limits for Cu 327.393			Recovery = 100.51%			
Fe 239.562†	1383151.0	96.0 mg/L	2.21	96.0 mg/L	2.21	2.31%
QC value within limits for Fe 239.562			Recovery = 95.95%			
Mg 279.077†	861694.8	256 mg/L	6.8	256 mg/L	6.8	2.66%
QC value within limits for Mg 279.077			Recovery = 102.56%			
Mn 257.610†	188481.8	0.247 mg/L	0.0010	0.247 mg/L	0.0010	0.38%
QC value within limits for Mn 257.610			Recovery = 98.89%			
Mo 202.031†	-60.5	0.00193 mg/L	0.000214	0.00193 mg/L	0.000214	11.06%
QC value within limits for Mo 202.031			Recovery = Not calculated			
Ni 231.604†	32373.9	0.484 mg/L	0.0035	0.484 mg/L	0.0035	0.72%
QC value within limits for Ni 231.604			Recovery = 96.81%			
Pb 220.353†	5275.9	0.494 mg/L	0.0042	0.494 mg/L	0.0042	0.85%
QC value within limits for Pb 220.353			Recovery = 98.71%			
Sb 206.836†	1954.8	0.491 mg/L	0.0169	0.491 mg/L	0.0169	3.44%
QC value within limits for Sb 206.836			Recovery = 98.28%			
Se 196.026†	405.3	0.258 mg/L	0.0072	0.258 mg/L	0.0072	2.79%
QC value within limits for Se 196.026			Recovery = 103.13%			
Si 251.611†	-160.7	-0.0185 mg/L	0.00040	-0.0185 mg/L	0.00040	2.14%
QC value within limits for Si 251.611			Recovery = Not calculated			
Sn 189.927†	-345.7	-0.0330 mg/L	0.00162	-0.0330 mg/L	0.00162	4.91%
QC value within limits for Sn 189.927			Recovery = Not calculated			
Ti 334.940†	-32010.5	0.00321 mg/L	0.002932	0.00321 mg/L	0.002932	91.39%
QC value within limits for Ti 334.940			Recovery = Not calculated			
Tl 190.801†	1816.7	0.482 mg/L	0.0053	0.482 mg/L	0.0053	1.10%

Approved: June 21, 2012

John H. Rhodes

QC value within limits for Tl 190.801 Recovery = 96.35%
V 290.880† 54956.6 0.253 mg/L 0.0042 0.253 mg/L 0.0042 1.66%
QC value within limits for V 290.880 Recovery = 101.20%
Zn 206.200† 24918.2 0.487 mg/L 0.0023 0.487 mg/L 0.0023 0.46%
QC value within limits for Zn 206.200 Recovery = 97.39%
K 766.490† 13348.7 4.92 mg/L 0.053 4.92 mg/L 0.053 1.09%
QC value within limits for K 766.490 Recovery = 98.42%
Na 589.592† 92056.3 5.03 mg/L 0.042 5.03 mg/L 0.042 0.83%
QC value within limits for Na 589.592 Recovery = 100.55%
Sr 407.771† 2452.7 -0.00604 mg/L 0.000179 -0.00604 mg/L 0.000179 2.96%
QC value within limits for Sr 407.771 Recovery = Not calculated
Li 670.784† 213.3 -0.00224 mg/L 0.000848 -0.00224 mg/L 0.000848 37.91%
QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.
User canceled analysis.

Approved: June 21, 2012



=====

Analysis Begun

Start Time: 6/20/2012 3:38:45 PM

Plasma On Time: 6/20/2012 6:30:43 AM

Logged In Analyst: peicp2

Technique: ICP Continuous

Spectrometer Model: Optima 4300 DV, S/N 077N401140

Autosampler Model: Cetac

Sample Information File: C:\pe\peicp2\Sample Information\WEDNESDAY1.sif

Batch ID:

Results Data Set: 062012H

Results Library: C:\pe\peicp2\Results\Results.mdb

=====

Method Loaded

Method Name: 200.7-6010 PE-ICP2.1

Method Last Saved: 6/20/2012 9:14:00 AM

IEC File: CA227_LiBeMOD.iec

SIF File:

Method Description: STANDARD

Sequence No.: 1

Autosampler Location: 6

Sample ID: CCV

Date Collected: 6/20/2012 3:38:46 PM

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2056262.7				20866.43	1.01%
YRADIAL	260722.0				1270.15	0.49%
Ga 417.206	1185024.6				13088.78	1.10%
GaRADIAL	77390.5				730.64	0.94%
Ag 328.068†	118592.2	0.411 mg/L	0.0077	0.411 mg/L	0.0077	1.87%
QC value within limits for Ag 328.068 Recovery = 102.71%						
Al 396.153†	61659.7	10.2 mg/L	0.03	10.2 mg/L	0.03	0.28%
QC value within limits for Al 396.153 Recovery = 102.04%						
As 188.979†	1181.8	0.399 mg/L	0.0049	0.399 mg/L	0.0049	1.22%
QC value within limits for As 188.979 Recovery = 99.80%						
Ba 233.527†	162587.2	1.03 mg/L	0.006	1.03 mg/L	0.006	0.61%
QC value within limits for Ba 233.527 Recovery = 102.84%						
Be 234.861†	60874.1	0.0503 mg/L	0.00090	0.0503 mg/L	0.00090	1.79%
QC value within limits for Be 234.861 Recovery = 100.52%						
B 249.677†	45477.6	0.515 mg/L	0.0075	0.515 mg/L	0.0075	1.46%
QC value within limits for B 249.677 Recovery = 103.07%						
Ca 227.546†	3909.9	10.5 mg/L	0.14	10.5 mg/L	0.14	1.32%
QC value within limits for Ca 227.546 Recovery = 105.05%						
Cd 228.802†	2531.1	0.0492 mg/L	0.00142	0.0492 mg/L	0.00142	2.88%
QC value within limits for Cd 228.802 Recovery = 98.47%						
Co 228.616†	7863.9	0.204 mg/L	0.0033	0.204 mg/L	0.0033	1.59%
QC value within limits for Co 228.616 Recovery = 101.99%						
Cr 267.716†	55929.4	0.514 mg/L	0.0028	0.514 mg/L	0.0028	0.54%
QC value within limits for Cr 267.716 Recovery = 102.74%						
Cu 327.393†	114553.0	0.512 mg/L	0.0106	0.512 mg/L	0.0106	2.08%
QC value within limits for Cu 327.393 Recovery = 102.33%						
Fe 239.562†	59113.9	4.10 mg/L	0.010	4.10 mg/L	0.010	0.25%
QC value within limits for Fe 239.562 Recovery = 102.53%						
Mg 279.077†	34427.1	10.3 mg/L	0.02	10.3 mg/L	0.02	0.19%
QC value within limits for Mg 279.077 Recovery = 102.61%						
Mn 257.610†	394776.3	0.513 mg/L	0.0027	0.513 mg/L	0.0027	0.52%
QC value within limits for Mn 257.610 Recovery = 102.69%						
Mo 202.031†	36160.4	1.03 mg/L	0.001	1.03 mg/L	0.001	0.14%
QC value within limits for Mo 202.031 Recovery = 102.60%						
Ni 231.604†	34987.4	0.523 mg/L	0.0076	0.523 mg/L	0.0076	1.45%
QC value within limits for Ni 231.604 Recovery = 104.69%						
Pb 220.353†	5996.8	0.515 mg/L	0.0061	0.515 mg/L	0.0061	1.18%

Approved: June 21, 2012

John H. Rhodes

QC value within limits for Pb	220.353	Recovery = 103.04%			
Sb 206.836†	4816.8	1.21 mg/L	0.018	1.48%	
QC value within limits for Sb	206.836	Recovery = 100.77%			
Se 196.026†	734.6	0.402 mg/L	0.0040	0.99%	
QC value within limits for Se	196.026	Recovery = 100.46%			
Si 251.611†	225980.0	5.40 mg/L	0.090	1.66%	
QC value within limits for Si	251.611	Recovery = 108.09%			
Sn 189.927†	11086.7	1.01 mg/L	0.013	1.31%	
QC value within limits for Sn	189.927	Recovery = 101.15%			
Ti 334.940†	911219.2	1.02 mg/L	0.005	0.47%	
QC value within limits for Ti	334.940	Recovery = 101.99%			
Tl 190.801†	1978.1	0.532 mg/L	0.0037	0.70%	
QC value within limits for Tl	190.801	Recovery = 106.43%			
V 290.880†	210035.1	1.02 mg/L	0.004	0.34%	
QC value within limits for V	290.880	Recovery = 102.11%			
Zn 206.200†	52224.2	1.03 mg/L	0.003	0.26%	
QC value within limits for Zn	206.200	Recovery = 102.67%			
K 766.490†	134784.7	51.1 mg/L	0.09	0.18%	
QC value within limits for K	766.490	Recovery = 102.29%			
Na 589.592†	911671.0	51.1 mg/L	1.33	2.60%	
QC value within limits for Na	589.592	Recovery = 102.20%			
Sr 407.771†	2508036.3	1.02 mg/L	0.018	1.76%	
QC value within limits for Sr	407.771	Recovery = 102.49%			
Li 670.784†	131880.0	1.04 mg/L	0.012	1.16%	
QC value within limits for Li	670.784	Recovery = 103.69%			

All analyte(s) passed QC.

Sequence No.: 2

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

UASampler Location: 1

Date Collected: 6/20/2012 3:44:46 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2130815.0				36201.08	1.70%
YRADIAL	267210.3				4562.96	1.71%
Ga 417.206	1236111.0				32277.11	2.61%
GaRADIAL	79699.9				1106.91	1.39%
Ag 328.068†	88.3	-0.00077 mg/L	0.000270	-0.00077 mg/L	0.000270	35.07%
QC value within limits for Ag	328.068	Recovery = Not calculated				
Al 396.153†	14.1	-0.00624 mg/L	0.001585	-0.00624 mg/L	0.001585	25.39%
QC value within limits for Al	396.153	Recovery = Not calculated				
As 188.979†	-3.0	-0.00153 mg/L	0.001340	-0.00153 mg/L	0.001340	87.76%
QC value within limits for As	188.979	Recovery = Not calculated				
Ba 233.527†	-4.3	-0.00176 mg/L	0.000134	-0.00176 mg/L	0.000134	7.59%
QC value within limits for Ba	233.527	Recovery = Not calculated				
Be 234.861†	45.5	-0.00014 mg/L	0.000040	-0.00014 mg/L	0.000040	28.66%
QC value within limits for Be	234.861	Recovery = Not calculated				
B 249.677†	240.4	0.00261 mg/L	0.000419	0.00261 mg/L	0.000419	16.04%
QC value within limits for B	249.677	Recovery = Not calculated				
Ca 227.546†	6.7	0.0100 mg/L	0.01760	0.0100 mg/L	0.01760	175.13%
QC value within limits for Ca	227.546	Recovery = Not calculated				
Cd 228.802†	-5.2	-0.00012 mg/L	0.000062	-0.00012 mg/L	0.000062	51.07%
QC value within limits for Cd	228.802	Recovery = Not calculated				
Co 228.616†	-8.5	-0.00046 mg/L	0.000257	-0.00046 mg/L	0.000257	56.47%
QC value within limits for Co	228.616	Recovery = Not calculated				
Cr 267.716†	-7.9	-0.00077 mg/L	0.000199	-0.00077 mg/L	0.000199	25.85%
QC value within limits for Cr	267.716	Recovery = Not calculated				
Cu 327.393†	68.0	-0.00106 mg/L	0.000051	-0.00106 mg/L	0.000051	4.80%
QC value within limits for Cu	327.393	Recovery = Not calculated				
Fe 239.562†	47.1	0.00422 mg/L	0.000376	0.00422 mg/L	0.000376	8.91%
QC value within limits for Fe	239.562	Recovery = Not calculated				
Mg 279.077†	82.9	0.0234 mg/L	0.00121	0.0234 mg/L	0.00121	5.19%

Approved: June 21, 2012

John H. Rhodes

QC value within limits for Mg 279.077 Recovery = Not calculated
 Mn 257.610† 25.3 -0.00078 mg/L 0.000028 -0.00078 mg/L 0.000028 3.64%
 QC value within limits for Mn 257.610 Recovery = Not calculated
 Mo 202.031† 7.6 -0.00102 mg/L 0.000064 -0.00102 mg/L 0.000064 6.30%
 QC value within limits for Mo 202.031 Recovery = Not calculated
 Ni 231.604† -6.6 -0.00309 mg/L 0.000193 -0.00309 mg/L 0.000193 6.25%
 QC value within limits for Ni 231.604 Recovery = Not calculated
 Pb 220.353† 9.0 -0.00076 mg/L 0.001571 -0.00076 mg/L 0.001571 206.38%
 QC value within limits for Pb 220.353 Recovery = Not calculated
 Sb 206.836† 6.9 -0.00127 mg/L 0.001156 -0.00127 mg/L 0.001156 91.12%
 QC value within limits for Sb 206.836 Recovery = Not calculated
 Se 196.026† 0.3 0.00044 mg/L 0.003955 0.00044 mg/L 0.003955 899.17%
 QC value within limits for Se 196.026 Recovery = Not calculated
 Si 251.611† 14.2 -0.0143 mg/L 0.00065 -0.0143 mg/L 0.00065 4.56%
 QC value within limits for Si 251.611 Recovery = Not calculated
 Sn 189.927† 6.1 -0.00088 mg/L 0.000532 -0.00088 mg/L 0.000532 60.39%
 QC value within limits for Sn 189.927 Recovery = Not calculated
 Ti 334.940† 6.5 0.00006 mg/L 0.000119 0.00006 mg/L 0.000119 212.56%
 QC value within limits for Ti 334.940 Recovery = Not calculated
 Tl 190.801† 0.7 -0.00262 mg/L 0.001949 -0.00262 mg/L 0.001949 74.32%
 QC value within limits for Tl 190.801 Recovery = Not calculated
 V 290.880† -233.8 -0.00144 mg/L 0.000323 -0.00144 mg/L 0.000323 22.49%
 QC value within limits for V 290.880 Recovery = Not calculated
 Zn 206.200† -16.5 -0.00272 mg/L 0.000034 -0.00272 mg/L 0.000034 1.25%
 QC value within limits for Zn 206.200 Recovery = Not calculated
 K 766.490† 116.4 -0.0926 mg/L 0.01486 -0.0926 mg/L 0.01486 16.04%
 QC value within limits for K 766.490 Recovery = Not calculated
 Na 589.592† 15.7 -0.0212 mg/L 0.00465 -0.0212 mg/L 0.00465 22.00%
 QC value within limits for Na 589.592 Recovery = Not calculated
 Sr 407.771† 17.9 -0.00131 mg/L 0.000017 -0.00131 mg/L 0.000017 1.29%
 QC value within limits for Sr 407.771 Recovery = Not calculated
 Li 670.784† 2.9 -0.00390 mg/L 0.000308 -0.00390 mg/L 0.000308 7.90%
 QC value within limits for Li 670.784 Recovery = Not calculated
 All analyte(s) passed QC.

Sequence No.: 3

Sample ID: L1206056001 0.1

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 84

Date Collected: 6/20/2012 3:51:39 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206056001 0.1

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: L1206056001 0.1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2110475.4				14144.91	0.67%
YRADIAL	269190.7				11148.87	4.14%
Ga 417.206	1111223.2				17018.48	1.53%
GaRADIAL	76937.7				2086.09	2.71%
Ag 328.068†	-49.7	-0.00121 mg/L	0.000388	-0.00121 mg/L	0.000388	32.01%
Al 396.153†	349.3	0.0486 mg/L	0.00553	0.0486 mg/L	0.00553	11.39%
As 188.979†	-190.3	-0.0657 mg/L	0.00209	-0.0657 mg/L	0.00209	3.18%
Ba 233.527†	35.4	-0.00150 mg/L	0.000240	-0.00150 mg/L	0.000240	16.01%
Be 234.861†	-62.6	-0.00024 mg/L	0.000021	-0.00024 mg/L	0.000021	8.95%
B 249.677†	60248.6	0.688 mg/L	0.0088	0.688 mg/L	0.0088	1.27%
Ca 227.546†	137.0	0.344 mg/L	0.0104	0.344 mg/L	0.0104	3.02%
Cd 228.802†	18.3	0.00067 mg/L	0.000123	0.00067 mg/L	0.000123	18.39%
Co 228.616†	-5.5	-0.00035 mg/L	0.000349	-0.00035 mg/L	0.000349	99.15%
Cr 267.716†	25.8	-0.00046 mg/L	0.000171	-0.00046 mg/L	0.000171	36.92%
Cu 327.393†	241.8	-0.00029 mg/L	0.000611	-0.00029 mg/L	0.000611	213.85%
Fe 239.562†	942.2	0.0663 mg/L	0.00319	0.0663 mg/L	0.00319	4.82%
Mg 279.077†	189.3	0.0553 mg/L	0.00564	0.0553 mg/L	0.00564	10.21%
Mn 257.610†	1586.3	0.00126 mg/L	0.000044	0.00126 mg/L	0.000044	3.51%
Mo 202.031†	554.7	0.0145 mg/L	0.00086	0.0145 mg/L	0.00086	5.93%
Ni 231.604†	-188.4	-0.00579 mg/L	0.000022	-0.00579 mg/L	0.000022	0.38%
Pb 220.353†	7.7	-0.00086 mg/L	0.000606	-0.00086 mg/L	0.000606	70.42%

Approved: June 21, 2012

John H. Rhodes

Sb 206.836†	25.6	0.00342 mg/L	0.000246	0.00342 mg/L	0.000246	7.18%
Se 196.026†	266.5	0.145 mg/L	0.0029	0.145 mg/L	0.0029	2.00%
Si 251.611†	11617.9	0.264 mg/L	0.0051	0.264 mg/L	0.0051	1.93%
Sn 189.927†	160.9	0.0133 mg/L	0.00017	0.0133 mg/L	0.00017	1.27%
Ti 334.940†	525.7	0.00069 mg/L	0.000042	0.00069 mg/L	0.000042	6.08%
Tl 190.801†	-354.2	-0.0960 mg/L	0.00277	-0.0960 mg/L	0.00277	2.89%
V 290.880†	42.5	-0.00009 mg/L	0.000638	-0.00009 mg/L	0.000638	736.28%
Zn 206.200†	114.1	-0.00015 mg/L	0.000137	-0.00015 mg/L	0.000137	89.25%
K 766.490†	414.4	0.0196 mg/L	0.00717	0.0196 mg/L	0.00717	36.58%
Na 589.592†	13933.7	0.741 mg/L	0.0208	0.741 mg/L	0.0208	2.81%
Sr 407.771†	820.2	-0.00099 mg/L	0.000047	-0.00099 mg/L	0.000047	4.78%
Li 670.784†	92.6	-0.00319 mg/L	0.000247	-0.00319 mg/L	0.000247	7.74%

Sequence No.: 4

Sample ID: L1206056001 0.05

Analyst: KHR

Initial Sample Wt:

Dilution:

UAsampler Location: 85

Date Collected: 6/20/2012 3:58:34 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206056001 0.05

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: L1206056001 0.05

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2225894.7					46473.86	2.09%
YRADIAL	281771.0					1171.29	0.42%
Ga 417.206	1223470.7					19516.71	1.60%
GaRADIAL	83092.6					3010.44	3.62%
Ag 328.068†	-78.6	-0.00133 mg/L	0.000098	-0.00133 mg/L	0.000098	7.32%	
Al 396.153†	169.5	0.0190 mg/L	0.00122	0.0190 mg/L	0.00122	6.42%	
As 188.979†	-78.9	-0.0276 mg/L	0.00142	-0.0276 mg/L	0.00142	5.17%	
Ba 233.527†	6.8	-0.00168 mg/L	0.000208	-0.00168 mg/L	0.000208	12.33%	
Be 234.861†	58.3	-0.00013 mg/L	0.000022	-0.00013 mg/L	0.000022	16.69%	
B 249.677†	27223.6	0.311 mg/L	0.0087	0.311 mg/L	0.0087	2.80%	
Ca 227.546†	70.0	0.172 mg/L	0.0370	0.172 mg/L	0.0370	21.50%	
Cd 228.802†	-4.1	0.00003 mg/L	0.000080	0.00003 mg/L	0.000080	261.14%	
Co 228.616†	0.4	-0.00021 mg/L	0.000386	-0.00021 mg/L	0.000386	186.53%	
Cr 267.716†	-1.0	-0.00071 mg/L	0.000185	-0.00071 mg/L	0.000185	26.17%	
Cu 327.393†	134.7	-0.00076 mg/L	0.000362	-0.00076 mg/L	0.000362	47.39%	
Fe 239.562†	433.0	0.0310 mg/L	0.00099	0.0310 mg/L	0.00099	3.20%	
Mg 279.077†	91.0	0.0259 mg/L	0.00322	0.0259 mg/L	0.00322	12.43%	
Mn 257.610†	704.2	0.00011 mg/L	0.000030	0.00011 mg/L	0.000030	28.05%	
Mo 202.031†	347.5	0.00863 mg/L	0.000790	0.00863 mg/L	0.000790	9.15%	
Ni 231.604†	-105.4	-0.00456 mg/L	0.000151	-0.00456 mg/L	0.000151	3.31%	
Pb 220.353†	11.0	-0.00059 mg/L	0.000390	-0.00059 mg/L	0.000390	66.56%	
Sb 206.836†	13.3	0.00035 mg/L	0.000472	0.00035 mg/L	0.000472	136.46%	
Se 196.026†	117.7	0.0643 mg/L	0.00410	0.0643 mg/L	0.00410	6.38%	
Si 251.611†	5149.0	0.109 mg/L	0.0019	0.109 mg/L	0.0019	1.71%	
Sn 189.927†	73.1	0.00524 mg/L	0.000890	0.00524 mg/L	0.000890	16.99%	
Ti 334.940†	161.0	0.00025 mg/L	0.000018	0.00025 mg/L	0.000018	7.11%	
Tl 190.801†	-160.3	-0.0450 mg/L	0.00405	-0.0450 mg/L	0.00405	9.00%	
V 290.880†	-443.8	-0.00246 mg/L	0.001418	-0.00246 mg/L	0.001418	57.71%	
Zn 206.200†	72.5	-0.00097 mg/L	0.000115	-0.00097 mg/L	0.000115	11.84%	
K 766.490†	387.2	0.00969 mg/L	0.005950	0.00969 mg/L	0.005950	61.41%	
Na 589.592†	6302.6	0.323 mg/L	0.0104	0.323 mg/L	0.0104	3.21%	
Sr 407.771†	392.1	-0.00116 mg/L	0.000024	-0.00116 mg/L	0.000024	2.06%	
Li 670.784†	73.1	-0.00334 mg/L	0.000172	-0.00334 mg/L	0.000172	5.14%	

Sequence No.: 5

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

UAsampler Location: 6

Date Collected: 6/20/2012 4:05:29 PM

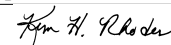
Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Approved: June 21, 2012



Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2016328.1				24332.63	1.21%
YRADIAL	257273.2				4843.89	1.88%
Ga 417.206	1174416.1				18832.62	1.60%
GaRADIAL	76279.9				1754.98	2.30%
Ag 328.068†	119666.9	0.415 mg/L	0.0100	0.415 mg/L	0.0100	2.40%
QC value within limits for Ag		328.068 Recovery = 103.65%				
Al 396.153†	62993.9	10.4 mg/L	0.05	10.4 mg/L	0.05	0.48%
QC value within limits for Al		396.153 Recovery = 104.25%				
As 188.979†	1186.0	0.401 mg/L	0.0049	0.401 mg/L	0.0049	1.22%
QC value within limits for As		188.979 Recovery = 100.13%				
Ba 233.527†	165723.9	1.05 mg/L	0.010	1.05 mg/L	0.010	0.92%
QC value within limits for Ba		233.527 Recovery = 104.83%				
Be 234.861†	61831.0	0.0511 mg/L	0.00116	0.0511 mg/L	0.00116	2.28%
QC value within limits for Be		234.861 Recovery = 102.11%				
B 249.677†	46636.7	0.529 mg/L	0.0117	0.529 mg/L	0.0117	2.22%
QC value within limits for B		249.677 Recovery = 105.70%				
Ca 227.546†	3959.9	10.6 mg/L	0.17	10.6 mg/L	0.17	1.64%
QC value within limits for Ca		227.546 Recovery = 106.45%				
Cd 228.802†	2562.5	0.0499 mg/L	0.00183	0.0499 mg/L	0.00183	3.66%
QC value within limits for Cd		228.802 Recovery = 99.75%				
Co 228.616†	8047.3	0.209 mg/L	0.0051	0.209 mg/L	0.0051	2.45%
QC value within limits for Co		228.616 Recovery = 104.37%				
Cr 267.716†	57159.0	0.525 mg/L	0.0013	0.525 mg/L	0.0013	0.26%
QC value within limits for Cr		267.716 Recovery = 105.00%				
Cu 327.393†	116245.5	0.519 mg/L	0.0131	0.519 mg/L	0.0131	2.53%
QC value within limits for Cu		327.393 Recovery = 103.85%				
Fe 239.562†	60012.5	4.16 mg/L	0.017	4.16 mg/L	0.017	0.40%
QC value within limits for Fe		239.562 Recovery = 104.09%				
Mg 279.077†	34863.3	10.4 mg/L	0.05	10.4 mg/L	0.05	0.50%
QC value within limits for Mg		279.077 Recovery = 103.92%				
Mn 257.610†	403836.8	0.525 mg/L	0.0065	0.525 mg/L	0.0065	1.25%
QC value within limits for Mn		257.610 Recovery = 105.05%				
Mo 202.031†	36878.3	1.05 mg/L	0.006	1.05 mg/L	0.006	0.56%
QC value within limits for Mo		202.031 Recovery = 104.64%				
Ni 231.604†	35865.7	0.537 mg/L	0.0101	0.537 mg/L	0.0101	1.89%
QC value within limits for Ni		231.604 Recovery = 107.33%				
Pb 220.353†	6119.8	0.526 mg/L	0.0100	0.526 mg/L	0.0100	1.91%
QC value within limits for Pb		220.353 Recovery = 105.16%				
Sb 206.836†	4876.8	1.22 mg/L	0.023	1.22 mg/L	0.023	1.87%
QC value within limits for Sb		206.836 Recovery = 102.03%				
Se 196.026†	747.0	0.409 mg/L	0.0081	0.409 mg/L	0.0081	1.99%
QC value within limits for Se		196.026 Recovery = 102.14%				
Si 251.611†	229112.2	5.48 mg/L	0.080	5.48 mg/L	0.080	1.47%
QC value within limits for Si		251.611 Recovery = 109.59%				
Sn 189.927†	11471.7	1.05 mg/L	0.020	1.05 mg/L	0.020	1.89%
QC value within limits for Sn		189.927 Recovery = 104.67%				
Ti 334.940†	930482.2	1.04 mg/L	0.004	1.04 mg/L	0.004	0.42%
QC value within limits for Ti		334.940 Recovery = 104.15%				
Tl 190.801†	2032.9	0.547 mg/L	0.0044	0.547 mg/L	0.0044	0.80%
QC value within limits for Tl		190.801 Recovery = 109.38%				
V 290.880†	214763.3	1.04 mg/L	0.005	1.04 mg/L	0.005	0.51%
QC value within limits for V		290.880 Recovery = 104.41%				
Zn 206.200†	53343.5	1.05 mg/L	0.004	1.05 mg/L	0.004	0.41%
QC value within limits for Zn		206.200 Recovery = 104.87%				
K 766.490†	136710.4	51.9 mg/L	0.30	51.9 mg/L	0.30	0.58%
QC value within limits for K		766.490 Recovery = 103.76%				
Na 589.592†	928091.3	52.0 mg/L	0.30	52.0 mg/L	0.30	0.58%
QC value within limits for Na		589.592 Recovery = 104.08%				
Sr 407.771†	2558751.3	1.05 mg/L	0.010	1.05 mg/L	0.010	0.91%
QC value within limits for Sr		407.771 Recovery = 104.57%				
Li 670.784†	133632.0	1.05 mg/L	0.003	1.05 mg/L	0.003	0.25%
QC value within limits for Li		670.784 Recovery = 105.08%				

All analyte(s) passed QC.

Approved: June 21, 2012

John H. Rhodes

Sequence No.: 6
 Sample ID: CCB
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 1
 Date Collected: 6/20/2012 4:11:28 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

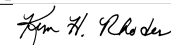
Nebulizer Parameters: CCB

Analyte Back Pressure Flow
 All 157.0 kPa 0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2135080.5				11315.71	0.53%
YRADIAL	263267.6				7413.82	2.82%
Ga 417.206	1233924.9				12561.29	1.02%
GaRADIAL	79189.5				982.91	1.24%
Ag 328.068†	64.1	-0.00085 mg/L	0.000436	-0.00085 mg/L	0.000436	51.08%
QC value within limits for Ag	328.068	Recovery = Not calculated				
Al 396.153†	36.6	-0.00250 mg/L	0.002798	-0.00250 mg/L	0.002798	111.71%
QC value within limits for Al	396.153	Recovery = Not calculated				
As 188.979†	0.5	-0.00032 mg/L	0.001716	-0.00032 mg/L	0.001716	535.55%
QC value within limits for As	188.979	Recovery = Not calculated				
Ba 233.527†	8.1	-0.00168 mg/L	0.000114	-0.00168 mg/L	0.000114	6.80%
QC value within limits for Ba	233.527	Recovery = Not calculated				
Be 234.861†	45.0	-0.00014 mg/L	0.000016	-0.00014 mg/L	0.000016	11.65%
QC value within limits for Be	234.861	Recovery = Not calculated				
B 249.677†	278.0	0.00304 mg/L	0.000552	0.00304 mg/L	0.000552	18.15%
QC value within limits for B	249.677	Recovery = Not calculated				
Ca 227.546†	6.3	0.00910 mg/L	0.017789	0.00910 mg/L	0.017789	195.41%
QC value within limits for Ca	227.546	Recovery = Not calculated				
Cd 228.802†	-8.7	-0.00020 mg/L	0.000087	-0.00020 mg/L	0.000087	44.15%
QC value within limits for Cd	228.802	Recovery = Not calculated				
Co 228.616†	0.1	-0.00023 mg/L	0.000316	-0.00023 mg/L	0.000316	137.61%
QC value within limits for Co	228.616	Recovery = Not calculated				
Cr 267.716†	2.3	-0.00068 mg/L	0.000063	-0.00068 mg/L	0.000063	9.26%
QC value within limits for Cr	267.716	Recovery = Not calculated				
Cu 327.393†	70.6	-0.00105 mg/L	0.000729	-0.00105 mg/L	0.000729	69.56%
QC value within limits for Cu	327.393	Recovery = Not calculated				
Fe 239.562†	50.1	0.00443 mg/L	0.000637	0.00443 mg/L	0.000637	14.38%
QC value within limits for Fe	239.562	Recovery = Not calculated				
Mg 279.077†	35.6	0.00931 mg/L	0.003048	0.00931 mg/L	0.003048	32.74%
QC value within limits for Mg	279.077	Recovery = Not calculated				
Mn 257.610†	69.3	-0.00072 mg/L	0.000005	-0.00072 mg/L	0.000005	0.69%
QC value within limits for Mn	257.610	Recovery = Not calculated				
Mo 202.031†	12.1	-0.00089 mg/L	0.000180	-0.00089 mg/L	0.000180	20.20%
QC value within limits for Mo	202.031	Recovery = Not calculated				
Ni 231.604†	-1.5	-0.00301 mg/L	0.000223	-0.00301 mg/L	0.000223	7.41%
QC value within limits for Ni	231.604	Recovery = Not calculated				
Pb 220.353†	23.3	0.00046 mg/L	0.000674	0.00046 mg/L	0.000674	145.38%
QC value within limits for Pb	220.353	Recovery = Not calculated				
Sb 206.836†	3.9	-0.00201 mg/L	0.000619	-0.00201 mg/L	0.000619	30.79%
QC value within limits for Sb	206.836	Recovery = Not calculated				
Se 196.026†	0.2	0.00042 mg/L	0.001757	0.00042 mg/L	0.001757	419.36%
QC value within limits for Se	196.026	Recovery = Not calculated				
Si 251.611†	43.7	-0.0136 mg/L	0.00060	-0.0136 mg/L	0.00060	4.40%
QC value within limits for Si	251.611	Recovery = Not calculated				
Sn 189.927†	8.8	-0.00064 mg/L	0.000382	-0.00064 mg/L	0.000382	59.93%
QC value within limits for Sn	189.927	Recovery = Not calculated				
Ti 334.940†	44.7	0.00010 mg/L	0.000053	0.00010 mg/L	0.000053	53.37%
QC value within limits for Ti	334.940	Recovery = Not calculated				
Tl 190.801†	0.5	-0.00269 mg/L	0.002358	-0.00269 mg/L	0.002358	87.81%
QC value within limits for Tl	190.801	Recovery = Not calculated				
V 290.880†	-401.6	-0.00225 mg/L	0.001101	-0.00225 mg/L	0.001101	48.89%
QC value within limits for V	290.880	Recovery = Not calculated				
Zn 206.200†	-2.3	-0.00244 mg/L	0.000122	-0.00244 mg/L	0.000122	4.98%
QC value within limits for Zn	206.200	Recovery = Not calculated				
K 766.490†	175.6	-0.0702 mg/L	0.01479	-0.0702 mg/L	0.01479	21.07%
QC value within limits for K	766.490	Recovery = Not calculated				
Na 589.592†	54.2	-0.0190 mg/L	0.00521	-0.0190 mg/L	0.00521	27.37%

Approved: June 21, 2012



QC value within limits for Na 589.592 Recovery = Not calculated
Sr 407.771† 183.3 -0.00125 mg/L 0.000024 -0.00125 mg/L 0.000024 1.91%
QC value within limits for Sr 407.771 Recovery = Not calculated
Li 670.784† 20.0 -0.00376 mg/L 0.000223 -0.00376 mg/L 0.000223 5.93%
QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 7

Sample ID: PBW 01 WG401151-02

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 86

Date Collected: 6/20/2012 4:18:21 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: PBW 01 WG401151-02

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: PBW 01 WG401151-02

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2165308.2				26812.75	1.24%
YRADIAL	270564.1				4638.74	1.71%
Ga 417.206	1294382.8				8649.02	0.67%
GARADIAL	81556.8				2902.95	3.56%
Ag 328.068†	-0.5	-0.00108 mg/L	0.000087	-0.00108 mg/L	0.000087	8.09%
Al 396.153†	21.9	-0.00494 mg/L	0.000260	-0.00494 mg/L	0.000260	5.27%
As 188.979†	2.2	0.00027 mg/L	0.000936	0.00027 mg/L	0.000936	343.88%
Ba 233.527†	-1.6	-0.00174 mg/L	0.000150	-0.00174 mg/L	0.000150	8.60%
Be 234.861†	121.7	-0.00008 mg/L	0.000014	-0.00008 mg/L	0.000014	18.29%
B 249.677†	137.1	0.00143 mg/L	0.000268	0.00143 mg/L	0.000268	18.68%
Ca 227.546†	10.3	0.0192 mg/L	0.01094	0.0192 mg/L	0.01094	56.86%
Cd 228.802†	-6.5	-0.00016 mg/L	0.000110	-0.00016 mg/L	0.000110	70.73%
Co 228.616†	-9.7	-0.00049 mg/L	0.000127	-0.00049 mg/L	0.000127	26.09%
Cr 267.716†	-9.9	-0.00079 mg/L	0.000178	-0.00079 mg/L	0.000178	22.62%
Cu 327.393†	125.8	-0.00080 mg/L	0.000351	-0.00080 mg/L	0.000351	43.72%
Fe 239.562†	39.1	0.00367 mg/L	0.000306	0.00367 mg/L	0.000306	8.34%
Mg 279.077†	23.1	0.00559 mg/L	0.001301	0.00559 mg/L	0.001301	23.29%
Mn 257.610†	44.1	-0.00076 mg/L	0.000013	-0.00076 mg/L	0.000013	1.78%
Mo 202.031†	10.2	-0.00094 mg/L	0.000157	-0.00094 mg/L	0.000157	16.64%
Ni 231.604†	-1.3	-0.00301 mg/L	0.000279	-0.00301 mg/L	0.000279	9.27%
Pb 220.353†	24.2	0.00054 mg/L	0.000995	0.00054 mg/L	0.000995	185.45%
Sb 206.836†	2.5	-0.00237 mg/L	0.000694	-0.00237 mg/L	0.000694	29.32%
Se 196.026†	-6.4	-0.00321 mg/L	0.002166	-0.00321 mg/L	0.002166	67.54%
Si 251.611†	123.0	-0.0117 mg/L	0.00046	-0.0117 mg/L	0.00046	3.96%
Sn 189.927†	-5.0	-0.00190 mg/L	0.000273	-0.00190 mg/L	0.000273	14.38%
Ti 334.940†	36.2	0.00009 mg/L	0.000067	0.00009 mg/L	0.000067	74.27%
Tl 190.801†	-0.2	-0.00287 mg/L	0.001073	-0.00287 mg/L	0.001073	37.38%
V 290.880†	-373.0	-0.00211 mg/L	0.000839	-0.00211 mg/L	0.000839	39.68%
Zn 206.200†	53.1	-0.00135 mg/L	0.000127	-0.00135 mg/L	0.000127	9.35%
K 766.490†	30.2	-0.125 mg/L	0.0272	-0.125 mg/L	0.0272	21.71%
Na 589.592†	-162.1	-0.0309 mg/L	0.00534	-0.0309 mg/L	0.00534	17.29%
Sr 407.771†	-26.5	-0.00133 mg/L	0.000039	-0.00133 mg/L	0.000039	2.89%
Li 670.784†	19.0	-0.00377 mg/L	0.000645	-0.00377 mg/L	0.000645	17.11%

Sequence No.: 8

Sample ID: LCSW 01 WG401151-03

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 87

Date Collected: 6/20/2012 4:25:16 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

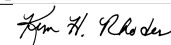
Nebulizer Parameters: LCSW 01 WG401151-03

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: LCSW 01 WG401151-03

Mean Corrected	Calib.	Sample
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Approved: June 21, 2012



Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	2028636.6				24834.37	1.22%
YRADIAL	263279.0				3858.16	1.47%
Ga 417.206	1195605.9				6937.30	0.58%
GaRADIAL	77499.2				1659.36	2.14%
Ag 328.068†	59065.4	0.204 mg/L	0.0027	0.204 mg/L	0.0027	1.34%
Al 396.153†	31004.5	5.13 mg/L	0.025	5.13 mg/L	0.025	0.48%
As 188.979†	577.6	0.195 mg/L	0.0022	0.195 mg/L	0.0022	1.11%
Ba 233.527†	82090.9	0.518 mg/L	0.0071	0.518 mg/L	0.0071	1.37%
Be 234.861†	29813.2	0.0245 mg/L	0.00031	0.0245 mg/L	0.00031	1.27%
B 249.677†	87274.1	0.995 mg/L	0.0113	0.995 mg/L	0.0113	1.13%
Ca 227.546†	1920.4	5.16 mg/L	0.036	5.16 mg/L	0.036	0.71%
Cd 228.802†	1252.5	0.0244 mg/L	0.00055	0.0244 mg/L	0.00055	2.27%
Co 228.616†	4032.1	0.104 mg/L	0.0024	0.104 mg/L	0.0024	2.28%
Cr 267.716†	28300.1	0.260 mg/L	0.0011	0.260 mg/L	0.0011	0.44%
Cu 327.393†	56854.1	0.253 mg/L	0.0021	0.253 mg/L	0.0021	0.84%
Fe 239.562†	29178.4	2.02 mg/L	0.014	2.02 mg/L	0.014	0.67%
Mg 279.077†	17231.8	5.14 mg/L	0.024	5.14 mg/L	0.024	0.46%
Mn 257.610†	200773.4	0.261 mg/L	0.0038	0.261 mg/L	0.0038	1.47%
Mo 202.031†	18046.4	0.511 mg/L	0.0037	0.511 mg/L	0.0037	0.73%
Ni 231.604†	17301.0	0.257 mg/L	0.0027	0.257 mg/L	0.0027	1.05%
Pb 220.353†	3048.1	0.261 mg/L	0.0058	0.261 mg/L	0.0058	2.21%
Sb 206.836†	2402.5	0.602 mg/L	0.0031	0.602 mg/L	0.0031	0.52%
Se 196.026†	369.8	0.202 mg/L	0.0026	0.202 mg/L	0.0026	1.31%
Si 251.611†	107887.2	2.57 mg/L	0.017	2.57 mg/L	0.017	0.65%
Sn 189.927†	5977.6	0.545 mg/L	0.0082	0.545 mg/L	0.0082	1.50%
Ti 334.940†	457038.0	0.512 mg/L	0.0039	0.512 mg/L	0.0039	0.76%
Tl 190.801†	1024.3	0.274 mg/L	0.0026	0.274 mg/L	0.0026	0.95%
V 290.880†	106282.5	0.517 mg/L	0.0032	0.517 mg/L	0.0032	0.62%
Zn 206.200†	26667.8	0.523 mg/L	0.0028	0.523 mg/L	0.0028	0.54%
K 766.490†	68048.1	25.7 mg/L	0.23	25.7 mg/L	0.23	0.91%
Na 589.592†	469391.0	26.0 mg/L	0.30	26.0 mg/L	0.30	1.14%
Sr 407.771†	1251805.7	0.511 mg/L	0.0006	0.511 mg/L	0.0006	0.11%
Li 670.784†	68145.2	0.534 mg/L	0.0014	0.534 mg/L	0.0014	0.26%

Sequence No.: 9

Sample ID: L1206056401

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 88

Date Collected: 6/20/2012 4:31:51 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206056401

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: L1206056401

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1989821.9				10884.31	0.55%
YRADIAL	258362.9				767.70	0.30%
Ga 417.206	1211939.1				45279.46	3.74%
GaRADIAL	78640.8				1047.52	1.33%
Ag 328.068†	689.8	0.00104 mg/L	0.000250	0.00104 mg/L	0.000250	24.04%
Al 396.153†	2216.5	0.361 mg/L	0.0067	0.361 mg/L	0.0067	1.86%
As 188.979†	12.3	0.00377 mg/L	0.000342	0.00377 mg/L	0.000342	9.06%
Ba 233.527†	27304.9	0.171 mg/L	0.0001	0.171 mg/L	0.0001	0.08%
Be 234.861†	293.9	0.00012 mg/L	0.000133	0.00012 mg/L	0.000133	110.95%
B 249.677†	24496.9	0.279 mg/L	0.0076	0.279 mg/L	0.0076	2.73%
Ca 227.546†	38297.0	98.3 mg/L	2.36	98.3 mg/L	2.36	2.40%
Cd 228.802†	7.1	0.00010 mg/L	0.000282	0.00010 mg/L	0.000282	283.14%
Co 228.616†	34.7	0.00062 mg/L	0.000264	0.00062 mg/L	0.000264	42.40%
Cr 267.716†	225.3	0.00135 mg/L	0.000118	0.00135 mg/L	0.000118	8.70%
Cu 327.393†	-1.1	-0.00131 mg/L	0.000366	-0.00131 mg/L	0.000366	27.82%
Fe 239.562†	11186.4	0.776 mg/L	0.0155	0.776 mg/L	0.0155	1.99%
Mg 279.077†	117083.6	34.8 mg/L	0.62	34.8 mg/L	0.62	1.78%
Mn 257.610†	1656099.9	2.15 mg/L	0.016	2.15 mg/L	0.016	0.72%
Mo 202.031†	235.0	0.00593 mg/L	0.000127	0.00593 mg/L	0.000127	2.13%
Ni 231.604†	407.5	0.00315 mg/L	0.000431	0.00315 mg/L	0.000431	13.70%
Pb 220.353†	25.7	0.00017 mg/L	0.002362	0.00017 mg/L	0.002362	>999.9%

Approved: June 21, 2012

John H. Rhodes

Sb 206.836†	-3.2	-0.00377 mg/L	0.001488	-0.00377 mg/L	0.001488	39.49%
Se 196.026†	0.8	0.00032 mg/L	0.003802	0.00032 mg/L	0.003802	>999.9%
Si 251.611†	135715.5	3.25 mg/L	0.020	3.25 mg/L	0.020	0.63%
Sn 189.927†	-286.8	-0.0276 mg/L	0.00095	-0.0276 mg/L	0.00095	3.44%
Ti 334.940†	-6912.0	0.00706 mg/L	0.001927	0.00706 mg/L	0.001927	27.31%
Tl 190.801†	-36.4	-0.0146 mg/L	0.00120	-0.0146 mg/L	0.00120	8.19%
V 290.880†	1624.1	0.00663 mg/L	0.002090	0.00663 mg/L	0.002090	31.52%
Zn 206.200†	224.8	0.00202 mg/L	0.000139	0.00202 mg/L	0.000139	6.87%
K 766.490†	28753.0	10.7 mg/L	0.18	10.7 mg/L	0.18	1.69%
Na 589.592†	1667425.2	95.5 mg/L	0.45	95.5 mg/L	0.45	0.47%
Sr 407.771†	4330622.0	1.77 mg/L	0.009	1.77 mg/L	0.009	0.51%
Li 670.784†	5130.7	0.0366 mg/L	0.00105	0.0366 mg/L	0.00105	2.87%

Sequence No.: 10

Sample ID: L1206056501

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 89

Date Collected: 6/20/2012 4:37:55 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206056501

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206056501

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1787174.3					42583.83	2.38%
YRADIAL	236303.3					3800.53	1.61%
Ga 417.206	1171561.1					28074.14	2.40%
GaRADIAL	77703.2					2035.60	2.62%
Ag 328.068†	3012.2	0.00909 mg/L	0.000555	0.00909 mg/L	0.000555	6.11%	
Al 396.153†	351.6	0.0500 mg/L	0.00153	0.0500 mg/L	0.00153	3.06%	
As 188.979†	13.8	0.00423 mg/L	0.002863	0.00423 mg/L	0.002863	67.73%	
Ba 233.527†	2378.2	0.0133 mg/L	0.00036	0.0133 mg/L	0.00036	2.72%	
Be 234.861†	149.0	0.00004 mg/L	0.000014	0.00004 mg/L	0.000014	34.89%	
B 249.677†	1180.0	0.0133 mg/L	0.00036	0.0133 mg/L	0.00036	2.72%	
Ca 227.546†	201207.8	516 mg/L	9.7	516 mg/L	9.7	1.88%	
Cd 228.802†	-2.3	-0.00005 mg/L	0.000134	-0.00005 mg/L	0.000134	248.81%	
Co 228.616†	402.2	0.0104 mg/L	0.00061	0.0104 mg/L	0.00061	5.86%	
Cr 267.716†	576.3	0.00460 mg/L	0.000414	0.00460 mg/L	0.000414	9.00%	
Cu 327.393†	-879.7	-0.00539 mg/L	0.000337	-0.00539 mg/L	0.000337	6.26%	
Fe 239.562†	699.3	0.0418 mg/L	0.00140	0.0418 mg/L	0.00140	3.34%	
Mg 279.077†	1276351.2	380 mg/L	4.6	380 mg/L	4.6	1.21%	
Mn 257.610†	783261.8	1.02 mg/L	0.013	1.02 mg/L	0.013	1.30%	
Mo 202.031†	43.3	0.00022 mg/L	0.000354	0.00022 mg/L	0.000354	163.94%	
Ni 231.604†	1843.7	0.0248 mg/L	0.00057	0.0248 mg/L	0.00057	2.30%	
Pb 220.353†	-25.5	-0.00020 mg/L	0.000971	-0.00020 mg/L	0.000971	488.34%	
Sb 206.836†	0.1	-0.00300 mg/L	0.001595	-0.00300 mg/L	0.001595	53.26%	
Se 196.026†	-0.5	-0.00025 mg/L	0.003957	-0.00025 mg/L	0.003957	>999.9%	
Si 251.611†	48706.0	1.16 mg/L	0.028	1.16 mg/L	0.028	2.45%	
Sn 189.927†	-485.6	-0.0458 mg/L	0.00148	-0.0458 mg/L	0.00148	3.23%	
Ti 334.940†	-77553.5	-0.00921 mg/L	0.003109	-0.00921 mg/L	0.003109	33.74%	
Tl 190.801†	-49.4	-0.0179 mg/L	0.00103	-0.0179 mg/L	0.00103	5.75%	
V 290.880†	909.2	-0.00575 mg/L	0.002068	-0.00575 mg/L	0.002068	35.93%	
Zn 206.200†	1547.0	0.0280 mg/L	0.00076	0.0280 mg/L	0.00076	2.72%	
K 766.490†	11637.4	3.65 mg/L	0.024	3.65 mg/L	0.024	0.67%	
Na 589.592†	8046461.5	624 mg/L	32.6	624 mg/L	32.6	5.22%	
Sr 407.771†	1322850.1	0.529 mg/L	0.0148	0.529 mg/L	0.0148	2.80%	
Li 670.784†	9149.9	0.0683 mg/L	0.00303	0.0683 mg/L	0.00303	4.44%	

Sequence No.: 11

Sample ID: L1206056502

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 90

Date Collected: 6/20/2012 4:44:57 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206056502

Approved: June 21, 2012

John H. Rhodes

Analyte Back Pressure Flow
All 159.0 kPa 0.50 L/min

Mean Data: L1206056502

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	1854824.5					17139.15	0.92%
YRADIAL	241489.6					3139.85	1.30%
Ga 417.206	1224458.2					25891.82	2.11%
GaRADIAL	79392.5					1678.19	2.11%
Ag 328.068†	2617.0	0.00784 mg/L		0.000019	0.00784 mg/L	0.000019	0.25%
Al 396.153†	8.8	-0.00718 mg/L		0.001773	-0.00718 mg/L	0.001773	24.69%
As 188.979†	20.9	0.00666 mg/L		0.000884	0.00666 mg/L	0.000884	13.27%
Ba 233.527†	3525.2	0.0206 mg/L		0.00030	0.0206 mg/L	0.00030	1.44%
Be 234.861†	166.6	-0.00004 mg/L		0.000009	-0.00004 mg/L	0.000009	26.86%
B 249.677†	1040.3	0.0117 mg/L		0.00022	0.0117 mg/L	0.00022	1.88%
Ca 227.546†	190907.1	490 mg/L		11.9	490 mg/L	11.9	2.42%
Cd 228.802†	-8.3	-0.00022 mg/L		0.000037	-0.00022 mg/L	0.000037	16.63%
Co 228.616†	4.5	0.00006 mg/L		0.000074	0.00006 mg/L	0.000074	117.71%
Cr 267.716†	435.9	0.00331 mg/L		0.000387	0.00331 mg/L	0.000387	11.68%
Cu 327.393†	-588.6	-0.00409 mg/L		0.000428	-0.00409 mg/L	0.000428	10.47%
Fe 239.562†	69.9	-0.00147 mg/L		0.000170	-0.00147 mg/L	0.000170	11.58%
Mg 279.077†	1222011.9	364 mg/L		1.7	364 mg/L	1.7	0.46%
Mn 257.610†	26307.9	0.0334 mg/L		0.00030	0.0334 mg/L	0.00030	0.90%
Mo 202.031†	38.7	-0.00012 mg/L		0.000342	-0.00012 mg/L	0.000342	280.45%
Ni 231.604†	69.5	-0.00194 mg/L		0.000121	-0.00194 mg/L	0.000121	6.23%
Pb 220.353†	-25.6	0.00016 mg/L		0.002900	0.00016 mg/L	0.002900	>999.9%
Sb 206.836†	-0.8	-0.00322 mg/L		0.001246	-0.00322 mg/L	0.001246	38.70%
Se 196.026†	-0.2	0.00018 mg/L		0.002781	0.00018 mg/L	0.002781	>999.9%
Si 251.611†	41089.8	0.973 mg/L		0.0163	0.973 mg/L	0.0163	1.67%
Sn 189.927†	-452.5	-0.0428 mg/L		0.00031	-0.0428 mg/L	0.00031	0.73%
Ti 334.940†	-74666.2	-0.00995 mg/L		0.002381	-0.00995 mg/L	0.002381	23.93%
Tl 190.801†	-64.8	-0.0209 mg/L		0.00211	-0.0209 mg/L	0.00211	10.12%
V 290.880†	957.4	-0.00510 mg/L		0.003198	-0.00510 mg/L	0.003198	62.75%
Zn 206.200†	69.4	-0.00100 mg/L		0.000092	-0.00100 mg/L	0.000092	9.14%
K 766.490†	11558.1	3.65 mg/L		0.018	3.65 mg/L	0.018	0.49%
Na 589.592†	7850043.6	598 mg/L		22.2	598 mg/L	22.2	3.71%
Sr 407.771†	1270219.3	0.508 mg/L		0.0107	0.508 mg/L	0.0107	2.10%
Li 670.784†	8755.0	0.0652 mg/L		0.00228	0.0652 mg/L	0.00228	3.50%

Sequence No.: 12

Sample ID: L1206056901

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 91

Date Collected: 6/20/2012 4:51:58 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206056901

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206056901

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	2078585.9					9640.34	0.46%
YRADIAL	269751.7					2730.66	1.01%
Ga 417.206	1326678.6					38241.46	2.88%
GaRADIAL	81589.5					1069.94	1.31%
Ag 328.068†	521.8	0.00105 mg/L		0.000196	0.00105 mg/L	0.000196	18.56%
Al 396.153†	2349.5	0.383 mg/L		0.0090	0.383 mg/L	0.0090	2.35%
As 188.979†	-4.1	-0.00182 mg/L		0.000575	-0.00182 mg/L	0.000575	31.65%
Ba 233.527†	10176.3	0.0627 mg/L		0.00032	0.0627 mg/L	0.00032	0.51%
Be 234.861†	550.5	0.00011 mg/L		0.000023	0.00011 mg/L	0.000023	20.59%
B 249.677†	3785.0	0.0427 mg/L		0.00174	0.0427 mg/L	0.00174	4.08%
Ca 227.546†	31171.2	80.0 mg/L		1.79	80.0 mg/L	1.79	2.24%
Cd 228.802†	3.1	0.00005 mg/L		0.000166	0.00005 mg/L	0.000166	341.35%
Co 228.616†	30.5	0.00054 mg/L		0.000269	0.00054 mg/L	0.000269	50.05%
Cr 267.716†	221.7	0.00132 mg/L		0.000341	0.00132 mg/L	0.000341	25.89%
Cu 327.393†	2301.1	0.00898 mg/L		0.000321	0.00898 mg/L	0.000321	3.58%

Approved: June 21, 2012

John H. Rhodes

Fe 239.562†	13645.3	0.947 mg/L	0.0042	0.947 mg/L	0.0042	0.45%
Mg 279.077†	43730.4	13.0 mg/L	0.05	13.0 mg/L	0.05	0.42%
Mn 257.610†	230888.7	0.300 mg/L	0.0053	0.300 mg/L	0.0053	1.76%
Mo 202.031†	121.4	0.00233 mg/L	0.000367	0.00233 mg/L	0.000367	15.76%
Ni 231.604†	818.0	0.00933 mg/L	0.000415	0.00933 mg/L	0.000415	4.45%
Pb 220.353†	51.8	0.00335 mg/L	0.001838	0.00335 mg/L	0.001838	54.79%
Sb 206.836†	-2.8	-0.00367 mg/L	0.001604	-0.00367 mg/L	0.001604	43.67%
Se 196.026†	-3.6	-0.00145 mg/L	0.001508	-0.00145 mg/L	0.001508	104.04%
Si 251.611†	294590.5	7.06 mg/L	0.093	7.06 mg/L	0.093	1.32%
Sn 189.927†	-258.4	-0.0250 mg/L	0.00078	-0.0250 mg/L	0.00078	3.11%
Ti 334.940†	-6682.3	0.00457 mg/L	0.001336	0.00457 mg/L	0.001336	29.22%
Tl 190.801†	-25.5	-0.00988 mg/L	0.001484	-0.00988 mg/L	0.001484	15.02%
V 290.880†	2066.5	0.00935 mg/L	0.000757	0.00935 mg/L	0.000757	8.10%
Zn 206.200†	3144.4	0.0593 mg/L	0.00017	0.0593 mg/L	0.00017	0.29%
K 766.490†	11333.3	4.09 mg/L	0.025	4.09 mg/L	0.025	0.62%
Na 589.592†	1248302.3	70.6 mg/L	0.73	70.6 mg/L	0.73	1.04%
Sr 407.771†	1004213.5	0.408 mg/L	0.0086	0.408 mg/L	0.0086	2.12%
Li 670.784†	4190.6	0.0292 mg/L	0.00057	0.0292 mg/L	0.00057	1.94%

Sequence No.: 13

Sample ID: L1206056902

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 92

Date Collected: 6/20/2012 4:57:57 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206056902

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Mean Data: L1206056902

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	2030737.1					13664.01	0.67%
YRADIAL	257820.4					3771.27	1.46%
Ga 417.206	1229987.4					31140.31	2.53%
GaRADIAL	79236.9					1018.43	1.29%
Ag 328.068†	413.4	0.00073 mg/L	0.000046	0.000046	0.00073 mg/L	0.000046	6.35%
Al 396.153†	3113.1	0.510 mg/L	0.0149	0.0149	0.510 mg/L	0.0149	2.92%
As 188.979†	4.1	0.00097 mg/L	0.000160	0.000160	0.00097 mg/L	0.000160	16.54%
Ba 233.527†	6765.9	0.0411 mg/L	0.00016	0.00016	0.0411 mg/L	0.00016	0.38%
Be 234.861†	466.3	0.00004 mg/L	0.000095	0.000095	0.00004 mg/L	0.000095	226.39%
B 249.677†	3414.2	0.0384 mg/L	0.00116	0.00116	0.0384 mg/L	0.00116	3.02%
Ca 227.546†	19303.0	49.5 mg/L	1.93	1.93	49.5 mg/L	1.93	3.89%
Cd 228.802†	95.8	0.00189 mg/L	0.000238	0.000238	0.00189 mg/L	0.000238	12.62%
Co 228.616†	29.1	0.00047 mg/L	0.000307	0.000307	0.00047 mg/L	0.000307	64.68%
Cr 267.716†	610.4	0.00492 mg/L	0.000149	0.000149	0.00492 mg/L	0.000149	3.03%
Cu 327.393†	38801.0	0.172 mg/L	0.0067	0.0067	0.172 mg/L	0.0067	3.88%
Fe 239.562†	12000.5	0.833 mg/L	0.0131	0.0131	0.833 mg/L	0.0131	1.57%
Mg 279.077†	36660.7	10.9 mg/L	0.19	0.19	10.9 mg/L	0.19	1.73%
Mn 257.610†	48479.7	0.0623 mg/L	0.00027	0.00027	0.0623 mg/L	0.00027	0.43%
Mo 202.031†	116.3	0.00214 mg/L	0.000127	0.000127	0.00214 mg/L	0.000127	5.93%
Ni 231.604†	630.7	0.00651 mg/L	0.000426	0.000426	0.00651 mg/L	0.000426	6.55%
Pb 220.353†	111.7	0.00828 mg/L	0.001511	0.001511	0.00828 mg/L	0.001511	18.26%
Sb 206.836†	9.6	-0.00056 mg/L	0.000693	-0.00056 mg/L	0.00056 mg/L	0.000693	124.12%
Se 196.026†	-1.1	-0.00007 mg/L	0.001575	-0.00007 mg/L	0.00007 mg/L	0.001575	>999.9%
Si 251.611†	154364.5	3.69 mg/L	0.150	0.150	3.69 mg/L	0.150	4.06%
Sn 189.927†	-225.4	-0.0220 mg/L	0.00080	-0.0220 mg/L	0.00080 mg/L	0.00080	3.62%
Ti 334.940†	8977.5	0.0175 mg/L	0.00760	0.00760	0.0175 mg/L	0.00760	43.43%
Tl 190.801†	-19.1	-0.00767 mg/L	0.001800	-0.00767 mg/L	0.000767 mg/L	0.001800	23.46%
V 290.880†	6923.4	0.0330 mg/L	0.00194	0.00194	0.0330 mg/L	0.00194	5.86%
Zn 206.200†	15000.1	0.292 mg/L	0.0020	0.0020	0.292 mg/L	0.0020	0.69%
K 766.490†	29622.4	11.0 mg/L	0.16	0.16	11.0 mg/L	0.16	1.47%
Na 589.592†	1408332.6	80.1 mg/L	0.44	0.44	80.1 mg/L	0.44	0.55%
Sr 407.771†	581471.2	0.236 mg/L	0.0015	0.0015	0.236 mg/L	0.0015	0.63%
Li 670.784†	1072.2	0.00454 mg/L	0.000052	0.000052	0.00454 mg/L	0.000052	1.15%

Sequence No.: 14

Sample ID: L1206057801

Autosampler Location: 93

Date Collected: 6/20/2012 5:03:56 PM

Approved: June 21, 2012

John H. Rhodes

Analyst: KHR
Initial Sample Wt:
Dilution:

data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1206057801

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206057801

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2064811.3				27605.93	1.34%
YRADIAL	257236.6				7244.39	2.82%
Ga 417.206	1302063.4				15528.56	1.19%
GA RADIAL	79644.6				2917.48	3.66%
Ag 328.068†	282.5	-0.00013 mg/L	0.000089	-0.00013 mg/L	0.000089	66.88%
Al 396.153†	496.4	0.0718 mg/L	0.00355	0.0718 mg/L	0.00355	4.95%
As 188.979†	16.1	0.00484 mg/L	0.002095	0.00484 mg/L	0.002095	43.26%
Ba 233.527†	11269.6	0.0697 mg/L	0.00082	0.0697 mg/L	0.00082	1.17%
Be 234.861†	212.2	0.00001 mg/L	0.000023	0.00001 mg/L	0.000023	396.79%
B 249.677†	49973.4	0.571 mg/L	0.0088	0.571 mg/L	0.0088	1.55%
Ca 227.546†	15120.2	38.8 mg/L	0.86	38.8 mg/L	0.86	2.22%
Cd 228.802†	-4.1	-0.00013 mg/L	0.000107	-0.00013 mg/L	0.000107	81.20%
Co 228.616†	2.4	-0.00012 mg/L	0.000205	-0.00012 mg/L	0.000205	169.25%
Cr 267.716†	138.9	0.00058 mg/L	0.000086	0.00058 mg/L	0.000086	14.87%
Cu 327.393†	459.9	0.00069 mg/L	0.000383	0.00069 mg/L	0.000383	55.95%
Fe 239.562†	702.0	0.0494 mg/L	0.00110	0.0494 mg/L	0.00110	2.22%
Mg 279.077†	38862.9	11.6 mg/L	0.33	11.6 mg/L	0.33	2.87%
Mn 257.610†	26071.9	0.0331 mg/L	0.00050	0.0331 mg/L	0.00050	1.50%
Mo 202.031†	1215.7	0.0333 mg/L	0.00059	0.0333 mg/L	0.00059	1.77%
Ni 231.604†	217.8	0.00029 mg/L	0.000343	0.00029 mg/L	0.000343	117.32%
Pb 220.353†	31.1	0.00145 mg/L	0.000391	0.00145 mg/L	0.000391	26.89%
Sb 206.836†	7.8	-0.00098 mg/L	0.000771	-0.00098 mg/L	0.000771	78.54%
Se 196.026†	-2.0	-0.00081 mg/L	0.002129	-0.00081 mg/L	0.002129	262.28%
Si 251.611†	60651.9	1.44 mg/L	0.027	1.44 mg/L	0.027	1.84%
Sn 189.927†	-212.7	-0.0209 mg/L	0.00105	-0.0209 mg/L	0.00105	5.03%
Ti 334.940†	-5348.5	-0.00011 mg/L	0.000224	-0.00011 mg/L	0.000224	195.99%
Tl 190.801†	-20.0	-0.00815 mg/L	0.000782	-0.00815 mg/L	0.000782	9.60%
V 290.880†	807.0	0.00332 mg/L	0.000519	0.00332 mg/L	0.000519	15.64%
Zn 206.200†	130.1	0.00017 mg/L	0.000182	0.00017 mg/L	0.000182	108.07%
K 766.490†	8246.4	2.96 mg/L	0.090	2.96 mg/L	0.090	3.03%
Na 589.592†	519413.7	28.8 mg/L	0.51	28.8 mg/L	0.51	1.76%
Sr 407.771†	723109.3	0.294 mg/L	0.0061	0.294 mg/L	0.0061	2.08%
Li 670.784†	5297.1	0.0379 mg/L	0.00210	0.0379 mg/L	0.00210	5.54%

Sequence No.: 15

Sample ID: L1206057801PS WG401202-01

Analyst: KHR

Initial Sample Wt:

Dilution:

Sampler Location: 94

Date Collected: 6/20/2012 5:10:53 PM

data Type: Original

Initial Sample Vol:

Sample Prep Vol:

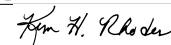
Nebulizer Parameters: L1206057801PS WG401202-01

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206057801PS WG401202-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2065035.2				27956.07	1.35%
YRADIAL	271476.1				7134.84	2.63%
Ga 417.206	1235639.8				26989.33	2.18%
GA RADIAL	80573.5				1309.59	1.63%
Ag 328.068†	57492.9	0.199 mg/L	0.0026	0.199 mg/L	0.0026	1.32%
Al 396.153†	30249.0	5.00 mg/L	0.010	5.00 mg/L	0.010	0.20%
As 188.979†	589.5	0.199 mg/L	0.0043	0.199 mg/L	0.0043	2.15%
Ba 233.527†	89831.8	0.567 mg/L	0.0093	0.567 mg/L	0.0093	1.64%
Be 234.861†	29240.6	0.0241 mg/L	0.00036	0.0241 mg/L	0.00036	1.49%

Approved: June 21, 2012



B 249.677†	133611.9	1.52 mg/L	0.025	1.52 mg/L	0.025	1.67%
Ca 227.546†	15890.5	41.0 mg/L	0.58	41.0 mg/L	0.58	1.41%
Cd 228.802†	1194.0	0.0232 mg/L	0.00091	0.0232 mg/L	0.00091	3.95%
Co 228.616†	3847.3	0.0997 mg/L	0.00168	0.0997 mg/L	0.00168	1.68%
Cr 267.716†	27700.2	0.254 mg/L	0.0008	0.254 mg/L	0.0008	0.30%
Cu 327.393†	54511.8	0.243 mg/L	0.0032	0.243 mg/L	0.0032	1.33%
Fe 239.562†	28521.7	1.98 mg/L	0.017	1.98 mg/L	0.017	0.87%
Mg 279.077†	48680.3	14.5 mg/L	0.15	14.5 mg/L	0.15	1.01%
Mn 257.610†	219161.8	0.285 mg/L	0.0047	0.285 mg/L	0.0047	1.66%
Mo 202.031†	18970.9	0.538 mg/L	0.0058	0.538 mg/L	0.0058	1.08%
Ni 231.604†	16833.1	0.250 mg/L	0.0047	0.250 mg/L	0.0047	1.87%
Pb 220.353†	2949.9	0.253 mg/L	0.0034	0.253 mg/L	0.0034	1.34%
Sb 206.836†	2342.9	0.587 mg/L	0.0151	0.587 mg/L	0.0151	2.57%
Se 196.026†	361.3	0.198 mg/L	0.0081	0.198 mg/L	0.0081	4.11%
Si 251.611†	164674.4	3.94 mg/L	0.046	3.94 mg/L	0.046	1.18%
Sn 189.927†	-216.1	-0.0212 mg/L	0.00062	-0.0212 mg/L	0.00062	2.91%
Ti 334.940†	439106.1	0.497 mg/L	0.0015	0.497 mg/L	0.0015	0.30%
Tl 190.801†	959.5	0.257 mg/L	0.0037	0.257 mg/L	0.0037	1.45%
V 290.880†	105599.7	0.513 mg/L	0.0043	0.513 mg/L	0.0043	0.83%
Zn 206.200†	25779.2	0.506 mg/L	0.0075	0.506 mg/L	0.0075	1.48%
K 766.490†	72453.5	27.3 mg/L	0.06	27.3 mg/L	0.06	0.21%
Na 589.592†	886927.2	49.7 mg/L	0.93	49.7 mg/L	0.93	1.88%
Sr 407.771†	1757318.7	0.717 mg/L	0.0238	0.717 mg/L	0.0238	3.32%
Li 670.784†	69913.9	0.548 mg/L	0.0062	0.548 mg/L	0.0062	1.13%

Sequence No.: 16

Sample ID: L1206057801DL WG401202-02

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 95

Date Collected: 6/20/2012 5:16:54 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206057801DL WG401202-02

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206057801DL WG401202-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2127612.5						12653.79	0.59%
YRADIAL	263842.8						4372.87	1.66%
Ga 417.206	1290655.5						29370.69	2.28%
GaRADIAL	80012.1						3292.64	4.12%
Ag 328.068†	193.6	-0.00041	mg/L	0.000444	-0.00041	mg/L	0.000444	107.18%
Al 396.153†	135.2	0.0134	mg/L	0.00102	0.0134	mg/L	0.00102	7.59%
As 188.979†	2.5	0.00035	mg/L	0.000687	0.00035	mg/L	0.000687	196.83%
Ba 233.527†	2273.6	0.0127	mg/L	0.00009	0.0127	mg/L	0.00009	0.73%
Be 234.861†	125.2	-0.00007	mg/L	0.000023	-0.00007	mg/L	0.000023	31.88%
B 249.677†	10424.0	0.119	mg/L	0.0010	0.119	mg/L	0.0010	0.83%
Ca 227.546†	3056.2	7.83	mg/L	0.192	7.83	mg/L	0.192	2.45%
Cd 228.802†	-12.0	-0.00027	mg/L	0.000166	-0.00027	mg/L	0.000166	62.25%
Co 228.616†	-5.0	-0.00035	mg/L	0.000037	-0.00035	mg/L	0.000037	10.42%
Cr 267.716†	35.9	-0.00037	mg/L	0.000123	-0.00037	mg/L	0.000123	33.59%
Cu 327.393†	175.5	-0.00058	mg/L	0.000431	-0.00058	mg/L	0.000431	74.25%
Fe 239.562†	170.3	0.0127	mg/L	0.00066	0.0127	mg/L	0.00066	5.15%
Mg 279.077†	7695.6	2.29	mg/L	0.039	2.29	mg/L	0.039	1.70%
Mn 257.610†	5219.7	0.00598	mg/L	0.000018	0.00598	mg/L	0.000018	0.30%
Mo 202.031†	267.7	0.00637	mg/L	0.000548	0.00637	mg/L	0.000548	8.61%
Ni 231.604†	35.3	-0.00246	mg/L	0.000310	-0.00246	mg/L	0.000310	12.64%
Pb 220.353†	19.5	0.00020	mg/L	0.000884	0.00020	mg/L	0.000884	431.59%
Sb 206.836†	3.5	-0.00211	mg/L	0.000454	-0.00211	mg/L	0.000454	21.50%
Se 196.026†	-4.6	-0.00219	mg/L	0.001675	-0.00219	mg/L	0.001675	76.51%
Si 251.611†	12293.9	0.281	mg/L	0.0040	0.281	mg/L	0.0040	1.41%
Sn 189.927†	-72.0	-0.00802	mg/L	0.000438	-0.00802	mg/L	0.000438	5.47%
Ti 334.940†	-968.6	0.00014	mg/L	0.000227	0.00014	mg/L	0.000227	162.77%
Tl 190.801†	-6.2	-0.00445	mg/L	0.001516	-0.00445	mg/L	0.001516	34.02%
V 290.880†	-135.6	-0.00102	mg/L	0.001819	-0.00102	mg/L	0.001819	178.39%
Zn 206.200†	156.2	0.00067	mg/L	0.000035	0.00067	mg/L	0.000035	5.25%
K 766.490†	1621.7	0.472	mg/L	0.0501	0.472	mg/L	0.0501	10.62%
Na 589.592†	105865.5	5.79	mg/L	0.151	5.79	mg/L	0.151	2.60%

Approved: June 21, 2012

John H. Rhodes

Sr 407.771†	144768.1	0.0578 mg/L	0.00111	0.0578 mg/L	0.00111	1.92%
Li 670.784†	1113.7	0.00487 mg/L	0.000677	0.00487 mg/L	0.000677	13.90%

Sequence No.: 17

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 6/20/2012 5:23:48 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte

All

Back Pressure

157.0 kPa

Flow

0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2053866.1				23512.12	1.14%
YRADIAL	262611.8				5548.69	2.11%
Ga 417.206	1190932.1				34621.17	2.91%
GaRADIAL	77711.1				1254.74	1.61%
Ag 328.068†	117441.9	0.407 mg/L	0.0078	0.407 mg/L	0.0078	1.93%
QC value within limits for Ag	328.068	Recovery = 101.71%				
Al 396.153†	61442.3	10.2 mg/L	0.00	10.2 mg/L	0.00	0.03%
QC value within limits for Al	396.153	Recovery = 101.68%				
As 188.979†	1167.3	0.394 mg/L	0.0125	0.394 mg/L	0.0125	3.16%
QC value within limits for As	188.979	Recovery = 98.56%				
Ba 233.527†	162126.4	1.03 mg/L	0.006	1.03 mg/L	0.006	0.54%
QC value within limits for Ba	233.527	Recovery = 102.55%				
Be 234.861†	60530.0	0.0500 mg/L	0.00087	0.0500 mg/L	0.00087	1.73%
QC value within limits for Be	234.861	Recovery = 99.96%				
B 249.677†	45714.5	0.518 mg/L	0.0081	0.518 mg/L	0.0081	1.56%
QC value within limits for B	249.677	Recovery = 103.61%				
Ca 227.546†	3880.5	10.4 mg/L	0.32	10.4 mg/L	0.32	3.03%
QC value within limits for Ca	227.546	Recovery = 104.29%				
Cd 228.802†	2523.2	0.0491 mg/L	0.00228	0.0491 mg/L	0.00228	4.64%
QC value within limits for Cd	228.802	Recovery = 98.21%				
Co 228.616†	7856.1	0.204 mg/L	0.0007	0.204 mg/L	0.0007	0.33%
QC value within limits for Co	228.616	Recovery = 101.88%				
Cr 267.716†	55822.5	0.513 mg/L	0.0028	0.513 mg/L	0.0028	0.54%
QC value within limits for Cr	267.716	Recovery = 102.54%				
Cu 327.393†	113504.4	0.507 mg/L	0.0072	0.507 mg/L	0.0072	1.42%
QC value within limits for Cu	327.393	Recovery = 101.39%				
Fe 239.562†	58630.5	4.07 mg/L	0.039	4.07 mg/L	0.039	0.96%
QC value within limits for Fe	239.562	Recovery = 101.69%				
Mg 279.077†	34261.0	10.2 mg/L	0.09	10.2 mg/L	0.09	0.90%
QC value within limits for Mg	279.077	Recovery = 102.12%				
Mn 257.610†	393973.2	0.512 mg/L	0.0024	0.512 mg/L	0.0024	0.47%
QC value within limits for Mn	257.610	Recovery = 102.49%				
Mo 202.031†	35985.0	1.02 mg/L	0.006	1.02 mg/L	0.006	0.56%
QC value within limits for Mo	202.031	Recovery = 102.10%				
Ni 231.604†	34935.2	0.523 mg/L	0.0029	0.523 mg/L	0.0029	0.56%
QC value within limits for Ni	231.604	Recovery = 104.53%				
Pb 220.353†	5989.1	0.515 mg/L	0.0035	0.515 mg/L	0.0035	0.68%
QC value within limits for Pb	220.353	Recovery = 102.91%				
Sb 206.836†	4778.6	1.20 mg/L	0.040	1.20 mg/L	0.040	3.32%
QC value within limits for Sb	206.836	Recovery = 99.97%				
Se 196.026†	724.4	0.396 mg/L	0.0114	0.396 mg/L	0.0114	2.89%
QC value within limits for Se	196.026	Recovery = 99.07%				
Si 251.611†	224247.8	5.36 mg/L	0.070	5.36 mg/L	0.070	1.31%
QC value within limits for Si	251.611	Recovery = 107.26%				
Sn 189.927†	11116.6	1.01 mg/L	0.005	1.01 mg/L	0.005	0.45%
QC value within limits for Sn	189.927	Recovery = 101.43%				
Ti 334.940†	908168.2	1.02 mg/L	0.004	1.02 mg/L	0.004	0.42%
QC value within limits for Ti	334.940	Recovery = 101.65%				
Tl 190.801†	1987.0	0.534 mg/L	0.0064	0.534 mg/L	0.0064	1.20%
QC value within limits for Tl	190.801	Recovery = 106.89%				
V 290.880†	209303.7	1.02 mg/L	0.009	1.02 mg/L	0.009	0.85%
QC value within limits for V	290.880	Recovery = 101.75%				
Zn 206.200†	52286.5	1.03 mg/L	0.002	1.03 mg/L	0.002	0.17%

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John H. Rhodes

QC value within limits for Zn 206.200 Recovery = 102.79%
 K 766.490† 134196.8 50.9 mg/L 0.39 0.77%
 QC value within limits for K 766.490 Recovery = 101.84%
 Na 589.592† 904596.7 50.7 mg/L 1.00 1.97%
 QC value within limits for Na 589.592 Recovery = 101.38%
 Sr 407.771† 2482213.6 1.01 mg/L 0.027 2.66%
 QC value within limits for Sr 407.771 Recovery = 101.43%
 Li 670.784† 130400.0 1.03 mg/L 0.018 1.77%
 QC value within limits for Li 670.784 Recovery = 102.52%
 All analyte(s) passed QC.

Sequence No.: 18

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Utosampler Location: 1

Date Collected: 6/20/2012 5:29:48 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2159828.8				37544.75	1.74%
YRADIAL	264309.0				5452.72	2.06%
Ga 417.206	1257023.8				9134.21	0.73%
GaRADIAL	78857.3				796.07	1.01%
Ag 328.068†	137.2	-0.00060 mg/L	0.000188	-0.00060 mg/L	0.000188	31.37%
QC value within limits for Ag 328.068		Recovery = Not calculated				
Al 396.153†	43.9	-0.00127 mg/L	0.001894	-0.00127 mg/L	0.001894	149.63%
QC value within limits for Al 396.153		Recovery = Not calculated				
As 188.979†	-2.6	-0.00138 mg/L	0.001900	-0.00138 mg/L	0.001900	137.24%
QC value within limits for As 188.979		Recovery = Not calculated				
Ba 233.527†	-12.8	-0.00181 mg/L	0.000118	-0.00181 mg/L	0.000118	6.48%
QC value within limits for Ba 233.527		Recovery = Not calculated				
Be 234.861†	74.4	-0.00012 mg/L	0.000029	-0.00012 mg/L	0.000029	24.83%
QC value within limits for Be 234.861		Recovery = Not calculated				
B 249.677†	324.7	0.00358 mg/L	0.000203	0.00358 mg/L	0.000203	5.69%
QC value within limits for B 249.677		Recovery = Not calculated				
Ca 227.546†	11.5	0.0227 mg/L	0.02007	0.0227 mg/L	0.02007	88.39%
QC value within limits for Ca 227.546		Recovery = Not calculated				
Cd 228.802†	-9.9	-0.00022 mg/L	0.000028	-0.00022 mg/L	0.000028	12.72%
QC value within limits for Cd 228.802		Recovery = Not calculated				
Co 228.616†	-11.0	-0.00052 mg/L	0.000209	-0.00052 mg/L	0.000209	40.16%
QC value within limits for Co 228.616		Recovery = Not calculated				
Cr 267.716†	-0.1	-0.00070 mg/L	0.000104	-0.00070 mg/L	0.000104	14.92%
QC value within limits for Cr 267.716		Recovery = Not calculated				
Cu 327.393†	53.4	-0.00112 mg/L	0.000340	-0.00112 mg/L	0.000340	30.27%
QC value within limits for Cu 327.393		Recovery = Not calculated				
Fe 239.562†	66.2	0.00555 mg/L	0.000478	0.00555 mg/L	0.000478	8.62%
QC value within limits for Fe 239.562		Recovery = Not calculated				
Mg 279.077†	32.1	0.00825 mg/L	0.002161	0.00825 mg/L	0.002161	26.19%
QC value within limits for Mg 279.077		Recovery = Not calculated				
Mn 257.610†	91.2	-0.00069 mg/L	0.000002	-0.00069 mg/L	0.000002	0.24%
QC value within limits for Mn 257.610		Recovery = Not calculated				
Mo 202.031†	4.8	-0.00110 mg/L	0.000076	-0.00110 mg/L	0.000076	6.90%
QC value within limits for Mo 202.031		Recovery = Not calculated				
Ni 231.604†	6.2	-0.00290 mg/L	0.000309	-0.00290 mg/L	0.000309	10.67%
QC value within limits for Ni 231.604		Recovery = Not calculated				
Pb 220.353†	15.3	-0.00022 mg/L	0.000646	-0.00022 mg/L	0.000646	289.85%
QC value within limits for Pb 220.353		Recovery = Not calculated				
Sb 206.836†	1.0	-0.00274 mg/L	0.001100	-0.00274 mg/L	0.001100	40.13%
QC value within limits for Sb 206.836		Recovery = Not calculated				
Se 196.026†	-6.3	-0.00314 mg/L	0.001440	-0.00314 mg/L	0.001440	45.91%
QC value within limits for Se 196.026		Recovery = Not calculated				
Si 251.611†	86.1	-0.0126 mg/L	0.00027	-0.0126 mg/L	0.00027	2.15%
QC value within limits for Si 251.611		Recovery = Not calculated				
Sn 189.927†	6.0	-0.00089 mg/L	0.000718	-0.00089 mg/L	0.000718	80.66%

Approved: June 21, 2012

John H. Rhodes

QC value within limits for Sn 189.927 Recovery = Not calculated
 Ti 334.940† 35.5 0.00009 mg/L 0.000077 0.00009 mg/L 0.000077 85.73%
 QC value within limits for Ti 334.940 Recovery = Not calculated
 Tl 190.801† -3.6 -0.00376 mg/L 0.002997 -0.00376 mg/L 0.002997 79.64%
 QC value within limits for Tl 190.801 Recovery = Not calculated
 V 290.880† -334.3 -0.00192 mg/L 0.000362 -0.00192 mg/L 0.000362 18.81%
 QC value within limits for V 290.880 Recovery = Not calculated
 Zn 206.200† -10.4 -0.00260 mg/L 0.000035 -0.00260 mg/L 0.000035 1.34%
 QC value within limits for Zn 206.200 Recovery = Not calculated
 K 766.490† 49.2 -0.118 mg/L 0.0148 -0.118 mg/L 0.0148 12.57%
 QC value within limits for K 766.490 Recovery = Not calculated
 Na 589.592† 66.3 -0.0184 mg/L 0.01014 -0.0184 mg/L 0.01014 55.16%
 QC value within limits for Na 589.592 Recovery = Not calculated
 Sr 407.771† 187.8 -0.00124 mg/L 0.000031 -0.00124 mg/L 0.000031 2.50%
 QC value within limits for Sr 407.771 Recovery = Not calculated
 Li 670.784† 71.3 -0.00336 mg/L 0.000491 -0.00336 mg/L 0.000491 14.62%
 QC value within limits for Li 670.784 Recovery = Not calculated
 All analyte(s) passed QC.

Sequence No.: 19

Sample ID: L1206057904

Analyst: KHR

Initial Sample Wt:

Dilution:

Utosampler Location: 96

Date Collected: 6/20/2012 5:36:41 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206057904

Analyte Back Pressure Flow
 All 157.0 kPa 0.50 L/min

Mean Data: L1206057904

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1874066.5				21331.80	1.14%
YRADIAL	250516.7				6835.90	2.73%
Ga 417.206	1212886.4				10524.15	0.87%
GaRADIAL	77599.3				389.78	0.50%
Ag 328.068†	257.7	-0.00022 mg/L	0.000340	-0.00022 mg/L	0.000340	155.30%
Al 396.153†	505.8	0.0729 mg/L	0.00129	0.0729 mg/L	0.00129	1.77%
As 188.979†	21.3	0.00657 mg/L	0.001096	0.00657 mg/L	0.001096	16.67%
Ba 233.527†	4217.7	0.0250 mg/L	0.00039	0.0250 mg/L	0.00039	1.57%
Be 234.861†	61.2	-0.00011 mg/L	0.000027	-0.00011 mg/L	0.000027	23.80%
B 249.677†	30180.1	0.344 mg/L	0.0055	0.344 mg/L	0.0055	1.59%
Ca 227.546†	15459.9	39.7 mg/L	0.34	39.7 mg/L	0.34	0.87%
Cd 228.802†	-7.5	-0.00007 mg/L	0.000147	-0.00007 mg/L	0.000147	200.77%
Co 228.616†	1431.1	0.0372 mg/L	0.00038	0.0372 mg/L	0.00038	1.03%
Cr 267.716†	97.3	0.00020 mg/L	0.000169	0.00020 mg/L	0.000169	85.98%
Cu 327.393†	-16.0	-0.00309 mg/L	0.000298	-0.00309 mg/L	0.000298	9.66%
Fe 239.562†	130.5	0.00969 mg/L	0.000501	0.00969 mg/L	0.000501	5.17%
Mg 279.077†	35471.7	10.6 mg/L	0.18	10.6 mg/L	0.18	1.75%
Mn 257.610†	3232.4	0.00340 mg/L	0.000079	0.00340 mg/L	0.000079	2.33%
Mo 202.031†	1454.3	0.0401 mg/L	0.00050	0.0401 mg/L	0.00050	1.25%
Ni 231.604†	1744.7	0.0232 mg/L	0.00015	0.0232 mg/L	0.00015	0.63%
Pb 220.353†	32.0	0.00155 mg/L	0.000971	0.00155 mg/L	0.000971	62.72%
Sb 206.836†	3.0	-0.00219 mg/L	0.001627	-0.00219 mg/L	0.001627	74.18%
Se 196.026†	-1.2	-0.00036 mg/L	0.000905	-0.00036 mg/L	0.000905	254.28%
Si 251.611†	57869.9	1.38 mg/L	0.029	1.38 mg/L	0.029	2.11%
Sn 189.927†	-236.4	-0.0230 mg/L	0.00147	-0.0230 mg/L	0.00147	6.40%
Ti 334.940†	-6518.3	-0.00129 mg/L	0.000237	-0.00129 mg/L	0.000237	18.32%
Tl 190.801†	-33.6	-0.0118 mg/L	0.00266	-0.0118 mg/L	0.00266	22.67%
V 290.880†	1173.1	0.00513 mg/L	0.000966	0.00513 mg/L	0.000966	18.83%
Zn 206.200†	200.7	0.00156 mg/L	0.000160	0.00156 mg/L	0.000160	10.31%
K 766.490†	20417.9	7.61 mg/L	0.035	7.61 mg/L	0.035	0.46%
Na 589.592†	Saturated2					
Sr 407.771†	607467.1	0.246 mg/L	0.0116	0.246 mg/L	0.0116	4.71%
Li 670.784†	1347825.6	10.6 mg/L	0.05	10.6 mg/L	0.05	0.43%

Sequence No.: 20

Sample ID: L1206058001 WG401151-01

Utosampler Location: 97

Date Collected: 6/20/2012 5:43:40 PM

Approved: June 21, 2012

John H. Rhodes

Analyst: KHR
Initial Sample Wt:
Dilution:

data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1206058001 WG401151-01

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206058001 WG401151-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2066237.6				5579.93	0.27%
YRADIAL	256854.0				4566.72	1.78%
Ga 417.206	1320794.5				27438.19	2.08%
GA RADIAL	80897.8				1173.08	1.45%
Ag 328.068†	665.6	0.00122 mg/L	0.000384	0.00122 mg/L	0.000384	31.53%
Al 396.153†	106.1	0.00899 mg/L	0.002114	0.00899 mg/L	0.002114	23.51%
As 188.979†	-2.2	-0.00124 mg/L	0.002130	-0.00124 mg/L	0.002130	171.97%
Ba 233.527†	20935.4	0.131 mg/L	0.0017	0.131 mg/L	0.0017	1.27%
Be 234.861†	179.9	-0.00004 mg/L	0.000023	-0.00004 mg/L	0.000023	58.22%
B 249.677†	4471.5	0.0509 mg/L	0.00234	0.0509 mg/L	0.00234	4.59%
Ca 227.546†	34026.9	87.3 mg/L	3.13	87.3 mg/L	3.13	3.58%
Cd 228.802†	-6.6	-0.00015 mg/L	0.000100	-0.00015 mg/L	0.000100	66.50%
Co 228.616†	-3.7	-0.00034 mg/L	0.000114	-0.00034 mg/L	0.000114	33.60%
Cr 267.716†	115.8	0.00037 mg/L	0.000212	0.00037 mg/L	0.000212	57.86%
Cu 327.393†	891.7	0.00261 mg/L	0.000493	0.00261 mg/L	0.000493	18.92%
Fe 239.562†	910.6	0.0639 mg/L	0.00153	0.0639 mg/L	0.00153	2.40%
Mg 279.077†	45546.1	13.6 mg/L	0.12	13.6 mg/L	0.12	0.86%
Mn 257.610†	2245.8	0.00211 mg/L	0.000003	0.00211 mg/L	0.000003	0.14%
Mo 202.031†	71.0	0.00079 mg/L	0.000176	0.00079 mg/L	0.000176	22.43%
Ni 231.604†	126.9	-0.00108 mg/L	0.000182	-0.00108 mg/L	0.000182	16.90%
Pb 220.353†	25.0	0.00130 mg/L	0.001510	0.00130 mg/L	0.001510	115.91%
Sb 206.836†	0.2	-0.00296 mg/L	0.001523	-0.00296 mg/L	0.001523	51.45%
Se 196.026†	3.0	0.00196 mg/L	0.000083	0.00196 mg/L	0.000083	4.22%
Si 251.611†	281009.3	6.74 mg/L	0.192	6.74 mg/L	0.192	2.85%
Sn 189.927†	-292.9	-0.0282 mg/L	0.00034	-0.0282 mg/L	0.00034	1.22%
Ti 334.940†	-13550.4	-0.00201 mg/L	0.000772	-0.00201 mg/L	0.000772	38.50%
Tl 190.801†	-27.8	-0.0103 mg/L	0.00249	-0.0103 mg/L	0.00249	24.22%
V 290.880†	57.8	-0.00038 mg/L	0.001529	-0.00038 mg/L	0.001529	403.84%
Zn 206.200†	143.2	0.00042 mg/L	0.000022	0.00042 mg/L	0.000022	5.09%
K 766.490†	15326.4	5.63 mg/L	0.066	5.63 mg/L	0.066	1.18%
Na 589.592†	823483.8	46.0 mg/L	1.18	46.0 mg/L	1.18	2.57%
Sr 407.771†	358658.3	0.144 mg/L	0.0022	0.144 mg/L	0.0022	1.50%
Li 670.784†	869.8	0.00294 mg/L	0.000349	0.00294 mg/L	0.000349	11.87%

Sequence No.: 21

Sample ID: L1206058001DU WG401151-05

Analyst: KHR

Initial Sample Wt:

Dilution:

Sampler Location: 98

Date Collected: 6/20/2012 5:50:36 PM

data Type: Original

Initial Sample Vol:

Sample Prep Vol:

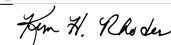
Nebulizer Parameters: L1206058001DU WG401151-05

Analyte Back Pressure Flow
All 156.0 kPa 0.50 L/min

Mean Data: L1206058001DU WG401151-05

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2016942.6				13444.69	0.67%
YRADIAL	253886.6				3421.48	1.35%
Ga 417.206	1230213.0				38478.15	3.13%
GA RADIAL	77156.8				1465.31	1.90%
Ag 328.068†	56840.7	0.196 mg/L	0.0051	0.196 mg/L	0.0051	2.59%
Al 396.153†	30636.3	5.07 mg/L	0.019	5.07 mg/L	0.019	0.38%
As 188.979†	546.8	0.184 mg/L	0.0080	0.184 mg/L	0.0080	4.32%
Ba 233.527†	100502.3	0.635 mg/L	0.0052	0.635 mg/L	0.0052	0.82%
Be 234.861†	29037.3	0.0239 mg/L	0.00078	0.0239 mg/L	0.00078	3.25%

Approved: June 21, 2012



B 249.677†	89657.9	1.02 mg/L	0.024	1.02 mg/L	0.024	2.31%
Ca 227.546†	38520.0	99.0 mg/L	1.68	99.0 mg/L	1.68	1.69%
Cd 228.802†	1187.1	0.0231 mg/L	0.00136	0.0231 mg/L	0.00136	5.88%
Co 228.616†	3820.1	0.0990 mg/L	0.00030	0.0990 mg/L	0.00030	0.31%
Cr 267.716†	27503.8	0.252 mg/L	0.0030	0.252 mg/L	0.0030	1.18%
Cu 327.393†	53796.5	0.240 mg/L	0.0053	0.240 mg/L	0.0053	2.20%
Fe 239.562†	29438.9	2.04 mg/L	0.028	2.04 mg/L	0.028	1.37%
Mg 279.077†	62858.8	18.7 mg/L	0.17	18.7 mg/L	0.17	0.91%
Mn 257.610†	197078.0	0.256 mg/L	0.0028	0.256 mg/L	0.0028	1.07%
Mo 202.031†	17881.6	0.507 mg/L	0.0044	0.507 mg/L	0.0044	0.87%
Ni 231.604†	16390.6	0.244 mg/L	0.0029	0.244 mg/L	0.0029	1.18%
Pb 220.353†	2954.1	0.254 mg/L	0.0013	0.254 mg/L	0.0013	0.50%
Sb 206.836†	2303.1	0.577 mg/L	0.0236	0.577 mg/L	0.0236	4.09%
Se 196.026†	351.4	0.192 mg/L	0.0083	0.192 mg/L	0.0083	4.32%
Si 251.611†	403124.5	9.67 mg/L	0.134	9.67 mg/L	0.134	1.39%
Sn 189.927†	5560.3	0.507 mg/L	0.0026	0.507 mg/L	0.0026	0.52%
Ti 334.940†	434129.8	0.500 mg/L	0.0021	0.500 mg/L	0.0021	0.42%
Tl 190.801†	939.5	0.251 mg/L	0.0028	0.251 mg/L	0.0028	1.12%
V 290.880†	105156.0	0.511 mg/L	0.0052	0.511 mg/L	0.0052	1.03%
Zn 206.200†	25244.2	0.495 mg/L	0.0057	0.495 mg/L	0.0057	1.16%
K 766.490†	81855.3	30.9 mg/L	0.19	30.9 mg/L	0.19	0.60%
Na 589.592†	1320566.6	74.9 mg/L	1.78	74.9 mg/L	1.78	2.38%
Sr 407.771†	1605898.2	0.654 mg/L	0.0084	0.654 mg/L	0.0084	1.29%
Li 670.784†	65948.0	0.517 mg/L	0.0057	0.517 mg/L	0.0057	1.11%

Sequence No.: 22

Sample ID: L1206058001MS WG401151-04

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 99

Date Collected: 6/20/2012 5:56:35 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206058001MS WG401151-04

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: L1206058001MS WG401151-04

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Std.Dev.	RSD	
Y 371.029	2022867.0					19659.10	0.97%	
YRADIAL	252379.6					2382.94	0.94%	
Ga 417.206	1289648.3					12070.60	0.94%	
GaRADIAL	79829.5					1880.76	2.36%	
Ag 328.068†	580.5	0.00093	mg/L	0.000707	0.00093	mg/L	0.000707	76.11%
Al 396.153†	101.9	0.00827	mg/L	0.002273	0.00827	mg/L	0.002273	27.48%
As 188.979†	-8.1	-0.00327	mg/L	0.002644	-0.00327	mg/L	0.002644	80.93%
Ba 233.527†	21485.5	0.134	mg/L	0.0027	0.134	mg/L	0.0027	2.01%
Be 234.861†	159.3	-0.00006	mg/L	0.000017	-0.00006	mg/L	0.000017	30.56%
B 249.677†	4768.2	0.0543	mg/L	0.00174	0.0543	mg/L	0.00174	3.21%
Ca 227.546†	35468.1	91.0	mg/L	2.12	91.0	mg/L	2.12	2.32%
Cd 228.802†	-6.1	-0.00013	mg/L	0.000083	-0.00013	mg/L	0.000083	64.43%
Co 228.616†	7.0	-0.00006	mg/L	0.000260	-0.00006	mg/L	0.000260	431.53%
Cr 267.716†	111.7	0.00033	mg/L	0.000132	0.00033	mg/L	0.000132	40.06%
Cu 327.393†	883.5	0.00257	mg/L	0.000015	0.00257	mg/L	0.000015	0.58%
Fe 239.562†	900.7	0.0632	mg/L	0.00128	0.0632	mg/L	0.00128	2.03%
Mg 279.077†	46780.8	13.9	mg/L	0.07	13.9	mg/L	0.07	0.53%
Mn 257.610†	2293.7	0.00217	mg/L	0.000015	0.00217	mg/L	0.000015	0.68%
Mo 202.031†	79.9	0.00104	mg/L	0.000407	0.00104	mg/L	0.000407	39.12%
Ni 231.604†	124.8	-0.00111	mg/L	0.000144	-0.00111	mg/L	0.000144	13.02%
Pb 220.353†	34.8	0.00217	mg/L	0.001535	0.00217	mg/L	0.001535	70.71%
Sb 206.836†	2.7	-0.00232	mg/L	0.001607	-0.00232	mg/L	0.001607	69.39%
Se 196.026†	4.7	0.00284	mg/L	0.002825	0.00284	mg/L	0.002825	99.31%
Si 251.611†	289122.1	6.93	mg/L	0.180	6.93	mg/L	0.180	2.60%
Sn 189.927†	-288.4	-0.0278	mg/L	0.00103	-0.0278	mg/L	0.00103	3.72%
Ti 334.940†	-13906.3	-0.00185	mg/L	0.000744	-0.00185	mg/L	0.000744	40.21%
Tl 190.801†	-40.8	-0.0137	mg/L	0.00163	-0.0137	mg/L	0.00163	11.89%
V 290.880†	476.7	0.00165	mg/L	0.001781	0.00165	mg/L	0.001781	107.89%
Zn 206.200†	132.2	0.00021	mg/L	0.000101	0.00021	mg/L	0.000101	48.94%
K 766.490†	15657.9	5.75	mg/L	0.013	5.75	mg/L	0.013	0.22%
Na 589.592†	848413.3	47.5	mg/L	1.21	47.5	mg/L	1.21	2.55%

Approved: June 21, 2012

John H. Rhodes

Sr 407.771†	370943.9	0.148 mg/L	0.0020	0.148 mg/L	0.0020	1.35%
Li 670.784†	787.0	0.00229 mg/L	0.000207	0.00229 mg/L	0.000207	9.03%

Sequence No.: 23

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 6/20/2012 6:03:31 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte

All

Back Pressure

156.0 kPa

Flow

0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2096305.2				24028.51	1.15%
YRADIAL	269347.3				7366.07	2.73%
Ga 417.206	1214510.4				21482.48	1.77%
GaRADIAL	79920.7				1973.73	2.47%
Ag 328.068†	114018.2	0.395 mg/L	0.0080	0.395 mg/L	0.0080	2.02%
QC value within limits for Ag	328.068	Recovery = 98.74%				
Al 396.153†	58991.9	9.76 mg/L	0.044	9.76 mg/L	0.044	0.45%
QC value within limits for Al	396.153	Recovery = 97.61%				
As 188.979†	1142.6	0.386 mg/L	0.0052	0.386 mg/L	0.0052	1.34%
QC value within limits for As	188.979	Recovery = 96.49%				
Ba 233.527†	157519.0	0.996 mg/L	0.0160	0.996 mg/L	0.0160	1.61%
QC value within limits for Ba	233.527	Recovery = 99.63%				
Be 234.861†	58423.2	0.0482 mg/L	0.00086	0.0482 mg/L	0.00086	1.78%
QC value within limits for Be	234.861	Recovery = 96.47%				
B 249.677†	44150.3	0.500 mg/L	0.0088	0.500 mg/L	0.0088	1.76%
QC value within limits for B	249.677	Recovery = 100.06%				
Ca 227.546†	3794.1	10.2 mg/L	0.13	10.2 mg/L	0.13	1.32%
QC value within limits for Ca	227.546	Recovery = 101.96%				
Cd 228.802†	2464.1	0.0480 mg/L	0.00140	0.0480 mg/L	0.00140	2.92%
QC value within limits for Cd	228.802	Recovery = 95.90%				
Co 228.616†	7682.1	0.199 mg/L	0.0050	0.199 mg/L	0.0050	2.49%
QC value within limits for Co	228.616	Recovery = 99.63%				
Cr 267.716†	54300.9	0.499 mg/L	0.0015	0.499 mg/L	0.0015	0.30%
QC value within limits for Cr	267.716	Recovery = 99.74%				
Cu 327.393†	109512.6	0.489 mg/L	0.0104	0.489 mg/L	0.0104	2.14%
QC value within limits for Cu	327.393	Recovery = 97.82%				
Fe 239.562†	56515.7	3.92 mg/L	0.033	3.92 mg/L	0.033	0.83%
QC value within limits for Fe	239.562	Recovery = 98.02%				
Mg 279.077†	33016.5	9.84 mg/L	0.092	9.84 mg/L	0.092	0.93%
QC value within limits for Mg	279.077	Recovery = 98.41%				
Mn 257.610†	381604.3	0.496 mg/L	0.0094	0.496 mg/L	0.0094	1.89%
QC value within limits for Mn	257.610	Recovery = 99.26%				
Mo 202.031†	34906.0	0.990 mg/L	0.0092	0.990 mg/L	0.0092	0.93%
QC value within limits for Mo	202.031	Recovery = 99.03%				
Ni 231.604†	34192.3	0.511 mg/L	0.0098	0.511 mg/L	0.0098	1.91%
QC value within limits for Ni	231.604	Recovery = 102.30%				
Pb 220.353†	5878.0	0.505 mg/L	0.0099	0.505 mg/L	0.0099	1.96%
QC value within limits for Pb	220.353	Recovery = 100.98%				
Sb 206.836†	4663.8	1.17 mg/L	0.018	1.17 mg/L	0.018	1.54%
QC value within limits for Sb	206.836	Recovery = 97.56%				
Se 196.026†	717.1	0.392 mg/L	0.0063	0.392 mg/L	0.0063	1.62%
QC value within limits for Se	196.026	Recovery = 98.06%				
Si 251.611†	217248.5	5.20 mg/L	0.060	5.20 mg/L	0.060	1.16%
QC value within limits for Si	251.611	Recovery = 103.91%				
Sn 189.927†	10929.4	0.997 mg/L	0.0201	0.997 mg/L	0.0201	2.01%
QC value within limits for Sn	189.927	Recovery = 99.72%				
Ti 334.940†	876649.6	0.981 mg/L	0.0137	0.981 mg/L	0.0137	1.40%
QC value within limits for Ti	334.940	Recovery = 98.13%				
Tl 190.801†	1929.9	0.519 mg/L	0.0052	0.519 mg/L	0.0052	1.00%
QC value within limits for Tl	190.801	Recovery = 103.78%				
V 290.880†	202618.2	0.985 mg/L	0.0107	0.985 mg/L	0.0107	1.09%
QC value within limits for V	290.880	Recovery = 98.50%				
Zn 206.200†	51143.5	1.01 mg/L	0.010	1.01 mg/L	0.010	0.97%

Approved: June 21, 2012

John H. Rhodes

QC value within limits for Zn 206.200 Recovery = 100.53%
 K 766.490† 129473.7 49.1 mg/L 0.58 49.1 mg/L 0.58 1.18%
 QC value within limits for K 766.490 Recovery = 98.23%
 Na 589.592† 860023.3 48.1 mg/L 1.09 48.1 mg/L 1.09 2.27%
 QC value within limits for Na 589.592 Recovery = 96.27%
 Sr 407.771† 2361158.6 0.965 mg/L 0.0285 0.965 mg/L 0.0285 2.96%
 QC value within limits for Sr 407.771 Recovery = 96.48%
 Li 670.784† 124870.2 0.982 mg/L 0.0099 0.982 mg/L 0.0099 1.01%
 QC value within limits for Li 670.784 Recovery = 98.16%
 All analyte(s) passed QC.

Sequence No.: 24

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

autosampler Location: 1

Date Collected: 6/20/2012 6:09:30 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std. Dev.	Sample Conc. Units	Std. Dev.	RSD
Y 371.029	2181546.5				23809.08	1.09%
YRADIAL	268677.7				4212.68	1.57%
Ga 417.206	1270264.8				14961.39	1.18%
GaRADIAL	80517.8				1473.61	1.83%
Ag 328.068†	23.9	-0.00099 mg/L	0.000480	-0.00099 mg/L	0.000480	48.31%
QC value within limits for Ag 328.068			Recovery = Not calculated			
Al 396.153†	43.8	-0.00129 mg/L	0.001633	-0.00129 mg/L	0.001633	126.37%
QC value within limits for Al 396.153			Recovery = Not calculated			
As 188.979†	-2.5	-0.00134 mg/L	0.001465	-0.00134 mg/L	0.001465	109.24%
QC value within limits for As 188.979			Recovery = Not calculated			
Ba 233.527†	1.3	-0.00172 mg/L	0.000017	-0.00172 mg/L	0.000017	1.01%
QC value within limits for Ba 233.527			Recovery = Not calculated			
Be 234.861†	70.2	-0.00012 mg/L	0.000033	-0.00012 mg/L	0.000033	27.29%
QC value within limits for Be 234.861			Recovery = Not calculated			
B 249.677†	308.2	0.00339 mg/L	0.000120	0.00339 mg/L	0.000120	3.54%
QC value within limits for B 249.677			Recovery = Not calculated			
Ca 227.546†	7.7	0.0129 mg/L	0.01305	0.0129 mg/L	0.01305	101.41%
QC value within limits for Ca 227.546			Recovery = Not calculated			
Cd 228.802†	-6.1	-0.00014 mg/L	0.000103	-0.00014 mg/L	0.000103	73.66%
QC value within limits for Cd 228.802			Recovery = Not calculated			
Co 228.616†	-4.5	-0.00035 mg/L	0.000230	-0.00035 mg/L	0.000230	65.77%
QC value within limits for Co 228.616			Recovery = Not calculated			
Cr 267.716†	-5.9	-0.00075 mg/L	0.000042	-0.00075 mg/L	0.000042	5.64%
QC value within limits for Cr 267.716			Recovery = Not calculated			
Cu 327.393†	164.4	-0.00063 mg/L	0.000408	-0.00063 mg/L	0.000408	64.79%
QC value within limits for Cu 327.393			Recovery = Not calculated			
Fe 239.562†	46.7	0.00419 mg/L	0.000748	0.00419 mg/L	0.000748	17.84%
QC value within limits for Fe 239.562			Recovery = Not calculated			
Mg 279.077†	15.7	0.00338 mg/L	0.001667	0.00338 mg/L	0.001667	49.36%
QC value within limits for Mg 279.077			Recovery = Not calculated			
Mn 257.610†	77.0	-0.00071 mg/L	0.000031	-0.00071 mg/L	0.000031	4.35%
QC value within limits for Mn 257.610			Recovery = Not calculated			
Mo 202.031†	7.6	-0.00102 mg/L	0.000244	-0.00102 mg/L	0.000244	23.99%
QC value within limits for Mo 202.031			Recovery = Not calculated			
Ni 231.604†	14.4	-0.00277 mg/L	0.000310	-0.00277 mg/L	0.000310	11.16%
QC value within limits for Ni 231.604			Recovery = Not calculated			
Pb 220.353†	20.5	0.00023 mg/L	0.000320	0.00023 mg/L	0.000320	141.51%
QC value within limits for Pb 220.353			Recovery = Not calculated			
Sb 206.836†	3.8	-0.00205 mg/L	0.000478	-0.00205 mg/L	0.000478	23.28%
QC value within limits for Sb 206.836			Recovery = Not calculated			
Se 196.026†	-2.5	-0.00107 mg/L	0.003974	-0.00107 mg/L	0.003974	373.02%
QC value within limits for Se 196.026			Recovery = Not calculated			
Si 251.611†	147.9	-0.0111 mg/L	0.00047	-0.0111 mg/L	0.00047	4.24%
QC value within limits for Si 251.611			Recovery = Not calculated			
Sn 189.927†	15.3	-0.00004 mg/L	0.000539	-0.00004 mg/L	0.000539	>999.9%

Approved: June 21, 2012

John H. Rhodes

QC value within limits for Sn 189.927 Recovery = Not calculated
 Ti 334.940† 27.3 0.00008 mg/L 0.000025 0.00008 mg/L 0.000025 31.26%
 QC value within limits for Ti 334.940 Recovery = Not calculated
 Tl 190.801† -0.0 -0.00282 mg/L 0.002089 -0.00282 mg/L 0.002089 73.99%
 QC value within limits for Tl 190.801 Recovery = Not calculated
 V 290.880† -554.5 -0.00300 mg/L 0.001636 -0.00300 mg/L 0.001636 54.60%
 QC value within limits for V 290.880 Recovery = Not calculated
 Zn 206.200† -10.9 -0.00261 mg/L 0.000116 -0.00261 mg/L 0.000116 4.45%
 QC value within limits for Zn 206.200 Recovery = Not calculated
 K 766.490† 84.5 -0.105 mg/L 0.0219 -0.105 mg/L 0.0219 20.88%
 QC value within limits for K 766.490 Recovery = Not calculated
 Na 589.592† 371.4 -0.00169 mg/L 0.017044 -0.00169 mg/L 0.017044 >999.9%
 QC value within limits for Na 589.592 Recovery = Not calculated
 Sr 407.771† 381.2 -0.00117 mg/L 0.000031 -0.00117 mg/L 0.000031 2.67%
 QC value within limits for Sr 407.771 Recovery = Not calculated
 Li 670.784† -20.6 -0.00408 mg/L 0.000373 -0.00408 mg/L 0.000373 9.14%
 QC value within limits for Li 670.784 Recovery = Not calculated
 All analyte(s) passed QC.

Sequence No.: 25

Sample ID: PBW 63 WG401157-02

Analyst: KHR

Initial Sample Wt:

Dilution:

Utosampler Location: 100

Date Collected: 6/20/2012 6:16:23 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: PBW 63 WG401157-02

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: PBW 63 WG401157-02

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2136818.2					26750.96	1.25%
YRADIAL	261887.3					1708.18	0.65%
Ga 417.206	1204133.4					2972.73	0.25%
GaRADIAL	78711.6					2672.40	3.40%
Ag 328.068†	-9.0	-0.00110 mg/L		0.000488	-0.00110 mg/L	0.000488	44.19%
Al 396.153†	65.8	0.00236 mg/L		0.001125	0.00236 mg/L	0.001125	47.63%
As 188.979†	-8.4	-0.00336 mg/L		0.000707	-0.00336 mg/L	0.000707	21.03%
Ba 233.527†	-103.7	-0.00239 mg/L		0.000101	-0.00239 mg/L	0.000101	4.23%
Be 234.861†	-232.9	-0.00037 mg/L		0.000022	-0.00037 mg/L	0.000022	5.88%
B 249.677†	154.2	0.00162 mg/L		0.000142	0.00162 mg/L	0.000142	8.76%
Ca 227.546†	-4.8	-0.0194 mg/L		0.00913	-0.0194 mg/L	0.00913	47.03%
Cd 228.802†	1.3	0.00002 mg/L		0.000093	0.00002 mg/L	0.000093	533.52%
Co 228.616†	-15.3	-0.00063 mg/L		0.000256	-0.00063 mg/L	0.000256	40.58%
Cr 267.716†	26.8	-0.00045 mg/L		0.000067	-0.00045 mg/L	0.000067	14.89%
Cu 327.393†	172.5	-0.00059 mg/L		0.000654	-0.00059 mg/L	0.000654	110.33%
Fe 239.562†	80.6	0.00654 mg/L		0.000250	0.00654 mg/L	0.000250	3.81%
Mg 279.077†	25.0	0.00614 mg/L		0.001160	0.00614 mg/L	0.001160	18.89%
Mn 257.610†	126.5	-0.00065 mg/L		0.000010	-0.00065 mg/L	0.000010	1.59%
Mo 202.031†	14.6	-0.00082 mg/L		0.000359	-0.00082 mg/L	0.000359	43.95%
Ni 231.604†	-5.8	-0.00308 mg/L		0.000331	-0.00308 mg/L	0.000331	10.77%
Pb 220.353†	13.7	-0.00036 mg/L		0.000815	-0.00036 mg/L	0.000815	226.24%
Sb 206.836†	10.5	-0.00036 mg/L		0.002613	-0.00036 mg/L	0.002613	723.34%
Se 196.026†	1.8	0.00129 mg/L		0.003622	0.00129 mg/L	0.003622	280.58%
Si 251.611†	55.2	-0.0133 mg/L		0.00062	-0.0133 mg/L	0.00062	4.65%
Sn 189.927†	7.8	-0.00072 mg/L		0.000495	-0.00072 mg/L	0.000495	68.39%
Ti 334.940†	69.3	0.00012 mg/L		0.000208	0.00012 mg/L	0.000208	170.96%
Tl 190.801†	-15.7	-0.00695 mg/L		0.000129	-0.00695 mg/L	0.000129	1.85%
V 290.880†	-382.7	-0.00216 mg/L		0.000977	-0.00216 mg/L	0.000977	45.23%
Zn 206.200†	64.8	-0.00112 mg/L		0.000042	-0.00112 mg/L	0.000042	3.71%
K 766.490†	45.7	-0.119 mg/L		0.0053	-0.119 mg/L	0.0053	4.44%
Na 589.592†	218.9	-0.0100 mg/L		0.00477	-0.0100 mg/L	0.00477	47.51%
Sr 407.771†	54.2	-0.00130 mg/L		0.000042	-0.00130 mg/L	0.000042	3.22%
Li 670.784†	14.1	-0.00381 mg/L		0.000168	-0.00381 mg/L	0.000168	4.41%

Sequence No.: 26

Sample ID: LCSW 63 WG401157-03

Utosampler Location: 101

Date Collected: 6/20/2012 6:23:18 PM

Approved: June 21, 2012

John H. Rhodes

Analyst: KHR
Initial Sample Wt:
Dilution:

alpha Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LCSW 63 WG401157-03

Analyte Back Pressure Flow
All 156.0 kPa 0.50 L/min

Mean Data: LCSW 63 WG401157-03

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2059648.5				28638.32	1.39%
YRADIAL	253256.7				1692.84	0.67%
Ga 417.206	1165458.0				19064.65	1.64%
GaRADIAL	74755.8				903.71	1.21%
Ag 328.068†	59744.0	0.206 mg/L	0.0068	0.206 mg/L	0.0068	3.27%
Al 396.153†	30773.2	5.09 mg/L	0.023	5.09 mg/L	0.023	0.46%
As 188.979†	563.7	0.190 mg/L	0.0027	0.190 mg/L	0.0027	1.42%
Ba 233.527†	81958.6	0.518 mg/L	0.0044	0.518 mg/L	0.0044	0.86%
Be 234.861†	29322.0	0.0241 mg/L	0.00082	0.0241 mg/L	0.00082	3.42%
B 249.677†	85427.4	0.974 mg/L	0.0369	0.974 mg/L	0.0369	3.79%
Ca 227.546†	1888.3	5.07 mg/L	0.078	5.07 mg/L	0.078	1.53%
Cd 228.802†	1247.9	0.0243 mg/L	0.00082	0.0243 mg/L	0.00082	3.37%
Co 228.616†	3933.0	0.102 mg/L	0.0024	0.102 mg/L	0.0024	2.38%
Cr 267.716†	28332.8	0.260 mg/L	0.0043	0.260 mg/L	0.0043	1.64%
Cu 327.393†	58073.4	0.259 mg/L	0.0088	0.259 mg/L	0.0088	3.42%
Fe 239.562†	29234.8	2.03 mg/L	0.006	2.03 mg/L	0.006	0.28%
Mg 279.077†	17313.1	5.16 mg/L	0.016	5.16 mg/L	0.016	0.30%
Mn 257.610†	200612.2	0.261 mg/L	0.0021	0.261 mg/L	0.0021	0.82%
Mo 202.031†	18200.1	0.516 mg/L	0.0067	0.516 mg/L	0.0067	1.29%
Ni 231.604†	17063.6	0.254 mg/L	0.0019	0.254 mg/L	0.0019	0.76%
Pb 220.353†	2945.6	0.252 mg/L	0.0051	0.252 mg/L	0.0051	2.01%
Sb 206.836†	2411.0	0.604 mg/L	0.0077	0.604 mg/L	0.0077	1.28%
Se 196.026†	355.4	0.195 mg/L	0.0034	0.195 mg/L	0.0034	1.74%
Si 251.611†	108628.0	2.59 mg/L	0.081	2.59 mg/L	0.081	3.12%
Sn 189.927†	-42.5	-0.00532 mg/L	0.000477	-0.00532 mg/L	0.000477	8.97%
Ti 334.940†	452217.6	0.506 mg/L	0.0041	0.506 mg/L	0.0041	0.82%
Tl 190.801†	957.5	0.256 mg/L	0.0035	0.256 mg/L	0.0035	1.37%
V 290.880†	106648.7	0.518 mg/L	0.0099	0.518 mg/L	0.0099	1.90%
Zn 206.200†	25963.9	0.509 mg/L	0.0074	0.509 mg/L	0.0074	1.45%
K 766.490†	66850.7	25.2 mg/L	0.22	25.2 mg/L	0.22	0.87%
Na 589.592†	475837.7	26.3 mg/L	0.46	26.3 mg/L	0.46	1.73%
Sr 407.771†	1282456.3	0.523 mg/L	0.0038	0.523 mg/L	0.0038	0.72%
Li 670.784†	65648.5	0.514 mg/L	0.0062	0.514 mg/L	0.0062	1.21%

Sequence No.: 27

Sample ID: FBLK1 WG401113-01

Analyst: KHR

Initial Sample Wt:

Dilution:

Sampler Location: 102

Date Collected: 6/20/2012 6:29:17 PM

alpha Type: Original

Initial Sample Vol:

Sample Prep Vol:

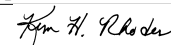
Nebulizer Parameters: FBLK1 WG401113-01

Analyte Back Pressure Flow
All 155.0 kPa 0.50 L/min

Mean Data: FBLK1 WG401113-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2041433.8				16942.50	0.83%
YRADIAL	251137.8				6656.59	2.65%
Ga 417.206	1227733.8				11954.22	0.97%
GaRADIAL	75639.4				1155.45	1.53%
Ag 328.068†	-175.9	-0.00152 mg/L	0.000407	-0.00152 mg/L	0.000407	26.84%
Al 396.153†	1248.8	0.200 mg/L	0.0026	0.200 mg/L	0.0026	1.29%
As 188.979†	-8.5	-0.00337 mg/L	0.000892	-0.00337 mg/L	0.000892	26.44%
Ba 233.527†	248.4	-0.00017 mg/L	0.000142	-0.00017 mg/L	0.000142	83.79%
Be 234.861†	27.3	-0.00023 mg/L	0.000063	-0.00023 mg/L	0.000063	27.39%

Approved: June 21, 2012



B 249.677†	466.6	0.00504 mg/L	0.000454	0.00504 mg/L	0.000454	9.00%
Ca 227.546†	64.2	0.166 mg/L	0.0273	0.166 mg/L	0.0273	16.42%
Cd 228.802†	-4.1	-0.00009 mg/L	0.000074	-0.00009 mg/L	0.000074	81.25%
Co 228.616†	-4.4	-0.00036 mg/L	0.000070	-0.00036 mg/L	0.000070	19.37%
Cr 267.716†	129.4	0.00048 mg/L	0.000133	0.00048 mg/L	0.000133	27.46%
Cu 327.393†	453.9	0.00070 mg/L	0.000727	0.00070 mg/L	0.000727	104.36%
Fe 239.562†	5092.1	0.354 mg/L	0.0041	0.354 mg/L	0.0041	1.16%
Mg 279.077†	298.3	0.0873 mg/L	0.00426	0.0873 mg/L	0.00426	4.88%
Mn 257.610†	7241.8	0.00862 mg/L	0.000078	0.00862 mg/L	0.000078	0.91%
Mo 202.031†	36.6	-0.00017 mg/L	0.000143	-0.00017 mg/L	0.000143	82.34%
Ni 231.604†	7.8	-0.00287 mg/L	0.000183	-0.00287 mg/L	0.000183	6.37%
Pb 220.353†	27.6	0.00083 mg/L	0.000924	0.00083 mg/L	0.000924	110.75%
Sb 206.836†	8.4	-0.00088 mg/L	0.001357	-0.00088 mg/L	0.001357	154.04%
Se 196.026†	7.1	0.00429 mg/L	0.003199	0.00429 mg/L	0.003199	74.58%
Si 251.611†	4269.5	0.0879 mg/L	0.00077	0.0879 mg/L	0.00077	0.87%
Sn 189.927†	1.6	-0.00129 mg/L	0.000438	-0.00129 mg/L	0.000438	33.82%
Ti 334.940†	2937.7	0.00335 mg/L	0.000076	0.00335 mg/L	0.000076	2.26%
Tl 190.801†	-27.2	-0.00994 mg/L	0.001855	-0.00994 mg/L	0.001855	18.66%
V 290.880†	-8.0	-0.00037 mg/L	0.001076	-0.00037 mg/L	0.001076	294.37%
Zn 206.200†	411.6	0.00568 mg/L	0.000110	0.00568 mg/L	0.000110	1.94%
K 766.490†	663.8	-0.0375 mg/L	0.00126	-0.0375 mg/L	0.00126	3.36%
Na 589.592†	2584861.6	152 mg/L	2.1	152 mg/L	2.1	1.39%
Sr 407.771†	2020.6	-0.00050 mg/L	0.000042	-0.00050 mg/L	0.000042	8.38%
Li 670.784†	125.8	-0.00293 mg/L	0.000056	-0.00293 mg/L	0.000056	1.90%

Sequence No.: 28

Sample ID: FBLK2 WG401113-02

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 103

Date Collected: 6/20/2012 6:36:16 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: FBLK2 WG401113-02

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: FBLK2 WG401113-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2212233.1						27997.51	1.27%
YRADIAL	267573.1						1098.71	0.41%
Ga 417.206	1286765.0						9228.06	0.72%
GaRADIAL	80290.2						2610.42	3.25%
Ag 328.068†	-95.8	-0.00129 mg/L		0.000492	-0.00129 mg/L		0.000492	38.13%
Al 396.153†	934.2	0.147 mg/L		0.0021	0.147 mg/L		0.0021	1.41%
As 188.979†	-7.4	-0.00298 mg/L		0.000778	-0.00298 mg/L		0.000778	26.08%
Ba 233.527†	208.2	-0.00042 mg/L		0.000064	-0.00042 mg/L		0.000064	15.15%
Be 234.861†	-45.0	-0.00027 mg/L		0.000021	-0.00027 mg/L		0.000021	7.88%
B 249.677†	141.9	0.00137 mg/L		0.000295	0.00137 mg/L		0.000295	21.47%
Ca 227.546†	84.3	0.215 mg/L		0.0396	0.215 mg/L		0.0396	18.39%
Cd 228.802†	-2.2	-0.00005 mg/L		0.000005	-0.00005 mg/L		0.000005	9.59%
Co 228.616†	-7.5	-0.00046 mg/L		0.000286	-0.00046 mg/L		0.000286	62.69%
Cr 267.716†	110.3	0.00031 mg/L		0.000105	0.00031 mg/L		0.000105	34.18%
Cu 327.393†	508.6	0.00094 mg/L		0.000491	0.00094 mg/L		0.000491	52.40%
Fe 239.562†	3746.3	0.261 mg/L		0.0032	0.261 mg/L		0.0032	1.23%
Mg 279.077†	220.9	0.0643 mg/L		0.00276	0.0643 mg/L		0.00276	4.30%
Mn 257.610†	8719.5	0.0105 mg/L		0.00022	0.0105 mg/L		0.00022	2.06%
Mo 202.031†	28.4	-0.00041 mg/L		0.000100	-0.00041 mg/L		0.000100	24.25%
Ni 231.604†	-17.5	-0.00325 mg/L		0.000324	-0.00325 mg/L		0.000324	9.95%
Pb 220.353†	32.8	0.00128 mg/L		0.000674	0.00128 mg/L		0.000674	52.79%
Sb 206.836†	11.8	-0.00002 mg/L		0.000924	-0.00002 mg/L		0.000924	>999.9%
Se 196.026†	7.9	0.00465 mg/L		0.001350	0.00465 mg/L		0.001350	29.02%
Si 251.611†	6053.4	0.131 mg/L		0.0037	0.131 mg/L		0.0037	2.85%
Sn 189.927†	3.8	-0.00110 mg/L		0.000475	-0.00110 mg/L		0.000475	43.30%
Ti 334.940†	8584.6	0.00967 mg/L		0.000210	0.00967 mg/L		0.000210	2.17%
Tl 190.801†	-14.1	-0.00641 mg/L		0.002816	-0.00641 mg/L		0.002816	43.90%
V 290.880†	-593.6	-0.00321 mg/L		0.000351	-0.00321 mg/L		0.000351	10.95%
Zn 206.200†	345.0	0.00438 mg/L		0.000052	0.00438 mg/L		0.000052	1.18%
K 766.490†	568.9	0.0789 mg/L		0.00471	0.0789 mg/L		0.00471	5.97%
Na 589.592†	265.5	-0.00748 mg/L		0.001346	-0.00748 mg/L		0.001346	17.98%

Approved: June 21, 2012

John H. Rhodes

Sr 407.771†	2632.1	-0.00025 mg/L	0.000025	-0.00025 mg/L	0.000025	10.05%
Li 670.784†	97.2	-0.00315 mg/L	0.000138	-0.00315 mg/L	0.000138	4.39%

Sequence No.: 29

Sample ID: L1206050901

Analyst: KHR

Initial Sample Wt:

Dilution:

UAsampler Location: 104

Date Collected: 6/20/2012 6:43:11 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206050901

Analyte

Back Pressure

Flow

All

155.0 kPa

0.50 L/min

Mean Data: L1206050901

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	2034557.5					36118.43	1.78%
YRADIAL	246235.9					6562.16	2.66%
Ga 417.206	1173382.2					30993.99	2.64%
GA RADIAL	73421.2					1747.42	2.38%
Ag 328.068†	1871.0	0.00158 mg/L		0.000465	0.00158 mg/L	0.000465	29.45%
Al 396.153†	1434.2	0.231 mg/L		0.0158	0.231 mg/L	0.0158	6.87%
As 188.979†	-0.3	-0.00053 mg/L		0.003489	-0.00053 mg/L	0.003489	659.02%
Ba 233.527†	5632.3	0.0339 mg/L		0.00065	0.0339 mg/L	0.00065	1.92%
Be 234.861†	-1518.8	0.00158 mg/L		0.000175	0.00158 mg/L	0.000175	11.13%
B 249.677†	1962.6	0.0219 mg/L		0.00093	0.0219 mg/L	0.00093	4.26%
Ca 227.546†	1265.0	3.26 mg/L		0.085	3.26 mg/L	0.085	2.62%
Cd 228.802†	13.3	0.00028 mg/L		0.000075	0.00028 mg/L	0.000075	26.85%
Co 228.616†	361.9	0.00917 mg/L		0.000166	0.00917 mg/L	0.000166	1.81%
Cr 267.716†	606.0	0.00486 mg/L		0.000864	0.00486 mg/L	0.000864	17.79%
Cu 327.393†	1155.1	0.00385 mg/L		0.000105	0.00385 mg/L	0.000105	2.72%
Fe 239.562†	9542.2	0.662 mg/L		0.0199	0.662 mg/L	0.0199	3.01%
Mg 279.077†	72307.3	21.5 mg/L		0.82	21.5 mg/L	0.82	3.83%
Mn 257.610†	24311848.5	31.6 mg/L		0.52	31.6 mg/L	0.52	1.64%
Mo 202.031†	66.1	0.00729 mg/L		0.000239	0.00729 mg/L	0.000239	3.27%
Ni 231.604†	767.0	0.00855 mg/L		0.000321	0.00855 mg/L	0.000321	3.76%
Pb 220.353†	60.1	-0.0154 mg/L		0.00165	-0.0154 mg/L	0.00165	10.73%
Sb 206.836†	-0.2	-0.00305 mg/L		0.001582	-0.00305 mg/L	0.001582	51.79%
Se 196.026†	33.9	0.00945 mg/L		0.003252	0.00945 mg/L	0.003252	34.42%
Si 251.611†	5458.8	0.117 mg/L		0.0046	0.117 mg/L	0.0046	3.92%
Sn 189.927†	-23.2	-0.00356 mg/L		0.000662	-0.00356 mg/L	0.000662	18.59%
Ti 334.940†	1067.3	0.00172 mg/L		0.000097	0.00172 mg/L	0.000097	5.65%
Tl 190.801†	-25.3	-0.0411 mg/L		0.01166	-0.0411 mg/L	0.01166	28.39%
V 290.880†	1469.4	0.00624 mg/L		0.001786	0.00624 mg/L	0.001786	28.62%
Zn 206.200†	388.6	0.00526 mg/L		0.000172	0.00526 mg/L	0.000172	3.26%
K 766.490†	918.3	0.0452 mg/L		0.02608	0.0452 mg/L	0.02608	57.67%
Na 589.592†	2799065.8	166 mg/L		0.8	166 mg/L	0.8	0.48%
Sr 407.771†	37363.6	0.0139 mg/L		0.00047	0.0139 mg/L	0.00047	3.37%
Li 670.784†	113.9	-0.00302 mg/L		0.000208	-0.00302 mg/L	0.000208	6.89%

Sequence No.: 30

Sample ID: L1206052301

Analyst: KHR

Initial Sample Wt:

Dilution:

UAsampler Location: 105

Date Collected: 6/20/2012 6:49:18 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206052301

Analyte

Back Pressure

Flow

All

155.0 kPa

0.50 L/min

Mean Data: L1206052301

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	2080531.4					13269.24	0.64%
YRADIAL	257765.4					5509.96	2.14%
Ga 417.206	1242851.3					19482.14	1.57%

Approved: June 21, 2012

John H. Rhodes

GA RADIAL	78255.7					1848.32	2.36%
Ag 328.068†	-499.1	0.00126 mg/L	0.000301	0.00126 mg/L	0.000301	23.90%	
Al 396.153†	664.6	0.103 mg/L	0.0050	0.103 mg/L	0.0050	4.84%	
As 188.979†	-20.0	-0.00635 mg/L	0.000797	-0.00635 mg/L	0.000797	12.54%	
Ba 233.527†	2721.0	0.0153 mg/L	0.00020	0.0153 mg/L	0.00020	1.34%	
Be 234.861†	2190.7	-0.00021 mg/L	0.000123	-0.00021 mg/L	0.000123	59.15%	
B 249.677†	16719.0	0.187 mg/L	0.0049	0.187 mg/L	0.0049	2.64%	
Ca 227.546†	35296.6	90.8 mg/L	2.61	90.8 mg/L	2.61	2.88%	
Cd 228.802†	13.1	0.00028 mg/L	0.000040	0.00028 mg/L	0.000040	14.45%	
Co 228.616†	216.4	0.00519 mg/L	0.000215	0.00519 mg/L	0.000215	4.14%	
Cr 267.716†	203.1	0.00084 mg/L	0.000005	0.00084 mg/L	0.000005	0.65%	
Cu 327.393†	1151.6	0.00454 mg/L	0.000332	0.00454 mg/L	0.000332	7.31%	
Fe 239.562†	133302.5	9.25 mg/L	0.141	9.25 mg/L	0.141	1.53%	
Mg 279.077†	24490.1	7.28 mg/L	0.122	7.28 mg/L	0.122	1.68%	
Mn 257.610†	893808.9	1.16 mg/L	0.007	1.16 mg/L	0.007	0.61%	
Mo 202.031†	149.7	0.00372 mg/L	0.000242	0.00372 mg/L	0.000242	6.50%	
Ni 231.604†	1172.8	0.0147 mg/L	0.00064	0.0147 mg/L	0.00064	4.36%	
Pb 220.353†	54.2	0.00236 mg/L	0.002242	0.00236 mg/L	0.002242	94.85%	
Sb 206.836†	2.0	-0.00216 mg/L	0.000110	-0.00216 mg/L	0.000110	5.10%	
Se 196.026†	4.8	0.00534 mg/L	0.002431	0.00534 mg/L	0.002431	45.51%	
Si 251.611†	37935.8	0.897 mg/L	0.0200	0.897 mg/L	0.0200	2.22%	
Sn 189.927†	-280.5	-0.0271 mg/L	0.00074	-0.0271 mg/L	0.00074	2.74%	
Ti 334.940†	-8549.7	0.00407 mg/L	0.001325	0.00407 mg/L	0.001325	32.54%	
Tl 190.801†	-52.8	-0.0180 mg/L	0.00247	-0.0180 mg/L	0.00247	13.76%	
V 290.880†	682.2	0.00211 mg/L	0.001814	0.00211 mg/L	0.001814	85.81%	
Zn 206.200†	903.1	0.0152 mg/L	0.00007	0.0152 mg/L	0.00007	0.44%	
K 766.490†	1135.5	0.136 mg/L	0.0721	0.136 mg/L	0.0721	52.86%	
Na 589.592†	2661463.7	157 mg/L	0.7	157 mg/L	0.7	0.45%	
Sr 407.771†	313081.8	0.125 mg/L	0.0004	0.125 mg/L	0.0004	0.35%	
Li 670.784†	465.4	-0.00025 mg/L	0.000535	-0.00025 mg/L	0.000535	215.05%	

Sequence No.: 31

Sample ID: L1206053201

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 106

Date Collected: 6/20/2012 6:55:20 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206053201

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: L1206053201

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2015914.2						33913.72	1.68%
YRADIAL	254555.1						4123.12	1.62%
Ga 417.206	1227738.4						7321.82	0.60%
GA RADIAL	77596.9						1393.06	1.80%
Ag 328.068†	459.8	0.00042	mg/L	0.000264	0.00042	mg/L	0.000264	63.28%
Al 396.153†	334.8	0.0471	mg/L	0.00063	0.0471	mg/L	0.00063	1.35%
As 188.979†	-18.6	-0.00685	mg/L	0.001269	-0.00685	mg/L	0.001269	18.52%
Ba 233.527†	2203.7	0.0122	mg/L	0.00012	0.0122	mg/L	0.00012	0.99%
Be 234.861†	-178.8	-0.00030	mg/L	0.000020	-0.00030	mg/L	0.000020	6.54%
B 249.677†	2179.5	0.0247	mg/L	0.00031	0.0247	mg/L	0.00031	1.23%
Ca 227.546†	26491.8	68.0	mg/L	0.79	68.0	mg/L	0.79	1.16%
Cd 228.802†	13.2	0.00027	mg/L	0.000169	0.00027	mg/L	0.000169	61.50%
Co 228.616†	1.8	-0.00017	mg/L	0.000251	-0.00017	mg/L	0.000251	146.71%
Cr 267.716†	188.1	0.00103	mg/L	0.000090	0.00103	mg/L	0.000090	8.74%
Cu 327.393†	1715.7	0.00629	mg/L	0.000281	0.00629	mg/L	0.000281	4.46%
Fe 239.562†	1195.6	0.0838	mg/L	0.00111	0.0838	mg/L	0.00111	1.32%
Mg 279.077†	17358.9	5.17	mg/L	0.085	5.17	mg/L	0.085	1.64%
Mn 257.610†	296325.2	0.385	mg/L	0.0043	0.385	mg/L	0.0043	1.11%
Mo 202.031†	90.4	0.00142	mg/L	0.000495	0.00142	mg/L	0.000495	34.84%
Ni 231.604†	306.2	0.00163	mg/L	0.000415	0.00163	mg/L	0.000415	25.52%
Pb 220.353†	56.0	0.00358	mg/L	0.000268	0.00358	mg/L	0.000268	7.48%
Sb 206.836†	4.3	-0.00192	mg/L	0.001047	-0.00192	mg/L	0.001047	54.48%
Se 196.026†	10.7	0.00602	mg/L	0.001346	0.00602	mg/L	0.001346	22.36%
Si 251.611†	20162.3	0.470	mg/L	0.0072	0.470	mg/L	0.0072	1.53%
Sn 189.927†	-266.0	-0.0257	mg/L	0.00088	-0.0257	mg/L	0.00088	3.42%

Approved: June 21, 2012

John H. Rhodes

Ti 334.940†	-7172.0	0.00222 mg/L	0.000300	0.00222 mg/L	0.000300	13.49%
Tl 190.801†	-49.6	-0.0163 mg/L	0.00215	-0.0163 mg/L	0.00215	13.19%
V 290.880†	331.9	0.00118 mg/L	0.001212	0.00118 mg/L	0.001212	102.89%
Zn 206.200†	453.0	0.00651 mg/L	0.000183	0.00651 mg/L	0.000183	2.81%
K 766.490†	739.7	-0.0160 mg/L	0.01002	-0.0160 mg/L	0.01002	62.65%
Na 589.592†	2698055.9	160 mg/L	4.7	160 mg/L	4.7	2.95%
Sr 407.771†	1024028.1	0.416 mg/L	0.0101	0.416 mg/L	0.0101	2.42%
Li 670.784†	82.7	-0.00327 mg/L	0.000266	-0.00327 mg/L	0.000266	8.15%

Sequence No.: 32

Sample ID: L1206053201PS WG401205-01

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 107

Date Collected: 6/20/2012 7:02:21 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206053201PS WG401205-01

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: L1206053201PS WG401205-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2020273.5				29436.08	1.46%
YRADIAL	254753.9				4015.37	1.58%
Ga 417.206	1186522.7				37331.03	3.15%
GaRADIAL	76437.1				1225.70	1.60%
Ag 328.068†	58984.9	0.204 mg/L	0.0058	0.204 mg/L	0.0058	2.83%
Al 396.153†	31997.7	5.29 mg/L	0.018	5.29 mg/L	0.018	0.34%
As 188.979†	563.7	0.190 mg/L	0.0074	0.190 mg/L	0.0074	3.89%
Ba 233.527†	83204.1	0.525 mg/L	0.0137	0.525 mg/L	0.0137	2.61%
Be 234.861†	29720.5	0.0245 mg/L	0.00091	0.0245 mg/L	0.00091	3.73%
B 249.677†	86416.4	0.985 mg/L	0.0327	0.985 mg/L	0.0327	3.32%
Ca 227.546†	26437.2	68.1 mg/L	1.99	68.1 mg/L	1.99	2.93%
Cd 228.802†	1256.2	0.0245 mg/L	0.00126	0.0245 mg/L	0.00126	5.14%
Co 228.616†	3944.0	0.102 mg/L	0.0018	0.102 mg/L	0.0018	1.72%
Cr 267.716†	28294.6	0.260 mg/L	0.0040	0.260 mg/L	0.0040	1.56%
Cu 327.393†	58438.1	0.260 mg/L	0.0077	0.260 mg/L	0.0077	2.95%
Fe 239.562†	30463.2	2.11 mg/L	0.014	2.11 mg/L	0.014	0.65%
Mg 279.077†	32992.0	9.83 mg/L	0.076	9.83 mg/L	0.076	0.78%
Mn 257.610†	459617.1	0.598 mg/L	0.0172	0.598 mg/L	0.0172	2.88%
Mo 202.031†	18458.1	0.523 mg/L	0.0083	0.523 mg/L	0.0083	1.59%
Ni 231.604†	17048.5	0.254 mg/L	0.0079	0.254 mg/L	0.0079	3.12%
Pb 220.353†	3002.2	0.257 mg/L	0.0037	0.257 mg/L	0.0037	1.44%
Sb 206.836†	2431.4	0.609 mg/L	0.0202	0.609 mg/L	0.0202	3.32%
Se 196.026†	376.2	0.206 mg/L	0.0101	0.206 mg/L	0.0101	4.92%
Si 251.611†	127327.1	3.04 mg/L	0.102	3.04 mg/L	0.102	3.36%
Sn 189.927†	-250.7	-0.0243 mg/L	0.00075	-0.0243 mg/L	0.00075	3.09%
Ti 334.940†	458278.7	0.522 mg/L	0.0005	0.522 mg/L	0.0005	0.09%
Tl 190.801†	918.7	0.246 mg/L	0.0063	0.246 mg/L	0.0063	2.55%
V 290.880†	107858.5	0.524 mg/L	0.0113	0.524 mg/L	0.0113	2.15%
Zn 206.200†	26188.4	0.514 mg/L	0.0146	0.514 mg/L	0.0146	2.83%
K 766.490†	69720.2	26.2 mg/L	0.16	26.2 mg/L	0.16	0.62%
Na 589.592†	2973714.9	178 mg/L	7.2	178 mg/L	7.2	4.07%
Sr 407.771†	2228333.0	0.909 mg/L	0.0354	0.909 mg/L	0.0354	3.89%
Li 670.784†	67067.9	0.525 mg/L	0.0034	0.525 mg/L	0.0034	0.64%

Sequence No.: 33

Sample ID: L1206053201DL WG401205-02

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 108

Date Collected: 6/20/2012 7:08:20 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206053201DL WG401205-02

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Approved: June 21, 2012

John H. Rhodes

Mean Data: L1206053201DL WG401205-02

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2069712.2				12562.95	0.61%
YRADIAL	256339.2				5779.29	2.25%
Ga 417.206	1252281.8				5867.89	0.47%
GaRADIAL	78107.7				1066.10	1.36%
Ag 328.068†	86.9	-0.00079 mg/L	0.000153	-0.00079 mg/L	0.000153	19.35%
Al 396.153†	92.5	0.00679 mg/L	0.001106	0.00679 mg/L	0.001106	16.30%
As 188.979†	-3.0	-0.00151 mg/L	0.002157	-0.00151 mg/L	0.002157	142.65%
Ba 233.527†	422.6	0.00094 mg/L	0.000055	0.00094 mg/L	0.000055	5.81%
Be 234.861†	12.2	-0.00016 mg/L	0.000032	-0.00016 mg/L	0.000032	19.73%
B 249.677†	835.4	0.00940 mg/L	0.001396	0.00940 mg/L	0.001396	14.85%
Ca 227.546†	5419.5	13.9 mg/L	0.08	13.9 mg/L	0.08	0.58%
Cd 228.802†	-0.8	-0.00003 mg/L	0.000079	-0.00003 mg/L	0.000079	233.02%
Co 228.616†	-11.9	-0.00054 mg/L	0.000233	-0.00054 mg/L	0.000233	43.20%
Cr 267.716†	34.9	-0.00038 mg/L	0.000035	-0.00038 mg/L	0.000035	9.21%
Cu 327.393†	451.1	0.00065 mg/L	0.000461	0.00065 mg/L	0.000461	70.86%
Fe 239.562†	258.7	0.0189 mg/L	0.00045	0.0189 mg/L	0.00045	2.41%
Mg 279.077†	3640.9	1.08 mg/L	0.019	1.08 mg/L	0.019	1.75%
Mn 257.610†	60711.4	0.0782 mg/L	0.00028	0.0782 mg/L	0.00028	0.36%
Mo 202.031†	36.8	-0.00017 mg/L	0.000236	-0.00017 mg/L	0.000236	139.60%
Ni 231.604†	56.5	-0.00214 mg/L	0.000100	-0.00214 mg/L	0.000100	4.68%
Pb 220.353†	26.2	0.00078 mg/L	0.000662	0.00078 mg/L	0.000662	84.87%
Sb 206.836†	2.7	-0.00232 mg/L	0.000527	-0.00232 mg/L	0.000527	22.75%
Se 196.026†	-0.1	0.00020 mg/L	0.000554	0.00020 mg/L	0.000554	277.84%
Si 251.611†	4298.0	0.0886 mg/L	0.00119	0.0886 mg/L	0.00119	1.34%
Sn 189.927†	-110.8	-0.0116 mg/L	0.00050	-0.0116 mg/L	0.00050	4.33%
Ti 334.940†	-1581.2	0.00036 mg/L	0.000191	0.00036 mg/L	0.000191	52.38%
Tl 190.801†	-16.5	-0.00725 mg/L	0.001329	-0.00725 mg/L	0.001329	18.35%
V 290.880†	7.3	-0.00029 mg/L	0.001577	-0.00029 mg/L	0.001577	541.72%
Zn 206.200†	231.1	0.00214 mg/L	0.000048	0.00214 mg/L	0.000048	2.25%
K 766.490†	555.6	0.0427 mg/L	0.00768	0.0427 mg/L	0.00768	17.97%
Na 589.592†	561042.2	31.1 mg/L	1.01	31.1 mg/L	1.01	3.23%
Sr 407.771†	212695.8	0.0854 mg/L	0.00157	0.0854 mg/L	0.00157	1.84%
Li 670.784†	81.2	-0.00328 mg/L	0.000381	-0.00328 mg/L	0.000381	11.62%

Sequence No.: 34

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Sampler Location: 6

Date Collected: 6/20/2012 7:15:16 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2061149.1				37391.00	1.81%
YRADIAL	267374.7				7557.32	2.83%
Ga 417.206	1194385.7				19498.13	1.63%
GaRADIAL	80115.1				3052.51	3.81%
Ag 328.068†	116700.9	0.404 mg/L	0.0071	0.404 mg/L	0.0071	1.75%
QC value within limits for Ag 328.068 Recovery = 101.06%						
Al 396.153†	58723.7	9.71 mg/L	0.503	9.71 mg/L	0.503	5.18%
QC value within limits for Al 396.153 Recovery = 97.14%						
As 188.979†	1167.7	0.394 mg/L	0.0068	0.394 mg/L	0.0068	1.74%
QC value within limits for As 188.979 Recovery = 98.60%						
Ba 233.527†	162080.8	1.03 mg/L	0.023	1.03 mg/L	0.023	2.24%
QC value within limits for Ba 233.527 Recovery = 102.52%						
Be 234.861†	60798.6	0.0502 mg/L	0.00085	0.0502 mg/L	0.00085	1.69%
QC value within limits for Be 234.861 Recovery = 100.47%						
B 249.677†	45295.9	0.513 mg/L	0.0104	0.513 mg/L	0.0104	2.03%
QC value within limits for B 249.677 Recovery = 102.67%						
Ca 227.546†	3877.0	10.4 mg/L	0.15	10.4 mg/L	0.15	1.46%
QC value within limits for Ca 227.546 Recovery = 104.16%						
Cd 228.802†	2516.1	0.0490 mg/L	0.00130	0.0490 mg/L	0.00130	2.65%

Approved: June 21, 2012

John H. Rhodes

Co	228.616†	7855.5	0.204 mg/L	0.0060	2.96%
Cr	267.716†	55703.1	0.512 mg/L	0.0072	1.41%
Cu	327.393†	112305.3	0.502 mg/L	0.0092	1.83%
Fe	239.562†	56432.1	3.92 mg/L	0.174	4.44%
Mg	279.077†	33055.3	9.85 mg/L	0.455	4.62%
Mn	257.610†	394105.2	0.513 mg/L	0.0125	2.43%
Mo	202.031†	36000.6	1.02 mg/L	0.019	1.84%
Ni	231.604†	34962.6	0.523 mg/L	0.0129	2.47%
Pb	220.353†	5992.9	0.515 mg/L	0.0123	2.40%
Sb	206.836†	4776.4	1.20 mg/L	0.022	1.82%
Se	196.026†	730.5	0.400 mg/L	0.0098	2.46%
Si	251.611†	223573.6	5.35 mg/L	0.080	1.50%
Sn	189.927†	11145.4	1.02 mg/L	0.025	2.50%
Ti	334.940†	901290.9	1.01 mg/L	0.019	1.93%
Tl	190.801†	1980.5	0.533 mg/L	0.0037	0.70%
V	290.880†	208266.1	1.01 mg/L	0.017	1.73%
Zn	206.200†	52659.4	1.04 mg/L	0.023	2.18%
K	766.490†	129435.9	49.1 mg/L	2.74	5.58%
Na	589.592†	854257.1	47.8 mg/L	2.64	5.53%
Sr	407.771†	2370891.4	0.969 mg/L	0.0397	4.10%
Li	670.784†	123540.5	0.971 mg/L	0.0542	5.58%
All analyte(s) passed QC.					

Sequence No.: 35

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 6/20/2012 7:21:16 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2111832.6					53760.09	2.55%
YRADIAL	261425.3					7070.64	2.70%
Ga 417.206	1247329.4					39652.00	3.18%
GaRADIAL	78575.2					2598.58	3.31%
Ag 328.068†	41.3	-0.00093 mg/L		0.000200	-0.00093 mg/L	0.000200	21.37%
QC value within limits for Ag							
Al 396.153†	39.9	-0.00196 mg/L		0.001175	-0.00196 mg/L	0.001175	60.02%
QC value within limits for Al							
As 188.979†	-0.4	-0.00062 mg/L		0.001453	-0.00062 mg/L	0.001453	232.85%
QC value within limits for As							
Ba 233.527†	-12.5	-0.00181 mg/L		0.000068	-0.00181 mg/L	0.000068	3.74%

Approved: June 21, 2012

John H. Rhodes

QC value within limits for Ba	233.527	Recovery = Not calculated					
Be 234.861†	55.2	-0.00013 mg/L	0.000025	-0.00013 mg/L	0.000025	18.87%	
QC value within limits for Be	234.861	Recovery = Not calculated					
B 249.677†	284.1	0.00311 mg/L	0.000649	0.00311 mg/L	0.000649	20.87%	
QC value within limits for B	249.677	Recovery = Not calculated					
Ca 227.546†	22.9	0.0517 mg/L	0.00954	0.0517 mg/L	0.00954	18.46%	
QC value within limits for Ca	227.546	Recovery = Not calculated					
Cd 228.802†	-5.6	-0.00013 mg/L	0.000060	-0.00013 mg/L	0.000060	44.65%	
QC value within limits for Cd	228.802	Recovery = Not calculated					
Co 228.616†	-1.4	-0.00027 mg/L	0.000149	-0.00027 mg/L	0.000149	55.41%	
QC value within limits for Co	228.616	Recovery = Not calculated					
Cr 267.716†	13.4	-0.00057 mg/L	0.000087	-0.00057 mg/L	0.000087	15.13%	
QC value within limits for Cr	267.716	Recovery = Not calculated					
Cu 327.393†	-37.5	-0.00153 mg/L	0.000332	-0.00153 mg/L	0.000332	21.65%	
QC value within limits for Cu	327.393	Recovery = Not calculated					
Fe 239.562†	31.8	0.00316 mg/L	0.000555	0.00316 mg/L	0.000555	17.55%	
QC value within limits for Fe	239.562	Recovery = Not calculated					
Mg 279.077†	36.4	0.00954 mg/L	0.003734	0.00954 mg/L	0.003734	39.13%	
QC value within limits for Mg	279.077	Recovery = Not calculated					
Mn 257.610†	438.9	-0.00024 mg/L	0.000036	-0.00024 mg/L	0.000036	15.00%	
QC value within limits for Mn	257.610	Recovery = Not calculated					
Mo 202.031†	16.8	-0.00075 mg/L	0.000309	-0.00075 mg/L	0.000309	41.00%	
QC value within limits for Mo	202.031	Recovery = Not calculated					
Ni 231.604†	-2.5	-0.00303 mg/L	0.000278	-0.00303 mg/L	0.000278	9.17%	
QC value within limits for Ni	231.604	Recovery = Not calculated					
Pb 220.353†	18.2	0.00003 mg/L	0.000526	0.00003 mg/L	0.000526	>999.9%	
QC value within limits for Pb	220.353	Recovery = Not calculated					
Sb 206.836†	6.6	-0.00135 mg/L	0.001421	-0.00135 mg/L	0.001421	105.33%	
QC value within limits for Sb	206.836	Recovery = Not calculated					
Se 196.026†	0.5	0.00056 mg/L	0.001839	0.00056 mg/L	0.001839	328.41%	
QC value within limits for Se	196.026	Recovery = Not calculated					
Si 251.611†	63.2	-0.0131 mg/L	0.00025	-0.0131 mg/L	0.00025	1.91%	
QC value within limits for Si	251.611	Recovery = Not calculated					
Sn 189.927†	16.4	0.00005 mg/L	0.000466	0.00005 mg/L	0.000466	862.26%	
QC value within limits for Sn	189.927	Recovery = Not calculated					
Ti 334.940†	68.9	0.00013 mg/L	0.000191	0.00013 mg/L	0.000191	144.86%	
QC value within limits for Ti	334.940	Recovery = Not calculated					
Tl 190.801†	-2.2	-0.00339 mg/L	0.002451	-0.00339 mg/L	0.002451	72.25%	
QC value within limits for Tl	190.801	Recovery = Not calculated					
V 290.880†	-525.4	-0.00286 mg/L	0.001193	-0.00286 mg/L	0.001193	41.77%	
QC value within limits for V	290.880	Recovery = Not calculated					
Zn 206.200†	-7.0	-0.00253 mg/L	0.000274	-0.00253 mg/L	0.000274	10.81%	
QC value within limits for Zn	206.200	Recovery = Not calculated					
K 766.490†	37.1	-0.123 mg/L	0.0257	-0.123 mg/L	0.0257	20.98%	
QC value within limits for K	766.490	Recovery = Not calculated					
Na 589.592†	413.9	0.00064 mg/L	0.012609	0.00064 mg/L	0.012609	>999.9%	
QC value within limits for Na	589.592	Recovery = Not calculated					
Sr 407.771†	522.1	-0.00111 mg/L	0.000056	-0.00111 mg/L	0.000056	5.03%	
QC value within limits for Sr	407.771	Recovery = Not calculated					
Li 670.784†	93.2	-0.00319 mg/L	0.000560	-0.00319 mg/L	0.000560	17.57%	
QC value within limits for Li	670.784	Recovery = Not calculated					

All analyte(s) passed QC.

Sequence No.: 36

Sample ID: L1206053203

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 109

Date Collected: 6/20/2012 7:28:09 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206053203

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: L1206053203

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2010917.2				5209.82	0.26%
YRADIAL	249772.5				3890.08	1.56%
Ga 417.206	1195472.2				12942.03	1.08%

Approved: June 21, 2012

John H. Rhodes

GA RADIAL	75533.5					1692.44	2.24%
Ag 328.068†	-11314.0	-0.00213 mg/L	0.001766	-0.00213 mg/L	0.001766	82.85%	
Al 396.153†	100.6	0.0183 mg/L	0.00065	0.0183 mg/L	0.00065	3.54%	
As 188.979†	-31.2	-0.00199 mg/L	0.001677	-0.00199 mg/L	0.001677	84.30%	
Ba 233.527†	723.3	0.00076 mg/L	0.000084	0.00076 mg/L	0.000084	10.99%	
Be 234.861†	21976.1	0.00045 mg/L	0.000591	0.00045 mg/L	0.000591	130.61%	
B 249.677†	4513.1	0.0156 mg/L	0.00101	0.0156 mg/L	0.00101	6.47%	
Ca 227.546†	-467.8	0.794 mg/L	0.1336	0.794 mg/L	0.1336	16.84%	
Cd 228.802†	-12.2	-0.00036 mg/L	0.000086	-0.00036 mg/L	0.000086	23.64%	
Co 228.616†	66.9	-0.00068 mg/L	0.000269	-0.00068 mg/L	0.000269	39.37%	
Cr 267.716†	-254.4	-0.00608 mg/L	0.000123	-0.00608 mg/L	0.000123	2.02%	
Cu 327.393†	-484.9	0.00350 mg/L	0.000248	0.00350 mg/L	0.000248	7.07%	
Fe 239.562†	1201962.5	83.4 mg/L	1.12	83.4 mg/L	1.12	1.34%	
Mg 279.077†	251.1	0.0284 mg/L	0.00262	0.0284 mg/L	0.00262	9.23%	
Mn 257.610†	871204.5	1.14 mg/L	0.005	1.14 mg/L	0.005	0.40%	
Mo 202.031†	-66.9	0.00120 mg/L	0.000307	0.00120 mg/L	0.000307	25.70%	
Ni 231.604†	-10.9	-0.00315 mg/L	0.000159	-0.00315 mg/L	0.000159	5.04%	
Pb 220.353†	110.8	0.00006 mg/L	0.001023	0.00006 mg/L	0.001023	>999.9%	
Sb 206.836†	4.6	0.00123 mg/L	0.001027	0.00123 mg/L	0.001027	83.40%	
Se 196.026†	-28.5	0.00947 mg/L	0.003919	0.00947 mg/L	0.003919	41.37%	
Si 251.611†	2794.5	0.0525 mg/L	0.00241	0.0525 mg/L	0.00241	4.59%	
Sn 189.927†	-15.2	-0.00283 mg/L	0.000781	-0.00283 mg/L	0.000781	27.63%	
Ti 334.940†	1833.7	0.00192 mg/L	0.000075	0.00192 mg/L	0.000075	3.89%	
Tl 190.801†	-20.1	-0.00919 mg/L	0.002943	-0.00919 mg/L	0.002943	32.03%	
V 290.880†	1085.7	-0.00150 mg/L	0.000964	-0.00150 mg/L	0.000964	64.29%	
Zn 206.200†	331.9	0.00251 mg/L	0.000281	0.00251 mg/L	0.000281	11.20%	
K 766.490†	1216.3	0.165 mg/L	0.0066	0.165 mg/L	0.0066	4.01%	
Na 589.592†	2689328.5	159 mg/L	4.9	159 mg/L	4.9	3.05%	
Sr 407.771†	5967.0	0.00115 mg/L	0.000057	0.00115 mg/L	0.000057	5.01%	
Li 670.784†	139.7	-0.00282 mg/L	0.000139	-0.00282 mg/L	0.000139	4.92%	

Sequence No.: 37

Sample ID: L1206053205

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 110

Date Collected: 6/20/2012 7:35:10 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206053205

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: L1206053205

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2101085.7						15764.94	0.75%
YRADIAL	257049.4						5054.74	1.97%
Ga 417.206	1249194.0						25295.76	2.02%
GA RADIAL	78187.8						1510.11	1.93%
Ag 328.068†	-899.6	-0.00113	mg/L	0.000221	-0.00113	mg/L	0.000221	19.59%
Al 396.153†	7940.9	1.32	mg/L	0.013	1.32	mg/L	0.013	0.96%
As 188.979†	-10.0	-0.00321	mg/L	0.000434	-0.00321	mg/L	0.000434	13.50%
Ba 233.527†	1888.1	0.0101	mg/L	0.00008	0.0101	mg/L	0.00008	0.81%
Be 234.861†	2581.2	0.00056	mg/L	0.000033	0.00056	mg/L	0.000033	5.89%
B 249.677†	13956.4	0.156	mg/L	0.0033	0.156	mg/L	0.0033	2.09%
Ca 227.546†	1293.5	3.47	mg/L	0.068	3.47	mg/L	0.068	1.96%
Cd 228.802†	-3.1	-0.00001	mg/L	0.000181	-0.00001	mg/L	0.000181	>999.9%
Co 228.616†	684.3	0.0174	mg/L	0.00040	0.0174	mg/L	0.00040	2.30%
Cr 267.716†	688.0	0.00539	mg/L	0.000101	0.00539	mg/L	0.000101	1.87%
Cu 327.393†	3720.0	0.0158	mg/L	0.00040	0.0158	mg/L	0.00040	2.51%
Fe 239.562†	96614.9	6.70	mg/L	0.011	6.70	mg/L	0.011	0.16%
Mg 279.077†	1057.0	0.310	mg/L	0.0053	0.310	mg/L	0.0053	1.72%
Mn 257.610†	79569.4	0.103	mg/L	0.0017	0.103	mg/L	0.0017	1.69%
Mo 202.031†	273.1	0.00687	mg/L	0.000167	0.00687	mg/L	0.000167	2.43%
Ni 231.604†	219.3	0.00030	mg/L	0.000342	0.00030	mg/L	0.000342	114.93%
Pb 220.353†	257.8	0.0202	mg/L	0.00073	0.0202	mg/L	0.00073	3.61%
Sb 206.836†	13.8	0.00067	mg/L	0.000596	0.00067	mg/L	0.000596	88.49%
Se 196.026†	4.1	0.00456	mg/L	0.001583	0.00456	mg/L	0.001583	34.69%
Si 251.611†	23735.9	0.556	mg/L	0.0094	0.556	mg/L	0.0094	1.69%
Sn 189.927†	-31.2	-0.00429	mg/L	0.000372	-0.00429	mg/L	0.000372	8.67%

Approved: June 21, 2012

John H. Rhodes

Ti 334.940†	12802.0	0.0149 mg/L	0.00023	0.0149 mg/L	0.00023	1.57%
Tl 190.801†	-31.6	-0.0110 mg/L	0.00209	-0.0110 mg/L	0.00209	18.93%
V 290.880†	-22.1	-0.00094 mg/L	0.000269	-0.00094 mg/L	0.000269	28.80%
Zn 206.200†	1938.5	0.0356 mg/L	0.00032	0.0356 mg/L	0.00032	0.90%
K 766.490†	7235.1	2.45 mg/L	0.030	2.45 mg/L	0.030	1.21%
Na 589.592†	2593253.5	153 mg/L	2.4	153 mg/L	2.4	1.56%
Sr 407.771†	22128.9	0.00766 mg/L	0.000212	0.00766 mg/L	0.000212	2.77%
Li 670.784†	212.5	-0.00224 mg/L	0.000319	-0.00224 mg/L	0.000319	14.20%

Sequence No.: 38

Sample ID: L1206053501 WG401157-01

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 111

Date Collected: 6/20/2012 7:42:09 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206053501 WG401157-01

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: L1206053501 WG401157-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2039035.0				33995.44	1.67%
YRADIAL	251707.2				3074.26	1.22%
Ga 417.206	1229735.2				16335.08	1.33%
GaRADIAL	77021.7				1984.27	2.58%
Ag 328.068†	445.6	0.00049 mg/L	0.000258	0.00049 mg/L	0.000258	52.97%
Al 396.153†	453.4	0.0669 mg/L	0.00262	0.0669 mg/L	0.00262	3.91%
As 188.979†	-18.5	-0.00683 mg/L	0.001164	-0.00683 mg/L	0.001164	17.04%
Ba 233.527†	44028.0	0.277 mg/L	0.0039	0.277 mg/L	0.0039	1.42%
Be 234.861†	-97.3	-0.00028 mg/L	0.000003	-0.00028 mg/L	0.000003	1.05%
B 249.677†	1112.3	0.0125 mg/L	0.00033	0.0125 mg/L	0.00033	2.64%
Ca 227.546†	27978.3	71.8 mg/L	1.17	71.8 mg/L	1.17	1.63%
Cd 228.802†	10.3	0.00021 mg/L	0.000086	0.00021 mg/L	0.000086	40.44%
Co 228.616†	-19.3	-0.00082 mg/L	0.000125	-0.00082 mg/L	0.000125	15.27%
Cr 267.716†	124.1	0.00044 mg/L	0.000111	0.00044 mg/L	0.000111	25.04%
Cu 327.393†	286.4	-0.00008 mg/L	0.000364	-0.00008 mg/L	0.000364	479.70%
Fe 239.562†	1944.1	0.136 mg/L	0.0026	0.136 mg/L	0.0026	1.88%
Mg 279.077†	5717.1	1.70 mg/L	0.033	1.70 mg/L	0.033	1.96%
Mn 257.610†	74808.1	0.0965 mg/L	0.00160	0.0965 mg/L	0.00160	1.66%
Mo 202.031†	72.5	0.00085 mg/L	0.000355	0.00085 mg/L	0.000355	41.68%
Ni 231.604†	321.8	0.00186 mg/L	0.000215	0.00186 mg/L	0.000215	11.54%
Pb 220.353†	42.6	0.00264 mg/L	0.001077	0.00264 mg/L	0.001077	40.83%
Sb 206.836†	6.6	-0.00134 mg/L	0.001282	-0.00134 mg/L	0.001282	95.69%
Se 196.026†	5.4	0.00325 mg/L	0.002430	0.00325 mg/L	0.002430	74.78%
Si 251.611†	21677.6	0.506 mg/L	0.0040	0.506 mg/L	0.0040	0.78%
Sn 189.927†	-259.8	-0.0252 mg/L	0.00080	-0.0252 mg/L	0.00080	3.17%
Ti 334.940†	-5961.7	0.00415 mg/L	0.000392	0.00415 mg/L	0.000392	9.45%
Tl 190.801†	-62.8	-0.0195 mg/L	0.00149	-0.0195 mg/L	0.00149	7.62%
V 290.880†	-51.9	-0.00061 mg/L	0.001256	-0.00061 mg/L	0.001256	204.42%
Zn 206.200†	4482.4	0.0855 mg/L	0.00140	0.0855 mg/L	0.00140	1.63%
K 766.490†	1279.8	0.202 mg/L	0.0027	0.202 mg/L	0.0027	1.32%
Na 589.592†	2491009.0	146 mg/L	5.6	146 mg/L	5.6	3.83%
Sr 407.771†	282226.0	0.113 mg/L	0.0028	0.113 mg/L	0.0028	2.49%
Li 670.784†	151.3	-0.00273 mg/L	0.000031	-0.00273 mg/L	0.000031	1.14%

Sequence No.: 39

Sample ID: L1206053501S WG401157-04

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 112

Date Collected: 6/20/2012 7:49:09 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206053501S WG401157-04

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Approved: June 21, 2012

John H. Rhodes

Mean Data: L1206053501S WG401157-04

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1976275.6				25285.03	1.28%
YRADIAL	252044.5				5510.74	2.19%
Ga 417.206	1162063.8				20970.79	1.80%
GaRADIAL	74290.5				1752.95	2.36%
Ag 328.068†	58628.3	0.203 mg/L	0.0053	0.203 mg/L	0.0053	2.59%
Al 396.153†	31344.8	5.18 mg/L	0.007	5.18 mg/L	0.007	0.13%
As 188.979†	558.8	0.188 mg/L	0.0041	0.188 mg/L	0.0041	2.16%
Ba 233.527†	126821.4	0.802 mg/L	0.0097	0.802 mg/L	0.0097	1.21%
Be 234.861†	29466.1	0.0242 mg/L	0.00073	0.0242 mg/L	0.00073	3.02%
B 249.677†	85270.3	0.972 mg/L	0.0316	0.972 mg/L	0.0316	3.26%
Ca 227.546†	32185.3	82.8 mg/L	2.67	82.8 mg/L	2.67	3.22%
Cd 228.802†	1222.5	0.0238 mg/L	0.00084	0.0238 mg/L	0.00084	3.54%
Co 228.616†	3876.4	0.100 mg/L	0.0015	0.100 mg/L	0.0015	1.52%
Cr 267.716†	28516.7	0.262 mg/L	0.0006	0.262 mg/L	0.0006	0.24%
Cu 327.393†	56551.0	0.252 mg/L	0.0080	0.252 mg/L	0.0080	3.17%
Fe 239.562†	29567.0	2.05 mg/L	0.006	2.05 mg/L	0.006	0.27%
Mg 279.077†	22714.7	6.77 mg/L	0.040	6.77 mg/L	0.040	0.60%
Mn 257.610†	275792.9	0.358 mg/L	0.0049	0.358 mg/L	0.0049	1.37%
Mo 202.031†	18356.2	0.520 mg/L	0.0057	0.520 mg/L	0.0057	1.10%
Ni 231.604†	17059.8	0.254 mg/L	0.0018	0.254 mg/L	0.0018	0.69%
Pb 220.353†	2948.2	0.253 mg/L	0.0033	0.253 mg/L	0.0033	1.29%
Sb 206.836†	2365.5	0.592 mg/L	0.0150	0.592 mg/L	0.0150	2.54%
Se 196.026†	367.4	0.201 mg/L	0.0037	0.201 mg/L	0.0037	1.85%
Si 251.611†	132928.2	3.17 mg/L	0.054	3.17 mg/L	0.054	1.71%
Sn 189.927†	-277.4	-0.0268 mg/L	0.00102	-0.0268 mg/L	0.00102	3.79%
Ti 334.940†	451461.7	0.517 mg/L	0.0025	0.517 mg/L	0.0025	0.49%
Tl 190.801†	885.2	0.237 mg/L	0.0030	0.237 mg/L	0.0030	1.26%
V 290.880†	108030.1	0.525 mg/L	0.0028	0.525 mg/L	0.0028	0.53%
Zn 206.200†	30585.7	0.600 mg/L	0.0037	0.600 mg/L	0.0037	0.62%
K 766.490†	68719.1	25.8 mg/L	0.08	25.8 mg/L	0.08	0.29%
Na 589.592†	3111676.1	187 mg/L	5.9	187 mg/L	5.9	3.14%
Sr 407.771†	1531824.8	0.624 mg/L	0.0208	0.624 mg/L	0.0208	3.34%
Li 670.784†	65550.8	0.513 mg/L	0.0052	0.513 mg/L	0.0052	1.01%

Sequence No.: 40

Sample ID: L1206053501SD WG401157-05

Analyst: KHR

Initial Sample Wt:

Dilution:

Sampler Location: 113

Date Collected: 6/20/2012 7:55:09 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206053501SD WG401157-05

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: L1206053501SD WG401157-05

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1975361.5				28033.84	1.42%
YRADIAL	252562.5				3419.90	1.35%
Ga 417.206	1147805.8				45555.75	3.97%
GaRADIAL	75699.0				1210.89	1.60%
Ag 328.068†	59414.6	0.205 mg/L	0.0080	0.205 mg/L	0.0080	3.89%
Al 396.153†	31039.0	5.13 mg/L	0.021	5.13 mg/L	0.021	0.42%
As 188.979†	559.4	0.189 mg/L	0.0066	0.189 mg/L	0.0066	3.49%
Ba 233.527†	125543.0	0.794 mg/L	0.0135	0.794 mg/L	0.0135	1.71%
Be 234.861†	29634.7	0.0244 mg/L	0.00118	0.0244 mg/L	0.00118	4.85%
B 249.677†	86428.5	0.985 mg/L	0.0384	0.985 mg/L	0.0384	3.89%
Ca 227.546†	32556.1	83.7 mg/L	3.31	83.7 mg/L	3.31	3.95%
Cd 228.802†	1237.5	0.0241 mg/L	0.00176	0.0241 mg/L	0.00176	7.31%
Co 228.616†	3844.0	0.0995 mg/L	0.00094	0.0995 mg/L	0.00094	0.94%
Cr 267.716†	28286.1	0.259 mg/L	0.0065	0.259 mg/L	0.0065	2.49%
Cu 327.393†	57677.5	0.257 mg/L	0.0102	0.257 mg/L	0.0102	3.99%
Fe 239.562†	29294.0	2.03 mg/L	0.017	2.03 mg/L	0.017	0.83%
Mg 279.077†	22589.9	6.73 mg/L	0.041	6.73 mg/L	0.041	0.61%
Mn 257.610†	275509.0	0.358 mg/L	0.0063	0.358 mg/L	0.0063	1.76%
Mo 202.031†	18343.4	0.520 mg/L	0.0118	0.520 mg/L	0.0118	2.27%

Approved: June 21, 2012

John H. Rhodes

Ni 231.604†	16990.3	0.253 mg/L	0.0062	0.253 mg/L	0.0062	2.47%
Pb 220.353†	2930.7	0.252 mg/L	0.0021	0.252 mg/L	0.0021	0.82%
Sb 206.836†	2381.5	0.596 mg/L	0.0243	0.596 mg/L	0.0243	4.08%
Se 196.026†	370.0	0.203 mg/L	0.0132	0.203 mg/L	0.0132	6.54%
Si 251.611†	133196.6	3.18 mg/L	0.113	3.18 mg/L	0.113	3.56%
Sn 189.927†	-278.3	-0.0269 mg/L	0.00065	-0.0269 mg/L	0.00065	2.42%
Ti 334.940†	444153.2	0.509 mg/L	0.0014	0.509 mg/L	0.0014	0.27%
Tl 190.801†	884.7	0.237 mg/L	0.0040	0.237 mg/L	0.0040	1.68%
V 290.880†	107474.2	0.522 mg/L	0.0105	0.522 mg/L	0.0105	2.00%
Zn 206.200†	30033.7	0.589 mg/L	0.0106	0.589 mg/L	0.0106	1.79%
K 766.490†	68440.4	25.7 mg/L	0.16	25.7 mg/L	0.16	0.64%
Na 589.592†	2999555.4	179 mg/L	7.3	179 mg/L	7.3	4.09%
Sr 407.771†	1505210.8	0.613 mg/L	0.0232	0.613 mg/L	0.0232	3.79%
Li 670.784†	65147.9	0.510 mg/L	0.0023	0.510 mg/L	0.0023	0.45%

Sequence No.: 41

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 6/20/2012 8:01:09 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2047047.1				39870.34	1.95%
YRADIAL	254569.5				5465.12	2.15%
Ga 417.206	1178432.7				5351.98	0.45%
GaRADIAL	76392.3				1362.10	1.78%
Ag 328.068†	118318.8	0.410 mg/L	0.0073	0.410 mg/L	0.0073	1.78%
QC value within limits for Ag			102.48%			
Al 396.153†	61467.0	10.2 mg/L	0.02	10.2 mg/L	0.02	0.24%
QC value within limits for Al			101.72%			
As 188.979†	1185.9	0.401 mg/L	0.0026	0.401 mg/L	0.0026	0.64%
QC value within limits for As			100.15%			
Ba 233.527†	163524.1	1.03 mg/L	0.010	1.03 mg/L	0.010	0.92%
QC value within limits for Ba			103.43%			
Be 234.861†	61178.7	0.0505 mg/L	0.00089	0.0505 mg/L	0.00089	1.77%
QC value within limits for Be			101.02%			
B 249.677†	46384.3	0.526 mg/L	0.0086	0.526 mg/L	0.0086	1.64%
QC value within limits for B			105.14%			
Ca 227.546†	3905.4	10.5 mg/L	0.12	10.5 mg/L	0.12	1.14%
QC value within limits for Ca			104.97%			
Cd 228.802†	2539.9	0.0494 mg/L	0.00127	0.0494 mg/L	0.00127	2.56%
QC value within limits for Cd			98.83%			
Co 228.616†	7920.8	0.205 mg/L	0.0052	0.205 mg/L	0.0052	2.52%
QC value within limits for Co			102.73%			
Cr 267.716†	56147.5	0.516 mg/L	0.0007	0.516 mg/L	0.0007	0.14%
QC value within limits for Cr			103.14%			
Cu 327.393†	113779.9	0.508 mg/L	0.0116	0.508 mg/L	0.0116	2.28%
QC value within limits for Cu			101.64%			
Fe 239.562†	59550.3	4.13 mg/L	0.027	4.13 mg/L	0.027	0.66%
QC value within limits for Fe			103.29%			
Mg 279.077†	34876.7	10.4 mg/L	0.07	10.4 mg/L	0.07	0.68%
QC value within limits for Mg			103.95%			
Mn 257.610†	397938.5	0.518 mg/L	0.0064	0.518 mg/L	0.0064	1.24%
QC value within limits for Mn			103.52%			
Mo 202.031†	36199.3	1.03 mg/L	0.005	1.03 mg/L	0.005	0.47%
QC value within limits for Mo			102.71%			
Ni 231.604†	35201.5	0.527 mg/L	0.0101	0.527 mg/L	0.0101	1.93%
QC value within limits for Ni			105.33%			
Pb 220.353†	6034.2	0.518 mg/L	0.0096	0.518 mg/L	0.0096	1.86%
QC value within limits for Pb			103.68%			
Sb 206.836†	4827.9	1.21 mg/L	0.014	1.21 mg/L	0.014	1.12%
QC value within limits for Sb			101.01%			
Se 196.026†	735.8	0.402 mg/L	0.0046	0.402 mg/L	0.0046	1.15%

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John H. Rhodes

QC value within limits for Se	196.026	Recovery = 100.61%			
Si 251.611†	226356.9	5.41 mg/L	0.062	5.41 mg/L	0.062 1.14%
QC value within limits for Si	251.611	Recovery = 108.27%			
Sn 189.927†	11192.3	1.02 mg/L	0.019	1.02 mg/L	0.019 1.83%
QC value within limits for Sn	189.927	Recovery = 102.12%			
Ti 334.940†	912196.5	1.02 mg/L	0.006	1.02 mg/L	0.006 0.61%
QC value within limits for Ti	334.940	Recovery = 102.10%			
Tl 190.801†	1982.1	0.533 mg/L	0.0064	0.533 mg/L	0.0064 1.20%
QC value within limits for Tl	190.801	Recovery = 106.64%			
V 290.880†	210501.8	1.02 mg/L	0.006	1.02 mg/L	0.006 0.57%
QC value within limits for V	290.880	Recovery = 102.34%			
Zn 206.200†	53157.9	1.05 mg/L	0.007	1.05 mg/L	0.007 0.67%
QC value within limits for Zn	206.200	Recovery = 104.50%			
K 766.490†	135492.4	51.4 mg/L	0.18	51.4 mg/L	0.18 0.34%
QC value within limits for K	766.490	Recovery = 102.83%			
Na 589.592†	901867.5	50.5 mg/L	1.46	50.5 mg/L	1.46 2.90%
QC value within limits for Na	589.592	Recovery = 101.07%			
Sr 407.771†	2507426.5	1.02 mg/L	0.032	1.02 mg/L	0.032 3.14%
QC value within limits for Sr	407.771	Recovery = 102.47%			
Li 670.784†	129388.6	1.02 mg/L	0.004	1.02 mg/L	0.004 0.43%
QC value within limits for Li	670.784	Recovery = 101.73%			
All analyte(s) passed QC.					

Sequence No.: 42

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

UAsampler Location: 1

Date Collected: 6/20/2012 8:07:09 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2100388.1				29132.67	1.39%
YRADIAL	257322.9				3763.13	1.46%
Ga 417.206	1203603.5				24466.46	2.03%
GaRADIAL	77224.8				868.63	1.12%
Ag 328.068†	15.0	-0.00102 mg/L	0.000400	-0.00102 mg/L	0.000400	39.10%
QC value within limits for Ag	328.068	Recovery = Not calculated				
Al 396.153†	39.9	-0.00196 mg/L	0.003401	-0.00196 mg/L	0.003401	173.88%
QC value within limits for Al	396.153	Recovery = Not calculated				
As 188.979†	-1.1	-0.00086 mg/L	0.002469	-0.00086 mg/L	0.002469	286.80%
QC value within limits for As	188.979	Recovery = Not calculated				
Ba 233.527†	0.5	-0.00173 mg/L	0.000169	-0.00173 mg/L	0.000169	9.77%
QC value within limits for Ba	233.527	Recovery = Not calculated				
Be 234.861†	10.0	-0.00017 mg/L	0.000055	-0.00017 mg/L	0.000055	32.34%
QC value within limits for Be	234.861	Recovery = Not calculated				
B 249.677†	487.1	0.00543 mg/L	0.000290	0.00543 mg/L	0.000290	5.35%
QC value within limits for B	249.677	Recovery = Not calculated				
Ca 227.546†	14.2	0.0294 mg/L	0.01792	0.0294 mg/L	0.01792	60.96%
QC value within limits for Ca	227.546	Recovery = Not calculated				
Cd 228.802†	-10.1	-0.00022 mg/L	0.000112	-0.00022 mg/L	0.000112	50.36%
QC value within limits for Cd	228.802	Recovery = Not calculated				
Co 228.616†	-2.8	-0.00031 mg/L	0.000299	-0.00031 mg/L	0.000299	98.06%
QC value within limits for Co	228.616	Recovery = Not calculated				
Cr 267.716†	19.2	-0.00052 mg/L	0.000161	-0.00052 mg/L	0.000161	31.02%
QC value within limits for Cr	267.716	Recovery = Not calculated				
Cu 327.393†	190.2	-0.00051 mg/L	0.000408	-0.00051 mg/L	0.000408	79.30%
QC value within limits for Cu	327.393	Recovery = Not calculated				
Fe 239.562†	68.1	0.00568 mg/L	0.000300	0.00568 mg/L	0.000300	5.28%
QC value within limits for Fe	239.562	Recovery = Not calculated				
Mg 279.077†	21.4	0.00508 mg/L	0.000227	0.00508 mg/L	0.000227	4.48%
QC value within limits for Mg	279.077	Recovery = Not calculated				
Mn 257.610†	261.8	-0.00047 mg/L	0.000008	-0.00047 mg/L	0.000008	1.69%
QC value within limits for Mn	257.610	Recovery = Not calculated				
Mo 202.031†	14.4	-0.00082 mg/L	0.000083	-0.00082 mg/L	0.000083	10.10%

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John H. Rhodes

QC value within limits for Mo	202.031	Recovery =	Not calculated			
Ni 231.604†	10.2	-0.00284 mg/L	0.000463	-0.00284 mg/L	0.000463	16.33%
QC value within limits for Ni	231.604	Recovery =	Not calculated			
Pb 220.353†	12.6	-0.00045 mg/L	0.000898	-0.00045 mg/L	0.000898	197.60%
QC value within limits for Pb	220.353	Recovery =	Not calculated			
Sb 206.836†	4.5	-0.00187 mg/L	0.000591	-0.00187 mg/L	0.000591	31.61%
QC value within limits for Sb	206.836	Recovery =	Not calculated			
Se 196.026†	0.9	0.00079 mg/L	0.002987	0.00079 mg/L	0.002987	379.77%
QC value within limits for Se	196.026	Recovery =	Not calculated			
Si 251.611†	113.0	-0.0119 mg/L	0.00012	-0.0119 mg/L	0.00012	1.00%
QC value within limits for Si	251.611	Recovery =	Not calculated			
Sn 189.927†	11.3	-0.00040 mg/L	0.000316	-0.00040 mg/L	0.000316	78.18%
QC value within limits for Sn	189.927	Recovery =	Not calculated			
Ti 334.940†	161.1	0.00023 mg/L	0.000161	0.00023 mg/L	0.000161	69.45%
QC value within limits for Ti	334.940	Recovery =	Not calculated			
Tl 190.801†	-3.3	-0.00369 mg/L	0.001552	-0.00369 mg/L	0.001552	42.04%
QC value within limits for Tl	190.801	Recovery =	Not calculated			
V 290.880†	-430.0	-0.00239 mg/L	0.000123	-0.00239 mg/L	0.000123	5.13%
QC value within limits for V	290.880	Recovery =	Not calculated			
Zn 206.200†	-5.6	-0.00250 mg/L	0.000080	-0.00250 mg/L	0.000080	3.20%
QC value within limits for Zn	206.200	Recovery =	Not calculated			
K 766.490†	105.6	-0.0968 mg/L	0.01670	-0.0968 mg/L	0.01670	17.26%
QC value within limits for K	766.490	Recovery =	Not calculated			
Na 589.592†	510.5	0.00592 mg/L	0.011974	0.00592 mg/L	0.011974	202.15%
QC value within limits for Na	589.592	Recovery =	Not calculated			
Sr 407.771†	704.2	-0.00103 mg/L	0.000112	-0.00103 mg/L	0.000112	10.85%
QC value within limits for Sr	407.771	Recovery =	Not calculated			
Li 670.784†	81.5	-0.00328 mg/L	0.000471	-0.00328 mg/L	0.000471	14.37%
QC value within limits for Li	670.784	Recovery =	Not calculated			

All analyte(s) passed QC.

Approved: June 21, 2012

John H. Rhodes

=====
Analysis Begun

Start Time: 6/21/2012 8:23:34 AM

Plasma On Time: 6/20/2012 6:30:43 AM

Logged In Analyst: peicp2

Technique: ICP Continuous

Spectrometer Model: Optima 4300 DV, S/N 077N401140 Autosampler Model: Cetac

Sample Information File: C:\pe\peicp2\Sample Information\THURSDAY1.sif

Batch ID:

Results Data Set: 062112H

Results Library: C:\pe\peicp2\Results\Results.mdb

=====
Method Loaded

Method Name: 200.7-6010 PE-ICP2.1

Method Last Saved: 6/21/2012 7:34:37 AM

IEC File: CA227_LiBeMOD.iec

SIF File:

Method Description: STANDARD

Sequence No.: 1

Autosampler Location: 1

Sample ID: S0

Date Collected: 6/21/2012 8:23:37 AM

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: S0

Analyte

Back Pressure

Flow

All

155.0 kPa

0.50 L/min

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	2071583.9	28177.22	1.36%		
YRADIAL	246924.0	4181.46	1.69%		
Ga 417.206	1220479.0	26845.69	2.20%		
GaRADIAL	74937.8	953.39	1.27%		
Ag 328.068†	-296.6	3.40	1.15%	[0.00]	mg/L
Al 396.153†	22.7	10.67	47.08%	[0.00]	mg/L
As 188.979†	-18.5	6.13	33.10%	[0.00]	mg/L
Ba 233.527†	-157.3	21.08	13.40%	[0.00]	mg/L
Be 234.861†	-1577.3	42.49	2.69%	[0.00]	mg/L
B 249.677†	-19.1	16.62	86.94%	[0.00]	mg/L
Ca 227.546†	-63.1	8.29	13.15%	[0.00]	mg/L
Cd 228.802†	41.5	6.54	15.74%	[0.00]	mg/L
Co 228.616†	-12.3	9.30	75.59%	[0.00]	mg/L
Cr 267.716†	172.5	10.80	6.26%	[0.00]	mg/L
Cu 327.393†	-602.5	63.41	10.52%	[0.00]	mg/L
Fe 239.562†	-18.2	2.50	13.71%	[0.00]	mg/L
Mg 279.077†	33.3	11.48	34.47%	[0.00]	mg/L
Mn 257.610†	343.7	12.85	3.74%	[0.00]	mg/L
Mo 202.031†	83.4	12.35	14.81%	[0.00]	mg/L
Ni 231.604†	-188.5	9.78	5.18%	[0.00]	mg/L
Pb 220.353†	-91.7	5.62	6.13%	[0.00]	mg/L
Sb 206.836†	18.8	2.96	15.69%	[0.00]	mg/L
Se 196.026†	21.1	3.22	15.25%	[0.00]	mg/L
Si 251.611†	567.2	24.73	4.36%	[0.00]	mg/L
Sn 189.927†	27.7	3.03	10.95%	[0.00]	mg/L
Ti 334.940†	502.4	86.82	17.28%	[0.00]	mg/L
Tl 190.801†	-76.4	9.87	12.92%	[0.00]	mg/L
V 290.880†	7305.3	303.82	4.16%	[0.00]	mg/L
Zn 206.200†	6.9	9.25	134.02%	[0.00]	mg/L
K 766.490†	-254.8	16.24	6.37%	[0.00]	mg/L
Na 589.592†	1017.3	97.23	9.56%	[0.00]	mg/L
Sr 407.771†	-660.0	30.74	4.66%	[0.00]	mg/L
Li 670.784†	165.1	27.59	16.71%	[0.00]	mg/L

Sequence No.: 2

Autosampler Location: 2

Sample ID: S1

Date Collected: 6/21/2012 8:30:30 AM

Approved: June 22, 2012

John H. Rhodes

Analyst:
Initial Sample Wt:
Dilution:

Auto Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: S1

Analyte Back Pressure Flow
All 155.0 kPa 0.50 L/min

Mean Data: S1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Y 371.029	2067392.8	48028.70	2.32%	
YRADIAL	250932.3	1305.01	0.52%	
Ga 417.206	1199188.3	15845.95	1.32%	
GaRADIAL	76319.3	1643.65	2.15%	
Ag 328.068†	1316.7	69.27	5.26%	[0.0040] mg/L
Al 396.153†	610.4	11.63	1.91%	[0.10] mg/L
Ba 233.527†	1691.9	30.34	1.79%	[0.010] mg/L
Be 234.861†	596.9	39.73	6.66%	[0.0005] mg/L
Cd 228.802†	14.0	1.18	8.41%	[0.00050] mg/L
Co 228.616†	83.3	4.17	5.00%	[0.0020] mg/L
Cr 267.716†	580.9	25.88	4.46%	[0.0050] mg/L
Cu 327.393†	972.6	186.25	19.15%	[0.0050] mg/L
Fe 239.562†	566.1	10.14	1.79%	[0.040] mg/L
Mg 279.077†	331.8	23.78	7.17%	[0.10] mg/L
Mn 257.610†	4267.2	97.85	2.29%	[0.0050] mg/L
Mo 202.031†	370.4	15.89	4.29%	[0.010] mg/L
Ni 231.604†	366.2	13.10	3.58%	[0.0050] mg/L
Pb 220.353†	63.9	2.46	3.85%	[0.0050] mg/L
Sb 206.836†	45.1	8.68	19.27%	[0.012] mg/L
Si 251.611†	2302.2	44.66	1.94%	[0.050] mg/L
Sn 189.927†	113.8	7.42	6.52%	[0.010] mg/L
Ti 334.940†	9295.1	256.25	2.76%	[0.010] mg/L
V 290.880†	2066.1	169.77	8.22%	[0.010] mg/L
Zn 206.200†	554.8	18.48	3.33%	[0.010] mg/L
K 766.490†	1710.5	17.92	1.05%	[0.50] mg/L
Na 589.592†	8920.0	299.84	3.36%	[0.50] mg/L
Sr 407.771†	24522.3	444.20	1.81%	[0.010] mg/L
Li 670.784†	1351.6	45.80	3.39%	[0.010] mg/L

=====

Sequence No.: 3
Sample ID: S2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 6/21/2012 8:37:25 AM
Auto Type: Original
Initial Sample Vol:
Sample Prep Vol:

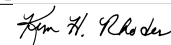
Nebulizer Parameters: S2

Analyte Back Pressure Flow
All 155.0 kPa 0.50 L/min

Mean Data: S2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Y 371.029	2017659.3	58899.72	2.92%	
YRADIAL	251483.3	4346.70	1.73%	
Ga 417.206	1180569.9	32110.81	2.72%	
GaRADIAL	76459.3	1069.40	1.40%	
Ag 328.068†	2575.2	156.97	6.10%	[0.0080] mg/L
Al 396.153†	1231.0	17.34	1.41%	[0.20] mg/L
As 188.979†	17.6	4.49	25.52%	[0.0080] mg/L
Ba 233.527†	3539.1	88.95	2.51%	[0.020] mg/L
Be 234.861†	1222.8	40.26	3.29%	[0.0010] mg/L
B 249.677†	954.8	25.33	2.65%	[0.010] mg/L
Ca 227.546†	64.5	6.66	10.32%	[0.20] mg/L
Cd 228.802†	47.6	2.87	6.03%	[0.0010] mg/L
Co 228.616†	162.1	5.34	3.30%	[0.0040] mg/L
Cr 267.716†	1229.5	18.79	1.53%	[0.010] mg/L

Approved: June 22, 2012



Cu 327.393†	2283.1	117.74	5.16%	[0.010]	mg/L
Fe 239.562†	1127.3	8.66	0.77%	[0.080]	mg/L
Mg 279.077†	671.8	21.24	3.16%	[0.20]	mg/L
Mn 257.610†	8504.4	340.83	4.01%	[0.010]	mg/L
Mo 202.031†	768.9	22.92	2.98%	[0.020]	mg/L
Ni 231.604†	737.2	16.96	2.30%	[0.010]	mg/L
Pb 220.353†	115.9	7.54	6.51%	[0.010]	mg/L
Sb 206.836†	96.5	7.86	8.15%	[0.024]	mg/L
Se 196.026†	14.5	6.96	47.96%	[0.0080]	mg/L
Si 251.611†	4785.0	100.26	2.10%	[0.10]	mg/L
Sn 189.927†	237.4	9.78	4.12%	[0.020]	mg/L
Ti 334.940†	19153.1	708.97	3.70%	[0.020]	mg/L
Tl 190.801†	42.6	1.82	4.28%	[0.010]	mg/L
V 290.880†	4534.6	153.97	3.40%	[0.020]	mg/L
Zn 206.200†	1131.9	27.28	2.41%	[0.020]	mg/L
K 766.490†	3070.8	43.48	1.42%	[1.00]	mg/L
Na 589.592†	17734.5	234.31	1.32%	[1.00]	mg/L
Sr 407.771†	49311.4	1285.88	2.61%	[0.020]	mg/L
Li 670.784†	2617.0	47.81	1.83%	[0.020]	mg/L

Sequence No.: 4

Sample ID: S3

Analyst:

Initial Sample Wt:

Dilution:

Sampler Location: 4

Date Collected: 6/21/2012 8:44:20 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: S3

Analyte

Back Pressure

Flow

All

155.0 kPa

0.50 L/min

Mean Data: S3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units
Y 371.029	1976041.1	22953.02	1.16%	
YRADIAL	244205.1	1375.27	0.56%	
Ga 417.206	1166419.8	17963.89	1.54%	
GaRADIAL	74406.2	207.25	0.28%	
Ag 328.068†	123718.3	2218.84	1.79%	[0.40] mg/L
Al 396.153†	59138.9	583.02	0.99%	[10.00] mg/L
As 188.979†	1220.0	17.91	1.47%	[0.40] mg/L
Ba 233.527†	166572.9	2304.36	1.38%	[1.00] mg/L
Be 234.861†	62612.2	1164.11	1.86%	[0.05] mg/L
B 249.677†	45427.0	960.16	2.11%	[0.50] mg/L
Ca 227.546†	4053.2	72.08	1.78%	[10.00] mg/L
Cd 228.802†	2626.0	92.68	3.53%	[0.05] mg/L
Co 228.616†	8135.6	117.26	1.44%	[0.20] mg/L
Cr 267.716†	57261.2	667.46	1.17%	[0.50] mg/L
Cu 327.393†	118221.6	2698.79	2.28%	[0.50] mg/L
Fe 239.562†	56386.1	418.35	0.74%	[4.00] mg/L
Mg 279.077†	32936.8	277.37	0.84%	[10.00] mg/L
Mn 257.610†	412613.0	8157.49	1.98%	[0.50] mg/L
Mo 202.031†	36909.4	558.36	1.51%	[1.00] mg/L
Ni 231.604†	34929.6	560.59	1.60%	[0.50] mg/L
Pb 220.353†	6147.0	88.06	1.43%	[0.50] mg/L
Sb 206.836†	5027.4	109.01	2.17%	[1.20] mg/L
Se 196.026†	756.5	14.19	1.88%	[0.40] mg/L
Si 251.611†	222569.6	3629.69	1.63%	[5.00] mg/L
Sn 189.927†	11521.6	147.92	1.28%	[1.00] mg/L
Ti 334.940†	928087.1	3969.93	0.43%	[1.00] mg/L
Tl 190.801†	2033.7	23.76	1.17%	[0.50] mg/L
V 290.880†	215345.2	3530.20	1.64%	[1.00] mg/L
Zn 206.200†	53936.3	536.41	0.99%	[1.00] mg/L
K 766.490†	130795.8	610.43	0.47%	[50.00] mg/L
Na 589.592†	866242.2	11075.74	1.28%	[50.00] mg/L
Sr 407.771†	2373804.4	9935.76	0.42%	[1.00] mg/L
Li 670.784†	123896.7	1261.81	1.02%	[1.00] mg/L

Sequence No.: 5

Sampler Location: 5

Approved: June 22, 2012

John H. Rhodes

Sample ID: S4
 Analyst:
 Initial Sample Wt:
 Dilution:

Sample Collected: 6/21/2012 8:50:19 AM
 Sample Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: S4

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: S4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1910570.5	355.31	0.02%		
YRADIAL	238487.7	6104.99	2.56%		
Ga 417.206	1138941.4	23844.00	2.09%		
GaRADIAL	74474.6	2365.76	3.18%		
Ag 328.068†	250748.8	5792.23	2.31%	[0.80]	mg/L
Al 396.153†	121711.9	496.43	0.41%	[20.00]	mg/L
As 188.979†	2513.1	47.81	1.90%	[0.80]	mg/L
Ba 233.527†	339118.5	1124.88	0.33%	[2.00]	mg/L
Be 234.861†	128741.7	2966.75	2.30%	[0.10]	mg/L
B 249.677†	94426.5	2403.96	2.55%	[1.00]	mg/L
Ca 227.546†	8396.8	211.77	2.52%	[20.00]	mg/L
Cd 228.802†	5350.9	204.75	3.83%	[0.10]	mg/L
Co 228.616†	16521.3	122.93	0.74%	[0.40]	mg/L
Cr 267.716†	117492.9	706.04	0.60%	[1.00]	mg/L
Cu 327.393†	241107.3	5397.94	2.24%	[1.00]	mg/L
Fe 239.562†	116682.4	1037.36	0.89%	[8.00]	mg/L
Mg 279.077†	68543.6	523.56	0.76%	[20.00]	mg/L
Mn 257.610†	828722.3	2470.26	0.30%	[1.00]	mg/L
Mo 202.031†	75776.5	199.98	0.26%	[2.00]	mg/L
Ni 231.604†	70827.9	303.70	0.43%	[1.00]	mg/L
Pb 220.353†	12482.1	64.86	0.52%	[1.00]	mg/L
Sb 206.836†	10281.9	265.13	2.58%	[2.40]	mg/L
Se 196.026†	1556.7	36.03	2.31%	[0.80]	mg/L
Si 251.611†	449874.6	8188.82	1.82%	[10.00]	mg/L
Sn 189.927†	23496.5	133.14	0.57%	[2.00]	mg/L
Ti 334.940†	1922376.8	5358.66	0.28%	[2.00]	mg/L
Tl 190.801†	4066.3	29.33	0.72%	[1.00]	mg/L
V 290.880†	439116.9	2966.44	0.68%	[2.00]	mg/L
Zn 206.200†	110065.1	553.82	0.50%	[2.00]	mg/L
K 766.490†	267743.2	1629.71	0.61%	[100.00]	mg/L
Na 589.592†	1739058.8	70966.01	4.08%	[100.00]	mg/L
Sr 407.771†	4967404.5	100005.10	2.01%	[2.00]	mg/L
Li 670.784†	251688.2	1517.17	0.60%	[2.00]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	4	Lin, Calc Int	-165.3	312900	0.00000	0.999979	
Al 396.153	4	Lin, Calc Int	-209.0	6064	0.00000	0.999905	
As 188.979	3	Wt. Lin	-7.3	3110	0.00000	0.999910	
Ba 233.527	4	Lin, Calc Int	-326.9	169200	0.00000	0.999962	
Be 234.861	4	Lin, Calc Int	-253.9	1283000	0.00000	0.999913	
B 249.677	3	Lin, Calc Int	-320.3	94100	0.00000	0.999807	
Ca 227.546	3	Lin, Calc Int	-35.3	419.1	0.00000	0.999848	
Cd 228.802	4	Lin, Calc Int	-12.0	53460	0.00000	0.999963	
Co 228.616	4	Lin, Calc Int	-16.3	41230	0.00000	0.999973	
Cr 267.716	4	Lin, Calc Int	-170.0	117100	0.00000	0.999923	
Cu 327.393	4	Lin, Calc Int	-403.6	240700	0.00000	0.999957	
Fe 239.562	4	Lin, Calc Int	-261.3	14530	0.00000	0.999867	
Mg 279.077	4	Lin, Calc Int	-174.0	3411	0.00000	0.999819	
Mn 257.610	4	Lin, Calc Int	-111.1	828200	0.00000	0.999998	
Mo 202.031	4	Lin, Calc Int	-121.1	37770	0.00000	0.999920	
Ni 231.604	4	Lin, Calc Int	-47.5	70690	0.00000	0.999977	
Pb 220.353	4	Lin, Calc Int	-14.0	12460	0.00000	0.999973	
Sb 206.836	4	Lin, Calc Int	-18.1	4274	0.00000	0.999944	
Se 196.026	3	Wt. Lin	-0.9	1920	0.00000	0.999899	
Si 251.611	4	Lin, Calc Int	-188.9	44920	0.00000	0.999986	

Approved: June 22, 2012

John H. Rhodes

Sn 189.927	4	Lin, Calc Int	-28.6	11720	0.00000	0.999956
Ti 334.940	4	Lin, Calc Int	-4244.2	957100	0.00000	0.999859
Tl 190.801	3	Lin, Calc Int	1.0	4065	0.00000	1.000000
V 290.880	4	Lin, Calc Int	-520.6	219000	0.00000	0.999956
Zn 206.200	4	Lin, Calc Int	-125.4	54890	0.00000	0.999952
K 766.490	4	Non Lin, Calc Int	317.9	2545	1.28915	0.999999
Na 589.592	4	Non Lin, Calc Int	255.9	17250	1.36170	1.000000
Sr 407.771	4	Lin, Calc Int	-13899.3	2470000	0.00000	0.999766
Li 670.784	4	Lin, Calc Int	-182.0	125600	0.00000	0.999970

Sequence No.: 6

Sample ID: ICV 2nd Vendor

Analyst:

Initial Sample Wt:

Dilution:

Sampler Location: 11

Date Collected: 6/21/2012 8:56:23 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: ICV 2nd Vendor

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: ICV 2nd Vendor

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1953539.6				13224.81	0.68%
YRADIAL	248987.7				5817.35	2.34%
Ga 417.206	1161477.8				20598.50	1.77%
GaRADIAL	76120.0				1173.32	1.54%
Ag 328.068†	120661.4	0.390 mg/L	0.0086	0.390 mg/L	0.0086	2.19%
QC value within limits for Ag	328.068	Recovery = 97.45%				
Al 396.153†	60781.2	9.99 mg/L	0.041	9.99 mg/L	0.041	0.41%
QC value within limits for Al	396.153	Recovery = 99.90%				
As 188.979†	1252.6	0.400 mg/L	0.0081	0.400 mg/L	0.0081	2.03%
QC value within limits for As	188.979	Recovery = 100.08%				
Ba 233.527†	172613.7	1.02 mg/L	0.012	1.02 mg/L	0.012	1.19%
QC value within limits for Ba	233.527	Recovery = 102.27%				
Be 234.861†	64176.3	0.0498 mg/L	0.00104	0.0498 mg/L	0.00104	2.10%
QC value within limits for Be	234.861	Recovery = 99.54%				
B 249.677†	47169.8	0.501 mg/L	0.0151	0.501 mg/L	0.0151	3.02%
QC value within limits for B	249.677	Recovery = 100.15%				
Ca 227.546†	4140.9	10.5 mg/L	0.21	10.5 mg/L	0.21	1.97%
QC value within limits for Ca	227.546	Recovery = 104.51%				
Cd 228.802†	2689.3	0.0491 mg/L	0.00174	0.0491 mg/L	0.00174	3.55%
QC value within limits for Cd	228.802	Recovery = 98.26%				
Co 228.616†	8274.4	0.200 mg/L	0.0031	0.200 mg/L	0.0031	1.57%
QC value within limits for Co	228.616	Recovery = 100.11%				
Cr 267.716†	59451.9	0.510 mg/L	0.0010	0.510 mg/L	0.0010	0.20%
QC value within limits for Cr	267.716	Recovery = 101.90%				
Cu 327.393†	122186.1	0.511 mg/L	0.0125	0.511 mg/L	0.0125	2.44%
QC value within limits for Cu	327.393	Recovery = 102.21%				
Fe 239.562†	58743.8	4.06 mg/L	0.043	4.06 mg/L	0.043	1.05%
QC value within limits for Fe	239.562	Recovery = 101.52%				
Mg 279.077†	33634.2	9.93 mg/L	0.142	9.93 mg/L	0.142	1.43%
QC value within limits for Mg	279.077	Recovery = 99.27%				
Mn 257.610†	421026.8	0.509 mg/L	0.0073	0.509 mg/L	0.0073	1.44%
QC value within limits for Mn	257.610	Recovery = 101.83%				
Mo 202.031†	37016.6	0.984 mg/L	0.0104	0.984 mg/L	0.0104	1.06%
QC value within limits for Mo	202.031	Recovery = 98.42%				
Ni 231.604†	37437.9	0.530 mg/L	0.0043	0.530 mg/L	0.0043	0.81%
QC value greater than the upper limit for Ni	231.604	Recovery = 105.98%				
Pb 220.353†	6343.1	0.512 mg/L	0.0050	0.512 mg/L	0.0050	0.97%
QC value within limits for Pb	220.353	Recovery = 102.33%				
Sb 206.836†	5245.6	1.23 mg/L	0.026	1.23 mg/L	0.026	2.15%
QC value within limits for Sb	206.836	Recovery = 102.52%				
Se 196.026†	779.5	0.408 mg/L	0.0089	0.408 mg/L	0.0089	2.18%
QC value within limits for Se	196.026	Recovery = 102.08%				
Si 251.611†	225861.7	5.02 mg/L	0.085	5.02 mg/L	0.085	1.70%
QC value within limits for Si	251.611	Recovery = 100.44%				
Sn 189.927†	12052.3	1.03 mg/L	0.010	1.03 mg/L	0.010	0.95%
QC value within limits for Sn	189.927	Recovery = 103.08%				

Approved: June 22, 2012

John H. Rhodes

Ti 334.940†	964213.4	1.01 mg/L	0.006	1.01 mg/L	0.006	0.54%
QC value within limits for Ti 334.940			Recovery = 101.32%			
Tl 190.801†	2124.5	0.537 mg/L	0.0015	0.537 mg/L	0.0015	0.28%
QC value greater than the upper limit for Tl 190.801			Recovery = 107.38%			
V 290.880†	218889.3	1.00 mg/L	0.003	1.00 mg/L	0.003	0.30%
QC value within limits for V 290.880			Recovery = 100.09%			
Zn 206.200†	56307.6	1.03 mg/L	0.006	1.03 mg/L	0.006	0.61%
QC value within limits for Zn 206.200			Recovery = 103.29%			
K 766.490†	131167.7	50.1 mg/L	0.40	50.1 mg/L	0.40	0.80%
QC value within limits for K 766.490			Recovery = 100.17%			
Na 589.592†	855631.9	49.4 mg/L	0.82	49.4 mg/L	0.82	1.66%
QC value within limits for Na 589.592			Recovery = 98.78%			
Sr 407.771†	2401479.3	0.978 mg/L	0.0272	0.978 mg/L	0.0272	2.79%
QC value within limits for Sr 407.771			Recovery = 97.76%			
Li 670.784†	127148.7	1.01 mg/L	0.004	1.01 mg/L	0.004	0.39%
QC value within limits for Li 670.784			Recovery = 101.41%			
QC Failed. Continue with analysis.						

Sequence No.: 7

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 6/21/2012 9:02:19 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: ICB

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2012535.8				20752.93	1.03%
YRADIAL	247360.1				4742.99	1.92%
Ga 417.206	1198779.5				15099.65	1.26%
GaRADIAL	75125.0				1788.75	2.38%
Ag 328.068†	61.6	0.00074 mg/L	0.000391	0.00074 mg/L	0.000391	52.86%
QC value within limits for Ag 328.068			Recovery = Not calculated			
Al 396.153†	4.3	0.0349 mg/L	0.00052	0.0349 mg/L	0.00052	1.49%
QC value within limits for Al 396.153			Recovery = Not calculated			
As 188.979†	-4.7	0.00082 mg/L	0.001027	0.00082 mg/L	0.001027	125.59%
QC value within limits for As 188.979			Recovery = Not calculated			
Ba 233.527†	9.6	0.00199 mg/L	0.000135	0.00199 mg/L	0.000135	6.78%
QC value within limits for Ba 233.527			Recovery = Not calculated			
Be 234.861†	-23.5	0.00018 mg/L	0.000030	0.00018 mg/L	0.000030	16.98%
QC value within limits for Be 234.861			Recovery = Not calculated			
B 249.677†	399.3	0.00764 mg/L	0.000290	0.00764 mg/L	0.000290	3.80%
QC value within limits for B 249.677			Recovery = Not calculated			
Ca 227.546†	-7.4	0.0673 mg/L	0.01696	0.0673 mg/L	0.01696	25.18%
QC value within limits for Ca 227.546			Recovery = Not calculated			
Cd 228.802†	-7.6	0.00008 mg/L	0.000041	0.00008 mg/L	0.000041	52.50%
QC value within limits for Cd 228.802			Recovery = Not calculated			
Co 228.616†	-6.6	0.00023 mg/L	0.000086	0.00023 mg/L	0.000086	37.06%
QC value within limits for Co 228.616			Recovery = Not calculated			
Cr 267.716†	5.9	0.00150 mg/L	0.000193	0.00150 mg/L	0.000193	12.83%
QC value within limits for Cr 267.716			Recovery = Not calculated			
Cu 327.393†	56.9	0.00192 mg/L	0.000881	0.00192 mg/L	0.000881	45.87%
QC value within limits for Cu 327.393			Recovery = Not calculated			
Fe 239.562†	2.3	0.0181 mg/L	0.00033	0.0181 mg/L	0.00033	1.80%
QC value within limits for Fe 239.562			Recovery = Not calculated			
Mg 279.077†	-2.7	0.0503 mg/L	0.00105	0.0503 mg/L	0.00105	2.10%
QC value within limits for Mg 279.077			Recovery = Not calculated			
Mn 257.610†	71.7	0.00022 mg/L	0.000005	0.00022 mg/L	0.000005	2.19%
QC value within limits for Mn 257.610			Recovery = Not calculated			
Mo 202.031†	1.4	0.00324 mg/L	0.000152	0.00324 mg/L	0.000152	4.70%
QC value within limits for Mo 202.031			Recovery = Not calculated			
Ni 231.604†	6.8	0.00077 mg/L	0.000138	0.00077 mg/L	0.000138	17.97%
QC value within limits for Ni 231.604			Recovery = Not calculated			
Pb 220.353†	-7.8	0.00051 mg/L	0.000855	0.00051 mg/L	0.000855	168.17%
QC value within limits for Pb 220.353			Recovery = Not calculated			

Approved: June 22, 2012

John H. Rhodes

Sb 206.836†	-7.5	0.00249 mg/L	0.001123	0.00249 mg/L	0.001123	45.07%
QC value within limits for Sb 206.836	Recovery =	Not calculated				
Se 196.026†	0.8	0.00087 mg/L	0.002746	0.00087 mg/L	0.002746	315.65%
QC value within limits for Se 196.026	Recovery =	Not calculated				
Si 251.611†	61.2	0.00553 mg/L	0.000296	0.00553 mg/L	0.000296	5.35%
QC value within limits for Si 251.611	Recovery =	Not calculated				
Sn 189.927†	18.5	0.00402 mg/L	0.000434	0.00402 mg/L	0.000434	10.80%
QC value within limits for Sn 189.927	Recovery =	Not calculated				
Ti 334.940†	58.7	0.00451 mg/L	0.000070	0.00451 mg/L	0.000070	1.55%
QC value within limits for Ti 334.940	Recovery =	Not calculated				
Tl 190.801†	-0.8	-0.00037 mg/L	0.000764	-0.00037 mg/L	0.000764	205.78%
QC value within limits for Tl 190.801	Recovery =	Not calculated				
V 290.880†	193.4	0.00326 mg/L	0.000083	0.00326 mg/L	0.000083	2.55%
QC value within limits for V 290.880	Recovery =	Not calculated				
Zn 206.200†	17.1	0.00261 mg/L	0.000030	0.00261 mg/L	0.000030	1.14%
QC value within limits for Zn 206.200	Recovery =	Not calculated				
K 766.490†	184.7	-0.0523 mg/L	0.03614	-0.0523 mg/L	0.03614	69.05%
QC value within limits for K 766.490	Recovery =	Not calculated				
Na 589.592†	74.6	-0.0105 mg/L	0.00382	-0.0105 mg/L	0.00382	36.35%
QC value within limits for Na 589.592	Recovery =	Not calculated				
Sr 407.771†	-119.8	0.00558 mg/L	0.000023	0.00558 mg/L	0.000023	0.41%
QC value within limits for Sr 407.771	Recovery =	Not calculated				
Li 670.784†	162.7	0.00275 mg/L	0.000401	0.00275 mg/L	0.000401	14.61%
QC value within limits for Li 670.784	Recovery =	Not calculated				
All analyte(s) passed QC.						

Sequence No.: 8

Sample ID: ICSA

Analyst:

Initial Sample Wt:

Dilution:

UAsampler Location: 12

Date Collected: 6/21/2012 9:09:12 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	155.0 kPa	0.50 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1858254.5				16258.67	0.87%
YRADIAL	244127.8				6640.17	2.72%
Ga 417.206	1148461.7				14341.77	1.25%
GARADIAL	76188.5				2124.96	2.79%
Ag 328.068†	-12790.4	0.00083 mg/L	0.002814	0.00083 mg/L	0.002814	339.62%
QC value within limits for Ag 328.068	Recovery =	Not calculated				
Al 396.153†	1457793.9	240 mg/L	11.1	240 mg/L	11.1	4.63%
QC value within limits for Al 396.153	Recovery =	96.18%				
As 188.979†	-27.5	-0.00056 mg/L	0.005038	-0.00056 mg/L	0.005038	894.72%
QC value within limits for As 188.979	Recovery =	Not calculated				
Ba 233.527†	756.7	0.00414 mg/L	0.000230	0.00414 mg/L	0.000230	5.54%
QC value within limits for Ba 233.527	Recovery =	Not calculated				
Be 234.861†	26053.5	0.00119 mg/L	0.001161	0.00119 mg/L	0.001161	97.42%
QC value greater than the upper limit for Be 234.861	Recovery =	Not calculated				
B 249.677†	5316.7	0.0211 mg/L	0.00305	0.0211 mg/L	0.00305	14.45%
QC value within limits for B 249.677	Recovery =	Not calculated				
Ca 227.546†	106544.8	257 mg/L	4.6	257 mg/L	4.6	1.81%
QC value within limits for Ca 227.546	Recovery =	102.61%				
Cd 228.802†	0.7	0.00010 mg/L	0.000072	0.00010 mg/L	0.000072	70.97%
QC value within limits for Cd 228.802	Recovery =	Not calculated				
Co 228.616†	14.3	-0.00155 mg/L	0.000297	-0.00155 mg/L	0.000297	19.13%
QC value within limits for Co 228.616	Recovery =	Not calculated				
Cr 267.716†	62.7	0.00086 mg/L	0.000156	0.00086 mg/L	0.000156	18.08%
QC value within limits for Cr 267.716	Recovery =	Not calculated				
Cu 327.393†	-1547.4	0.00282 mg/L	0.000396	0.00282 mg/L	0.000396	14.03%
QC value within limits for Cu 327.393	Recovery =	Not calculated				
Fe 239.562†	1310255.8	90.2 mg/L	4.18	90.2 mg/L	4.18	4.63%
QC value within limits for Fe 239.562	Recovery =	90.21%				
Mg 279.077†	817617.7	240 mg/L	10.6	240 mg/L	10.6	4.41%
QC value within limits for Mg 279.077	Recovery =	95.88%				

Approved: June 22, 2012

John H. Rhodes

Mn 257.610†	-2061.8	0.00018 mg/L	0.000529	0.00018 mg/L	0.000529	300.78%
QC value within limits for Mn 257.610		Recovery =	Not calculated			
Mo 202.031†	-75.9	0.00563 mg/L	0.000083	0.00563 mg/L	0.000083	1.48%
QC value within limits for Mo 202.031		Recovery =	Not calculated			
Ni 231.604†	64.7	0.00159 mg/L	0.000564	0.00159 mg/L	0.000564	35.42%
QC value within limits for Ni 231.604		Recovery =	Not calculated			
Pb 220.353†	-505.9	-0.00005 mg/L	0.002118	-0.00005 mg/L	0.002118	>999.9%
QC value within limits for Pb 220.353		Recovery =	Not calculated			
Sb 206.836†	-31.0	0.00028 mg/L	0.003928	0.00028 mg/L	0.003928	>999.9%
QC value within limits for Sb 206.836		Recovery =	Not calculated			
Se 196.026†	-47.4	0.0104 mg/L	0.00472	0.0104 mg/L	0.00472	45.51%
QC value greater than the upper limit for Se 196.026		Recovery =	Not calculated			
Si 251.611†	5290.3	0.122 mg/L	0.0015	0.122 mg/L	0.0015	1.26%
QC value within limits for Si 251.611		Recovery =	Not calculated			
Sn 189.927†	-360.7	-0.0283 mg/L	0.00197	-0.0283 mg/L	0.00197	6.94%
QC value within limits for Sn 189.927		Recovery =	Not calculated			
Ti 334.940†	-34097.6	0.00696 mg/L	0.002236	0.00696 mg/L	0.002236	32.13%
QC value within limits for Ti 334.940		Recovery =	Not calculated			
Tl 190.801†	-58.2	-0.00838 mg/L	0.002249	-0.00838 mg/L	0.002249	26.84%
QC value within limits for Tl 190.801		Recovery =	Not calculated			
V 290.880†	4421.9	0.00931 mg/L	0.002705	0.00931 mg/L	0.002705	29.04%
QC value within limits for V 290.880		Recovery =	Not calculated			
Zn 206.200†	290.3	0.00587 mg/L	0.000571	0.00587 mg/L	0.000571	9.72%
QC value within limits for Zn 206.200		Recovery =	Not calculated			
K 766.490†	-79.9	-0.156 mg/L	0.0330	-0.156 mg/L	0.0330	21.13%
QC value within limits for K 766.490		Recovery =	Not calculated			
Na 589.592†	175.1	-0.00468 mg/L	0.005411	-0.00468 mg/L	0.005411	115.58%
QC value within limits for Na 589.592		Recovery =	Not calculated			
Sr 407.771†	3130.4	0.00130 mg/L	0.000109	0.00130 mg/L	0.000109	8.40%
QC value within limits for Sr 407.771		Recovery =	Not calculated			
Li 670.784†	306.1	0.00389 mg/L	0.000379	0.00389 mg/L	0.000379	9.76%
QC value within limits for Li 670.784		Recovery =	Not calculated			
QC Failed. Continue with analysis.						

Sequence No.: 9

Sample ID: ICSAB

Analyst:

Initial Sample Wt:

Dilution:

UASampler Location: 13

Date Collected: 6/21/2012 9:15:08 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1812286.7				9999.64	0.55%
YRADIAL	239418.6				2758.63	1.15%
Ga 417.206	1117842.9				33143.57	2.96%
GaRADIAL	74267.0				425.09	0.57%
Ag 328.068†	148553.2	0.518 mg/L	0.0110	0.518 mg/L	0.0110	2.12%
QC value within limits for Ag 328.068		Recovery =	103.68%			
Al 396.153†	1517604.2	250 mg/L	2.4	250 mg/L	2.4	0.98%
QC value within limits for Al 396.153		Recovery =	100.13%			
As 188.979†	722.2	0.241 mg/L	0.0099	0.241 mg/L	0.0099	4.12%
QC value within limits for As 188.979		Recovery =	96.33%			
Ba 233.527†	43890.5	0.259 mg/L	0.0036	0.259 mg/L	0.0036	1.38%
QC value within limits for Ba 233.527		Recovery =	103.60%			
Be 234.861†	352597.4	0.255 mg/L	0.0042	0.255 mg/L	0.0042	1.66%
QC value within limits for Be 234.861		Recovery =	102.00%			
B 249.677†	4522.3	-0.00223 mg/L	0.006451	-0.00223 mg/L	0.006451	289.50%
QC value within limits for B 249.677		Recovery =	Not calculated			
Ca 227.546†	109336.2	264 mg/L	5.6	264 mg/L	5.6	2.11%
QC value within limits for Ca 227.546		Recovery =	105.44%			
Cd 228.802†	26071.8	0.487 mg/L	0.0153	0.487 mg/L	0.0153	3.15%
QC value within limits for Cd 228.802		Recovery =	97.50%			
Co 228.616†	10001.8	0.241 mg/L	0.0013	0.241 mg/L	0.0013	0.53%
QC value within limits for Co 228.616		Recovery =	96.21%			

Approved: June 22, 2012

John H. Rhodes

Cr 267.716†	30595.9	0.262 mg/L	0.0022	0.262 mg/L	0.0022	0.84%
QC value within limits for Cr 267.716		Recovery = 104.69%				
Cu 327.393†	58023.2	0.251 mg/L	0.0034	0.251 mg/L	0.0034	1.36%
QC value within limits for Cu 327.393		Recovery = 100.24%				
Fe 239.562†	1354681.0	93.3 mg/L	1.16	93.3 mg/L	1.16	1.24%
QC value within limits for Fe 239.562		Recovery = 93.26%				
Mg 279.077†	845225.0	248 mg/L	2.9	248 mg/L	2.9	1.16%
QC value within limits for Mg 279.077		Recovery = 99.12%				
Mn 257.610†	204189.1	0.249 mg/L	0.0028	0.249 mg/L	0.0028	1.12%
QC value within limits for Mn 257.610		Recovery = 99.77%				
Mo 202.031†	-65.7	0.00622 mg/L	0.000499	0.00622 mg/L	0.000499	8.03%
QC value within limits for Mo 202.031		Recovery = Not calculated				
Ni 231.604†	34883.4	0.494 mg/L	0.0018	0.494 mg/L	0.0018	0.37%
QC value within limits for Ni 231.604		Recovery = 98.74%				
Pb 220.353†	5679.4	0.498 mg/L	0.0014	0.498 mg/L	0.0014	0.29%
QC value within limits for Pb 220.353		Recovery = 99.52%				
Sb 206.836†	2120.5	0.502 mg/L	0.0168	0.502 mg/L	0.0168	3.34%
QC value within limits for Sb 206.836		Recovery = 100.43%				
Se 196.026†	437.9	0.265 mg/L	0.0114	0.265 mg/L	0.0114	4.31%
QC value within limits for Se 196.026		Recovery = 105.80%				
Si 251.611†	-105.0	0.00185 mg/L	0.000825	0.00185 mg/L	0.000825	44.55%
QC value within limits for Si 251.611		Recovery = Not calculated				
Sn 189.927†	-379.5	-0.0299 mg/L	0.00040	-0.0299 mg/L	0.00040	1.33%
QC value within limits for Sn 189.927		Recovery = Not calculated				
Ti 334.940†	-34687.3	0.00726 mg/L	0.002797	0.00726 mg/L	0.002797	38.51%
QC value within limits for Ti 334.940		Recovery = Not calculated				
Tl 190.801†	1983.1	0.494 mg/L	0.0055	0.494 mg/L	0.0055	1.11%
QC value within limits for Tl 190.801		Recovery = 98.84%				
V 290.880†	59813.1	0.262 mg/L	0.0048	0.262 mg/L	0.0048	1.84%
QC value within limits for V 290.880		Recovery = 104.68%				
Zn 206.200†	27072.4	0.496 mg/L	0.0030	0.496 mg/L	0.0030	0.60%
QC value within limits for Zn 206.200		Recovery = 99.25%				
K 766.490†	13319.3	5.09 mg/L	0.028	5.09 mg/L	0.028	0.56%
QC value within limits for K 766.490		Recovery = 101.79%				
Na 589.592†	89814.9	5.19 mg/L	0.021	5.19 mg/L	0.021	0.40%
QC value within limits for Na 589.592		Recovery = 103.78%				
Sr 407.771†	2317.4	0.00082 mg/L	0.000132	0.00082 mg/L	0.000132	16.06%
QC value within limits for Sr 407.771		Recovery = Not calculated				
Li 670.784†	228.5	0.00327 mg/L	0.000328	0.00327 mg/L	0.000328	10.02%
QC value within limits for Li 670.784		Recovery = Not calculated				

All analyte(s) passed QC.
User canceled analysis.

Approved: June 22, 2012

John H. Rhodes

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Analysis Begun

Start Time: 6/21/2012 9:21:24 AM

Plasma On Time: 6/20/2012 6:30:43 AM

Logged In Analyst: peicp2

Technique: ICP Continuous

Spectrometer Model: Optima 4300 DV, S/N 077N401140 Autosampler Model: Cetac

Sample Information File: C:\pe\peicp2\Sample Information\THURSDAY1.sif

Batch ID:

Results Data Set: 062112H

Results Library: C:\pe\peicp2\Results\Results.mdb

=====

Sequence No.: 1

Autosampler Location: 6

Sample ID: CCV

Date Collected: 6/21/2012 9:21:25 AM

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1983012.9				31302.74	1.58%
YRADIAL	251151.6				1896.44	0.76%
Ga 417.206	1173896.9				17340.00	1.48%
GaRADIAL	76067.5				954.02	1.25%
Ag 328.068†	125511.9	0.405 mg/L	0.0108	0.405 mg/L	0.0108	2.66%
QC value within limits for Ag	328.068	Recovery = 101.32%				
Al 396.153†	60369.3	9.92 mg/L	0.046	9.92 mg/L	0.046	0.46%
QC value within limits for Al	396.153	Recovery = 99.21%				
As 188.979†	1244.6	0.398 mg/L	0.0033	0.398 mg/L	0.0033	0.82%
QC value within limits for As	188.979	Recovery = 99.41%				
Ba 233.527†	170654.0	1.01 mg/L	0.011	1.01 mg/L	0.011	1.11%
QC value within limits for Ba	233.527	Recovery = 101.11%				
Be 234.861†	65090.6	0.0505 mg/L	0.00086	0.0505 mg/L	0.00086	1.70%
QC value within limits for Be	234.861	Recovery = 101.02%				
B 249.677†	48643.5	0.516 mg/L	0.0120	0.516 mg/L	0.0120	2.33%
QC value within limits for B	249.677	Recovery = 103.30%				
Ca 227.546†	4117.7	10.4 mg/L	0.13	10.4 mg/L	0.13	1.29%
QC value within limits for Ca	227.546	Recovery = 103.83%				
Cd 228.802†	2680.2	0.0490 mg/L	0.00164	0.0490 mg/L	0.00164	3.34%
QC value within limits for Cd	228.802	Recovery = 97.94%				
Co 228.616†	8243.0	0.200 mg/L	0.0051	0.200 mg/L	0.0051	2.56%
QC value within limits for Co	228.616	Recovery = 99.76%				
Cr 267.716†	58802.5	0.504 mg/L	0.0007	0.504 mg/L	0.0007	0.15%
QC value within limits for Cr	267.716	Recovery = 100.79%				
Cu 327.393†	120541.1	0.504 mg/L	0.0135	0.504 mg/L	0.0135	2.67%
QC value within limits for Cu	327.393	Recovery = 100.84%				
Fe 239.562†	57222.6	3.96 mg/L	0.016	3.96 mg/L	0.016	0.41%
QC value within limits for Fe	239.562	Recovery = 98.91%				
Mg 279.077†	33562.9	9.91 mg/L	0.034	9.91 mg/L	0.034	0.34%
QC value within limits for Mg	279.077	Recovery = 99.06%				
Mn 257.610†	415989.1	0.503 mg/L	0.0072	0.503 mg/L	0.0072	1.43%
QC value within limits for Mn	257.610	Recovery = 100.61%				
Mo 202.031†	37766.9	1.00 mg/L	0.007	1.00 mg/L	0.007	0.72%
QC value within limits for Mo	202.031	Recovery = 100.40%				
Ni 231.604†	36596.1	0.518 mg/L	0.0111	0.518 mg/L	0.0111	2.13%
QC value within limits for Ni	231.604	Recovery = 103.60%				
Pb 220.353†	6256.7	0.505 mg/L	0.0107	0.505 mg/L	0.0107	2.13%
QC value within limits for Pb	220.353	Recovery = 100.95%				
Sb 206.836†	5103.4	1.20 mg/L	0.020	1.20 mg/L	0.020	1.67%
QC value within limits for Sb	206.836	Recovery = 99.75%				
Se 196.026†	782.2	0.410 mg/L	0.0082	0.410 mg/L	0.0082	2.00%
QC value within limits for Se	196.026	Recovery = 102.42%				
Si 251.611†	243322.6	5.41 mg/L	0.077	5.41 mg/L	0.077	1.41%

Approved: June 22, 2012

John H. Rhodes

QC value within limits for Si 251.611	Recovery = 108.21%			
Sn 189.927†	11628.9	0.995 mg/L	0.0240	2.41%
QC value within limits for Sn 189.927	Recovery = 99.46%			
Ti 334.940†	953695.0	1.00 mg/L	0.008	0.79%
QC value within limits for Ti 334.940	Recovery = 100.22%			
Tl 190.801†	2071.7	0.524 mg/L	0.0064	1.22%
QC value within limits for Tl 190.801	Recovery = 104.77%			
V 290.880†	220184.3	1.01 mg/L	0.004	0.42%
QC value within limits for V 290.880	Recovery = 100.68%			
Zn 206.200†	55627.7	1.02 mg/L	0.010	0.98%
QC value within limits for Zn 206.200	Recovery = 102.05%			
K 766.490†	131983.2	50.4 mg/L	0.55	1.10%
QC value within limits for K 766.490	Recovery = 100.78%			
Na 589.592†	877095.1	50.6 mg/L	0.38	0.76%
QC value within limits for Na 589.592	Recovery = 101.25%			
Sr 407.771†	2394825.1	0.975 mg/L	0.0076	0.78%
QC value within limits for Sr 407.771	Recovery = 97.49%			
Li 670.784†	127524.7	1.02 mg/L	0.019	1.83%
QC value within limits for Li 670.784	Recovery = 101.71%			
All analyte(s) passed QC.				

Sequence No.: 2

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

autosampler Location: 1

Date Collected: 6/21/2012 9:27:25 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2030153.9				29286.52	1.44%
YRADIAL	254552.2				2928.42	1.15%
Ga 417.206	1204863.3				11831.31	0.98%
GaRADIAL	77555.6				1755.38	2.26%
Ag 328.068†	-105.6	0.00021 mg/L	0.000514	0.00021 mg/L	0.000514	250.05%
QC value within limits for Ag 328.068	Recovery = Not calculated					
Al 396.153†	5.2	0.0351 mg/L	0.00171	0.0351 mg/L	0.00171	4.86%
QC value within limits for Al 396.153	Recovery = Not calculated					
As 188.979†	0.6	0.00253 mg/L	0.002097	0.00253 mg/L	0.002097	82.97%
QC value within limits for As 188.979	Recovery = Not calculated					
Ba 233.527†	2.5	0.00195 mg/L	0.000120	0.00195 mg/L	0.000120	6.14%
QC value within limits for Ba 233.527	Recovery = Not calculated					
Be 234.861†	-41.1	0.00016 mg/L	0.000002	0.00016 mg/L	0.000002	1.14%
QC value within limits for Be 234.861	Recovery = Not calculated					
B 249.677†	275.5	0.00632 mg/L	0.000360	0.00632 mg/L	0.000360	5.69%
QC value within limits for B 249.677	Recovery = Not calculated					
Ca 227.546†	-3.8	0.0760 mg/L	0.02748	0.0760 mg/L	0.02748	36.14%
QC value within limits for Ca 227.546	Recovery = Not calculated					
Cd 228.802†	-4.0	0.00014 mg/L	0.000038	0.00014 mg/L	0.000038	27.48%
QC value within limits for Cd 228.802	Recovery = Not calculated					
Co 228.616†	-4.9	0.00027 mg/L	0.000081	0.00027 mg/L	0.000081	29.89%
QC value within limits for Co 228.616	Recovery = Not calculated					
Cr 267.716†	16.0	0.00159 mg/L	0.000119	0.00159 mg/L	0.000119	7.47%
QC value within limits for Cr 267.716	Recovery = Not calculated					
Cu 327.393†	159.0	0.00235 mg/L	0.000441	0.00235 mg/L	0.000441	18.81%
QC value within limits for Cu 327.393	Recovery = Not calculated					
Fe 239.562†	23.2	0.0196 mg/L	0.00070	0.0196 mg/L	0.00070	3.60%
QC value within limits for Fe 239.562	Recovery = Not calculated					
Mg 279.077†	36.9	0.0619 mg/L	0.00199	0.0619 mg/L	0.00199	3.21%
QC value within limits for Mg 279.077	Recovery = Not calculated					
Mn 257.610†	83.3	0.00024 mg/L	0.000017	0.00024 mg/L	0.000017	7.05%
QC value within limits for Mn 257.610	Recovery = Not calculated					
Mo 202.031†	1.8	0.00326 mg/L	0.000150	0.00326 mg/L	0.000150	4.61%
QC value within limits for Mo 202.031	Recovery = Not calculated					
Ni 231.604†	0.3	0.00068 mg/L	0.000243	0.00068 mg/L	0.000243	35.90%

Approved: June 22, 2012

John H. Rhodes

QC value within limits for Ni 231.604 Recovery = Not calculated
 Pb 220.353† -6.8 0.00058 mg/L 0.001429 0.00058 mg/L 0.001429 245.56%
 QC value within limits for Pb 220.353 Recovery = Not calculated
 Sb 206.836† -4.9 0.00309 mg/L 0.000575 0.00309 mg/L 0.000575 18.62%
 QC value within limits for Sb 206.836 Recovery = Not calculated
 Se 196.026† 5.1 0.00310 mg/L 0.001608 0.00310 mg/L 0.001608 51.91%
 QC value within limits for Se 196.026 Recovery = Not calculated
 Si 251.611† 60.7 0.00552 mg/L 0.000880 0.00552 mg/L 0.000880 15.94%
 QC value within limits for Si 251.611 Recovery = Not calculated
 Sn 189.927† 16.7 0.00386 mg/L 0.000349 0.00386 mg/L 0.000349 9.04%
 QC value within limits for Sn 189.927 Recovery = Not calculated
 Ti 334.940† 34.1 0.00448 mg/L 0.000163 0.00448 mg/L 0.000163 3.63%
 QC value within limits for Ti 334.940 Recovery = Not calculated
 Tl 190.801† 3.7 0.00074 mg/L 0.002046 0.00074 mg/L 0.002046 275.23%
 QC value within limits for Tl 190.801 Recovery = Not calculated
 V 290.880† 239.4 0.00347 mg/L 0.001250 0.00347 mg/L 0.001250 36.08%
 QC value within limits for V 290.880 Recovery = Not calculated
 Zn 206.200† 21.1 0.00268 mg/L 0.000044 0.00268 mg/L 0.000044 1.62%
 QC value within limits for Zn 206.200 Recovery = Not calculated
 K 766.490† 97.2 -0.0867 mg/L 0.01640 -0.0867 mg/L 0.01640 18.92%
 QC value within limits for K 766.490 Recovery = Not calculated
 Na 589.592† -58.6 -0.0182 mg/L 0.00469 -0.0182 mg/L 0.00469 25.74%
 QC value within limits for Na 589.592 Recovery = Not calculated
 Sr 407.771† -44.1 0.00561 mg/L 0.000019 0.00561 mg/L 0.000019 0.33%
 QC value within limits for Sr 407.771 Recovery = Not calculated
 Li 670.784† 27.2 0.00167 mg/L 0.000973 0.00167 mg/L 0.000973 58.38%
 QC value within limits for Li 670.784 Recovery = Not calculated
 All analyte(s) passed QC.

Sequence No.: 3
 Sample ID: 5/8-M8
 Analyst: KHR
 Initial Sample Wt:
 Dilution:

Utosampler Location: 14
 Date Collected: 6/21/2012 9:34:18 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

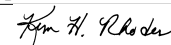
Nebulizer Parameters: 5/8-M8

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: 5/8-M8

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2042108.3				1383.08	0.07%
YRADIAL	255075.6				6312.16	2.47%
Ga 417.206	1245421.2				17928.65	1.44%
GaRADIAL	79704.7				1030.27	1.29%
Ag 328.068†	66494.7	0.213 mg/L	0.0041	0.213 mg/L	0.0041	1.91%
Al 396.153†	9.6	0.0357 mg/L	0.00163	0.0357 mg/L	0.00163	4.56%
As 188.979†	1069.7	0.347 mg/L	0.0032	0.347 mg/L	0.0032	0.92%
Ba 233.527†	175263.7	1.04 mg/L	0.008	1.04 mg/L	0.008	0.75%
Be 234.861†	120645.9	0.0942 mg/L	0.00177	0.0942 mg/L	0.00177	1.88%
B 249.677†	115.5	0.00112 mg/L	0.000072	0.00112 mg/L	0.000072	6.44%
Ca 227.546†	-69.6	0.0904 mg/L	0.02498	0.0904 mg/L	0.02498	27.62%
Cd 228.802†	5051.6	0.0930 mg/L	0.00161	0.0930 mg/L	0.00161	1.73%
Co 228.616†	-37.1	-0.00072 mg/L	0.000157	-0.00072 mg/L	0.000157	21.68%
Cr 267.716†	95165.3	0.814 mg/L	0.0074	0.814 mg/L	0.0074	0.91%
Cu 327.393†	95.2	0.00207 mg/L	0.000628	0.00207 mg/L	0.000628	30.38%
Fe 239.562†	44.3	0.0210 mg/L	0.00048	0.0210 mg/L	0.00048	2.26%
Mg 279.077†	41.2	0.0631 mg/L	0.00127	0.0631 mg/L	0.00127	2.01%
Mn 257.610†	140.2	0.00041 mg/L	0.000048	0.00041 mg/L	0.000048	11.72%
Mo 202.031†	5.9	0.00337 mg/L	0.000192	0.00337 mg/L	0.000192	5.69%
Ni 231.604†	14863.7	0.211 mg/L	0.0005	0.211 mg/L	0.0005	0.22%
Pb 220.353†	10482.6	0.842 mg/L	0.0052	0.842 mg/L	0.0052	0.61%
Sb 206.836†	1657.1	0.385 mg/L	0.0053	0.385 mg/L	0.0053	1.37%
Se 196.026†	724.4	0.378 mg/L	0.0068	0.378 mg/L	0.0068	1.80%
Si 251.611†	43.1	0.00513 mg/L	0.000430	0.00513 mg/L	0.000430	8.39%
Sn 189.927†	7.3	0.00306 mg/L	0.000312	0.00306 mg/L	0.000312	10.20%
Ti 334.940†	430.1	0.00463 mg/L	0.000051	0.00463 mg/L	0.000051	1.11%
Tl 190.801†	892.3	0.219 mg/L	0.0012	0.219 mg/L	0.0012	0.53%

Approved: June 22, 2012



V 290.880†	200.2	0.00318 mg/L	0.000815	0.00318 mg/L	0.000815	25.67%
Zn 206.200†	11059.9	0.211 mg/L	0.0008	0.211 mg/L	0.0008	0.38%
K 766.490†	88.8	-0.0900 mg/L	0.02125	-0.0900 mg/L	0.02125	23.61%
Na 589.592†	34.6	-0.0128 mg/L	0.00656	-0.0128 mg/L	0.00656	51.18%
Sr 407.771†	1527.2	0.00625 mg/L	0.000035	0.00625 mg/L	0.000035	0.57%
Li 670.784†	-9.1	0.00138 mg/L	0.000210	0.00138 mg/L	0.000210	15.28%

Sequence No.: 4

Sample ID: BLANK

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 15

Date Collected: 6/21/2012 9:41:13 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: BLANK

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: BLANK

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2015660.4				31510.02	1.56%
YRADIAL	248205.9				7022.58	2.83%
Ga 417.206	1192292.4				25064.54	2.10%
GA RADIAL	75950.8				3347.36	4.41%
Ag 328.068†	-63.1	0.00034 mg/L	0.000354	0.00034 mg/L	0.000354	104.29%
Al 396.153†	5.9	0.0352 mg/L	0.00074	0.0352 mg/L	0.00074	2.11%
As 188.979†	-1.0	0.00201 mg/L	0.000968	0.00201 mg/L	0.000968	48.12%
Ba 233.527†	10.6	0.00200 mg/L	0.000056	0.00200 mg/L	0.000056	2.81%
Be 234.861†	-44.9	0.00016 mg/L	0.000036	0.00016 mg/L	0.000036	22.58%
B 249.677†	56.3	0.00399 mg/L	0.000189	0.00399 mg/L	0.000189	4.73%
Ca 227.546†	-5.7	0.0714 mg/L	0.02403	0.0714 mg/L	0.02403	33.63%
Cd 228.802†	-8.1	0.00006 mg/L	0.000107	0.00006 mg/L	0.000107	168.60%
Co 228.616†	-11.4	0.00011 mg/L	0.000139	0.00011 mg/L	0.000139	121.04%
Cr 267.716†	9.6	0.00153 mg/L	0.000130	0.00153 mg/L	0.000130	8.50%
Cu 327.393†	37.4	0.00184 mg/L	0.000282	0.00184 mg/L	0.000282	15.32%
Fe 239.562†	16.1	0.0191 mg/L	0.00029	0.0191 mg/L	0.00029	1.50%
Mg 279.077†	22.1	0.0575 mg/L	0.00429	0.0575 mg/L	0.00429	7.46%
Mn 257.610†	1.4	0.00014 mg/L	0.000004	0.00014 mg/L	0.000004	3.13%
Mo 202.031†	1.7	0.00325 mg/L	0.000199	0.00325 mg/L	0.000199	6.11%
Ni 231.604†	0.8	0.00068 mg/L	0.000205	0.00068 mg/L	0.000205	30.01%
Pb 220.353†	-3.1	0.00088 mg/L	0.001043	0.00088 mg/L	0.001043	118.00%
Sb 206.836†	-4.7	0.00314 mg/L	0.000890	0.00314 mg/L	0.000890	28.37%
Se 196.026†	0.2	0.00054 mg/L	0.001717	0.00054 mg/L	0.001717	316.24%
Si 251.611†	47.0	0.00522 mg/L	0.000860	0.00522 mg/L	0.000860	16.48%
Sn 189.927†	-0.6	0.00239 mg/L	0.000136	0.00239 mg/L	0.000136	5.68%
Ti 334.940†	143.5	0.00459 mg/L	0.000164	0.00459 mg/L	0.000164	3.57%
Tl 190.801†	-7.9	-0.00211 mg/L	0.001599	-0.00211 mg/L	0.001599	75.80%
V 290.880†	25.7	0.00249 mg/L	0.001249	0.00249 mg/L	0.001249	50.17%
Zn 206.200†	71.9	0.00361 mg/L	0.000160	0.00361 mg/L	0.000160	4.43%
K 766.490†	44.3	-0.107 mg/L	0.0068	-0.107 mg/L	0.0068	6.32%
Na 589.592†	-95.7	-0.0204 mg/L	0.00154	-0.0204 mg/L	0.00154	7.54%
Sr 407.771†	-75.6	0.00559 mg/L	0.000008	0.00559 mg/L	0.000008	0.14%
Li 670.784†	18.0	0.00159 mg/L	0.000929	0.00159 mg/L	0.000929	58.32%

Sequence No.: 5

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 6/21/2012 9:48:08 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: CCV

Mean Corrected

Calib.

Sample

Approved: June 22, 2012

John H. Rhodes

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	1942376.7				34807.23	1.79%
YRADIAL	246355.8				3886.98	1.58%
Ga 417.206	1154242.2				33376.97	2.89%
GaRADIAL	75148.0				1424.65	1.90%
Ag 328.068†	125859.7	0.406 mg/L	0.0120	0.406 mg/L	0.0120	2.95%
QC value within limits for Ag	328.068	Recovery =	101.60%			
Al 396.153†	60756.0	9.98 mg/L	0.022	9.98 mg/L	0.022	0.22%
QC value within limits for Al	396.153	Recovery =	99.85%			
As 188.979†	1265.3	0.404 mg/L	0.0119	0.404 mg/L	0.0119	2.94%
QC value within limits for As	188.979	Recovery =	101.07%			
Ba 233.527†	170436.3	1.01 mg/L	0.010	1.01 mg/L	0.010	1.01%
QC value within limits for Ba	233.527	Recovery =	100.98%			
Be 234.861†	65076.7	0.0505 mg/L	0.00129	0.0505 mg/L	0.00129	2.56%
QC value within limits for Be	234.861	Recovery =	100.99%			
B 249.677†	48623.9	0.516 mg/L	0.0138	0.516 mg/L	0.0138	2.66%
QC value within limits for B	249.677	Recovery =	103.25%			
Ca 227.546†	4183.8	10.5 mg/L	0.33	10.5 mg/L	0.33	3.16%
QC value within limits for Ca	227.546	Recovery =	105.45%			
Cd 228.802†	2701.1	0.0493 mg/L	0.00233	0.0493 mg/L	0.00233	4.72%
QC value within limits for Cd	228.802	Recovery =	98.68%			
Co 228.616†	8357.6	0.202 mg/L	0.0039	0.202 mg/L	0.0039	1.93%
QC value within limits for Co	228.616	Recovery =	101.15%			
Cr 267.716†	58911.3	0.505 mg/L	0.0050	0.505 mg/L	0.0050	0.98%
QC value within limits for Cr	267.716	Recovery =	100.98%			
Cu 327.393†	120972.7	0.506 mg/L	0.0140	0.506 mg/L	0.0140	2.77%
QC value within limits for Cu	327.393	Recovery =	101.20%			
Fe 239.562†	57724.2	3.99 mg/L	0.014	3.99 mg/L	0.014	0.35%
QC value within limits for Fe	239.562	Recovery =	99.77%			
Mg 279.077†	33774.5	9.97 mg/L	0.024	9.97 mg/L	0.024	0.24%
QC value within limits for Mg	279.077	Recovery =	99.69%			
Mn 257.610†	416036.6	0.503 mg/L	0.0051	0.503 mg/L	0.0051	1.01%
QC value within limits for Mn	257.610	Recovery =	100.62%			
Mo 202.031†	37967.4	1.01 mg/L	0.003	1.01 mg/L	0.003	0.32%
QC value within limits for Mo	202.031	Recovery =	100.93%			
Ni 231.604†	36988.4	0.524 mg/L	0.0095	0.524 mg/L	0.0095	1.81%
QC value within limits for Ni	231.604	Recovery =	104.71%			
Pb 220.353†	6310.8	0.509 mg/L	0.0083	0.509 mg/L	0.0083	1.63%
QC value within limits for Pb	220.353	Recovery =	101.82%			
Sb 206.836†	5174.3	1.21 mg/L	0.042	1.21 mg/L	0.042	3.46%
QC value within limits for Sb	206.836	Recovery =	101.14%			
Se 196.026†	791.2	0.414 mg/L	0.0183	0.414 mg/L	0.0183	4.41%
QC value within limits for Se	196.026	Recovery =	103.60%			
Si 251.611†	243819.4	5.42 mg/L	0.095	5.42 mg/L	0.095	1.75%
QC value within limits for Si	251.611	Recovery =	108.43%			
Sn 189.927†	11771.0	1.01 mg/L	0.020	1.01 mg/L	0.020	2.01%
QC value within limits for Sn	189.927	Recovery =	100.68%			
Ti 334.940†	955858.5	1.00 mg/L	0.005	1.00 mg/L	0.005	0.53%
QC value within limits for Ti	334.940	Recovery =	100.45%			
Tl 190.801†	2100.4	0.531 mg/L	0.0058	0.531 mg/L	0.0058	1.08%
QC value within limits for Tl	190.801	Recovery =	106.18%			
V 290.880†	221019.1	1.01 mg/L	0.006	1.01 mg/L	0.006	0.60%
QC value within limits for V	290.880	Recovery =	101.06%			
Zn 206.200†	55219.2	1.01 mg/L	0.012	1.01 mg/L	0.012	1.22%
QC value within limits for Zn	206.200	Recovery =	101.31%			
K 766.490†	133011.5	50.8 mg/L	0.03	50.8 mg/L	0.03	0.06%
QC value within limits for K	766.490	Recovery =	101.55%			
Na 589.592†	892569.0	51.5 mg/L	1.79	51.5 mg/L	1.79	3.47%
QC value within limits for Na	589.592	Recovery =	103.03%			
Sr 407.771†	2459347.0	1.00 mg/L	0.033	1.00 mg/L	0.033	3.34%
QC value within limits for Sr	407.771	Recovery =	100.10%			
Li 670.784†	128469.5	1.02 mg/L	0.005	1.02 mg/L	0.005	0.50%
QC value within limits for Li	670.784	Recovery =	102.46%			

All analyte(s) passed QC.

Sequence No.: 6

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

autosampler Location: 1

Date Collected: 6/21/2012 9:54:08 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Approved: June 22, 2012

John H. Rhodes

Nebulizer Parameters: CCB

Analyte Back Pressure Flow
All 156.0 kPa 0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2052643.9					36292.80	1.77%
YRADIAL	254165.6					1833.27	0.72%
Ga 417.206	1235378.6					6038.97	0.49%
GaRADIAL	77798.8					2120.67	2.73%
Ag 328.068†	103.0	0.00087 mg/L		0.000187	0.00087 mg/L	0.000187	21.47%
QC value within limits for Ag	328.068	Recovery =	Not calculated				
Al 396.153†	19.5	0.0374 mg/L		0.00226	0.0374 mg/L	0.00226	6.04%
QC value within limits for Al	396.153	Recovery =	Not calculated				
As 188.979†	-2.9	0.00141 mg/L		0.000681	0.00141 mg/L	0.000681	48.25%
QC value within limits for As	188.979	Recovery =	Not calculated				
Ba 233.527†	5.1	0.00196 mg/L		0.000136	0.00196 mg/L	0.000136	6.92%
QC value within limits for Ba	233.527	Recovery =	Not calculated				
Be 234.861†	-20.3	0.00018 mg/L		0.000013	0.00018 mg/L	0.000013	7.21%
QC value within limits for Be	234.861	Recovery =	Not calculated				
B 249.677†	227.7	0.00581 mg/L		0.000062	0.00581 mg/L	0.000062	1.07%
QC value within limits for B	249.677	Recovery =	Not calculated				
Ca 227.546†	2.5	0.0911 mg/L		0.02068	0.0911 mg/L	0.02068	22.71%
QC value within limits for Ca	227.546	Recovery =	Not calculated				
Cd 228.802†	-5.4	0.00012 mg/L		0.000211	0.00012 mg/L	0.000211	179.20%
QC value within limits for Cd	228.802	Recovery =	Not calculated				
Co 228.616†	-1.8	0.00035 mg/L		0.000281	0.00035 mg/L	0.000281	81.29%
QC value within limits for Co	228.616	Recovery =	Not calculated				
Cr 267.716†	9.1	0.00153 mg/L		0.000150	0.00153 mg/L	0.000150	9.83%
QC value within limits for Cr	267.716	Recovery =	Not calculated				
Cu 327.393†	-115.7	0.00120 mg/L		0.000303	0.00120 mg/L	0.000303	25.19%
QC value within limits for Cu	327.393	Recovery =	Not calculated				
Fe 239.562†	33.6	0.0203 mg/L		0.00089	0.0203 mg/L	0.00089	4.38%
QC value within limits for Fe	239.562	Recovery =	Not calculated				
Mg 279.077†	34.8	0.0612 mg/L		0.00167	0.0612 mg/L	0.00167	2.72%
QC value within limits for Mg	279.077	Recovery =	Not calculated				
Mn 257.610†	88.6	0.00024 mg/L		0.000001	0.00024 mg/L	0.000001	0.44%
QC value within limits for Mn	257.610	Recovery =	Not calculated				
Mo 202.031†	6.6	0.00338 mg/L		0.000075	0.00338 mg/L	0.000075	2.22%
QC value within limits for Mo	202.031	Recovery =	Not calculated				
Ni 231.604†	-3.2	0.00063 mg/L		0.000369	0.00063 mg/L	0.000369	58.84%
QC value within limits for Ni	231.604	Recovery =	Not calculated				
Pb 220.353†	-7.0	0.00057 mg/L		0.001067	0.00057 mg/L	0.001067	186.87%
QC value within limits for Pb	220.353	Recovery =	Not calculated				
Sb 206.836†	-2.0	0.00378 mg/L		0.000147	0.00378 mg/L	0.000147	3.88%
QC value within limits for Sb	206.836	Recovery =	Not calculated				
Se 196.026†	5.6	0.00336 mg/L		0.003765	0.00336 mg/L	0.003765	112.06%
QC value within limits for Se	196.026	Recovery =	Not calculated				
Si 251.611†	50.6	0.00529 mg/L		0.000277	0.00529 mg/L	0.000277	5.24%
QC value within limits for Si	251.611	Recovery =	Not calculated				
Sn 189.927†	10.5	0.00333 mg/L		0.000424	0.00333 mg/L	0.000424	12.72%
QC value within limits for Sn	189.927	Recovery =	Not calculated				
Ti 334.940†	235.1	0.00469 mg/L		0.000097	0.00469 mg/L	0.000097	2.08%
QC value within limits for Ti	334.940	Recovery =	Not calculated				
Tl 190.801†	5.7	0.00123 mg/L		0.002958	0.00123 mg/L	0.002958	239.52%
QC value within limits for Tl	190.801	Recovery =	Not calculated				
V 290.880†	193.9	0.00326 mg/L		0.000624	0.00326 mg/L	0.000624	19.14%
QC value within limits for V	290.880	Recovery =	Not calculated				
Zn 206.200†	2.4	0.00234 mg/L		0.000238	0.00234 mg/L	0.000238	10.14%
QC value within limits for Zn	206.200	Recovery =	Not calculated				
K 766.490†	26.9	-0.114 mg/L		0.0108	-0.114 mg/L	0.0108	9.41%
QC value within limits for K	766.490	Recovery =	Not calculated				
Na 589.592†	38.7	-0.0126 mg/L		0.00962	-0.0126 mg/L	0.00962	76.42%
QC value within limits for Na	589.592	Recovery =	Not calculated				
Sr 407.771†	61.8	0.00565 mg/L		0.000003	0.00565 mg/L	0.000003	0.05%
QC value within limits for Sr	407.771	Recovery =	Not calculated				
Li 670.784†	27.7	0.00167 mg/L		0.000486	0.00167 mg/L	0.000486	29.11%
QC value within limits for Li	670.784	Recovery =	Not calculated				
All analyte(s) passed QC.							

Approved: June 22, 2012

John H. Rhodes

Sequence No.: 7
 Sample ID: PBW 04 WG401153-02
 Analyst: KHR
 Initial Sample Wt:
 Dilution:

autosampler Location: 16
 Date Collected: 6/21/2012 10:01:01 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: PBW 04 WG401153-02

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: PBW 04 WG401153-02

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2099886.7					7653.59	0.36%
YRADIAL	256787.6					11261.79	4.39%
Ga 417.206	1292352.9					24870.84	1.92%
GaRADIAL	79264.7					2500.97	3.16%
Ag 328.068†	4.8	0.00056 mg/L	0.000037	0.00056 mg/L	0.000037	6.56%	
Al 396.153†	14.4	0.0366 mg/L	0.00141	0.0366 mg/L	0.00141	3.86%	
As 188.979†	-0.2	0.00226 mg/L	0.000348	0.00226 mg/L	0.000348	15.36%	
Ba 233.527†	39.6	0.00217 mg/L	0.000138	0.00217 mg/L	0.000138	6.39%	
Be 234.861†	97.2	0.00027 mg/L	0.000010	0.00027 mg/L	0.000010	3.59%	
B 249.677†	127.2	0.00474 mg/L	0.000124	0.00474 mg/L	0.000124	2.61%	
Ca 227.546†	4.6	0.0962 mg/L	0.02776	0.0962 mg/L	0.02776	28.85%	
Cd 228.802†	-3.9	0.00014 mg/L	0.000143	0.00014 mg/L	0.000143	101.24%	
Co 228.616†	-3.6	0.00030 mg/L	0.000053	0.00030 mg/L	0.000053	17.50%	
Cr 267.716†	4.7	0.00149 mg/L	0.000036	0.00149 mg/L	0.000036	2.41%	
Cu 327.393†	3.6	0.00170 mg/L	0.000331	0.00170 mg/L	0.000331	19.46%	
Fe 239.562†	12.0	0.0188 mg/L	0.00017	0.0188 mg/L	0.00017	0.89%	
Mg 279.077†	22.5	0.0576 mg/L	0.00092	0.0576 mg/L	0.00092	1.60%	
Mn 257.610†	68.2	0.00022 mg/L	0.000045	0.00022 mg/L	0.000045	20.40%	
Mo 202.031†	5.3	0.00335 mg/L	0.000487	0.00335 mg/L	0.000487	14.54%	
Ni 231.604†	11.8	0.00084 mg/L	0.000423	0.00084 mg/L	0.000423	50.38%	
Pb 220.353†	7.3	0.00172 mg/L	0.000230	0.00172 mg/L	0.000230	13.38%	
Sb 206.836†	-7.6	0.00246 mg/L	0.000688	0.00246 mg/L	0.000688	28.02%	
Se 196.026†	2.3	0.00164 mg/L	0.003157	0.00164 mg/L	0.003157	192.70%	
Si 251.611†	85.4	0.00607 mg/L	0.000912	0.00607 mg/L	0.000912	15.02%	
Sn 189.927†	0.5	0.00248 mg/L	0.000939	0.00248 mg/L	0.000939	37.81%	
Ti 334.940†	171.3	0.00463 mg/L	0.000013	0.00463 mg/L	0.000013	0.28%	
Tl 190.801†	5.5	0.00119 mg/L	0.002116	0.00119 mg/L	0.002116	178.39%	
V 290.880†	154.7	0.00308 mg/L	0.000458	0.00308 mg/L	0.000458	14.89%	
Zn 206.200†	88.9	0.00392 mg/L	0.000089	0.00392 mg/L	0.000089	2.27%	
K 766.490†	55.2	-0.103 mg/L	0.0652	-0.103 mg/L	0.0652	63.18%	
Na 589.592†	-168.6	-0.0246 mg/L	0.00537	-0.0246 mg/L	0.00537	21.82%	
Sr 407.771†	-2.0	0.00562 mg/L	0.000022	0.00562 mg/L	0.000022	0.39%	
Li 670.784†	-60.2	0.00097 mg/L	0.000379	0.00097 mg/L	0.000379	39.03%	

Sequence No.: 8
 Sample ID: LCSW 04 WG401153-03
 Analyst: KHR
 Initial Sample Wt:
 Dilution:

autosampler Location: 17
 Date Collected: 6/21/2012 10:07:56 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

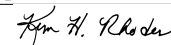
Nebulizer Parameters: LCSW 04 WG401153-03

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: LCSW 04 WG401153-03

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2000952.7					31110.69	1.55%
YRADIAL	256980.7					3115.15	1.21%
Ga 417.206	1228378.3					43406.25	3.53%
GaRADIAL	78287.5					416.11	0.53%
Ag 328.068†	61432.5	0.199 mg/L	0.0111	0.199 mg/L	0.0111	5.61%	

Approved: June 22, 2012



Al 396.153†	29746.7	4.91 mg/L	0.021	4.91 mg/L	0.021	0.43%
As 188.979†	598.8	0.192 mg/L	0.0072	0.192 mg/L	0.0072	3.74%
Ba 233.527†	85218.8	0.506 mg/L	0.0094	0.506 mg/L	0.0094	1.86%
Be 234.861†	31116.6	0.0243 mg/L	0.00131	0.0243 mg/L	0.00131	5.42%
B 249.677†	90178.2	0.960 mg/L	0.0543	0.960 mg/L	0.0543	5.66%
Ca 227.546†	1988.6	5.06 mg/L	0.176	5.06 mg/L	0.176	3.48%
Cd 228.802†	1290.7	0.0237 mg/L	0.00142	0.0237 mg/L	0.00142	5.98%
Co 228.616†	4136.9	0.100 mg/L	0.0015	0.100 mg/L	0.0015	1.51%
Cr 267.716†	29226.8	0.251 mg/L	0.0075	0.251 mg/L	0.0075	2.98%
Cu 327.393†	58995.3	0.248 mg/L	0.0139	0.248 mg/L	0.0139	5.60%
Fe 239.562†	27664.4	1.92 mg/L	0.010	1.92 mg/L	0.010	0.50%
Mg 279.077†	16548.9	4.91 mg/L	0.021	4.91 mg/L	0.021	0.44%
Mn 257.610†	208752.1	0.253 mg/L	0.0044	0.253 mg/L	0.0044	1.73%
Mo 202.031†	18853.4	0.503 mg/L	0.0105	0.503 mg/L	0.0105	2.10%
Ni 231.604†	17947.2	0.254 mg/L	0.0039	0.254 mg/L	0.0039	1.53%
Pb 220.353†	3113.1	0.252 mg/L	0.0043	0.252 mg/L	0.0043	1.70%
Sb 206.836†	2469.2	0.581 mg/L	0.0263	0.581 mg/L	0.0263	4.53%
Se 196.026†	383.2	0.201 mg/L	0.0088	0.201 mg/L	0.0088	4.40%
Si 251.611†	113519.2	2.53 mg/L	0.119	2.53 mg/L	0.119	4.72%
Sn 189.927†	6019.3	0.516 mg/L	0.0067	0.516 mg/L	0.0067	1.29%
Ti 334.940†	468840.2	0.495 mg/L	0.0029	0.495 mg/L	0.0029	0.58%
Tl 190.801†	1062.2	0.268 mg/L	0.0041	0.268 mg/L	0.0041	1.53%
V 290.880†	110967.6	0.509 mg/L	0.0145	0.509 mg/L	0.0145	2.85%
Zn 206.200†	27638.4	0.508 mg/L	0.0148	0.508 mg/L	0.0148	2.91%
K 766.490†	65246.6	25.2 mg/L	0.13	25.2 mg/L	0.13	0.50%
Na 589.592†	447070.1	25.8 mg/L	0.18	25.8 mg/L	0.18	0.69%
Sr 407.771†	1196612.2	0.490 mg/L	0.0068	0.490 mg/L	0.0068	1.38%
Li 670.784†	64721.5	0.517 mg/L	0.0044	0.517 mg/L	0.0044	0.86%

Sequence No.: 9

Sample ID: L1206047101

Analyst: KHR

Initial Sample Wt:

Dilution:

Sampler Location: 18

Date Collected: 6/21/2012 10:13:55 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047101

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: L1206047101

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1856072.4				28987.77	1.56%
YRADIAL	237657.7				3461.77	1.46%
Ga 417.206	1204748.1				24108.88	2.00%
GaRADIAL	77077.0				1143.13	1.48%
Ag 328.068†	2390.4	0.00741 mg/L	0.000842	0.00741 mg/L	0.000842	11.36%
Al 396.153†	671.8	0.141 mg/L	0.0037	0.141 mg/L	0.0037	2.60%
As 188.979†	-2.0	0.00144 mg/L	0.001582	0.00144 mg/L	0.001582	109.57%
Ba 233.527†	2608.4	0.0174 mg/L	0.00025	0.0174 mg/L	0.00025	1.45%
Be 234.861†	319.1	0.00074 mg/L	0.000026	0.00074 mg/L	0.000026	3.58%
B 249.677†	712100.4	7.57 mg/L	0.192	7.57 mg/L	0.192	2.54%
Ca 227.546†	151223.9	361 mg/L	10.6	361 mg/L	10.6	2.95%
Cd 228.802†	12.0	0.00044 mg/L	0.000225	0.00044 mg/L	0.000225	51.13%
Co 228.616†	37.2	0.00150 mg/L	0.000477	0.00150 mg/L	0.000477	31.89%
Cr 267.716†	370.9	0.00459 mg/L	0.000341	0.00459 mg/L	0.000341	7.41%
Cu 327.393†	-366.8	0.00001 mg/L	0.000136	0.00001 mg/L	0.000136	>999.9%
Fe 239.562†	9615.0	0.677 mg/L	0.0089	0.677 mg/L	0.0089	1.31%
Mg 279.077†	474907.1	139 mg/L	0.6	139 mg/L	0.6	0.43%
Mn 257.610†	3415117.8	4.12 mg/L	0.030	4.12 mg/L	0.030	0.73%
Mo 202.031†	2335.3	0.0659 mg/L	0.00087	0.0659 mg/L	0.00087	1.32%
Ni 231.604†	242.3	0.00410 mg/L	0.000554	0.00410 mg/L	0.000554	13.50%
Pb 220.353†	-25.7	-0.00052 mg/L	0.001680	-0.00052 mg/L	0.001680	324.70%
Sb 206.836†	-11.3	0.00168 mg/L	0.001425	0.00168 mg/L	0.001425	84.63%
Se 196.026†	9.1	0.00417 mg/L	0.001432	0.00417 mg/L	0.001432	34.31%
Si 251.611†	333413.7	7.43 mg/L	0.195	7.43 mg/L	0.195	2.63%
Sn 189.927†	-423.0	-0.0337 mg/L	0.00178	-0.0337 mg/L	0.00178	5.28%
Ti 334.940†	-49773.0	0.00657 mg/L	0.003736	0.00657 mg/L	0.003736	56.84%
Tl 190.801†	-30.4	-0.0124 mg/L	0.00076	-0.0124 mg/L	0.00076	6.11%

Approved: June 22, 2012

John H. Rhodes

V 290.880†	2727.2	0.0111 mg/L	0.00494	0.0111 mg/L	0.00494	44.35%
Zn 206.200†	2036.4	0.0394 mg/L	0.00083	0.0394 mg/L	0.00083	2.10%
K 766.490†	25080.9	9.46 mg/L	0.123	9.46 mg/L	0.123	1.30%
Na 589.592†	3919212.0	223 mg/L	3.4	223 mg/L	3.4	1.51%
Sr 407.771†	6958202.2	2.81 mg/L	0.030	2.81 mg/L	0.030	1.07%
Li 670.784†	133673.8	1.07 mg/L	0.009	1.07 mg/L	0.009	0.81%

Sequence No.: 10

Sample ID: L1206047102

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 19

Date Collected: 6/21/2012 10:20:02 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047102

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Mean Data: L1206047102

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1814567.3				22823.03	1.26%
YRADIAL	238749.6				5413.51	2.27%
Ga 417.206	1185525.1				25037.05	2.11%
GARADIAL	77002.3				2241.38	2.91%
Ag 328.068†	2434.1	0.00741 mg/L	0.000304	0.00741 mg/L	0.000304	4.11%
Al 396.153†	-37.2	0.0233 mg/L	0.00157	0.0233 mg/L	0.00157	6.75%
As 188.979†	0.6	0.00217 mg/L	0.001127	0.00217 mg/L	0.001127	51.94%
Ba 233.527†	2466.0	0.0166 mg/L	0.00018	0.0166 mg/L	0.00018	1.10%
Be 234.861†	30.4	0.00058 mg/L	0.000020	0.00058 mg/L	0.000020	3.48%
B 249.677†	726134.7	7.72 mg/L	0.232	7.72 mg/L	0.232	3.00%
Ca 227.546†	155539.7	371 mg/L	8.6	371 mg/L	8.6	2.32%
Cd 228.802†	14.9	0.00049 mg/L	0.000060	0.00049 mg/L	0.000060	12.20%
Co 228.616†	27.3	0.00129 mg/L	0.000445	0.00129 mg/L	0.000445	34.52%
Cr 267.716†	398.9	0.00484 mg/L	0.000550	0.00484 mg/L	0.000550	11.35%
Cu 327.393†	-331.6	0.00012 mg/L	0.000628	0.00012 mg/L	0.000628	518.66%
Fe 239.562†	4800.9	0.346 mg/L	0.0118	0.346 mg/L	0.0118	3.42%
Mg 279.077†	480160.7	141 mg/L	0.8	141 mg/L	0.8	0.54%
Mn 257.610†	3368107.5	4.07 mg/L	0.020	4.07 mg/L	0.020	0.49%
Mo 202.031†	2666.2	0.0747 mg/L	0.00062	0.0747 mg/L	0.00062	0.84%
Ni 231.604†	245.6	0.00415 mg/L	0.000571	0.00415 mg/L	0.000571	13.77%
Pb 220.353†	-33.1	-0.00099 mg/L	0.000817	-0.00099 mg/L	0.000817	82.64%
Sb 206.836†	-13.9	0.00109 mg/L	0.003265	0.00109 mg/L	0.003265	300.66%
Se 196.026†	4.7	0.00177 mg/L	0.004196	0.00177 mg/L	0.004196	237.33%
Si 251.611†	336001.3	7.48 mg/L	0.113	7.48 mg/L	0.113	1.51%
Sn 189.927†	-433.4	-0.0345 mg/L	0.00275	-0.0345 mg/L	0.00275	7.98%
Ti 334.940†	-53106.1	0.00464 mg/L	0.004196	0.00464 mg/L	0.004196	90.50%
Tl 190.801†	-40.9	-0.0149 mg/L	0.00337	-0.0149 mg/L	0.00337	22.56%
V 290.880†	3073.2	0.0127 mg/L	0.00407	0.0127 mg/L	0.00407	32.00%
Zn 206.200†	1769.8	0.0346 mg/L	0.00039	0.0346 mg/L	0.00039	1.13%
K 766.490†	26077.6	9.85 mg/L	0.198	9.85 mg/L	0.198	2.01%
Na 589.592†	3898030.0	222 mg/L	6.3	222 mg/L	6.3	2.82%
Sr 407.771†	6957233.3	2.81 mg/L	0.048	2.81 mg/L	0.048	1.69%
Li 670.784†	136740.2	1.09 mg/L	0.004	1.09 mg/L	0.004	0.37%

Sequence No.: 11

Sample ID: L1206047103

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 20

Date Collected: 6/21/2012 10:26:08 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047103

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: L1206047103

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
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Approved: June 22, 2012

John H. Rhodes

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	1976738.3				14945.44	0.76%
YRADIAL	244253.3				3780.96	1.55%
Ga 417.206	1321851.0				18060.37	1.37%
GaRADIAL	78977.2				1732.78	2.19%
Ag 328.068†	468.8	0.00209 mg/L	0.000426	0.00209 mg/L	0.000426	20.35%
Al 396.153†	1497.4	0.281 mg/L	0.0021	0.281 mg/L	0.0021	0.76%
As 188.979†	-2.8	0.00137 mg/L	0.001130	0.00137 mg/L	0.001130	82.46%
Ba 233.527†	5402.2	0.0339 mg/L	0.00025	0.0339 mg/L	0.00025	0.72%
Be 234.861†	147.6	0.00031 mg/L	0.000016	0.00031 mg/L	0.000016	5.09%
B 249.677†	4680.9	0.0531 mg/L	0.00381	0.0531 mg/L	0.00381	7.18%
Ca 227.546†	22631.3	54.1 mg/L	1.58	54.1 mg/L	1.58	2.92%
Cd 228.802†	-7.9	0.00007 mg/L	0.000102	0.00007 mg/L	0.000102	151.02%
Co 228.616†	-12.1	0.00012 mg/L	0.000076	0.00012 mg/L	0.000076	62.98%
Cr 267.716†	216.5	0.00332 mg/L	0.000094	0.00332 mg/L	0.000094	2.85%
Cu 327.393†	433.7	0.00349 mg/L	0.000605	0.00349 mg/L	0.000605	17.34%
Fe 239.562†	384.9	0.0445 mg/L	0.00108	0.0445 mg/L	0.00108	2.44%
Mg 279.077†	88.1	0.0770 mg/L	0.00049	0.0770 mg/L	0.00049	0.63%
Mn 257.610†	1886.6	0.00242 mg/L	0.000115	0.00242 mg/L	0.000115	4.74%
Mo 202.031†	303.5	0.0113 mg/L	0.00027	0.0113 mg/L	0.00027	2.40%
Ni 231.604†	34.1	0.00116 mg/L	0.000204	0.00116 mg/L	0.000204	17.66%
Pb 220.353†	23.8	0.00353 mg/L	0.000850	0.00353 mg/L	0.000850	24.09%
Sb 206.836†	-6.2	0.00281 mg/L	0.000952	0.00281 mg/L	0.000952	33.88%
Se 196.026†	1.0	0.00098 mg/L	0.001530	0.00098 mg/L	0.001530	155.32%
Si 251.611†	525571.0	11.7 mg/L	0.17	11.7 mg/L	0.17	1.43%
Sn 189.927†	-267.2	-0.0204 mg/L	0.00065	-0.0204 mg/L	0.00065	3.19%
Ti 334.940†	-8785.1	0.00337 mg/L	0.000779	0.00337 mg/L	0.000779	23.14%
Tl 190.801†	-27.0	-0.00683 mg/L	0.000615	-0.00683 mg/L	0.000615	9.00%
V 290.880†	6891.3	0.0338 mg/L	0.00134	0.0338 mg/L	0.00134	3.95%
Zn 206.200†	287.6	0.00756 mg/L	0.000202	0.00756 mg/L	0.000202	2.68%
K 766.490†	9433.6	3.50 mg/L	0.043	3.50 mg/L	0.043	1.22%
Na 589.592†	1214262.4	70.0 mg/L	1.58	70.0 mg/L	1.58	2.26%
Sr 407.771†	268512.2	0.113 mg/L	0.0031	0.113 mg/L	0.0031	2.76%
Li 670.784†	2152.6	0.0186 mg/L	0.00039	0.0186 mg/L	0.00039	2.09%

Sequence No.: 12

Sample ID: L1206047104

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 21

Date Collected: 6/21/2012 10:33:05 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047104

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: L1206047104

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1886100.2				23328.70	1.24%
YRADIAL	239109.8				314.65	0.13%
Ga 417.206	1243532.8				3161.14	0.25%
GaRADIAL	76016.8				2272.89	2.99%
Ag 328.068†	418.2	0.00193 mg/L	0.000118	0.00193 mg/L	0.000118	6.10%
Al 396.153†	1570.4	0.293 mg/L	0.0039	0.293 mg/L	0.0039	1.34%
As 188.979†	-2.7	0.00140 mg/L	0.001099	0.00140 mg/L	0.001099	78.39%
Ba 233.527†	5707.8	0.0357 mg/L	0.00031	0.0357 mg/L	0.00031	0.86%
Be 234.861†	33.0	0.00022 mg/L	0.000008	0.00022 mg/L	0.000008	3.61%
B 249.677†	2640.2	0.0315 mg/L	0.00092	0.0315 mg/L	0.00092	2.94%
Ca 227.546†	24143.9	57.7 mg/L	1.64	57.7 mg/L	1.64	2.84%
Cd 228.802†	-5.0	0.00012 mg/L	0.000038	0.00012 mg/L	0.000038	30.93%
Co 228.616†	0.7	0.00044 mg/L	0.000307	0.00044 mg/L	0.000307	70.42%
Cr 267.716†	223.6	0.00338 mg/L	0.000024	0.00338 mg/L	0.000024	0.70%
Cu 327.393†	232.0	0.00265 mg/L	0.000129	0.00265 mg/L	0.000129	4.86%
Fe 239.562†	76.5	0.0233 mg/L	0.00038	0.0233 mg/L	0.00038	1.63%
Mg 279.077†	70.7	0.0719 mg/L	0.00116	0.0719 mg/L	0.00116	1.62%
Mn 257.610†	1526.3	0.00199 mg/L	0.000107	0.00199 mg/L	0.000107	5.40%
Mo 202.031†	332.3	0.0120 mg/L	0.00026	0.0120 mg/L	0.00026	2.14%
Ni 231.604†	20.6	0.00097 mg/L	0.000270	0.00097 mg/L	0.000270	27.92%
Pb 220.353†	26.8	0.00380 mg/L	0.000363	0.00380 mg/L	0.000363	9.56%

Approved: June 22, 2012

John H. Rhodes

Sb 206.836†	-4.5	0.00323 mg/L	0.001077	0.00323 mg/L	0.001077	33.39%
Se 196.026†	2.6	0.00179 mg/L	0.002206	0.00179 mg/L	0.002206	122.96%
Si 251.611†	564456.8	12.6 mg/L	0.17	12.6 mg/L	0.17	1.36%
Sn 189.927†	-277.8	-0.0213 mg/L	0.00074	-0.0213 mg/L	0.00074	3.46%
Ti 334.940†	-9860.8	0.00279 mg/L	0.000341	0.00279 mg/L	0.000341	12.24%
Tl 190.801†	-34.8	-0.00876 mg/L	0.000940	-0.00876 mg/L	0.000940	10.73%
V 290.880†	7844.8	0.0382 mg/L	0.00105	0.0382 mg/L	0.00105	2.75%
Zn 206.200†	208.3	0.00611 mg/L	0.000214	0.00611 mg/L	0.000214	3.50%
K 766.490†	9599.8	3.56 mg/L	0.010	3.56 mg/L	0.010	0.28%
Na 589.592†	1306298.2	75.3 mg/L	4.59	75.3 mg/L	4.59	6.10%
Sr 407.771†	278778.4	0.117 mg/L	0.0023	0.117 mg/L	0.0023	1.93%
Li 670.784†	2301.6	0.0198 mg/L	0.00063	0.0198 mg/L	0.00063	3.17%

Sequence No.: 13

Sample ID: L1206047105

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 22

Date Collected: 6/21/2012 10:40:05 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047105

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: L1206047105

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1980836.9						18624.35	0.94%
YRADIAL	246953.1						1697.65	0.69%
Ga 417.206	1280208.0						12661.85	0.99%
GaRADIAL	78456.0						2277.93	2.90%
Ag 328.068†	-49.2	0.00042	mg/L	0.000353	0.00042	mg/L	0.000353	84.01%
Al 396.153†	841.1	0.158	mg/L	0.0019	0.158	mg/L	0.0019	1.17%
As 188.979†	30.8	0.0111	mg/L	0.00222	0.0111	mg/L	0.00222	20.07%
Ba 233.527†	3128.3	0.0206	mg/L	0.00015	0.0206	mg/L	0.00015	0.73%
Be 234.861†	37.1	0.00028	mg/L	0.000023	0.00028	mg/L	0.000023	8.29%
B 249.677†	32014.8	0.344	mg/L	0.0023	0.344	mg/L	0.0023	0.66%
Ca 227.546†	997.6	2.47	mg/L	0.042	2.47	mg/L	0.042	1.70%
Cd 228.802†	-4.2	0.00007	mg/L	0.000015	0.00007	mg/L	0.000015	20.51%
Co 228.616†	-25.3	0.00016	mg/L	0.000159	0.00016	mg/L	0.000159	100.55%
Cr 267.716†	95.7	0.00223	mg/L	0.000139	0.00223	mg/L	0.000139	6.22%
Cu 327.393†	109.1	0.00217	mg/L	0.000522	0.00217	mg/L	0.000522	24.09%
Fe 239.562†	1826.4	0.144	mg/L	0.0016	0.144	mg/L	0.0016	1.10%
Mg 279.077†	1534.5	0.505	mg/L	0.0034	0.505	mg/L	0.0034	0.67%
Mn 257.610†	3458.5	0.00436	mg/L	0.000096	0.00436	mg/L	0.000096	2.20%
Mo 202.031†	8321.4	0.224	mg/L	0.0016	0.224	mg/L	0.0016	0.71%
Ni 231.604†	9.2	0.00080	mg/L	0.000171	0.00080	mg/L	0.000171	21.25%
Pb 220.353†	-12.3	0.00029	mg/L	0.000738	0.00029	mg/L	0.000738	253.98%
Sb 206.836†	-9.0	0.00246	mg/L	0.000963	0.00246	mg/L	0.000963	39.12%
Se 196.026†	-6.0	-0.00263	mg/L	0.001345	-0.00263	mg/L	0.001345	51.15%
Si 251.611†	148408.5	3.31	mg/L	0.012	3.31	mg/L	0.012	0.37%
Sn 189.927†	-35.8	-0.00061	mg/L	0.000566	-0.00061	mg/L	0.000566	92.12%
Ti 334.940†	2714.5	0.00764	mg/L	0.000659	0.00764	mg/L	0.000659	8.62%
Tl 190.801†	-1.5	-0.00048	mg/L	0.001006	-0.00048	mg/L	0.001006	207.48%
V 290.880†	698.7	0.00550	mg/L	0.000417	0.00550	mg/L	0.000417	7.57%
Zn 206.200†	374.2	0.00912	mg/L	0.000147	0.00912	mg/L	0.000147	1.62%
K 766.490†	2067.6	0.406	mg/L	0.0107	0.406	mg/L	0.0107	2.64%
Na 589.592†	4966733.5	282	mg/L	7.7	282	mg/L	7.7	2.75%
Sr 407.771†	322360.1	0.136	mg/L	0.0029	0.136	mg/L	0.0029	2.15%
Li 670.784†	1554.1	0.0138	mg/L	0.00043	0.0138	mg/L	0.00043	3.14%

Sequence No.: 14

Sample ID: L1206047106

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 23

Date Collected: 6/21/2012 10:47:07 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047106

Approved: June 22, 2012

John H. Rhodes

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206047106

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1920901.1						47555.01	2.48%
YRADIAL	247034.2						1152.84	0.47%
Ga 417.206	1227656.6						12547.30	1.02%
GaRADIAL	77866.4						2316.88	2.98%
Ag 328.068†	29.7	0.00063	mg/L	0.000074	0.00063	mg/L	0.000074	11.75%
Al 396.153†	308.1	0.0698	mg/L	0.00116	0.0698	mg/L	0.00116	1.66%
As 188.979†	34.4	0.0122	mg/L	0.00167	0.0122	mg/L	0.00167	13.70%
Ba 233.527†	3085.9	0.0203	mg/L	0.00038	0.0203	mg/L	0.00038	1.85%
Be 234.861†	-57.1	0.00023	mg/L	0.000021	0.00023	mg/L	0.000021	9.30%
B 249.677†	33013.6	0.354	mg/L	0.0042	0.354	mg/L	0.0042	1.17%
Ca 227.546†	1013.7	2.50	mg/L	0.009	2.50	mg/L	0.009	0.36%
Cd 228.802†	0.8	0.00016	mg/L	0.000053	0.00016	mg/L	0.000053	33.20%
Co 228.616†	-29.2	0.00007	mg/L	0.000119	0.00007	mg/L	0.000119	160.29%
Cr 267.716†	46.2	0.00181	mg/L	0.000060	0.00181	mg/L	0.000060	3.31%
Cu 327.393†	51.6	0.00192	mg/L	0.000389	0.00192	mg/L	0.000389	20.26%
Fe 239.562†	333.0	0.0409	mg/L	0.00072	0.0409	mg/L	0.00072	1.76%
Mg 279.077†	1506.3	0.497	mg/L	0.0068	0.497	mg/L	0.0068	1.38%
Mn 257.610†	1366.8	0.00183	mg/L	0.000063	0.00183	mg/L	0.000063	3.43%
Mo 202.031†	8370.9	0.225	mg/L	0.0031	0.225	mg/L	0.0031	1.37%
Ni 231.604†	0.8	0.00068	mg/L	0.000292	0.00068	mg/L	0.000292	42.70%
Pb 220.353†	-7.7	0.00065	mg/L	0.000305	0.00065	mg/L	0.000305	46.65%
Sb 206.836†	-7.3	0.00287	mg/L	0.001049	0.00287	mg/L	0.001049	36.55%
Se 196.026†	4.0	0.00254	mg/L	0.002356	0.00254	mg/L	0.002356	92.73%
Si 251.611†	149653.4	3.33	mg/L	0.051	3.33	mg/L	0.051	1.54%
Sn 189.927†	-29.7	-0.00009	mg/L	0.000129	-0.00009	mg/L	0.000129	142.82%
Ti 334.940†	257.9	0.00508	mg/L	0.000244	0.00508	mg/L	0.000244	4.81%
Tl 190.801†	-3.3	-0.00094	mg/L	0.003739	-0.00094	mg/L	0.003739	396.88%
V 290.880†	966.5	0.00673	mg/L	0.000958	0.00673	mg/L	0.000958	14.24%
Zn 206.200†	271.5	0.00725	mg/L	0.000198	0.00725	mg/L	0.000198	2.73%
K 766.490†	1963.3	0.365	mg/L	0.0171	0.365	mg/L	0.0171	4.68%
Na 589.592†	4965904.3	282	mg/L	5.5	282	mg/L	5.5	1.94%
Sr 407.771†	329945.7	0.139	mg/L	0.0031	0.139	mg/L	0.0031	2.22%
Li 670.784†	1508.9	0.0135	mg/L	0.00123	0.0135	mg/L	0.00123	9.16%

Sequence No.: 15

Sample ID: L1206047106PS WG401208-01

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 24

Date Collected: 6/21/2012 10:54:05 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047106PS WG401208-01

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206047106PS WG401208-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1936984.8						34012.19	1.76%
YRADIAL	252640.1						4375.66	1.73%
Ga 417.206	1201953.7						10448.31	0.87%
GaRADIAL	77898.3						1008.68	1.29%
Ag 328.068†	61261.8	0.198	mg/L	0.0017	0.198	mg/L	0.0017	0.85%
Al 396.153†	30200.4	4.97	mg/L	0.018	4.97	mg/L	0.018	0.37%
As 188.979†	640.7	0.205	mg/L	0.0027	0.205	mg/L	0.0027	1.32%
Ba 233.527†	88192.1	0.524	mg/L	0.0135	0.524	mg/L	0.0135	2.58%
Be 234.861†	31227.9	0.0244	mg/L	0.00020	0.0244	mg/L	0.00020	0.81%
B 249.677†	121511.4	1.29	mg/L	0.018	1.29	mg/L	0.018	1.39%
Ca 227.546†	2979.8	7.42	mg/L	0.090	7.42	mg/L	0.090	1.21%
Cd 228.802†	1295.4	0.0237	mg/L	0.00080	0.0237	mg/L	0.00080	3.36%
Co 228.616†	4102.8	0.0999	mg/L	0.00209	0.0999	mg/L	0.00209	2.09%
Cr 267.716†	29161.5	0.251	mg/L	0.0046	0.251	mg/L	0.0046	1.84%
Cu 327.393†	59299.5	0.249	mg/L	0.0022	0.249	mg/L	0.0022	0.90%

Approved: June 22, 2012

John H. Rhodes

Fe 239.562†	28095.2	1.95 mg/L	0.004	1.95 mg/L	0.004	0.23%
Mg 279.077†	17783.9	5.28 mg/L	0.016	5.28 mg/L	0.016	0.31%
Mn 257.610†	209763.6	0.254 mg/L	0.0071	0.254 mg/L	0.0071	2.78%
Mo 202.031†	26367.1	0.702 mg/L	0.0194	0.702 mg/L	0.0194	2.76%
Ni 231.604†	17726.7	0.251 mg/L	0.0074	0.251 mg/L	0.0074	2.93%
Pb 220.353†	3087.1	0.250 mg/L	0.0042	0.250 mg/L	0.0042	1.68%
Sb 206.836†	2492.2	0.587 mg/L	0.0069	0.587 mg/L	0.0069	1.18%
Se 196.026†	382.5	0.201 mg/L	0.0003	0.201 mg/L	0.0003	0.17%
Si 251.611†	249209.5	5.54 mg/L	0.080	5.54 mg/L	0.080	1.43%
Sn 189.927†	-77.6	-0.00418 mg/L	0.001641	-0.00418 mg/L	0.001641	39.28%
Ti 334.940†	473081.0	0.500 mg/L	0.0024	0.500 mg/L	0.0024	0.49%
Tl 190.801†	999.7	0.253 mg/L	0.0047	0.253 mg/L	0.0047	1.88%
V 290.880†	111721.6	0.512 mg/L	0.0077	0.512 mg/L	0.0077	1.51%
Zn 206.200†	28464.5	0.523 mg/L	0.0114	0.523 mg/L	0.0114	2.18%
K 766.490†	67267.5	25.7 mg/L	0.12	25.7 mg/L	0.12	0.46%
Na 589.592†	4868553.6	276 mg/L	5.1	276 mg/L	5.1	1.85%
Sr 407.771†	1499845.7	0.613 mg/L	0.0124	0.613 mg/L	0.0124	2.02%
Li 670.784†	64519.9	0.515 mg/L	0.0035	0.515 mg/L	0.0035	0.67%

Sequence No.: 16

Sample ID: L1206047106DL WG401208-02

Analyst: KHR

Initial Sample Wt:

Dilution:

Utosampler Location: 25

Date Collected: 6/21/2012 11:00:07 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047106DL WG401208-02

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: L1206047106DL WG401208-02

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2042450.8					11178.43	0.55%
YRADIAL	252675.2					7030.59	2.78%
Ga 417.206	1273833.4					18542.53	1.46%
GaRADIAL	79078.9					1194.61	1.51%
Ag 328.068†	-2.1	0.00053 mg/L		0.000455	0.00053 mg/L	0.000455	85.60%
Al 396.153†	59.9	0.0411 mg/L		0.00268	0.0411 mg/L	0.00268	6.51%
As 188.979†	4.2	0.00345 mg/L		0.000656	0.00345 mg/L	0.000656	19.00%
Ba 233.527†	578.0	0.00538 mg/L		0.000097	0.00538 mg/L	0.000097	1.79%
Be 234.861†	22.5	0.00023 mg/L		0.000005	0.00023 mg/L	0.000005	2.03%
B 249.677†	7051.3	0.0784 mg/L		0.00242	0.0784 mg/L	0.00242	3.09%
Ca 227.546†	188.5	0.535 mg/L		0.0069	0.535 mg/L	0.0069	1.29%
Cd 228.802†	-7.5	0.00006 mg/L		0.000112	0.00006 mg/L	0.000112	177.16%
Co 228.616†	-10.9	0.00020 mg/L		0.000090	0.00020 mg/L	0.000090	44.02%
Cr 267.716†	17.1	0.00159 mg/L		0.000091	0.00159 mg/L	0.000091	5.71%
Cu 327.393†	-95.0	0.00129 mg/L		0.000392	0.00129 mg/L	0.000392	30.31%
Fe 239.562†	72.1	0.0229 mg/L		0.00022	0.0229 mg/L	0.00022	0.98%
Mg 279.077†	298.5	0.139 mg/L		0.0054	0.139 mg/L	0.0054	3.85%
Mn 257.610†	294.8	0.00050 mg/L		0.000016	0.00050 mg/L	0.000016	3.26%
Mo 202.031†	1649.9	0.0469 mg/L		0.00014	0.0469 mg/L	0.00014	0.30%
Ni 231.604†	12.0	0.00084 mg/L		0.000113	0.00084 mg/L	0.000113	13.43%
Pb 220.353†	-15.3	-0.00007 mg/L		0.000495	-0.00007 mg/L	0.000495	688.62%
Sb 206.836†	-7.6	0.00253 mg/L		0.000357	0.00253 mg/L	0.000357	14.12%
Se 196.026†	-0.6	0.00017 mg/L		0.000867	0.00017 mg/L	0.000867	521.31%
Si 251.611†	29108.0	0.652 mg/L		0.0173	0.652 mg/L	0.0173	2.66%
Sn 189.927†	-2.3	0.00225 mg/L		0.000540	0.00225 mg/L	0.000540	24.01%
Ti 334.940†	136.0	0.00466 mg/L		0.000093	0.00466 mg/L	0.000093	1.99%
Tl 190.801†	9.4	0.00213 mg/L		0.002385	0.00213 mg/L	0.002385	111.85%
V 290.880†	133.0	0.00297 mg/L		0.001632	0.00297 mg/L	0.001632	54.97%
Zn 206.200†	146.0	0.00496 mg/L		0.000084	0.00496 mg/L	0.000084	1.69%
K 766.490†	313.9	-0.0584 mg/L		0.04101	-0.0584 mg/L	0.04101	70.25%
Na 589.592†	984761.5	56.8 mg/L		0.48	56.8 mg/L	0.48	0.85%
Sr 407.771†	63481.0	0.0313 mg/L		0.00051	0.0313 mg/L	0.00051	1.62%
Li 670.784†	298.7	0.00383 mg/L		0.000553	0.00383 mg/L	0.000553	14.46%

Sequence No.: 17

Sample ID: CCV

Utosampler Location: 6

Date Collected: 6/21/2012 11:07:04 AM

Approved: June 22, 2012

John H. Rhodes

Analyst:
Initial Sample Wt:
Dilution:

alpha Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte Back Pressure Flow
All 156.0 kPa 0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1999688.2				16053.09	0.80%
YRADIAL	254966.7				6808.40	2.67%
Ga 417.206	1199094.5				42036.17	3.51%
GARADIAL	77422.4				1342.27	1.73%
Ag 328.068†	121251.6	0.392 mg/L	0.0165	0.392 mg/L	0.0165	4.23%
QC value within limits for Ag		328.068 Recovery = 97.90%				
Al 396.153†	59633.9	9.80 mg/L	0.025	9.80 mg/L	0.025	0.25%
QC value within limits for Al		396.153 Recovery = 98.00%				
As 188.979†	1207.5	0.386 mg/L	0.0133	0.386 mg/L	0.0133	3.46%
QC value within limits for As		188.979 Recovery = 96.43%				
Ba 233.527†	166742.9	0.988 mg/L	0.0063	0.988 mg/L	0.0063	0.64%
QC value within limits for Ba		233.527 Recovery = 98.80%				
Be 234.861†	62677.8	0.0486 mg/L	0.00213	0.0486 mg/L	0.00213	4.37%
QC value within limits for Be		234.861 Recovery = 97.27%				
B 249.677†	47917.0	0.509 mg/L	0.0252	0.509 mg/L	0.0252	4.96%
QC value within limits for B		249.677 Recovery = 101.77%				
Ca 227.546†	4002.4	10.1 mg/L	0.32	10.1 mg/L	0.32	3.20%
QC value within limits for Ca		227.546 Recovery = 100.99%				
Cd 228.802†	2592.6	0.0474 mg/L	0.00251	0.0474 mg/L	0.00251	5.29%
QC value within limits for Cd		228.802 Recovery = 94.76%				
Co 228.616†	8092.5	0.196 mg/L	0.0035	0.196 mg/L	0.0035	1.81%
QC value within limits for Co		228.616 Recovery = 97.96%				
Cr 267.716†	57428.1	0.492 mg/L	0.0052	0.492 mg/L	0.0052	1.06%
QC value within limits for Cr		267.716 Recovery = 98.44%				
Cu 327.393†	117118.4	0.490 mg/L	0.0199	0.490 mg/L	0.0199	4.06%
QC value within limits for Cu		327.393 Recovery = 97.99%				
Fe 239.562†	56739.6	3.92 mg/L	0.028	3.92 mg/L	0.028	0.70%
QC value within limits for Fe		239.562 Recovery = 98.08%				
Mg 279.077†	33161.1	9.79 mg/L	0.109	9.79 mg/L	0.109	1.11%
QC value within limits for Mg		279.077 Recovery = 97.89%				
Mn 257.610†	406704.1	0.492 mg/L	0.0046	0.492 mg/L	0.0046	0.93%
QC value within limits for Mn		257.610 Recovery = 98.37%				
Mo 202.031†	37871.9	1.01 mg/L	0.013	1.01 mg/L	0.013	1.31%
QC value within limits for Mo		202.031 Recovery = 100.68%				
Ni 231.604†	35854.7	0.508 mg/L	0.0077	0.508 mg/L	0.0077	1.51%
QC value within limits for Ni		231.604 Recovery = 101.50%				
Pb 220.353†	6105.7	0.493 mg/L	0.0069	0.493 mg/L	0.0069	1.40%
QC value within limits for Pb		220.353 Recovery = 98.52%				
Sb 206.836†	4947.0	1.16 mg/L	0.038	1.16 mg/L	0.038	3.31%
QC value within limits for Sb		206.836 Recovery = 96.71%				
Se 196.026†	754.0	0.395 mg/L	0.0162	0.395 mg/L	0.0162	4.09%
QC value within limits for Se		196.026 Recovery = 98.75%				
Si 251.611†	236812.4	5.27 mg/L	0.147	5.27 mg/L	0.147	2.79%
QC value within limits for Si		251.611 Recovery = 105.31%				
Sn 189.927†	11498.5	0.984 mg/L	0.0146	0.984 mg/L	0.0146	1.48%
QC value within limits for Sn		189.927 Recovery = 98.35%				
Ti 334.940†	933211.1	0.981 mg/L	0.0075	0.981 mg/L	0.0075	0.77%
QC value within limits for Ti		334.940 Recovery = 98.07%				
Tl 190.801†	2035.6	0.515 mg/L	0.0019	0.515 mg/L	0.0019	0.38%
QC value within limits for Tl		190.801 Recovery = 102.93%				
V 290.880†	214931.9	0.983 mg/L	0.0094	0.983 mg/L	0.0094	0.96%
QC value within limits for V		290.880 Recovery = 98.28%				
Zn 206.200†	53690.1	0.985 mg/L	0.0102	0.985 mg/L	0.0102	1.04%
QC value within limits for Zn		206.200 Recovery = 98.51%				
K 766.490†	131298.9	50.1 mg/L	0.12	50.1 mg/L	0.12	0.24%
QC value within limits for K		766.490 Recovery = 100.27%				
Na 589.592†	868717.3	50.1 mg/L	0.89	50.1 mg/L	0.89	1.77%
QC value within limits for Na		589.592 Recovery = 100.28%				
Sr 407.771†	2384146.3	0.971 mg/L	0.0274	0.971 mg/L	0.0274	2.82%

Approved: June 22, 2012

John H. Rhodes

QC value within limits for Sr 407.771 Recovery = 97.06%
 Li 670.784† 126409.1 1.01 mg/L 0.005 1.01 mg/L 0.005 0.46%
 QC value within limits for Li 670.784 Recovery = 100.82%
 All analyte(s) passed QC.

Sequence No.: 18

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 6/21/2012 11:13:04 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2036737.7				24555.51	1.21%
YRADIAL	253617.4				4058.91	1.60%
Ga 417.206	1220870.0				22996.87	1.88%
GaRADIAL	77271.8				1337.85	1.73%
Ag 328.068†	-66.1	0.00033 mg/L	0.000113	0.00033 mg/L	0.000113	34.16%
QC value within limits for Ag 328.068		Recovery =	Not calculated			
Al 396.153†	29.6	0.0391 mg/L	0.00166	0.0391 mg/L	0.00166	4.24%
QC value within limits for Al 396.153		Recovery =	Not calculated			
As 188.979†	-0.2	0.00227 mg/L	0.001553	0.00227 mg/L	0.001553	68.54%
QC value within limits for As 188.979		Recovery =	Not calculated			
Ba 233.527†	3.5	0.00195 mg/L	0.000152	0.00195 mg/L	0.000152	7.78%
QC value within limits for Ba 233.527		Recovery =	Not calculated			
Be 234.861†	-34.0	0.00017 mg/L	0.000036	0.00017 mg/L	0.000036	21.25%
QC value within limits for Be 234.861		Recovery =	Not calculated			
B 249.677†	451.4	0.00819 mg/L	0.000370	0.00819 mg/L	0.000370	4.52%
QC value within limits for B 249.677		Recovery =	Not calculated			
Ca 227.546†	-6.7	0.0692 mg/L	0.00585	0.0692 mg/L	0.00585	8.45%
QC value within limits for Ca 227.546		Recovery =	Not calculated			
Cd 228.802†	-2.8	0.00016 mg/L	0.000115	0.00016 mg/L	0.000115	70.82%
QC value within limits for Cd 228.802		Recovery =	Not calculated			
Co 228.616†	-3.1	0.00032 mg/L	0.000453	0.00032 mg/L	0.000453	143.37%
QC value within limits for Co 228.616		Recovery =	Not calculated			
Cr 267.716†	23.2	0.00165 mg/L	0.000011	0.00165 mg/L	0.000011	0.66%
QC value within limits for Cr 267.716		Recovery =	Not calculated			
Cu 327.393†	-98.4	0.00128 mg/L	0.000037	0.00128 mg/L	0.000037	2.88%
QC value within limits for Cu 327.393		Recovery =	Not calculated			
Fe 239.562†	27.1	0.0198 mg/L	0.00064	0.0198 mg/L	0.00064	3.22%
QC value within limits for Fe 239.562		Recovery =	Not calculated			
Mg 279.077†	26.5	0.0588 mg/L	0.00192	0.0588 mg/L	0.00192	3.26%
QC value within limits for Mg 279.077		Recovery =	Not calculated			
Mn 257.610†	117.7	0.00028 mg/L	0.000006	0.00028 mg/L	0.000006	2.24%
QC value within limits for Mn 257.610		Recovery =	Not calculated			
Mo 202.031†	9.2	0.00345 mg/L	0.000135	0.00345 mg/L	0.000135	3.90%
QC value within limits for Mo 202.031		Recovery =	Not calculated			
Ni 231.604†	5.9	0.00076 mg/L	0.000170	0.00076 mg/L	0.000170	22.49%
QC value within limits for Ni 231.604		Recovery =	Not calculated			
Pb 220.353†	-3.4	0.00086 mg/L	0.000542	0.00086 mg/L	0.000542	63.04%
QC value within limits for Pb 220.353		Recovery =	Not calculated			
Sb 206.836†	-6.0	0.00284 mg/L	0.001592	0.00284 mg/L	0.001592	56.11%
QC value within limits for Sb 206.836		Recovery =	Not calculated			
Se 196.026†	-2.7	-0.00096 mg/L	0.001400	-0.00096 mg/L	0.001400	145.67%
QC value within limits for Se 196.026		Recovery =	Not calculated			
Si 251.611†	176.0	0.00809 mg/L	0.000709	0.00809 mg/L	0.000709	8.77%
QC value within limits for Si 251.611		Recovery =	Not calculated			
Sn 189.927†	19.6	0.00412 mg/L	0.000549	0.00412 mg/L	0.000549	13.33%
QC value within limits for Sn 189.927		Recovery =	Not calculated			
Ti 334.940†	215.1	0.00467 mg/L	0.000060	0.00467 mg/L	0.000060	1.28%
QC value within limits for Ti 334.940		Recovery =	Not calculated			
Tl 190.801†	0.2	-0.00014 mg/L	0.001047	-0.00014 mg/L	0.001047	771.75%
QC value within limits for Tl 190.801		Recovery =	Not calculated			
V 290.880†	106.0	0.00286 mg/L	0.001080	0.00286 mg/L	0.001080	37.80%

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John H. Rhodes

QC value within limits for V 290.880 Recovery = Not calculated
 Zn 206.200† 10.8 0.00250 mg/L 0.000153 0.00250 mg/L 0.000153 6.12%
 QC value within limits for Zn 206.200 Recovery = Not calculated
 K 766.490† 168.3 -0.0588 mg/L 0.02614 -0.0588 mg/L 0.02614 44.49%
 QC value within limits for K 766.490 Recovery = Not calculated
 Na 589.592† 209.3 -0.00270 mg/L 0.002732 -0.00270 mg/L 0.002732 101.15%
 QC value within limits for Na 589.592 Recovery = Not calculated
 Sr 407.771† 271.6 0.00574 mg/L 0.000039 0.00574 mg/L 0.000039 0.67%
 QC value within limits for Sr 407.771 Recovery = Not calculated
 Li 670.784† 55.2 0.00189 mg/L 0.000178 0.00189 mg/L 0.000178 9.42%
 QC value within limits for Li 670.784 Recovery = Not calculated
 All analyte(s) passed QC.

Sequence No.: 19

Sample ID: L1206047107

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 26

Date Collected: 6/21/2012 11:19:57 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047107

Analyste Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: L1206047107

Analyste	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1961989.1					35228.67	1.80%
YRADIAL	245357.9					2996.47	1.22%
Ga 417.206	1245692.5					14076.47	1.13%
GaRADIAL	78441.7					2659.79	3.39%
Ag 328.068†	-0.7	0.00057 mg/L	0.000508	0.00057 mg/L	0.000508	89.06%	
Al 396.153†	748.1	0.142 mg/L	0.0046	0.142 mg/L	0.0046	3.26%	
As 188.979†	25.7	0.00942 mg/L	0.001261	0.00942 mg/L	0.001261	13.39%	
Ba 233.527†	3156.3	0.0208 mg/L	0.00029	0.0208 mg/L	0.00029	1.42%	
Be 234.861†	-15.4	0.00024 mg/L	0.000012	0.00024 mg/L	0.000012	5.13%	
B 249.677†	32510.0	0.349 mg/L	0.0064	0.349 mg/L	0.0064	1.82%	
Ca 227.546†	1003.2	2.48 mg/L	0.051	2.48 mg/L	0.051	2.06%	
Cd 228.802†	-3.9	0.00009 mg/L	0.000096	0.00009 mg/L	0.000096	108.28%	
Co 228.616†	-19.9	0.00029 mg/L	0.000276	0.00029 mg/L	0.000276	94.48%	
Cr 267.716†	79.3	0.00209 mg/L	0.000111	0.00209 mg/L	0.000111	5.31%	
Cu 327.393†	189.9	0.00250 mg/L	0.000339	0.00250 mg/L	0.000339	13.55%	
Fe 239.562†	1656.6	0.132 mg/L	0.0022	0.132 mg/L	0.0022	1.70%	
Mg 279.077†	1509.3	0.497 mg/L	0.0038	0.497 mg/L	0.0038	0.76%	
Mn 257.610†	3263.4	0.00412 mg/L	0.000107	0.00412 mg/L	0.000107	2.60%	
Mo 202.031†	8382.6	0.225 mg/L	0.0074	0.225 mg/L	0.0074	3.27%	
Ni 231.604†	14.2	0.00087 mg/L	0.000144	0.00087 mg/L	0.000144	16.43%	
Pb 220.353†	11.9	0.00223 mg/L	0.000256	0.00223 mg/L	0.000256	11.49%	
Sb 206.836†	-9.9	0.00225 mg/L	0.000944	0.00225 mg/L	0.000944	41.94%	
Se 196.026†	3.5	0.00230 mg/L	0.001570	0.00230 mg/L	0.001570	68.32%	
Si 251.611†	151564.9	3.38 mg/L	0.056	3.38 mg/L	0.056	1.65%	
Sn 189.927†	-29.9	-0.00011 mg/L	0.000883	-0.00011 mg/L	0.000883	816.06%	
Ti 334.940†	2089.4	0.00699 mg/L	0.000419	0.00699 mg/L	0.000419	6.00%	
Tl 190.801†	-5.3	-0.00143 mg/L	0.001705	-0.00143 mg/L	0.001705	119.41%	
V 290.880†	713.6	0.00557 mg/L	0.001273	0.00557 mg/L	0.001273	22.86%	
Zn 206.200†	358.5	0.00883 mg/L	0.000228	0.00883 mg/L	0.000228	2.58%	
K 766.490†	2047.5	0.404 mg/L	0.0016	0.404 mg/L	0.0016	0.39%	
Na 589.592†	4857084.1	276 mg/L	11.4	276 mg/L	11.4	4.14%	
Sr 407.771†	324787.1	0.137 mg/L	0.0015	0.137 mg/L	0.0015	1.13%	
Li 670.784†	1521.3	0.0136 mg/L	0.00049	0.0136 mg/L	0.00049	3.59%	

Sequence No.: 20

Sample ID: L1206047108

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 27

Date Collected: 6/21/2012 11:26:56 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047108

Approved: June 22, 2012

John H. Rhodes

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206047108

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	1989556.9					20480.10	1.03%
YRADIAL	257044.7					4304.81	1.67%
Ga 417.206	1263856.7					22958.03	1.82%
GaRADIAL	81737.1					1186.64	1.45%
Ag 328.068†	33.8	0.00064 mg/L		0.000401	0.00064 mg/L	0.000401	62.80%
Al 396.153†	258.2	0.0621 mg/L		0.00100	0.0621 mg/L	0.00100	1.61%
As 188.979†	28.4	0.0103 mg/L		0.00272	0.0103 mg/L	0.00272	26.27%
Ba 233.527†	2910.6	0.0193 mg/L		0.00018	0.0193 mg/L	0.00018	0.92%
Be 234.861†	-22.6	0.00025 mg/L		0.000039	0.00025 mg/L	0.000039	15.45%
B 249.677†	31499.5	0.338 mg/L		0.0050	0.338 mg/L	0.0050	1.48%
Ca 227.546†	952.8	2.36 mg/L		0.043	2.36 mg/L	0.043	1.83%
Cd 228.802†	-1.4	0.00013 mg/L		0.000080	0.00013 mg/L	0.000080	61.23%
Co 228.616†	-13.2	0.00045 mg/L		0.000325	0.00045 mg/L	0.000325	72.46%
Cr 267.716†	41.9	0.00178 mg/L		0.000036	0.00178 mg/L	0.000036	2.03%
Cu 327.393†	52.2	0.00192 mg/L		0.000249	0.00192 mg/L	0.000249	12.95%
Fe 239.562†	278.9	0.0372 mg/L		0.00053	0.0372 mg/L	0.00053	1.42%
Mg 279.077†	1375.8	0.458 mg/L		0.0057	0.458 mg/L	0.0057	1.25%
Mn 257.610†	1243.5	0.00168 mg/L		0.000033	0.00168 mg/L	0.000033	1.99%
Mo 202.031†	8062.5	0.217 mg/L		0.0021	0.217 mg/L	0.0021	0.96%
Ni 231.604†	-14.8	0.00046 mg/L		0.000285	0.00046 mg/L	0.000285	61.48%
Pb 220.353†	-9.9	0.00047 mg/L		0.000881	0.00047 mg/L	0.000881	186.67%
Sb 206.836†	-6.9	0.00295 mg/L		0.000846	0.00295 mg/L	0.000846	28.65%
Se 196.026†	-0.5	0.00019 mg/L		0.001557	0.00019 mg/L	0.001557	816.93%
Si 251.611†	142064.6	3.16 mg/L		0.059	3.16 mg/L	0.059	1.86%
Sn 189.927†	-32.4	-0.00032 mg/L		0.000643	-0.00032 mg/L	0.000643	199.96%
Ti 334.940†	183.0	0.00498 mg/L		0.000102	0.00498 mg/L	0.000102	2.04%
Tl 190.801†	-2.9	-0.00086 mg/L		0.002227	-0.00086 mg/L	0.002227	258.29%
V 290.880†	771.7	0.00584 mg/L		0.000620	0.00584 mg/L	0.000620	10.60%
Zn 206.200†	253.2	0.00691 mg/L		0.000102	0.00691 mg/L	0.000102	1.48%
K 766.490†	1857.8	0.345 mg/L		0.0426	0.345 mg/L	0.0426	12.38%
Na 589.592†	4582564.7	260 mg/L		6.6	260 mg/L	6.6	2.53%
Sr 407.771†	312061.9	0.132 mg/L		0.0030	0.132 mg/L	0.0030	2.30%
Li 670.784†	1396.7	0.0126 mg/L		0.00084	0.0126 mg/L	0.00084	6.65%

Sequence No.: 21

Sample ID: L1206047112

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 28

Date Collected: 6/21/2012 11:33:55 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047112

Analyte Back Pressure Flow
All 156.0 kPa 0.50 L/min

Mean Data: L1206047112

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	2039034.7					49924.43	2.45%
YRADIAL	249998.2					4827.22	1.93%
Ga 417.206	1244176.5					9085.00	0.73%
GaRADIAL	77436.4					935.61	1.21%
Ag 328.068†	-18.6	0.00048 mg/L		0.000534	0.00048 mg/L	0.000534	110.22%
Al 396.153†	10.4	0.0360 mg/L		0.00029	0.0360 mg/L	0.00029	0.80%
As 188.979†	-1.0	0.00201 mg/L		0.001479	0.00201 mg/L	0.001479	73.54%
Ba 233.527†	5.9	0.00197 mg/L		0.000147	0.00197 mg/L	0.000147	7.45%
Be 234.861†	0.6	0.00019 mg/L		0.000016	0.00019 mg/L	0.000016	8.13%
B 249.677†	456.5	0.00824 mg/L		0.000188	0.00824 mg/L	0.000188	2.28%
Ca 227.546†	-2.4	0.0795 mg/L		0.02472	0.0795 mg/L	0.02472	31.09%
Cd 228.802†	-4.5	0.00013 mg/L		0.000059	0.00013 mg/L	0.000059	45.14%
Co 228.616†	-9.6	0.00016 mg/L		0.000193	0.00016 mg/L	0.000193	122.67%
Cr 267.716†	19.5	0.00162 mg/L		0.000151	0.00162 mg/L	0.000151	9.29%
Cu 327.393†	39.2	0.00185 mg/L		0.000470	0.00185 mg/L	0.000470	25.45%

Approved: June 22, 2012

John H. Rhodes

Fe 239.562†	55.9	0.0218 mg/L	0.00037	0.0218 mg/L	0.00037	1.71%
Mg 279.077†	17.1	0.0561 mg/L	0.00581	0.0561 mg/L	0.00581	10.37%
Mn 257.610†	109.0	0.00027 mg/L	0.000005	0.00027 mg/L	0.000005	1.72%
Mo 202.031†	-0.5	0.00320 mg/L	0.000193	0.00320 mg/L	0.000193	6.02%
Ni 231.604†	14.1	0.00087 mg/L	0.000372	0.00087 mg/L	0.000372	42.70%
Pb 220.353†	5.9	0.00160 mg/L	0.001258	0.00160 mg/L	0.001258	78.46%
Sb 206.836†	-5.4	0.00298 mg/L	0.000936	0.00298 mg/L	0.000936	31.40%
Se 196.026†	1.6	0.00128 mg/L	0.000665	0.00128 mg/L	0.000665	51.80%
Si 251.611†	183.3	0.00825 mg/L	0.000288	0.00825 mg/L	0.000288	3.49%
Sn 189.927†	-0.8	0.00238 mg/L	0.000173	0.00238 mg/L	0.000173	7.27%
Ti 334.940†	81.5	0.00453 mg/L	0.000110	0.00453 mg/L	0.000110	2.42%
Tl 190.801†	-2.1	-0.00070 mg/L	0.000531	-0.00070 mg/L	0.000531	75.73%
V 290.880†	249.9	0.00351 mg/L	0.000479	0.00351 mg/L	0.000479	13.63%
Zn 206.200†	103.8	0.00419 mg/L	0.000182	0.00419 mg/L	0.000182	4.35%
K 766.490†	89.3	-0.0898 mg/L	0.03640	-0.0898 mg/L	0.03640	40.53%
Na 589.592†	305.4	0.00287 mg/L	0.004469	0.00287 mg/L	0.004469	155.77%
Sr 407.771†	-4.9	0.00562 mg/L	0.000028	0.00562 mg/L	0.000028	0.50%
Li 670.784†	-48.6	0.00106 mg/L	0.000651	0.00106 mg/L	0.000651	61.23%

Sequence No.: 22

Sample ID: L1206052701

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 29

Date Collected: 6/21/2012 11:40:49 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206052701

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: L1206052701

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2039738.6						22108.48	1.08%
YRADIAL	252218.8						3411.83	1.35%
Ga 417.206	1260484.4						22705.14	1.80%
GaRADIAL	78479.3						1511.86	1.93%
Ag 328.068†	20.2	0.00061 mg/L	0.000220	0.00061 mg/L	0.000220	36.23%		
Al 396.153†	8.3	0.0356 mg/L	0.00052	0.0356 mg/L	0.00052	1.45%		
As 188.979†	-3.6	0.00117 mg/L	0.000792	0.00117 mg/L	0.000792	67.65%		
Ba 233.527†	30.5	0.00211 mg/L	0.000116	0.00211 mg/L	0.000116	5.50%		
Be 234.861†	20.1	0.00021 mg/L	0.000042	0.00021 mg/L	0.000042	19.93%		
B 249.677†	281.5	0.00639 mg/L	0.000165	0.00639 mg/L	0.000165	2.58%		
Ca 227.546†	8.8	0.106 mg/L	0.0106	0.106 mg/L	0.0106	10.01%		
Cd 228.802†	-8.7	0.00006 mg/L	0.000015	0.00006 mg/L	0.000015	26.51%		
Co 228.616†	-8.4	0.00019 mg/L	0.000119	0.00019 mg/L	0.000119	63.48%		
Cr 267.716†	4.7	0.00149 mg/L	0.000135	0.00149 mg/L	0.000135	9.07%		
Cu 327.393†	146.3	0.00229 mg/L	0.000577	0.00229 mg/L	0.000577	25.16%		
Fe 239.562†	26.1	0.0198 mg/L	0.00057	0.0198 mg/L	0.00057	2.87%		
Mg 279.077†	11.5	0.0544 mg/L	0.00252	0.0544 mg/L	0.00252	4.63%		
Mn 257.610†	190.9	0.00037 mg/L	0.000041	0.00037 mg/L	0.000041	11.21%		
Mo 202.031†	10.6	0.00349 mg/L	0.000014	0.00349 mg/L	0.000014	0.41%		
Ni 231.604†	13.9	0.00087 mg/L	0.000349	0.00087 mg/L	0.000349	40.16%		
Pb 220.353†	0.7	0.00119 mg/L	0.001750	0.00119 mg/L	0.001750	146.90%		
Sb 206.836†	-5.1	0.00304 mg/L	0.001462	0.00304 mg/L	0.001462	48.06%		
Se 196.026†	2.4	0.00171 mg/L	0.002416	0.00171 mg/L	0.002416	141.58%		
Si 251.611†	297.6	0.0108 mg/L	0.00063	0.0108 mg/L	0.00063	5.88%		
Sn 189.927†	-7.0	0.00184 mg/L	0.000185	0.00184 mg/L	0.000185	10.06%		
Ti 334.940†	20.2	0.00447 mg/L	0.000186	0.00447 mg/L	0.000186	4.17%		
Tl 190.801†	-3.9	-0.00113 mg/L	0.001631	-0.00113 mg/L	0.001631	143.70%		
V 290.880†	233.1	0.00344 mg/L	0.000780	0.00344 mg/L	0.000780	22.71%		
Zn 206.200†	306.6	0.00788 mg/L	0.000310	0.00788 mg/L	0.000310	3.93%		
K 766.490†	128.4	-0.0745 mg/L	0.03512	-0.0745 mg/L	0.03512	47.16%		
Na 589.592†	226.3	-0.00172 mg/L	0.007501	-0.00172 mg/L	0.007501	436.66%		
Sr 407.771†	86.3	0.00566 mg/L	0.000013	0.00566 mg/L	0.000013	0.22%		
Li 670.784†	-38.0	0.00115 mg/L	0.000365	0.00115 mg/L	0.000365	31.79%		

Sequence No.: 23

Sample ID: L1206052702

Autosampler Location: 30

Date Collected: 6/21/2012 11:47:44 AM

Approved: June 22, 2012

John H. Rhodes

Analyst: KHR
Initial Sample Wt:
Dilution:

data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1206052702

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206052702

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2139901.3				9489.51	0.44%
YRADIAL	264895.8				2179.89	0.82%
Ga 417.206	1301047.6				20531.95	1.58%
GA RADIAL	82048.8				2076.98	2.53%
Ag 328.068†	-84.0	0.00027 mg/L	0.000061	0.00027 mg/L	0.000061	22.19%
Al 396.153†	22.9	0.0380 mg/L	0.00091	0.0380 mg/L	0.00091	2.39%
As 188.979†	5.9	0.00424 mg/L	0.000685	0.00424 mg/L	0.000685	16.16%
Ba 233.527†	23.1	0.00207 mg/L	0.000068	0.00207 mg/L	0.000068	3.31%
Be 234.861†	64.4	0.00024 mg/L	0.000037	0.00024 mg/L	0.000037	15.30%
B 249.677†	220.4	0.00573 mg/L	0.000138	0.00573 mg/L	0.000138	2.40%
Ca 227.546†	8.1	0.105 mg/L	0.0101	0.105 mg/L	0.0101	9.69%
Cd 228.802†	-8.8	0.00004 mg/L	0.000075	0.00004 mg/L	0.000075	195.51%
Co 228.616†	-4.2	0.00029 mg/L	0.000100	0.00029 mg/L	0.000100	34.73%
Cr 267.716†	0.6	0.00146 mg/L	0.000057	0.00146 mg/L	0.000057	3.93%
Cu 327.393†	5.4	0.00171 mg/L	0.000464	0.00171 mg/L	0.000464	27.18%
Fe 239.562†	37.0	0.0205 mg/L	0.00059	0.0205 mg/L	0.00059	2.88%
Mg 279.077†	14.5	0.0553 mg/L	0.00245	0.0553 mg/L	0.00245	4.43%
Mn 257.610†	182.4	0.00036 mg/L	0.000004	0.00036 mg/L	0.000004	1.16%
Mo 202.031†	-2.1	0.00315 mg/L	0.000261	0.00315 mg/L	0.000261	8.28%
Ni 231.604†	16.6	0.00091 mg/L	0.000214	0.00091 mg/L	0.000214	23.62%
Pb 220.353†	9.3	0.00188 mg/L	0.000748	0.00188 mg/L	0.000748	39.85%
Sb 206.836†	-3.0	0.00353 mg/L	0.000605	0.00353 mg/L	0.000605	17.11%
Se 196.026†	-1.2	-0.00019 mg/L	0.001632	-0.00019 mg/L	0.001632	867.46%
Si 251.611†	244.0	0.00960 mg/L	0.000463	0.00960 mg/L	0.000463	4.82%
Sn 189.927†	-7.4	0.00181 mg/L	0.000066	0.00181 mg/L	0.000066	3.63%
Ti 334.940†	-31.9	0.00442 mg/L	0.000149	0.00442 mg/L	0.000149	3.38%
Tl 190.801†	0.6	-0.00004 mg/L	0.002158	-0.00004 mg/L	0.002158	>999.9%
V 290.880†	53.7	0.00262 mg/L	0.000400	0.00262 mg/L	0.000400	15.27%
Zn 206.200†	95.0	0.00403 mg/L	0.000117	0.00403 mg/L	0.000117	2.91%
K 766.490†	62.9	-0.100 mg/L	0.0057	-0.100 mg/L	0.0057	5.72%
Na 589.592†	128.3	-0.00740 mg/L	0.002377	-0.00740 mg/L	0.002377	32.14%
Sr 407.771†	28.4	0.00564 mg/L	0.000023	0.00564 mg/L	0.000023	0.41%
Li 670.784†	-14.5	0.00133 mg/L	0.000384	0.00133 mg/L	0.000384	28.79%

Sequence No.: 24

Sample ID: L1206053004

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 31

Date Collected: 6/21/2012 11:54:39 AM

data Type: Original

Initial Sample Vol:

Sample Prep Vol:

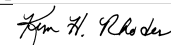
Nebulizer Parameters: L1206053004

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206053004

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1893500.5				29623.54	1.56%
YRADIAL	243574.1				1079.18	0.44%
Ga 417.206	1210299.9				14245.86	1.18%
GA RADIAL	77751.3				2242.49	2.88%
Ag 328.068†	2624.0	0.00863 mg/L	0.000354	0.00863 mg/L	0.000354	4.10%
Al 396.153†	6475.3	1.10 mg/L	0.012	1.10 mg/L	0.012	1.11%
As 188.979†	-10.1	-0.00100 mg/L	0.002000	-0.00100 mg/L	0.002000	199.55%
Ba 233.527†	20358.8	0.122 mg/L	0.0011	0.122 mg/L	0.0011	0.88%
Be 234.861†	44.8	0.00023 mg/L	0.000024	0.00023 mg/L	0.000024	10.37%

Approved: June 22, 2012



B 249.677†	1173.8	0.0158 mg/L	0.00028	0.0158 mg/L	0.00028	1.77%
Ca 227.546†	168617.2	402 mg/L	3.3	402 mg/L	3.3	0.83%
Cd 228.802†	-5.9	0.00012 mg/L	0.000039	0.00012 mg/L	0.000039	32.85%
Co 228.616†	6.7	0.00068 mg/L	0.000142	0.00068 mg/L	0.000142	20.87%
Cr 267.716†	2329.9	0.0214 mg/L	0.00038	0.0214 mg/L	0.00038	1.78%
Cu 327.393†	-376.5	0.00005 mg/L	0.000432	0.00005 mg/L	0.000432	813.65%
Fe 239.562†	143.0	0.0278 mg/L	0.00056	0.0278 mg/L	0.00056	2.01%
Mg 279.077†	25.1	0.0586 mg/L	0.00094	0.0586 mg/L	0.00094	1.61%
Mn 257.610†	181.8	0.00036 mg/L	0.000006	0.00036 mg/L	0.000006	1.54%
Mo 202.031†	434.1	0.0147 mg/L	0.00044	0.0147 mg/L	0.00044	2.98%
Ni 231.604†	154.5	0.00286 mg/L	0.000234	0.00286 mg/L	0.000234	8.17%
Pb 220.353†	-13.2	0.00350 mg/L	0.002348	0.00350 mg/L	0.002348	67.13%
Sb 206.836†	-9.7	0.00183 mg/L	0.000720	0.00183 mg/L	0.000720	39.37%
Se 196.026†	-3.8	-0.00149 mg/L	0.004521	-0.00149 mg/L	0.004521	303.25%
Si 251.611†	26557.4	0.595 mg/L	0.0082	0.595 mg/L	0.0082	1.37%
Sn 189.927†	-428.6	-0.0341 mg/L	0.00072	-0.0341 mg/L	0.00072	2.12%
Ti 334.940†	-62645.1	-0.00065 mg/L	0.002582	-0.00065 mg/L	0.002582	394.89%
Tl 190.801†	-47.6	-0.0126 mg/L	0.00270	-0.0126 mg/L	0.00270	21.38%
V 290.880†	876.0	0.00637 mg/L	0.001007	0.00637 mg/L	0.001007	15.82%
Zn 206.200†	290.2	0.00775 mg/L	0.000115	0.00775 mg/L	0.000115	1.48%
K 766.490†	31896.2	12.3 mg/L	0.21	12.3 mg/L	0.21	1.69%
Na 589.592†	60044.7	3.46 mg/L	0.057	3.46 mg/L	0.057	1.65%
Sr 407.771†	3886240.0	1.57 mg/L	0.018	1.57 mg/L	0.018	1.17%
Li 670.784†	1817.9	0.0159 mg/L	0.00070	0.0159 mg/L	0.00070	4.42%

Sequence No.: 25

Sample ID: L1206053005

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 32

Date Collected: 6/21/2012 12:01:39 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206053005

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: L1206053005

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1929089.7						17977.88	0.93%
YRADIAL	250111.2						1745.48	0.70%
Ga 417.206	1253383.4						24437.65	1.95%
GaRADIAL	79899.0						1591.52	1.99%
Ag 328.068†	1914.6	0.00646 mg/L		0.000082	0.00646 mg/L		0.000082	1.28%
Al 396.153†	11554.4	1.94 mg/L		0.024	1.94 mg/L		0.024	1.24%
As 188.979†	-16.5	-0.00305 mg/L		0.001086	-0.00305 mg/L		0.001086	35.59%
Ba 233.527†	12662.1	0.0768 mg/L		0.00133	0.0768 mg/L		0.00133	1.73%
Be 234.861†	77.6	0.00026 mg/L		0.000019	0.00026 mg/L		0.000019	7.22%
B 249.677†	1793.1	0.0224 mg/L		0.00041	0.0224 mg/L		0.00041	1.85%
Ca 227.546†	114524.3	273 mg/L		12.3	273 mg/L		12.3	4.50%
Cd 228.802†	-11.5	0.00002 mg/L		0.000066	0.00002 mg/L		0.000066	270.16%
Co 228.616†	-4.8	0.00037 mg/L		0.000072	0.00037 mg/L		0.000072	19.30%
Cr 267.716†	2378.1	0.0218 mg/L		0.00014	0.0218 mg/L		0.00014	0.63%
Cu 327.393†	-232.4	0.00067 mg/L		0.000342	0.00067 mg/L		0.000342	50.77%
Fe 239.562†	158.8	0.0289 mg/L		0.00044	0.0289 mg/L		0.00044	1.52%
Mg 279.077†	25.5	0.0588 mg/L		0.00119	0.0588 mg/L		0.00119	2.02%
Mn 257.610†	79.8	0.00024 mg/L		0.000007	0.00024 mg/L		0.000007	2.82%
Mo 202.031†	469.2	0.0156 mg/L		0.00012	0.0156 mg/L		0.00012	0.78%
Ni 231.604†	210.4	0.00365 mg/L		0.000235	0.00365 mg/L		0.000235	6.43%
Pb 220.353†	-9.8	0.00289 mg/L		0.000113	0.00289 mg/L		0.000113	3.90%
Sb 206.836†	-4.9	0.00295 mg/L		0.001478	0.00295 mg/L		0.001478	50.06%
Se 196.026†	5.0	0.00310 mg/L		0.000770	0.00310 mg/L		0.000770	24.84%
Si 251.611†	47714.8	1.07 mg/L		0.036	1.07 mg/L		0.036	3.38%
Sn 189.927†	-379.6	-0.0299 mg/L		0.00116	-0.0299 mg/L		0.00116	3.88%
Ti 334.940†	-43579.8	-0.00010 mg/L		0.002236	-0.00010 mg/L		0.002236	>999.9%
Tl 190.801†	-44.2	-0.0115 mg/L		0.00121	-0.0115 mg/L		0.00121	10.48%
V 290.880†	960.4	0.00675 mg/L		0.001477	0.00675 mg/L		0.001477	21.87%
Zn 206.200†	312.7	0.00816 mg/L		0.000305	0.00816 mg/L		0.000305	3.74%
K 766.490†	22271.6	8.59 mg/L		0.153	8.59 mg/L		0.153	1.78%
Na 589.592†	45989.6	2.65 mg/L		0.071	2.65 mg/L		0.071	2.70%

Approved: June 22, 2012

John H. Rhodes

Sr 407.771†	2673307.3	1.08 mg/L	0.040	1.08 mg/L	0.040	3.66%
Li 670.784†	842.9	0.00816 mg/L	0.000233	0.00816 mg/L	0.000233	2.86%

Sequence No.: 26

Sample ID: L1206053006

Analyst: KHR

Initial Sample Wt:

Dilution:

Udosampler Location: 33

Date Collected: 6/21/2012 12:08:39 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206053006

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: L1206053006

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	1889231.9					33836.17	1.79%
YRADIAL	239413.2					5416.74	2.26%
Ga 417.206	1232436.3					13102.83	1.06%
GaRADIAL	76541.9					3363.79	4.39%
Ag 328.068†	2303.2	0.00761 mg/L		0.000373	0.00761 mg/L	0.000373	4.90%
Al 396.153†	7436.7	1.26 mg/L		0.033	1.26 mg/L	0.033	2.63%
As 188.979†	-13.9	-0.00222 mg/L		0.001498	-0.00222 mg/L	0.001498	67.50%
Ba 233.527†	21120.1	0.127 mg/L		0.0023	0.127 mg/L	0.0023	1.83%
Be 234.861†	88.6	0.00027 mg/L		0.000025	0.00027 mg/L	0.000025	9.30%
B 249.677†	1008.3	0.0141 mg/L		0.00021	0.0141 mg/L	0.00021	1.48%
Ca 227.546†	147125.0	351 mg/L		3.4	351 mg/L	3.4	0.96%
Cd 228.802†	-13.6	-0.00002 mg/L		0.000084	-0.00002 mg/L	0.000084	430.83%
Co 228.616†	0.9	0.00053 mg/L		0.000102	0.00053 mg/L	0.000102	19.42%
Cr 267.716†	2763.7	0.0251 mg/L		0.00058	0.0251 mg/L	0.00058	2.31%
Cu 327.393†	-400.2	-0.00004 mg/L		0.000590	-0.00004 mg/L	0.000590	>999.9%
Fe 239.562†	142.1	0.0278 mg/L		0.00018	0.0278 mg/L	0.00018	0.64%
Mg 279.077†	29.1	0.0598 mg/L		0.00198	0.0598 mg/L	0.00198	3.31%
Mn 257.610†	73.5	0.00023 mg/L		0.000023	0.00023 mg/L	0.000023	9.89%
Mo 202.031†	438.6	0.0148 mg/L		0.00010	0.0148 mg/L	0.00010	0.66%
Ni 231.604†	158.2	0.00292 mg/L		0.000315	0.00292 mg/L	0.000315	10.79%
Pb 220.353†	-24.8	0.00218 mg/L		0.001461	0.00218 mg/L	0.001461	66.94%
Sb 206.836†	-9.1	0.00194 mg/L		0.001797	0.00194 mg/L	0.001797	92.65%
Se 196.026†	-0.5	0.00023 mg/L		0.003713	0.00023 mg/L	0.003713	>999.9%
Si 251.611†	33498.7	0.750 mg/L		0.0077	0.750 mg/L	0.0077	1.03%
Sn 189.927†	-404.7	-0.0321 mg/L		0.00042	-0.0321 mg/L	0.00042	1.31%
Ti 334.940†	-56450.5	-0.00188 mg/L		0.002111	-0.00188 mg/L	0.002111	112.53%
Tl 190.801†	-48.5	-0.0128 mg/L		0.00582	-0.0128 mg/L	0.00582	45.55%
V 290.880†	757.5	0.00582 mg/L		0.000384	0.00582 mg/L	0.000384	6.59%
Zn 206.200†	256.6	0.00716 mg/L		0.000393	0.00716 mg/L	0.000393	5.48%
K 766.490†	29628.1	11.4 mg/L		0.06	11.4 mg/L	0.06	0.53%
Na 589.592†	173532.1	10.0 mg/L		0.24	10.0 mg/L	0.24	2.39%
Sr 407.771†	3777217.2	1.53 mg/L		0.062	1.53 mg/L	0.062	4.05%
Li 670.784†	1728.6	0.0152 mg/L		0.00080	0.0152 mg/L	0.00080	5.27%

Sequence No.: 27

Sample ID: L1206053007

Analyst: KHR

Initial Sample Wt:

Dilution:

Udosampler Location: 34

Date Collected: 6/21/2012 12:15:40 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206053007

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: L1206053007

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	1964896.5					43628.35	2.22%
YRADIAL	246017.4					7244.81	2.94%
Ga 417.206	1267414.5					6896.87	0.54%

Approved: June 22, 2012

John H. Rhodes

GaRADIAL	78724.7					595.27	0.76%
Ag 328.068†	1522.2	0.00521 mg/L	0.000190	0.00521 mg/L	0.000190	3.64%	
Al 396.153†	12303.4	2.06 mg/L	0.019	2.06 mg/L	0.019	0.90%	
As 188.979†	-11.6	-0.00149 mg/L	0.002499	-0.00149 mg/L	0.002499	167.64%	
Ba 233.527†	12520.0	0.0760 mg/L	0.00079	0.0760 mg/L	0.00079	1.04%	
Be 234.861†	94.3	0.00027 mg/L	0.000002	0.00027 mg/L	0.000002	0.81%	
B 249.677†	1083.1	0.0149 mg/L	0.00020	0.0149 mg/L	0.00020	1.36%	
Ca 227.546†	98917.7	236 mg/L	4.5	236 mg/L	4.5	1.89%	
Cd 228.802†	-3.3	0.00017 mg/L	0.000095	0.00017 mg/L	0.000095	56.29%	
Co 228.616†	-9.7	0.00024 mg/L	0.000307	0.00024 mg/L	0.000307	125.33%	
Cr 267.716†	2493.8	0.0228 mg/L	0.00038	0.0228 mg/L	0.00038	1.65%	
Cu 327.393†	-99.7	0.00123 mg/L	0.000554	0.00123 mg/L	0.000554	44.98%	
Fe 239.562†	163.7	0.0293 mg/L	0.00088	0.0293 mg/L	0.00088	3.01%	
Mg 279.077†	19.3	0.0569 mg/L	0.00287	0.0569 mg/L	0.00287	5.04%	
Mn 257.610†	56.4	0.00021 mg/L	0.000013	0.00021 mg/L	0.000013	6.34%	
Mo 202.031†	475.4	0.0158 mg/L	0.00063	0.0158 mg/L	0.00063	3.98%	
Ni 231.604†	235.1	0.00400 mg/L	0.000103	0.00400 mg/L	0.000103	2.57%	
Pb 220.353†	-3.9	0.00310 mg/L	0.000480	0.00310 mg/L	0.000480	15.50%	
Sb 206.836†	-8.3	0.00214 mg/L	0.001035	0.00214 mg/L	0.001035	48.40%	
Se 196.026†	2.3	0.00171 mg/L	0.000790	0.00171 mg/L	0.000790	46.22%	
Si 251.611†	51528.3	1.15 mg/L	0.012	1.15 mg/L	0.012	1.00%	
Sn 189.927†	-366.9	-0.0289 mg/L	0.00126	-0.0289 mg/L	0.00126	4.36%	
Ti 334.940†	-37948.9	0.00020 mg/L	0.002072	0.00020 mg/L	0.002072	>999.9%	
Tl 190.801†	-45.6	-0.0118 mg/L	0.00228	-0.0118 mg/L	0.00228	19.36%	
V 290.880†	927.0	0.00660 mg/L	0.001267	0.00660 mg/L	0.001267	19.20%	
Zn 206.200†	223.6	0.00655 mg/L	0.000043	0.00655 mg/L	0.000043	0.65%	
K 766.490†	19556.4	7.52 mg/L	0.080	7.52 mg/L	0.080	1.07%	
Na 589.592†	153187.3	8.86 mg/L	0.171	8.86 mg/L	0.171	1.92%	
Sr 407.771†	2525452.5	1.02 mg/L	0.035	1.02 mg/L	0.035	3.41%	
Li 670.784†	749.9	0.00742 mg/L	0.000164	0.00742 mg/L	0.000164	2.21%	

Sequence No.: 28

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

autosampler Location: 6

Date Collected: 6/21/2012 12:22:40 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1995912.9						21535.14	1.08%
YRADIAL	253878.3						1591.34	0.63%
Ga 417.206	1182511.2						25244.85	2.13%
GaRADIAL	77378.5						924.92	1.20%
Ag 328.068†	123424.0	0.399 mg/L		0.0101	0.399 mg/L		0.0101	2.53%
QC value within limits for Ag 328.068 Recovery = 99.64%								
Al 396.153†	59878.6	9.84 mg/L		0.017	9.84 mg/L		0.017	0.17%
QC value within limits for Al 396.153 Recovery = 98.41%								
As 188.979†	1225.9	0.392 mg/L		0.0117	0.392 mg/L		0.0117	2.99%
QC value within limits for As 188.979 Recovery = 97.93%								
Ba 233.527†	166622.8	0.987 mg/L		0.0063	0.987 mg/L		0.0063	0.64%
QC value within limits for Ba 233.527 Recovery = 98.73%								
Be 234.861†	63606.2	0.0494 mg/L		0.00120	0.0494 mg/L		0.00120	2.43%
QC value within limits for Be 234.861 Recovery = 98.71%								
B 249.677†	47959.4	0.509 mg/L		0.0110	0.509 mg/L		0.0110	2.16%
QC value within limits for B 249.677 Recovery = 101.86%								
Ca 227.546†	4055.7	10.2 mg/L		0.27	10.2 mg/L		0.27	2.63%
QC value within limits for Ca 227.546 Recovery = 102.26%								
Cd 228.802†	2604.9	0.0476 mg/L		0.00222	0.0476 mg/L		0.00222	4.67%
QC value within limits for Cd 228.802 Recovery = 95.16%								
Co 228.616†	8073.0	0.195 mg/L		0.0030	0.195 mg/L		0.0030	1.54%
QC value within limits for Co 228.616 Recovery = 97.70%								
Cr 267.716†	57496.2	0.493 mg/L		0.0028	0.493 mg/L		0.0028	0.57%
QC value within limits for Cr 267.716 Recovery = 98.56%								
Cu 327.393†	118878.2	0.497 mg/L		0.0127	0.497 mg/L		0.0127	2.54%

Approved: June 22, 2012

John H. Rhodes

Fe	239.562†	56486.2	3.91 mg/L	0.012	0.31%
QC value within limits for Cu 327.393 Recovery = 99.46%					
Mg	279.077†	32959.1	9.73 mg/L	0.054	0.55%
QC value within limits for Fe 239.562 Recovery = 97.64%					
Mn	257.610†	407389.6	0.493 mg/L	0.0047	0.95%
QC value within limits for Mg 279.077 Recovery = 97.29%					
Mo	202.031†	37108.5	0.987 mg/L	0.0069	0.70%
QC value within limits for Mn 257.610 Recovery = 98.53%					
Ni	231.604†	35821.3	0.507 mg/L	0.0076	1.50%
QC value within limits for Mo 202.031 Recovery = 98.66%					
Pb	220.353†	6127.4	0.494 mg/L	0.0061	1.23%
QC value within limits for Ni 231.604 Recovery = 101.41%					
Sb	206.836†	4994.9	1.17 mg/L	0.036	3.04%
QC value within limits for Pb 220.353 Recovery = 98.87%					
Se	196.026†	768.3	0.402 mg/L	0.0126	3.14%
QC value within limits for Sb 206.836 Recovery = 97.64%					
Si	251.611†	238663.3	5.31 mg/L	0.108	2.04%
QC value within limits for Se 196.026 Recovery = 100.61%					
Sn	189.927†	11437.2	0.978 mg/L	0.0155	1.58%
QC value within limits for Si 251.611 Recovery = 106.14%					
Ti	334.940†	937791.1	0.986 mg/L	0.0057	0.58%
QC value within limits for Sn 189.927 Recovery = 97.83%					
Tl	190.801†	2032.8	0.514 mg/L	0.0089	1.74%
QC value within limits for Ti 334.940 Recovery = 98.55%					
V	290.880†	215689.3	0.986 mg/L	0.0073	0.74%
QC value within limits for Tl 190.801 Recovery = 102.80%					
Zn	206.200†	53888.6	0.989 mg/L	0.0070	0.71%
QC value within limits for V 290.880 Recovery = 98.63%					
K	766.490†	131719.4	50.3 mg/L	0.49	0.98%
QC value within limits for Zn 206.200 Recovery = 98.87%					
Na	589.592†	856850.7	49.5 mg/L	1.13	2.28%
QC value within limits for K 766.490 Recovery = 100.58%					
Sr	407.771†	2368289.6	0.964 mg/L	0.0186	1.93%
QC value within limits for Na 589.592 Recovery = 98.92%					
Li	670.784†	127648.9	1.02 mg/L	0.006	0.64%
QC value within limits for Sr 407.771 Recovery = 96.42%					
QC value within limits for Li 670.784 Recovery = 101.80%					
All analyte(s) passed QC.					

Sequence No.: 29

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 6/21/2012 12:28:39 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2052678.5					16039.65	0.78%
YRADIAL	253518.5					6719.86	2.65%
Ga 417.206	1231011.8					25199.98	2.05%
GaRADIAL	77289.9					1195.67	1.55%
Ag 328.068†	36.8	0.00066 mg/L		0.000264	0.00066 mg/L	0.000264	40.10%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153†	39.0	0.0407 mg/L		0.00195	0.0407 mg/L	0.00195	4.79%
QC value within limits for Al 396.153 Recovery = Not calculated							
As 188.979†	-5.5	0.00057 mg/L		0.001949	0.00057 mg/L	0.001949	339.70%
QC value within limits for As 188.979 Recovery = Not calculated							
Ba 233.527†	18.8	0.00204 mg/L		0.000098	0.00204 mg/L	0.000098	4.80%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 234.861†	-25.3	0.00017 mg/L		0.000004	0.00017 mg/L	0.000004	2.53%
QC value within limits for Be 234.861 Recovery = Not calculated							
B 249.677†	291.3	0.00649 mg/L		0.000304	0.00649 mg/L	0.000304	4.68%
QC value within limits for B 249.677 Recovery = Not calculated							
Ca 227.546†	-10.9	0.0593 mg/L		0.00150	0.0593 mg/L	0.00150	2.53%

Approved: June 22, 2012

John H. Rhodes

Cd	228.802†	QC value within limits for Cd	228.802	Recovery = Not calculated	0.000039	0.00017 mg/L	0.000039	22.43%
Co	228.616†	QC value within limits for Co	228.616	Recovery = Not calculated	0.0000217	0.00001 mg/L	0.0000217	>999.9%
Cr	267.716†	QC value within limits for Cr	267.716	Recovery = Not calculated	0.000057	0.00156 mg/L	0.000057	3.67%
Cu	327.393†	QC value within limits for Cu	327.393	Recovery = Not calculated	0.000165	0.00115 mg/L	0.000165	14.35%
Fe	239.562†	QC value within limits for Fe	239.562	Recovery = Not calculated	0.00062	0.0224 mg/L	0.00062	2.77%
Mg	279.077†	QC value within limits for Mg	279.077	Recovery = Not calculated	0.00368	0.0505 mg/L	0.00368	7.30%
Mn	257.610†	QC value within limits for Mn	257.610	Recovery = Not calculated	0.000003	0.00028 mg/L	0.000003	1.13%
Mo	202.031†	QC value within limits for Mo	202.031	Recovery = Not calculated	0.000487	0.00336 mg/L	0.000487	14.48%
Ni	231.604†	QC value within limits for Ni	231.604	Recovery = Not calculated	0.000091	0.00077 mg/L	0.000091	11.75%
Pb	220.353†	QC value within limits for Pb	220.353	Recovery = Not calculated	0.001376	0.00109 mg/L	0.001376	126.18%
Sb	206.836†	QC value within limits for Sb	206.836	Recovery = Not calculated	0.001627	0.00393 mg/L	0.001627	41.42%
Se	196.026†	QC value within limits for Se	196.026	Recovery = Not calculated	0.001186	0.00316 mg/L	0.001186	37.50%
Si	251.611†	QC value within limits for Si	251.611	Recovery = Not calculated	0.000732	0.00621 mg/L	0.000732	11.79%
Sn	189.927†	QC value within limits for Sn	189.927	Recovery = Not calculated	0.000320	0.00391 mg/L	0.000320	8.17%
Ti	334.940†	QC value within limits for Ti	334.940	Recovery = Not calculated	0.000110	0.00472 mg/L	0.000110	2.32%
Tl	190.801†	QC value within limits for Tl	190.801	Recovery = Not calculated	0.003552	-0.00097 mg/L	0.003552	364.73%
V	290.880†	QC value within limits for V	290.880	Recovery = Not calculated	0.001115	0.00181 mg/L	0.001115	61.75%
Zn	206.200†	QC value within limits for Zn	206.200	Recovery = Not calculated	0.000110	0.00250 mg/L	0.000110	4.41%
K	766.490†	QC value within limits for K	766.490	Recovery = Not calculated	0.0165	-0.118 mg/L	0.0165	14.04%
Na	589.592†	QC value within limits for Na	589.592	Recovery = Not calculated	0.005105	-0.00269 mg/L	0.005105	189.55%
Sr	407.771†	QC value within limits for Sr	407.771	Recovery = Not calculated	0.000007	0.00573 mg/L	0.000007	0.13%
Li	670.784†	QC value within limits for Li	670.784	Recovery = Not calculated	0.000404	0.00196 mg/L	0.000404	20.60%

All analyte(s) passed QC.

Sequence No.: 30

Sample ID: L1206055401

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 35

Date Collected: 6/21/2012 12:35:32 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206055401

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: L1206055401

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2012588.2				50208.31	2.49%
YRADIAL	250092.8				1895.48	0.76%
Ga 417.206	1243912.3				17717.89	1.42%
GaRADIAL	78301.1				938.26	1.20%
Ag 328.068†	427.2	0.00201 mg/L	0.000270	0.00201 mg/L	0.000270	13.40%
Al 396.153†	27.6	0.0387 mg/L	0.00708	0.0387 mg/L	0.00708	18.28%
As 188.979†	-6.7	0.00020 mg/L	0.001556	0.00020 mg/L	0.001556	760.16%
Ba 233.527†	4292.8	0.0273 mg/L	0.00059	0.0273 mg/L	0.00059	2.15%
Be 234.861†	206.3	0.00030 mg/L	0.000049	0.00030 mg/L	0.000049	16.59%

Approved: June 22, 2012

John H. Rhodes

B 249.677†	2055.9	0.0251 mg/L	0.00058	0.0251 mg/L	0.00058	2.31%
Ca 227.546†	21931.9	52.4 mg/L	1.12	52.4 mg/L	1.12	2.13%
Cd 228.802†	2.2	0.00026 mg/L	0.000105	0.00026 mg/L	0.000105	39.70%
Co 228.616†	2.6	0.00046 mg/L	0.000361	0.00046 mg/L	0.000361	78.95%
Cr 267.716†	89.2	0.00221 mg/L	0.000097	0.00221 mg/L	0.000097	4.40%
Cu 327.393†	-22.7	0.00161 mg/L	0.000706	0.00161 mg/L	0.000706	43.88%
Fe 239.562†	4264.6	0.311 mg/L	0.0080	0.311 mg/L	0.0080	2.57%
Mg 279.077†	33135.0	9.77 mg/L	0.074	9.77 mg/L	0.074	0.76%
Mn 257.610†	13677.6	0.0167 mg/L	0.00052	0.0167 mg/L	0.00052	3.13%
Mo 202.031†	50.5	0.00457 mg/L	0.000383	0.00457 mg/L	0.000383	8.39%
Ni 231.604†	61.8	0.00155 mg/L	0.000288	0.00155 mg/L	0.000288	18.62%
Pb 220.353†	6.0	0.00200 mg/L	0.001300	0.00200 mg/L	0.001300	64.99%
Sb 206.836†	-10.5	0.00178 mg/L	0.001510	0.00178 mg/L	0.001510	84.76%
Se 196.026†	4.3	0.00279 mg/L	0.002990	0.00279 mg/L	0.002990	107.16%
Si 251.611†	165113.3	3.68 mg/L	0.053	3.68 mg/L	0.053	1.45%
Sn 189.927†	-235.6	-0.0177 mg/L	0.00162	-0.0177 mg/L	0.00162	9.20%
Ti 334.940†	-7312.0	0.00466 mg/L	0.000694	0.00466 mg/L	0.000694	14.90%
Tl 190.801†	-14.8	-0.00391 mg/L	0.002514	-0.00391 mg/L	0.002514	64.27%
V 290.880†	1252.4	0.00781 mg/L	0.001820	0.00781 mg/L	0.001820	23.28%
Zn 206.200†	192.7	0.00581 mg/L	0.000218	0.00581 mg/L	0.000218	3.76%
K 766.490†	7070.3	2.64 mg/L	0.031	2.64 mg/L	0.031	1.16%
Na 589.592†	118101.0	6.83 mg/L	0.029	6.83 mg/L	0.029	0.42%
Sr 407.771†	467530.9	0.194 mg/L	0.0018	0.194 mg/L	0.0018	0.91%
Li 670.784†	198.5	0.00303 mg/L	0.000679	0.00303 mg/L	0.000679	22.42%

Sequence No.: 31

Sample ID: L1206055501

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 36

Date Collected: 6/21/2012 12:41:29 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206055501

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: L1206055501

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1995528.0						3338.99	0.17%
YRADIAL	254004.9						4671.51	1.84%
Ga 417.206	1233209.9						16986.13	1.38%
GaRADIAL	79349.2						1428.22	1.80%
Ag 328.068†	507.9	0.00224	mg/L	0.000110	0.00224	mg/L	0.000110	4.91%
Al 396.153†	30.1	0.0392	mg/L	0.00402	0.0392	mg/L	0.00402	10.27%
As 188.979†	-16.2	-0.00284	mg/L	0.002247	-0.00284	mg/L	0.002247	79.02%
Ba 233.527†	1280.4	0.00949	mg/L	0.000210	0.00949	mg/L	0.000210	2.22%
Be 234.861†	286.6	0.00038	mg/L	0.000030	0.00038	mg/L	0.000030	7.87%
B 249.677†	3081.4	0.0360	mg/L	0.00057	0.0360	mg/L	0.00057	1.57%
Ca 227.546†	24767.5	59.2	mg/L	1.28	59.2	mg/L	1.28	2.17%
Cd 228.802†	-5.6	0.00013	mg/L	0.000084	0.00013	mg/L	0.000084	62.80%
Co 228.616†	14.0	0.00074	mg/L	0.000205	0.00074	mg/L	0.000205	27.64%
Cr 267.716†	273.7	0.00378	mg/L	0.000141	0.00378	mg/L	0.000141	3.73%
Cu 327.393†	13.0	0.00176	mg/L	0.000526	0.00176	mg/L	0.000526	29.95%
Fe 239.562†	4296.9	0.313	mg/L	0.0043	0.313	mg/L	0.0043	1.38%
Mg 279.077†	63001.6	18.5	mg/L	0.26	18.5	mg/L	0.26	1.43%
Mn 257.610†	197473.8	0.239	mg/L	0.0031	0.239	mg/L	0.0031	1.30%
Mo 202.031†	46.3	0.00450	mg/L	0.000336	0.00450	mg/L	0.000336	7.46%
Ni 231.604†	139.0	0.00264	mg/L	0.000791	0.00264	mg/L	0.000791	29.95%
Pb 220.353†	0.5	0.00148	mg/L	0.001227	0.00148	mg/L	0.001227	83.04%
Sb 206.836†	-4.4	0.00321	mg/L	0.001596	0.00321	mg/L	0.001596	49.73%
Se 196.026†	3.5	0.00229	mg/L	0.002183	0.00229	mg/L	0.002183	95.18%
Si 251.611†	272765.5	6.08	mg/L	0.081	6.08	mg/L	0.081	1.34%
Sn 189.927†	-258.9	-0.0196	mg/L	0.00042	-0.0196	mg/L	0.00042	2.13%
Ti 334.940†	-8474.6	0.00446	mg/L	0.000669	0.00446	mg/L	0.000669	15.00%
Tl 190.801†	-15.1	-0.00423	mg/L	0.001379	-0.00423	mg/L	0.001379	32.60%
V 290.880†	1585.2	0.00911	mg/L	0.002214	0.00911	mg/L	0.002214	24.31%
Zn 206.200†	346.2	0.00862	mg/L	0.000073	0.00862	mg/L	0.000073	0.85%
K 766.490†	3937.5	1.41	mg/L	0.061	1.41	mg/L	0.061	4.34%
Na 589.592†	243052.5	14.1	mg/L	0.04	14.1	mg/L	0.04	0.30%

Approved: June 22, 2012

John H. Rhodes

Sr 407.771†	471714.7	0.195 mg/L	0.0008	0.195 mg/L	0.0008	0.40%
Li 670.784†	200.7	0.00305 mg/L	0.000769	0.00305 mg/L	0.000769	25.24%

Sequence No.: 32
 Sample ID: L1206056301 WG401153-01
 Analyst: KHR
 Initial Sample Wt:
 Dilution:

Sampler Location: 37
 Date Collected: 6/21/2012 12:47:26 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: L1206056301 WG401153-01
 Analyte Back Pressure Flow
 All 157.0 kPa 0.50 L/min

Mean Data: L1206056301 WG401153-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2056457.2				17234.78	0.84%
YRADIAL	261462.4				2885.10	1.10%
Ga 417.206	1256503.3				24393.31	1.94%
GaRADIAL	81339.0				702.36	0.86%
Ag 328.068†	480.4	0.00218 mg/L	0.000356	0.00218 mg/L	0.000356	16.39%
Al 396.153†	16.3	0.0369 mg/L	0.00189	0.0369 mg/L	0.00189	5.12%
As 188.979†	-5.3	0.00064 mg/L	0.001278	0.00064 mg/L	0.001278	200.36%
Ba 233.527†	1210.2	0.00908 mg/L	0.000118	0.00908 mg/L	0.000118	1.30%
Be 234.861†	229.7	0.00032 mg/L	0.000036	0.00032 mg/L	0.000036	11.06%
B 249.677†	2929.8	0.0344 mg/L	0.00054	0.0344 mg/L	0.00054	1.58%
Ca 227.546†	24078.1	57.6 mg/L	1.46	57.6 mg/L	1.46	2.53%
Cd 228.802†	1.3	0.00025 mg/L	0.000112	0.00025 mg/L	0.000112	45.38%
Co 228.616†	11.1	0.00067 mg/L	0.000300	0.00067 mg/L	0.000300	44.84%
Cr 267.716†	114.8	0.00243 mg/L	0.000053	0.00243 mg/L	0.000053	2.17%
Cu 327.393†	23.0	0.00180 mg/L	0.000223	0.00180 mg/L	0.000223	12.38%
Fe 239.562†	4382.2	0.319 mg/L	0.0082	0.319 mg/L	0.0082	2.58%
Mg 279.077†	59757.1	17.6 mg/L	0.30	17.6 mg/L	0.30	1.71%
Mn 257.610†	96113.9	0.116 mg/L	0.0018	0.116 mg/L	0.0018	1.52%
Mo 202.031†	34.3	0.00416 mg/L	0.000494	0.00416 mg/L	0.000494	11.88%
Ni 231.604†	147.9	0.00276 mg/L	0.000347	0.00276 mg/L	0.000347	12.55%
Pb 220.353†	-3.6	0.00121 mg/L	0.000702	0.00121 mg/L	0.000702	58.04%
Sb 206.836†	-12.4	0.00134 mg/L	0.001418	0.00134 mg/L	0.001418	105.95%
Se 196.026†	-1.1	-0.00004 mg/L	0.000652	-0.00004 mg/L	0.000652	>999.9%
Si 251.611†	266063.8	5.93 mg/L	0.103	5.93 mg/L	0.103	1.73%
Sn 189.927†	-242.8	-0.0183 mg/L	0.00019	-0.0183 mg/L	0.00019	1.02%
Ti 334.940†	-8212.6	0.00448 mg/L	0.000653	0.00448 mg/L	0.000653	14.57%
Tl 190.801†	-13.8	-0.00378 mg/L	0.001788	-0.00378 mg/L	0.001788	47.25%
V 290.880†	1454.7	0.00854 mg/L	0.003300	0.00854 mg/L	0.003300	38.67%
Zn 206.200†	509.6	0.0116 mg/L	0.00015	0.0116 mg/L	0.00015	1.26%
K 766.490†	3801.8	1.35 mg/L	0.041	1.35 mg/L	0.041	3.00%
Na 589.592†	235750.6	13.6 mg/L	0.07	13.6 mg/L	0.07	0.50%
Sr 407.771†	456280.2	0.189 mg/L	0.0011	0.189 mg/L	0.0011	0.58%
Li 670.784†	136.2	0.00253 mg/L	0.000353	0.00253 mg/L	0.000353	13.92%

Sequence No.: 33
 Sample ID: L1206056301S WG401153-04
 Analyst: KHR
 Initial Sample Wt:
 Dilution:

Sampler Location: 38
 Date Collected: 6/21/2012 12:53:23 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: L1206056301S WG401153-04
 Analyte Back Pressure Flow
 All 157.0 kPa 0.50 L/min

Mean Data: L1206056301S WG401153-04

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2007980.2				18011.41	0.90%
YRADIAL	256314.1				6800.31	2.65%
Ga 417.206	1234040.4				22304.57	1.81%

Approved: June 22, 2012

John H. Rhodes

GA RADIAL	78303.4					1665.48	2.13%
Ag 328.068†	59665.1	0.193 mg/L	0.0055	0.193 mg/L	0.0055	2.85%	
Al 396.153†	29531.2	4.87 mg/L	0.038	4.87 mg/L	0.038	0.78%	
As 188.979†	573.3	0.184 mg/L	0.0044	0.184 mg/L	0.0044	2.36%	
Ba 233.527†	81609.1	0.485 mg/L	0.0016	0.485 mg/L	0.0016	0.34%	
Be 234.861†	30360.4	0.0236 mg/L	0.00062	0.0236 mg/L	0.00062	2.64%	
B 249.677†	91558.4	0.974 mg/L	0.0327	0.974 mg/L	0.0327	3.35%	
Ca 227.546†	27037.6	64.8 mg/L	1.52	64.8 mg/L	1.52	2.35%	
Cd 228.802†	1223.1	0.0225 mg/L	0.00098	0.0225 mg/L	0.00098	4.37%	
Co 228.616†	3881.0	0.0941 mg/L	0.00132	0.0941 mg/L	0.00132	1.41%	
Cr 267.716†	27797.7	0.239 mg/L	0.0011	0.239 mg/L	0.0011	0.47%	
Cu 327.393†	55896.7	0.235 mg/L	0.0069	0.235 mg/L	0.0069	2.93%	
Fe 239.562†	31314.0	2.17 mg/L	0.007	2.17 mg/L	0.007	0.32%	
Mg 279.077†	77230.4	22.7 mg/L	0.11	22.7 mg/L	0.11	0.50%	
Mn 257.610†	299629.9	0.362 mg/L	0.0038	0.362 mg/L	0.0038	1.06%	
Mo 202.031†	18076.6	0.482 mg/L	0.0042	0.482 mg/L	0.0042	0.87%	
Ni 231.604†	16680.3	0.236 mg/L	0.0021	0.236 mg/L	0.0021	0.91%	
Pb 220.353†	2983.1	0.242 mg/L	0.0024	0.242 mg/L	0.0024	1.01%	
Sb 206.836†	2388.6	0.563 mg/L	0.0134	0.563 mg/L	0.0134	2.39%	
Se 196.026†	372.9	0.196 mg/L	0.0053	0.196 mg/L	0.0053	2.72%	
Si 251.611†	386299.9	8.60 mg/L	0.172	8.60 mg/L	0.172	2.00%	
Sn 189.927†	5673.5	0.487 mg/L	0.0039	0.487 mg/L	0.0039	0.80%	
Ti 334.940†	449589.8	0.484 mg/L	0.0009	0.484 mg/L	0.0009	0.18%	
Tl 190.801†	967.3	0.244 mg/L	0.0010	0.244 mg/L	0.0010	0.39%	
V 290.880†	106763.1	0.489 mg/L	0.0041	0.489 mg/L	0.0041	0.84%	
Zn 206.200†	25812.2	0.475 mg/L	0.0010	0.475 mg/L	0.0010	0.21%	
K 766.490†	68738.6	26.5 mg/L	0.09	26.5 mg/L	0.09	0.32%	
Na 589.592†	692301.9	40.0 mg/L	0.46	40.0 mg/L	0.46	1.16%	
Sr 407.771†	1660720.8	0.677 mg/L	0.0090	0.677 mg/L	0.0090	1.33%	
Li 670.784†	64276.5	0.513 mg/L	0.0003	0.513 mg/L	0.0003	0.06%	

Sequence No.: 34

Sample ID: L1206056301SD WG401153-05

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 39

Date Collected: 6/21/2012 12:59:22 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206056301SD WG401153-05

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: L1206056301SD WG401153-05

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Std.Dev.	RSD
Y 371.029	1957676.5					19388.48	0.99%
Y RADIAL	257676.3					3041.03	1.18%
Ga 417.206	1203654.7					46310.69	3.85%
GA RADIAL	79033.7					262.15	0.33%
Ag 328.068†	61091.4	0.198 mg/L	0.0089	0.198 mg/L	0.0089	4.50%	
Al 396.153†	30062.7	4.96 mg/L	0.017	4.96 mg/L	0.017	0.34%	
As 188.979†	589.7	0.190 mg/L	0.0081	0.190 mg/L	0.0081	4.27%	
Ba 233.527†	83726.7	0.497 mg/L	0.0057	0.497 mg/L	0.0057	1.15%	
Be 234.861†	31277.6	0.0243 mg/L	0.00110	0.0243 mg/L	0.00110	4.54%	
B 249.677†	94002.2	1.00 mg/L	0.045	1.00 mg/L	0.045	4.54%	
Ca 227.546†	27698.5	66.4 mg/L	3.33	66.4 mg/L	3.33	5.01%	
Cd 228.802†	1255.1	0.0230 mg/L	0.00150	0.0230 mg/L	0.00150	6.50%	
Co 228.616†	4018.0	0.0974 mg/L	0.00067	0.0974 mg/L	0.00067	0.69%	
Cr 267.716†	28672.5	0.246 mg/L	0.0040	0.246 mg/L	0.0040	1.61%	
Cu 327.393†	57410.0	0.241 mg/L	0.0112	0.241 mg/L	0.0112	4.65%	
Fe 239.562†	32213.9	2.23 mg/L	0.011	2.23 mg/L	0.011	0.49%	
Mg 279.077†	79219.1	23.3 mg/L	0.10	23.3 mg/L	0.10	0.43%	
Mn 257.610†	308154.6	0.373 mg/L	0.0046	0.373 mg/L	0.0046	1.23%	
Mo 202.031†	18510.9	0.494 mg/L	0.0051	0.494 mg/L	0.0051	1.02%	
Ni 231.604†	17157.2	0.243 mg/L	0.0036	0.243 mg/L	0.0036	1.47%	
Pb 220.353†	3088.3	0.250 mg/L	0.0026	0.250 mg/L	0.0026	1.03%	
Sb 206.836†	2474.1	0.583 mg/L	0.0264	0.583 mg/L	0.0264	4.54%	
Se 196.026†	384.6	0.202 mg/L	0.0128	0.202 mg/L	0.0128	6.33%	
Si 251.611†	395741.4	8.81 mg/L	0.370	8.81 mg/L	0.370	4.20%	
Sn 189.927†	5848.1	0.501 mg/L	0.0053	0.501 mg/L	0.0053	1.06%	

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John H. Rhodes

Ti 334.940†	465861.8	0.501 mg/L	0.0011	0.501 mg/L	0.0011	0.21%
Tl 190.801†	998.4	0.252 mg/L	0.0017	0.252 mg/L	0.0017	0.69%
V 290.880†	110036.3	0.504 mg/L	0.0117	0.504 mg/L	0.0117	2.33%
Zn 206.200†	26735.1	0.492 mg/L	0.0059	0.492 mg/L	0.0059	1.21%
K 766.490†	70155.3	27.0 mg/L	0.22	27.0 mg/L	0.22	0.81%
Na 589.592†	696264.1	40.2 mg/L	0.70	40.2 mg/L	0.70	1.74%
Sr 407.771†	1681118.5	0.685 mg/L	0.0170	0.685 mg/L	0.0170	2.48%
Li 670.784†	65175.7	0.521 mg/L	0.0071	0.521 mg/L	0.0071	1.36%

Sequence No.: 35

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 6/21/2012 1:05:21 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1986413.4				22883.12	1.15%
YRADIAL	251809.1				2081.95	0.83%
Ga 417.206	1174127.1				15603.05	1.33%
GaRADIAL	77266.6				404.61	0.52%
Ag 328.068†	126192.2	0.407 mg/L	0.0007	0.407 mg/L	0.0007	0.17%
QC value within limits for Ag	328.068	Recovery = 101.86%				
Al 396.153†	60048.2	9.87 mg/L	0.046	9.87 mg/L	0.046	0.46%
QC value within limits for Al	396.153	Recovery = 98.69%				
As 188.979†	1233.6	0.394 mg/L	0.0051	0.394 mg/L	0.0051	1.28%
QC value within limits for As	188.979	Recovery = 98.53%				
Ba 233.527†	168838.3	1.00 mg/L	0.018	1.00 mg/L	0.018	1.83%
QC value within limits for Ba	233.527	Recovery = 100.04%				
Be 234.861†	63793.4	0.0495 mg/L	0.00015	0.0495 mg/L	0.00015	0.31%
QC value within limits for Be	234.861	Recovery = 99.01%				
B 249.677†	49328.1	0.524 mg/L	0.0053	0.524 mg/L	0.0053	1.02%
QC value within limits for B	249.677	Recovery = 104.76%				
Ca 227.546†	4132.9	10.4 mg/L	0.08	10.4 mg/L	0.08	0.77%
QC value within limits for Ca	227.546	Recovery = 104.03%				
Cd 228.802†	2636.1	0.0482 mg/L	0.00155	0.0482 mg/L	0.00155	3.22%
QC value within limits for Cd	228.802	Recovery = 96.32%				
Co 228.616†	8190.2	0.198 mg/L	0.0037	0.198 mg/L	0.0037	1.86%
QC value within limits for Co	228.616	Recovery = 99.12%				
Cr 267.716†	58079.2	0.498 mg/L	0.0071	0.498 mg/L	0.0071	1.43%
QC value within limits for Cr	267.716	Recovery = 99.56%				
Cu 327.393†	122229.2	0.511 mg/L	0.0070	0.511 mg/L	0.0070	1.38%
QC value within limits for Cu	327.393	Recovery = 102.24%				
Fe 239.562†	56488.0	3.91 mg/L	0.027	3.91 mg/L	0.027	0.68%
QC value within limits for Fe	239.562	Recovery = 97.64%				
Mg 279.077†	33200.0	9.80 mg/L	0.074	9.80 mg/L	0.074	0.75%
QC value within limits for Mg	279.077	Recovery = 98.00%				
Mn 257.610†	420229.2	0.508 mg/L	0.0123	0.508 mg/L	0.0123	2.42%
QC value within limits for Mn	257.610	Recovery = 101.64%				
Mo 202.031†	37481.7	0.996 mg/L	0.0172	0.996 mg/L	0.0172	1.73%
QC value within limits for Mo	202.031	Recovery = 99.65%				
Ni 231.604†	35272.2	0.499 mg/L	0.0100	0.499 mg/L	0.0100	2.01%
QC value within limits for Ni	231.604	Recovery = 99.86%				
Pb 220.353†	6212.0	0.501 mg/L	0.0076	0.501 mg/L	0.0076	1.52%
QC value within limits for Pb	220.353	Recovery = 100.23%				
Sb 206.836†	5077.0	1.19 mg/L	0.022	1.19 mg/L	0.022	1.83%
QC value within limits for Sb	206.836	Recovery = 99.24%				
Se 196.026†	774.3	0.406 mg/L	0.0047	0.406 mg/L	0.0047	1.16%
QC value within limits for Se	196.026	Recovery = 101.40%				
Si 251.611†	245405.8	5.46 mg/L	0.062	5.46 mg/L	0.062	1.14%
QC value within limits for Si	251.611	Recovery = 109.14%				
Sn 189.927†	11611.8	0.993 mg/L	0.0138	0.993 mg/L	0.0138	1.39%
QC value within limits for Sn	189.927	Recovery = 99.32%				
Ti 334.940†	945913.0	0.994 mg/L	0.0017	0.994 mg/L	0.0017	0.17%

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QC value within limits for Ti 334.940 Recovery = 99.40%
 Tl 190.801† 2050.9 0.519 mg/L 0.0038 0.519 mg/L 0.0038 0.73%
 QC value within limits for Tl 190.801 Recovery = 103.72%
 V 290.880† 220190.8 1.01 mg/L 0.018 1.01 mg/L 0.018 1.81%
 QC value within limits for V 290.880 Recovery = 100.68%
 Zn 206.200† 54104.2 0.993 mg/L 0.0174 0.993 mg/L 0.0174 1.76%
 QC value within limits for Zn 206.200 Recovery = 99.27%
 K 766.490† 131678.0 50.3 mg/L 0.50 50.3 mg/L 0.50 1.00%
 QC value within limits for K 766.490 Recovery = 100.55%
 Na 589.592† 876610.0 50.6 mg/L 0.46 50.6 mg/L 0.46 0.92%
 QC value within limits for Na 589.592 Recovery = 101.19%
 Sr 407.771† 2440337.5 0.993 mg/L 0.0114 0.993 mg/L 0.0114 1.15%
 QC value within limits for Sr 407.771 Recovery = 99.33%
 Li 670.784† 127480.8 1.02 mg/L 0.005 1.02 mg/L 0.005 0.49%
 QC value within limits for Li 670.784 Recovery = 101.67%
 All analyte(s) passed QC.

Sequence No.: 36

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Sampler Location: 1

Date Collected: 6/21/2012 1:11:22 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte Back Pressure Flow
 All 157.0 kPa 0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2023531.1				25064.07	1.24%
YRADIAL	246781.0				6891.10	2.79%
Ga 417.206	1220410.6				39068.12	3.20%
GA RADIAL	75418.6				999.17	1.32%
Ag 328.068†	13.1	0.00058 mg/L	0.000632	0.00058 mg/L	0.000632	108.22%
QC value within limits for Ag 328.068			Recovery = Not calculated			
Al 396.153†	20.6	0.0376 mg/L	0.00155	0.0376 mg/L	0.00155	4.13%
QC value within limits for Al 396.153			Recovery = Not calculated			
As 188.979†	-2.3	0.00159 mg/L	0.001359	0.00159 mg/L	0.001359	85.38%
QC value within limits for As 188.979			Recovery = Not calculated			
Ba 233.527†	-2.4	0.00192 mg/L	0.000119	0.00192 mg/L	0.000119	6.19%
QC value within limits for Ba 233.527			Recovery = Not calculated			
Be 234.861†	-42.8	0.00016 mg/L	0.000021	0.00016 mg/L	0.000021	13.30%
QC value within limits for Be 234.861			Recovery = Not calculated			
B 249.677†	479.3	0.00848 mg/L	0.000618	0.00848 mg/L	0.000618	7.28%
QC value within limits for B 249.677			Recovery = Not calculated			
Ca 227.546†	-11.5	0.0577 mg/L	0.00705	0.0577 mg/L	0.00705	12.21%
QC value within limits for Ca 227.546			Recovery = Not calculated			
Cd 228.802†	-4.7	0.00013 mg/L	0.000083	0.00013 mg/L	0.000083	63.45%
QC value within limits for Cd 228.802			Recovery = Not calculated			
Co 228.616†	-1.8	0.00035 mg/L	0.000118	0.00035 mg/L	0.000118	34.19%
QC value within limits for Co 228.616			Recovery = Not calculated			
Cr 267.716†	-1.1	0.00144 mg/L	0.000137	0.00144 mg/L	0.000137	9.49%
QC value within limits for Cr 267.716			Recovery = Not calculated			
Cu 327.393†	-61.4	0.00143 mg/L	0.000482	0.00143 mg/L	0.000482	33.73%
QC value within limits for Cu 327.393			Recovery = Not calculated			
Fe 239.562†	56.0	0.0218 mg/L	0.00037	0.0218 mg/L	0.00037	1.71%
QC value within limits for Fe 239.562			Recovery = Not calculated			
Mg 279.077†	6.5	0.0529 mg/L	0.00289	0.0529 mg/L	0.00289	5.46%
QC value within limits for Mg 279.077			Recovery = Not calculated			
Mn 257.610†	87.8	0.00024 mg/L	0.000002	0.00024 mg/L	0.000002	0.96%
QC value within limits for Mn 257.610			Recovery = Not calculated			
Mo 202.031†	5.4	0.00335 mg/L	0.000201	0.00335 mg/L	0.000201	5.98%
QC value within limits for Mo 202.031			Recovery = Not calculated			
Ni 231.604†	9.0	0.00080 mg/L	0.000167	0.00080 mg/L	0.000167	20.85%
QC value within limits for Ni 231.604			Recovery = Not calculated			
Pb 220.353†	-6.7	0.00059 mg/L	0.001060	0.00059 mg/L	0.001060	178.51%
QC value within limits for Pb 220.353			Recovery = Not calculated			
Sb 206.836†	-2.3	0.00371 mg/L	0.000496	0.00371 mg/L	0.000496	13.38%

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John H. Rhodes

QC value within limits	for Sb 206.836	Recovery = Not calculated			
Se 196.026†	-1.8	-0.00048 mg/L	0.000895	-0.00048 mg/L	0.000895 185.58%
QC value within limits	for Se 196.026	Recovery = Not calculated			
Si 251.611†	90.9	0.00619 mg/L	0.000390	0.00619 mg/L	0.000390 6.30%
QC value within limits	for Si 251.611	Recovery = Not calculated			
Sn 189.927†	12.6	0.00351 mg/L	0.000528	0.00351 mg/L	0.000528 15.04%
QC value within limits	for Sn 189.927	Recovery = Not calculated			
Ti 334.940†	187.2	0.00464 mg/L	0.000083	0.00464 mg/L	0.000083 1.80%
QC value within limits	for Ti 334.940	Recovery = Not calculated			
Tl 190.801†	1.6	0.00022 mg/L	0.001100	0.00022 mg/L	0.001100 490.18%
QC value within limits	for Tl 190.801	Recovery = Not calculated			
V 290.880†	21.7	0.00247 mg/L	0.000846	0.00247 mg/L	0.000846 34.21%
QC value within limits	for V 290.880	Recovery = Not calculated			
Zn 206.200†	6.2	0.00241 mg/L	0.000080	0.00241 mg/L	0.000080 3.32%
QC value within limits	for Zn 206.200	Recovery = Not calculated			
K 766.490†	62.8	-0.100 mg/L	0.0199	-0.100 mg/L	0.0199 19.88%
QC value within limits	for K 766.490	Recovery = Not calculated			
Na 589.592†	131.9	-0.00719 mg/L	0.006852	-0.00719 mg/L	0.006852 95.36%
QC value within limits	for Na 589.592	Recovery = Not calculated			
Sr 407.771†	137.1	0.00568 mg/L	0.000042	0.00568 mg/L	0.000042 0.74%
QC value within limits	for Sr 407.771	Recovery = Not calculated			
Li 670.784†	32.3	0.00171 mg/L	0.001083	0.00171 mg/L	0.001083 63.44%
QC value within limits	for Li 670.784	Recovery = Not calculated			

All analyte(s) passed QC.

Approved: June 22, 2012

John H. Rhodes

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Analysis Begun

Start Time: 6/21/2012 1:21:24 PM

Plasma On Time: 6/20/2012 6:30:43 AM

Logged In Analyst: peicp2

Technique: ICP Continuous

Spectrometer Model: Optima 4300 DV, S/N 077N401140 Autosampler Model: Cetac

Sample Information File: C:\pe\peicp2\Sample Information\THURSDAY1.sif

Batch ID:

Results Data Set: 062112H

Results Library: C:\pe\peicp2\Results\Results.mdb

Sequence No.: 1

Autosampler Location: 40

Sample ID: PBW 62 WG400914-02

Date Collected: 6/21/2012 1:21:25 PM

Analyst: KHR

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: PBW 62 WG400914-02Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min-----
Mean Data: PBW 62 WG400914-02

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2039434.5					16777.92	0.82%
Y RADIAL	249328.8					5127.82	2.06%
Ga 417.206	1257690.2					7548.03	0.60%
Ga RADIAL	76809.1					2082.01	2.71%
Ag 328.068†	-65.7	0.00033	mg/L	0.000132	0.00033	0.000132	39.72%
Al 396.153†	27.8	0.0388	mg/L	0.00197	0.0388	0.00197	5.07%
As 188.979†	-1.6	0.00183	mg/L	0.000544	0.00183	0.000544	29.80%
Ba 233.527†	22.7	0.00207	mg/L	0.000095	0.00207	0.000095	4.61%
Be 234.861†	16.4	0.00021	mg/L	0.000020	0.00021	0.000020	9.83%
B 249.677†	168.0	0.00518	mg/L	0.000225	0.00518	0.000225	4.35%
Ca 227.546†	2.1	0.0900	mg/L	0.01312	0.0900	0.01312	14.58%
Cd 228.802†	-6.9	0.00009	mg/L	0.000065	0.00009	0.000065	75.48%
Co 228.616†	-8.4	0.00019	mg/L	0.000205	0.00019	0.000205	109.34%
Cr 267.716†	9.4	0.00153	mg/L	0.000044	0.00153	0.000044	2.87%
Cu 327.393†	-61.2	0.00143	mg/L	0.000218	0.00143	0.000218	15.23%
Fe 239.562†	27.9	0.0199	mg/L	0.00031	0.0199	0.00031	1.58%
Mg 279.077†	2.5	0.0518	mg/L	0.00411	0.0518	0.00411	7.93%
Mn 257.610†	150.8	0.00032	mg/L	0.000032	0.00032	0.000032	9.90%
Mo 202.031†	0.8	0.00323	mg/L	0.000365	0.00323	0.000365	11.30%
Ni 231.604†	-9.7	0.00054	mg/L	0.000344	0.00054	0.000344	64.19%
Pb 220.353†	3.2	0.00139	mg/L	0.001187	0.00139	0.001187	85.26%
Sb 206.836†	-8.5	0.00225	mg/L	0.000408	0.00225	0.000408	18.10%
Se 196.026†	2.8	0.00189	mg/L	0.002454	0.00189	0.002454	129.88%
Si 251.611†	46.7	0.00521	mg/L	0.000489	0.00521	0.000489	9.38%
Sn 189.927†	-6.7	0.00187	mg/L	0.000588	0.00187	0.000588	31.49%
Ti 334.940†	154.0	0.00461	mg/L	0.000043	0.00461	0.000043	0.94%
Tl 190.801†	3.1	0.00058	mg/L	0.001897	0.00058	0.001897	326.96%
V 290.880†	166.2	0.00313	mg/L	0.000873	0.00313	0.000873	27.89%
Zn 206.200†	201.9	0.00598	mg/L	0.000123	0.00598	0.000123	2.06%
K 766.490†	54.9	-0.103	mg/L	0.0419	-0.103	0.0419	40.53%
Na 589.592†	-39.4	-0.0171	mg/L	0.00132	-0.0171	0.00132	7.70%
Sr 407.771†	112.4	0.00567	mg/L	0.000008	0.00567	0.000008	0.14%
Li 670.784†	16.4	0.00158	mg/L	0.000551	0.00158	0.000551	34.86%

Sequence No.: 2

Autosampler Location: 41

Sample ID: LCSW 62 WG400914-03

Date Collected: 6/21/2012 1:28:20 PM

Analyst: KHR

Data Type: Original

Initial Sample Wt:

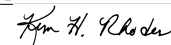
Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: LCSW 62 WG400914-03

Approved: June 22, 2012



Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: LCSW 62 WG400914-03

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1994631.3				14971.63	0.75%
YRADIAL	255375.2				6059.22	2.37%
Ga 417.206	1223747.5				26679.23	2.18%
GaRADIAL	78760.6				2102.31	2.67%
Ag 328.068†	63378.7	0.205 mg/L	0.0064	0.205 mg/L	0.0064	3.11%
Al 396.153†	30856.3	5.09 mg/L	0.027	5.09 mg/L	0.027	0.54%
As 188.979†	614.8	0.198 mg/L	0.0071	0.198 mg/L	0.0071	3.58%
Ba 233.527†	87697.7	0.521 mg/L	0.0053	0.521 mg/L	0.0053	1.01%
Be 234.861†	31941.4	0.0249 mg/L	0.00059	0.0249 mg/L	0.00059	2.38%
B 249.677†	93112.5	0.991 mg/L	0.0333	0.991 mg/L	0.0333	3.36%
Ca 227.546†	2043.8	5.20 mg/L	0.102	5.20 mg/L	0.102	1.97%
Cd 228.802†	1315.3	0.0241 mg/L	0.00096	0.0241 mg/L	0.00096	3.96%
Co 228.616†	4252.3	0.103 mg/L	0.0018	0.103 mg/L	0.0018	1.72%
Cr 267.716†	30110.0	0.259 mg/L	0.0015	0.259 mg/L	0.0015	0.58%
Cu 327.393†	61345.8	0.257 mg/L	0.0091	0.257 mg/L	0.0091	3.53%
Fe 239.562†	28635.8	1.99 mg/L	0.005	1.99 mg/L	0.005	0.23%
Mg 279.077†	17080.8	5.07 mg/L	0.024	5.07 mg/L	0.024	0.47%
Mn 257.610†	215954.7	0.261 mg/L	0.0027	0.261 mg/L	0.0027	1.05%
Mo 202.031†	19406.1	0.517 mg/L	0.0013	0.517 mg/L	0.0013	0.25%
Ni 231.604†	18381.2	0.261 mg/L	0.0012	0.261 mg/L	0.0012	0.44%
Pb 220.353†	3203.3	0.259 mg/L	0.0038	0.259 mg/L	0.0038	1.48%
Sb 206.836†	2532.3	0.596 mg/L	0.0144	0.596 mg/L	0.0144	2.41%
Se 196.026†	388.7	0.204 mg/L	0.0056	0.204 mg/L	0.0056	2.73%
Si 251.611†	116750.3	2.60 mg/L	0.047	2.60 mg/L	0.047	1.80%
Sn 189.927†	6415.1	0.550 mg/L	0.0074	0.550 mg/L	0.0074	1.35%
Ti 334.940†	487583.7	0.515 mg/L	0.0015	0.515 mg/L	0.0015	0.29%
Tl 190.801†	1083.3	0.274 mg/L	0.0022	0.274 mg/L	0.0022	0.80%
V 290.880†	114965.2	0.527 mg/L	0.0010	0.527 mg/L	0.0010	0.18%
Zn 206.200†	28061.1	0.516 mg/L	0.0016	0.516 mg/L	0.0016	0.30%
K 766.490†	67982.2	26.2 mg/L	0.20	26.2 mg/L	0.20	0.78%
Na 589.592†	454039.2	26.2 mg/L	0.92	26.2 mg/L	0.92	3.51%
Sr 407.771†	1244630.9	0.509 mg/L	0.0137	0.509 mg/L	0.0137	2.69%
Li 670.784†	66820.4	0.534 mg/L	0.0061	0.534 mg/L	0.0061	1.14%

Sequence No.: 3

Sample ID: L1206042301

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 42

Date Collected: 6/21/2012 1:34:19 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042301

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206042301

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1947001.3				12987.43	0.67%
YRADIAL	249192.3				2240.43	0.90%
Ga 417.206	1198236.7				19881.04	1.66%
GaRADIAL	77583.7				1674.66	2.16%
Ag 328.068†	246.1	0.00138 mg/L	0.000860	0.00138 mg/L	0.000860	62.52%
Al 396.153†	6.2	0.0352 mg/L	0.00532	0.0352 mg/L	0.00532	15.09%
As 188.979†	-7.9	-0.00020 mg/L	0.002015	-0.00020 mg/L	0.002015	>999.9%
Ba 233.527†	5477.3	0.0343 mg/L	0.00016	0.0343 mg/L	0.00016	0.46%
Be 234.861†	257.9	0.00035 mg/L	0.000047	0.00035 mg/L	0.000047	13.15%
B 249.677†	18763.2	0.203 mg/L	0.0041	0.203 mg/L	0.0041	2.03%
Ca 227.546†	7310.0	17.5 mg/L	0.51	17.5 mg/L	0.51	2.92%
Cd 228.802†	9.0	0.00040 mg/L	0.000208	0.00040 mg/L	0.000208	52.69%
Co 228.616†	11.4	0.00066 mg/L	0.000220	0.00066 mg/L	0.000220	33.41%
Cr 267.716†	104.3	0.00234 mg/L	0.000274	0.00234 mg/L	0.000274	11.70%
Cu 327.393†	1182.9	0.00661 mg/L	0.000066	0.00661 mg/L	0.000066	0.99%

Approved: June 22, 2012

John H. Rhodes

Fe 239.562†	2969.5	0.222 mg/L	0.0055	0.222 mg/L	0.0055	2.48%
Mg 279.077†	25291.5	7.47 mg/L	0.048	7.47 mg/L	0.048	0.65%
Mn 257.610†	11330.8	0.0138 mg/L	0.00015	0.0138 mg/L	0.00015	1.09%
Mo 202.031†	26.4	0.00392 mg/L	0.000350	0.00392 mg/L	0.000350	8.91%
Ni 231.604†	32.2	0.00113 mg/L	0.000518	0.00113 mg/L	0.000518	45.92%
Pb 220.353†	-19.3	-0.00031 mg/L	0.000952	-0.00031 mg/L	0.000952	311.78%
Sb 206.836†	-7.9	0.00239 mg/L	0.000260	0.00239 mg/L	0.000260	10.90%
Se 196.026†	-4.9	-0.00204 mg/L	0.001517	-0.00204 mg/L	0.001517	74.24%
Si 251.611†	182981.9	4.08 mg/L	0.080	4.08 mg/L	0.080	1.96%
Sn 189.927†	-144.5	-0.00989 mg/L	0.000555	-0.00989 mg/L	0.000555	5.61%
Ti 334.940†	-2396.8	0.00456 mg/L	0.000045	0.00456 mg/L	0.000045	0.99%
Tl 190.801†	-7.1	-0.00194 mg/L	0.002558	-0.00194 mg/L	0.002558	131.93%
V 290.880†	1523.2	0.00912 mg/L	0.002982	0.00912 mg/L	0.002982	32.71%
Zn 206.200†	121.6	0.00452 mg/L	0.000161	0.00452 mg/L	0.000161	3.57%
K 766.490†	8536.1	3.13 mg/L	0.053	3.13 mg/L	0.053	1.69%
Na 589.592†	1628523.1	93.7 mg/L	0.18	93.7 mg/L	0.18	0.19%
Sr 407.771†	700418.6	0.289 mg/L	0.0052	0.289 mg/L	0.0052	1.79%
Li 670.784†	1852.8	0.0162 mg/L	0.00046	0.0162 mg/L	0.00046	2.86%

Sequence No.: 4

Sample ID: L1206042302

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 43

Date Collected: 6/21/2012 1:40:18 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206042302

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206042302

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1949229.6						5354.57	0.27%
YRADIAL	247773.0						487.12	0.20%
Ga 417.206	1213959.3						20013.68	1.65%
GaRADIAL	78022.4						612.64	0.79%
Ag 328.068†	706.8	0.00287	mg/L	0.000441	0.00287	mg/L	0.000441	15.39%
Al 396.153†	1138.8	0.222	mg/L	0.0054	0.222	mg/L	0.0054	2.42%
As 188.979†	-13.3	-0.00192	mg/L	0.001653	-0.00192	mg/L	0.001653	86.11%
Ba 233.527†	18077.2	0.109	mg/L	0.0005	0.109	mg/L	0.0005	0.48%
Be 234.861†	174.8	0.00028	mg/L	0.000043	0.00028	mg/L	0.000043	15.50%
B 249.677†	3814.3	0.0438	mg/L	0.00121	0.0438	mg/L	0.00121	2.76%
Ca 227.546†	35751.3	85.4	mg/L	2.13	85.4	mg/L	2.13	2.49%
Cd 228.802†	1.6	0.00027	mg/L	0.000124	0.00027	mg/L	0.000124	46.76%
Co 228.616†	8.0	0.00056	mg/L	0.000185	0.00056	mg/L	0.000185	32.79%
Cr 267.716†	162.7	0.00284	mg/L	0.000150	0.00284	mg/L	0.000150	5.28%
Cu 327.393†	1093.1	0.00624	mg/L	0.000599	0.00624	mg/L	0.000599	9.59%
Fe 239.562†	3566.6	0.263	mg/L	0.0073	0.263	mg/L	0.0073	2.78%
Mg 279.077†	81812.9	24.0	mg/L	0.28	24.0	mg/L	0.28	1.18%
Mn 257.610†	4119.2	0.00512	mg/L	0.000057	0.00512	mg/L	0.000057	1.10%
Mo 202.031†	46.4	0.00445	mg/L	0.000253	0.00445	mg/L	0.000253	5.67%
Ni 231.604†	73.7	0.00172	mg/L	0.000369	0.00172	mg/L	0.000369	21.52%
Pb 220.353†	27.0	0.00399	mg/L	0.001783	0.00399	mg/L	0.001783	44.72%
Sb 206.836†	-11.2	0.00162	mg/L	0.000494	0.00162	mg/L	0.000494	30.47%
Se 196.026†	5.8	0.00356	mg/L	0.002974	0.00356	mg/L	0.002974	83.56%
Si 251.611†	214918.5	4.79	mg/L	0.078	4.79	mg/L	0.078	1.62%
Sn 189.927†	-287.8	-0.0221	mg/L	0.00044	-0.0221	mg/L	0.00044	2.01%
Ti 334.940†	-8188.3	0.00869	mg/L	0.000934	0.00869	mg/L	0.000934	10.75%
Tl 190.801†	-14.5	-0.00383	mg/L	0.002833	-0.00383	mg/L	0.002833	73.97%
V 290.880†	1574.0	0.00891	mg/L	0.002591	0.00891	mg/L	0.002591	29.07%
Zn 206.200†	3654.6	0.0689	mg/L	0.00038	0.0689	mg/L	0.00038	0.55%
K 766.490†	5856.8	2.17	mg/L	0.064	2.17	mg/L	0.064	2.94%
Na 589.592†	103807.9	6.00	mg/L	0.047	6.00	mg/L	0.047	0.78%
Sr 407.771†	737660.6	0.302	mg/L	0.0010	0.302	mg/L	0.0010	0.32%
Li 670.784†	1052.0	0.00983	mg/L	0.000346	0.00983	mg/L	0.000346	3.52%

Sequence No.: 5

Sample ID: L1206042303

Autosampler Location: 44

Date Collected: 6/21/2012 1:46:17 PM

Approved: June 22, 2012

John H. Rhodes

Analyst: KHR
Initial Sample Wt:
Dilution:

data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1206042303

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206042303

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2003534.4				17123.99	0.85%
YRADIAL	260015.2				3005.31	1.16%
Ga 417.206	1281397.3				49597.37	3.87%
GA RADIAL	80284.7				704.11	0.88%
Ag 328.068†	387.1	0.00194 mg/L	0.000186	0.00194 mg/L	0.000186	9.61%
Al 396.153†	640.4	0.140 mg/L	0.0060	0.140 mg/L	0.0060	4.26%
As 188.979†	-12.0	-0.00149 mg/L	0.000400	-0.00149 mg/L	0.000400	26.84%
Ba 233.527†	20981.3	0.126 mg/L	0.0006	0.126 mg/L	0.0006	0.45%
Be 234.861†	288.8	0.00034 mg/L	0.000021	0.00034 mg/L	0.000021	6.19%
B 249.677†	1299.2	0.0170 mg/L	0.00076	0.0170 mg/L	0.00076	4.47%
Ca 227.546†	18196.7	43.5 mg/L	2.13	43.5 mg/L	2.13	4.90%
Cd 228.802†	3.7	0.00030 mg/L	0.000028	0.00030 mg/L	0.000028	9.25%
Co 228.616†	7.9	0.00054 mg/L	0.000243	0.00054 mg/L	0.000243	44.61%
Cr 267.716†	139.5	0.00264 mg/L	0.000202	0.00264 mg/L	0.000202	7.65%
Cu 327.393†	11.0	0.00176 mg/L	0.000512	0.00176 mg/L	0.000512	29.13%
Fe 239.562†	5423.0	0.391 mg/L	0.0052	0.391 mg/L	0.0052	1.32%
Mg 279.077†	24042.9	7.10 mg/L	0.150	7.10 mg/L	0.150	2.11%
Mn 257.610†	22241.1	0.0270 mg/L	0.00013	0.0270 mg/L	0.00013	0.46%
Mo 202.031†	39.9	0.00429 mg/L	0.000158	0.00429 mg/L	0.000158	3.68%
Ni 231.604†	153.6	0.00285 mg/L	0.000416	0.00285 mg/L	0.000416	14.63%
Pb 220.353†	7.7	0.00207 mg/L	0.001048	0.00207 mg/L	0.001048	50.64%
Sb 206.836†	-10.3	0.00183 mg/L	0.000599	0.00183 mg/L	0.000599	32.71%
Se 196.026†	-0.1	0.00049 mg/L	0.001202	0.00049 mg/L	0.001202	246.65%
Si 251.611†	215221.4	4.80 mg/L	0.187	4.80 mg/L	0.187	3.91%
Sn 189.927†	-230.3	-0.0172 mg/L	0.00128	-0.0172 mg/L	0.00128	7.42%
Ti 334.940†	-4679.3	0.00607 mg/L	0.000834	0.00607 mg/L	0.000834	13.73%
Tl 190.801†	-9.4	-0.00256 mg/L	0.003052	-0.00256 mg/L	0.003052	119.11%
V 290.880†	1411.2	0.00860 mg/L	0.001394	0.00860 mg/L	0.001394	16.21%
Zn 206.200†	921.6	0.0191 mg/L	0.00007	0.0191 mg/L	0.00007	0.36%
K 766.490†	4033.4	1.45 mg/L	0.048	1.45 mg/L	0.048	3.32%
Na 589.592†	124673.6	7.21 mg/L	0.032	7.21 mg/L	0.032	0.44%
Sr 407.771†	238092.2	0.101 mg/L	0.0008	0.101 mg/L	0.0008	0.80%
Li 670.784†	443.5	0.00498 mg/L	0.000647	0.00498 mg/L	0.000647	12.98%

Sequence No.: 6

Sample ID: L1206049604

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 45

Date Collected: 6/21/2012 1:52:16 PM

data Type: Original

Initial Sample Vol:

Sample Prep Vol:

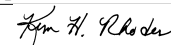
Nebulizer Parameters: L1206049604

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206049604

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2005002.1				48896.55	2.44%
YRADIAL	251814.6				4313.78	1.71%
Ga 417.206	1222209.0				45993.99	3.76%
GA RADIAL	77466.5				1049.31	1.35%
Ag 328.068†	180.6	0.00144 mg/L	0.000462	0.00144 mg/L	0.000462	32.08%
Al 396.153†	719.5	0.153 mg/L	0.0112	0.153 mg/L	0.0112	7.33%
As 188.979†	15.3	0.00733 mg/L	0.001351	0.00733 mg/L	0.001351	18.43%
Ba 233.527†	2455.3	0.0164 mg/L	0.00027	0.0164 mg/L	0.00027	1.62%
Be 234.861†	431.5	0.00040 mg/L	0.000110	0.00040 mg/L	0.000110	27.40%

Approved: June 22, 2012



B 249.677†	4149.2	0.0471 mg/L	0.00187	0.0471 mg/L	0.00187	3.97%
Ca 227.546†	10348.8	24.8 mg/L	0.95	24.8 mg/L	0.95	3.82%
Cd 228.802†	7.2	0.00032 mg/L	0.000201	0.00032 mg/L	0.000201	61.89%
Co 228.616†	27.9	0.00105 mg/L	0.000253	0.00105 mg/L	0.000253	24.17%
Cr 267.716†	85.1	0.00215 mg/L	0.000080	0.00215 mg/L	0.000080	3.72%
Cu 327.393†	94.5	0.00215 mg/L	0.000183	0.00215 mg/L	0.000183	8.50%
Fe 239.562†	12015.7	0.845 mg/L	0.0166	0.845 mg/L	0.0166	1.97%
Mg 279.077†	33088.8	9.75 mg/L	0.202	9.75 mg/L	0.202	2.07%
Mn 257.610†	379625.3	0.459 mg/L	0.0102	0.459 mg/L	0.0102	2.23%
Mo 202.031†	73.9	0.00531 mg/L	0.000411	0.00531 mg/L	0.000411	7.74%
Ni 231.604†	149.5	0.00279 mg/L	0.000294	0.00279 mg/L	0.000294	10.54%
Pb 220.353†	4.7	0.00138 mg/L	0.000399	0.00138 mg/L	0.000399	28.86%
Sb 206.836†	-8.3	0.00235 mg/L	0.000301	0.00235 mg/L	0.000301	12.82%
Se 196.026†	3.0	0.00215 mg/L	0.001317	0.00215 mg/L	0.001317	61.16%
Si 251.611†	177068.3	3.95 mg/L	0.108	3.95 mg/L	0.108	2.74%
Sn 189.927†	-167.2	-0.0118 mg/L	0.00046	-0.0118 mg/L	0.00046	3.87%
Ti 334.940†	-1023.5	0.00708 mg/L	0.000443	0.00708 mg/L	0.000443	6.25%
Tl 190.801†	-5.9	-0.00209 mg/L	0.000583	-0.00209 mg/L	0.000583	27.93%
V 290.880†	1940.0	0.0109 mg/L	0.00198	0.0109 mg/L	0.00198	18.16%
Zn 206.200†	124.4	0.00456 mg/L	0.000151	0.00456 mg/L	0.000151	3.32%
K 766.490†	5820.9	2.14 mg/L	0.004	2.14 mg/L	0.004	0.19%
Na 589.592†	408906.5	23.6 mg/L	0.12	23.6 mg/L	0.12	0.50%
Sr 407.771†	172148.5	0.0748 mg/L	0.00026	0.0748 mg/L	0.00026	0.34%
Li 670.784†	101.9	0.00226 mg/L	0.000771	0.00226 mg/L	0.000771	34.11%

Sequence No.: 7

Sample ID: L1206049705

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 46

Date Collected: 6/21/2012 1:58:16 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206049705

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206049705

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1951873.5						12989.07	0.67%
YRADIAL	252330.2						1978.29	0.78%
Ga 417.206	1255879.6						3021.37	0.24%
GaRADIAL	79540.8						2881.43	3.62%
Ag 328.068†	68.1	0.00074 mg/L	0.000326	0.00074 mg/L	0.000326	44.08%		
Al 396.153†	18.4	0.0373 mg/L	0.00066	0.0373 mg/L	0.00066	1.78%		
As 188.979†	-7.7	-0.00014 mg/L	0.000886	-0.00014 mg/L	0.000886	621.99%		
Ba 233.527†	3298.3	0.0214 mg/L	0.00007	0.0214 mg/L	0.00007	0.33%		
Be 234.861†	4.2	0.00019 mg/L	0.000014	0.00019 mg/L	0.000014	7.29%		
B 249.677†	18419.9	0.199 mg/L	0.0007	0.199 mg/L	0.0007	0.37%		
Ca 227.546†	4117.3	9.91 mg/L	0.061	9.91 mg/L	0.061	0.61%		
Cd 228.802†	-1.0	0.00021 mg/L	0.000028	0.00021 mg/L	0.000028	13.42%		
Co 228.616†	-12.4	0.00009 mg/L	0.000022	0.00009 mg/L	0.000022	24.59%		
Cr 267.716†	56.1	0.00193 mg/L	0.000057	0.00193 mg/L	0.000057	2.97%		
Cu 327.393†	1564.5	0.00818 mg/L	0.000298	0.00818 mg/L	0.000298	3.64%		
Fe 239.562†	351.3	0.0421 mg/L	0.00037	0.0421 mg/L	0.00037	0.87%		
Mg 279.077†	13058.7	3.88 mg/L	0.029	3.88 mg/L	0.029	0.75%		
Mn 257.610†	8325.3	0.0102 mg/L	0.00024	0.0102 mg/L	0.00024	2.36%		
Mo 202.031†	10.6	0.00349 mg/L	0.000179	0.00349 mg/L	0.000179	5.12%		
Ni 231.604†	-17.6	0.00042 mg/L	0.000208	0.00042 mg/L	0.000208	49.01%		
Pb 220.353†	17.3	0.00259 mg/L	0.001509	0.00259 mg/L	0.001509	58.36%		
Sb 206.836†	-8.4	0.00226 mg/L	0.000511	0.00226 mg/L	0.000511	22.60%		
Se 196.026†	-1.7	-0.00043 mg/L	0.001756	-0.00043 mg/L	0.001756	412.09%		
Si 251.611†	162038.2	3.61 mg/L	0.036	3.61 mg/L	0.036	1.01%		
Sn 189.927†	-103.3	-0.00637 mg/L	0.000538	-0.00637 mg/L	0.000538	8.44%		
Ti 334.940†	-1781.3	0.00406 mg/L	0.000239	0.00406 mg/L	0.000239	5.88%		
Tl 190.801†	-10.3	-0.00274 mg/L	0.002681	-0.00274 mg/L	0.002681	97.71%		
V 290.880†	384.1	0.00402 mg/L	0.000761	0.00402 mg/L	0.000761	18.91%		
Zn 206.200†	193.7	0.00583 mg/L	0.000173	0.00583 mg/L	0.000173	2.97%		
K 766.490†	7571.2	2.74 mg/L	0.063	2.74 mg/L	0.063	2.31%		
Na 589.592†	1851070.2	106 mg/L	3.5	106 mg/L	3.5	3.32%		

Approved: June 22, 2012

John H. Rhodes

Sr 407.771†	374557.5	0.157 mg/L	0.0037	0.157 mg/L	0.0037	2.38%
Li 670.784†	1713.0	0.0151 mg/L	0.00081	0.0151 mg/L	0.00081	5.36%

Sequence No.: 8

Sample ID: L1206049806

Analyst: KHR

Initial Sample Wt:

Dilution:

Udosampler Location: 47

Date Collected: 6/21/2012 2:05:17 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206049806

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Mean Data: L1206049806

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2012237.0				8557.44	0.43%
YRADIAL	253283.0				3014.78	1.19%
Ga 417.206	1300521.0				15701.88	1.21%
GaRADIAL	81055.8				2335.33	2.88%
Ag 328.068†	348.1	0.00163 mg/L	0.000562	0.00163 mg/L	0.000562	34.47%
Al 396.153†	56.7	0.0435 mg/L	0.00012	0.0435 mg/L	0.00012	0.27%
As 188.979†	-6.4	0.00026 mg/L	0.002487	0.00026 mg/L	0.002487	953.73%
Ba 233.527†	12234.5	0.0743 mg/L	0.00018	0.0743 mg/L	0.00018	0.24%
Be 234.861†	87.9	0.00026 mg/L	0.000007	0.00026 mg/L	0.000007	2.49%
B 249.677†	3441.4	0.0400 mg/L	0.00069	0.0400 mg/L	0.00069	1.73%
Ca 227.546†	17292.0	41.4 mg/L	1.50	41.4 mg/L	1.50	3.62%
Cd 228.802†	-7.1	0.00009 mg/L	0.000057	0.00009 mg/L	0.000057	62.58%
Co 228.616†	-5.3	0.00026 mg/L	0.000132	0.00026 mg/L	0.000132	51.78%
Cr 267.716†	125.0	0.00252 mg/L	0.000131	0.00252 mg/L	0.000131	5.20%
Cu 327.393†	4728.2	0.0213 mg/L	0.00124	0.0213 mg/L	0.00124	5.82%
Fe 239.562†	186.1	0.0305 mg/L	0.00018	0.0305 mg/L	0.00018	0.58%
Mg 279.077†	46076.7	13.6 mg/L	0.09	13.6 mg/L	0.09	0.67%
Mn 257.610†	1211.9	0.00160 mg/L	0.000012	0.00160 mg/L	0.000012	0.75%
Mo 202.031†	29.8	0.00400 mg/L	0.000119	0.00400 mg/L	0.000119	2.97%
Ni 231.604†	156.4	0.00289 mg/L	0.000261	0.00289 mg/L	0.000261	9.03%
Pb 220.353†	31.0	0.00393 mg/L	0.000663	0.00393 mg/L	0.000663	16.89%
Sb 206.836†	-6.6	0.00268 mg/L	0.000839	0.00268 mg/L	0.000839	31.28%
Se 196.026†	3.5	0.00231 mg/L	0.001623	0.00231 mg/L	0.001623	70.35%
Si 251.611†	214340.5	4.78 mg/L	0.170	4.78 mg/L	0.170	3.56%
Sn 189.927†	-234.5	-0.0176 mg/L	0.00060	-0.0176 mg/L	0.00060	3.40%
Ti 334.940†	-7252.1	0.00306 mg/L	0.000153	0.00306 mg/L	0.000153	4.99%
Tl 190.801†	-20.1	-0.00521 mg/L	0.002908	-0.00521 mg/L	0.002908	55.81%
V 290.880†	71.7	0.00235 mg/L	0.000612	0.00235 mg/L	0.000612	26.09%
Zn 206.200†	345.4	0.00860 mg/L	0.000085	0.00860 mg/L	0.000085	0.99%
K 766.490†	8582.7	3.20 mg/L	0.019	3.20 mg/L	0.019	0.60%
Na 589.592†	668903.8	38.6 mg/L	0.79	38.6 mg/L	0.79	2.06%
Sr 407.771†	347277.0	0.145 mg/L	0.0032	0.145 mg/L	0.0032	2.21%
Li 670.784†	485.3	0.00531 mg/L	0.000575	0.00531 mg/L	0.000575	10.82%

Sequence No.: 9

Sample ID: L1206049806PS WG400947-01

Analyst: KHR

Initial Sample Wt:

Dilution:

Udosampler Location: 48

Date Collected: 6/21/2012 2:12:10 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206049806PS WG400947-01

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Mean Data: L1206049806PS WG400947-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1941794.3				40808.89	2.10%
YRADIAL	248948.8				6759.54	2.72%
Ga 417.206	1180845.0				16131.34	1.37%

Approved: June 22, 2012

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GA RADIAL	76320.0					1873.76	2.46%
Ag 328.068†	62439.8	0.202 mg/L	0.0032	0.202 mg/L	0.0032	0.0032	1.60%
Al 396.153†	30734.5	5.07 mg/L	0.036	5.07 mg/L	0.036	0.036	0.71%
As 188.979†	615.6	0.198 mg/L	0.0022	0.198 mg/L	0.0022	0.0022	1.10%
Ba 233.527†	94676.2	0.562 mg/L	0.0129	0.562 mg/L	0.0129	0.0129	2.30%
Be 234.861†	31708.9	0.0247 mg/L	0.00045	0.0247 mg/L	0.00045	0.00045	1.81%
B 249.677†	95620.5	1.02 mg/L	0.014	1.02 mg/L	0.014	0.014	1.39%
Ca 227.546†	19252.2	46.3 mg/L	0.63	46.3 mg/L	0.63	0.63	1.37%
Cd 228.802†	1290.8	0.0237 mg/L	0.00050	0.0237 mg/L	0.00050	0.00050	2.09%
Co 228.616†	4083.9	0.0990 mg/L	0.00237	0.0990 mg/L	0.00237	0.00237	2.40%
Cr 267.716†	29160.8	0.251 mg/L	0.0051	0.251 mg/L	0.0051	0.0051	2.04%
Cu 327.393†	63844.4	0.268 mg/L	0.0024	0.268 mg/L	0.0024	0.0024	0.91%
Fe 239.562†	28320.9	1.97 mg/L	0.020	1.97 mg/L	0.020	0.020	0.99%
Mg 279.077†	58786.6	17.3 mg/L	0.13	17.3 mg/L	0.13	0.13	0.78%
Mn 257.610†	208148.0	0.252 mg/L	0.0062	0.252 mg/L	0.0062	0.0062	2.44%
Mo 202.031†	18899.0	0.504 mg/L	0.0076	0.504 mg/L	0.0076	0.0076	1.51%
Ni 231.604†	17477.2	0.248 mg/L	0.0031	0.248 mg/L	0.0031	0.0031	1.27%
Pb 220.353†	3109.2	0.252 mg/L	0.0042	0.252 mg/L	0.0042	0.0042	1.67%
Sb 206.836†	2557.2	0.602 mg/L	0.0066	0.602 mg/L	0.0066	0.0066	1.09%
Se 196.026†	388.9	0.204 mg/L	0.0012	0.204 mg/L	0.0012	0.0012	0.58%
Si 251.611†	325535.7	7.25 mg/L	0.123	7.25 mg/L	0.123	0.123	1.70%
Sn 189.927†	-237.0	-0.0178 mg/L	0.00030	-0.0178 mg/L	0.00030	0.00030	1.69%
Ti 334.940†	472911.5	0.505 mg/L	0.0002	0.505 mg/L	0.0002	0.0002	0.04%
Tl 190.801†	1014.3	0.257 mg/L	0.0017	0.257 mg/L	0.0017	0.0017	0.66%
V 290.880†	111299.2	0.510 mg/L	0.0101	0.510 mg/L	0.0101	0.0101	1.99%
Zn 206.200†	27155.4	0.499 mg/L	0.0109	0.499 mg/L	0.0109	0.0109	2.19%
K 766.490†	74953.3	28.8 mg/L	0.14	28.8 mg/L	0.14	0.14	0.49%
Na 589.592†	1092397.8	63.0 mg/L	1.45	63.0 mg/L	1.45	1.45	2.30%
Sr 407.771†	1562954.0	0.637 mg/L	0.0126	0.637 mg/L	0.0126	0.0126	1.97%
Li 670.784†	66277.9	0.529 mg/L	0.0009	0.529 mg/L	0.0009	0.0009	0.18%

Sequence No.: 10

Sample ID: L1206049806DL WG400947-02

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 49

Date Collected: 6/21/2012 2:18:08 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206049806DL WG400947-02

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206049806DL WG400947-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2005483.3						35859.17	1.79%
Y RADIAL	250597.8						3095.49	1.24%
Ga 417.206	1242956.1						41652.31	3.35%
GA RADIAL	78133.5						1855.39	2.37%
Ag 328.068†	6.3	0.00056 mg/L		0.000301	0.00056 mg/L		0.000301	54.01%
Al 396.153†	28.2	0.0389 mg/L		0.00076	0.0389 mg/L		0.00076	1.96%
As 188.979†	0.4	0.00247 mg/L		0.000666	0.00247 mg/L		0.000666	26.96%
Ba 233.527†	2514.2	0.0168 mg/L		0.00033	0.0168 mg/L		0.00033	1.96%
Be 234.861†	-5.0	0.00019 mg/L		0.000046	0.00019 mg/L		0.000046	23.98%
B 249.677†	1069.4	0.0148 mg/L		0.00047	0.0148 mg/L		0.00047	3.20%
Ca 227.546†	3645.9	8.79 mg/L		0.277	8.79 mg/L		0.277	3.15%
Cd 228.802†	-5.9	0.00010 mg/L		0.000060	0.00010 mg/L		0.000060	58.54%
Co 228.616†	-11.5	0.00011 mg/L		0.000076	0.00011 mg/L		0.000076	69.42%
Cr 267.716†	36.6	0.00176 mg/L		0.000108	0.00176 mg/L		0.000108	6.12%
Cu 327.393†	1080.3	0.00617 mg/L		0.000375	0.00617 mg/L		0.000375	6.08%
Fe 239.562†	45.5	0.0211 mg/L		0.00041	0.0211 mg/L		0.00041	1.95%
Mg 279.077†	9568.3	2.86 mg/L		0.030	2.86 mg/L		0.030	1.04%
Mn 257.610†	279.5	0.00047 mg/L		0.000021	0.00047 mg/L		0.000021	4.47%
Mo 202.031†	11.7	0.00352 mg/L		0.000027	0.00352 mg/L		0.000027	0.78%
Ni 231.604†	30.5	0.00110 mg/L		0.000252	0.00110 mg/L		0.000252	22.77%
Pb 220.353†	7.1	0.00177 mg/L		0.001302	0.00177 mg/L		0.001302	73.57%
Sb 206.836†	-10.6	0.00176 mg/L		0.000854	0.00176 mg/L		0.000854	48.61%
Se 196.026†	1.7	0.00136 mg/L		0.001985	0.00136 mg/L		0.001985	146.20%
Si 251.611†	45561.9	1.02 mg/L		0.021	1.02 mg/L		0.021	2.03%
Sn 189.927†	-86.4	-0.00493 mg/L		0.000572	-0.00493 mg/L		0.000572	11.60%

Approved: June 22, 2012

John H. Rhodes

Ti 334.940†	-1313.5	0.00438 mg/L	0.000100	0.00438 mg/L	0.000100	2.28%
Tl 190.801†	-7.9	-0.00213 mg/L	0.001104	-0.00213 mg/L	0.001104	51.87%
V 290.880†	61.6	0.00258 mg/L	0.001092	0.00258 mg/L	0.001092	42.32%
Zn 206.200†	174.7	0.00548 mg/L	0.000253	0.00548 mg/L	0.000253	4.62%
K 766.490†	1745.5	0.553 mg/L	0.0122	0.553 mg/L	0.0122	2.20%
Na 589.592†	137187.3	7.93 mg/L	0.151	7.93 mg/L	0.151	1.90%
Sr 407.771†	69592.2	0.0336 mg/L	0.00052	0.0336 mg/L	0.00052	1.55%
Li 670.784†	83.5	0.00211 mg/L	0.000791	0.00211 mg/L	0.000791	37.42%

Sequence No.: 11

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 6/21/2012 2:25:01 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte

All

Back Pressure

158.0 kPa

Flow

0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1923532.6				13164.61	0.68%
YRADIAL	246100.7				3198.08	1.30%
Ga 417.206	1158033.4				20459.19	1.77%
GaRADIAL	75726.9				890.99	1.18%
Ag 328.068†	127226.7	0.411 mg/L	0.0092	0.411 mg/L	0.0092	2.25%
QC value within limits for Ag		328.068	Recovery = 102.71%			
Al 396.153†	61752.9	10.1 mg/L	0.06	10.1 mg/L	0.06	0.63%
QC value within limits for Al		396.153	Recovery = 101.48%			
As 188.979†	1256.8	0.401 mg/L	0.0079	0.401 mg/L	0.0079	1.97%
QC value within limits for As		188.979	Recovery = 100.37%			
Ba 233.527†	173423.1	1.03 mg/L	0.011	1.03 mg/L	0.011	1.04%
QC value within limits for Ba		233.527	Recovery = 102.75%			
Be 234.861†	64003.8	0.0497 mg/L	0.00102	0.0497 mg/L	0.00102	2.05%
QC value within limits for Be		234.861	Recovery = 99.32%			
B 249.677†	48699.3	0.517 mg/L	0.0125	0.517 mg/L	0.0125	2.41%
QC value within limits for B		249.677	Recovery = 103.41%			
Ca 227.546†	4192.0	10.6 mg/L	0.20	10.6 mg/L	0.20	1.86%
QC value within limits for Ca		227.546	Recovery = 105.56%			
Cd 228.802†	2662.5	0.0486 mg/L	0.00197	0.0486 mg/L	0.00197	4.05%
QC value within limits for Cd		228.802	Recovery = 97.27%			
Co 228.616†	8462.7	0.205 mg/L	0.0029	0.205 mg/L	0.0029	1.41%
QC value within limits for Co		228.616	Recovery = 102.41%			
Cr 267.716†	59792.5	0.512 mg/L	0.0004	0.512 mg/L	0.0004	0.07%
QC value within limits for Cr		267.716	Recovery = 102.49%			
Cu 327.393†	122241.1	0.511 mg/L	0.0125	0.511 mg/L	0.0125	2.44%
QC value within limits for Cu		327.393	Recovery = 102.26%			
Fe 239.562†	57871.5	4.00 mg/L	0.030	4.00 mg/L	0.030	0.75%
QC value within limits for Fe		239.562	Recovery = 100.02%			
Mg 279.077†	33841.8	9.99 mg/L	0.052	9.99 mg/L	0.052	0.52%
QC value within limits for Mg		279.077	Recovery = 99.88%			
Mn 257.610†	432850.3	0.523 mg/L	0.0060	0.523 mg/L	0.0060	1.15%
QC value within limits for Mn		257.610	Recovery = 104.69%			
Mo 202.031†	38336.1	1.02 mg/L	0.005	1.02 mg/L	0.005	0.50%
QC value within limits for Mo		202.031	Recovery = 101.91%			
Ni 231.604†	36240.2	0.513 mg/L	0.0064	0.513 mg/L	0.0064	1.24%
QC value within limits for Ni		231.604	Recovery = 102.59%			
Pb 220.353†	6403.7	0.517 mg/L	0.0069	0.517 mg/L	0.0069	1.33%
QC value within limits for Pb		220.353	Recovery = 103.31%			
Sb 206.836†	5153.9	1.21 mg/L	0.030	1.21 mg/L	0.030	2.52%
QC value within limits for Sb		206.836	Recovery = 100.74%			
Se 196.026†	781.7	0.409 mg/L	0.0103	0.409 mg/L	0.0103	2.51%
QC value within limits for Se		196.026	Recovery = 102.37%			
Si 251.611†	245988.2	5.47 mg/L	0.084	5.47 mg/L	0.084	1.53%
QC value within limits for Si		251.611	Recovery = 109.39%			
Sn 189.927†	11992.5	1.03 mg/L	0.012	1.03 mg/L	0.012	1.13%
QC value within limits for Sn		189.927	Recovery = 102.57%			
Ti 334.940†	974773.9	1.02 mg/L	0.003	1.02 mg/L	0.003	0.34%

Approved: June 22, 2012

John H. Rhodes

QC value within limits for Ti 334.940 Recovery = 102.42%
 Tl 190.801† 2108.8 0.533 mg/L 0.0017 0.533 mg/L 0.0017 0.32%
 QC value within limits for Tl 190.801 Recovery = 106.66%
 V 290.880† 227034.7 1.04 mg/L 0.004 1.04 mg/L 0.004 0.36%
 QC value within limits for V 290.880 Recovery = 103.80%
 Zn 206.200† 55785.5 1.02 mg/L 0.008 1.02 mg/L 0.008 0.76%
 QC value within limits for Zn 206.200 Recovery = 102.34%
 K 766.490† 135871.2 51.8 mg/L 0.48 51.8 mg/L 0.48 0.92%
 QC value within limits for K 766.490 Recovery = 103.68%
 Na 589.592† 901877.3 52.0 mg/L 0.88 52.0 mg/L 0.88 1.69%
 QC value within limits for Na 589.592 Recovery = 104.10%
 Sr 407.771† 2527954.3 1.03 mg/L 0.012 1.03 mg/L 0.012 1.19%
 QC value within limits for Sr 407.771 Recovery = 102.88%
 Li 670.784† 131494.3 1.05 mg/L 0.003 1.05 mg/L 0.003 0.25%
 QC value within limits for Li 670.784 Recovery = 104.87%
 All analyte(s) passed QC.

Sequence No.: 12

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Sampler Location: 1

Date Collected: 6/21/2012 2:31:02 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte Back Pressure Flow
 All 158.0 kPa 0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2078429.3				8089.25	0.39%
YRADIAL	256973.6				5650.63	2.20%
Ga 417.206	1221052.8				7029.27	0.58%
GARADIAL	79080.2				2999.05	3.79%
Ag 328.068†	-54.7	0.00036 mg/L	0.000076	0.00036 mg/L	0.000076	21.05%
QC value within limits for Ag 328.068			Recovery = Not calculated			
Al 396.153†	8.4	0.0356 mg/L	0.00173	0.0356 mg/L	0.00173	4.85%
QC value within limits for Al 396.153			Recovery = Not calculated			
As 188.979†	-6.6	0.00022 mg/L	0.001219	0.00022 mg/L	0.001219	557.83%
QC value within limits for As 188.979			Recovery = Not calculated			
Ba 233.527†	-9.1	0.00188 mg/L	0.000089	0.00188 mg/L	0.000089	4.72%
QC value within limits for Ba 233.527			Recovery = Not calculated			
Be 234.861†	-23.4	0.00018 mg/L	0.000004	0.00018 mg/L	0.000004	2.03%
QC value within limits for Be 234.861			Recovery = Not calculated			
B 249.677†	301.5	0.00660 mg/L	0.000240	0.00660 mg/L	0.000240	3.64%
QC value within limits for B 249.677			Recovery = Not calculated			
Ca 227.546†	-4.2	0.0750 mg/L	0.02664	0.0750 mg/L	0.02664	35.52%
QC value within limits for Ca 227.546			Recovery = Not calculated			
Cd 228.802†	-7.2	0.00009 mg/L	0.000173	0.00009 mg/L	0.000173	192.41%
QC value within limits for Cd 228.802			Recovery = Not calculated			
Co 228.616†	-7.4	0.00021 mg/L	0.000046	0.00021 mg/L	0.000046	21.71%
QC value within limits for Co 228.616			Recovery = Not calculated			
Cr 267.716†	11.3	0.00155 mg/L	0.000030	0.00155 mg/L	0.000030	1.96%
QC value within limits for Cr 267.716			Recovery = Not calculated			
Cu 327.393†	-210.8	0.00081 mg/L	0.000345	0.00081 mg/L	0.000345	42.73%
QC value within limits for Cu 327.393			Recovery = Not calculated			
Fe 239.562†	13.3	0.0189 mg/L	0.00029	0.0189 mg/L	0.00029	1.53%
QC value within limits for Fe 239.562			Recovery = Not calculated			
Mg 279.077†	11.7	0.0545 mg/L	0.00324	0.0545 mg/L	0.00324	5.95%
QC value within limits for Mg 279.077			Recovery = Not calculated			
Mn 257.610†	46.1	0.00019 mg/L	0.000016	0.00019 mg/L	0.000016	8.12%
QC value within limits for Mn 257.610			Recovery = Not calculated			
Mo 202.031†	-6.5	0.00304 mg/L	0.000122	0.00304 mg/L	0.000122	4.02%
QC value within limits for Mo 202.031			Recovery = Not calculated			
Ni 231.604†	-7.2	0.00057 mg/L	0.000187	0.00057 mg/L	0.000187	32.75%
QC value within limits for Ni 231.604			Recovery = Not calculated			
Pb 220.353†	0.2	0.00115 mg/L	0.000448	0.00115 mg/L	0.000448	39.11%
QC value within limits for Pb 220.353			Recovery = Not calculated			
Sb 206.836†	-6.2	0.00279 mg/L	0.001003	0.00279 mg/L	0.001003	35.99%

Approved: June 22, 2012

John H. Rhodes

QC value within limits for Sb 206.836 Recovery = Not calculated
 Se 196.026† 2.6 0.00182 mg/L 0.002387 0.00182 mg/L 0.002387 131.32%
 QC value within limits for Se 196.026 Recovery = Not calculated
 Si 251.611† 87.8 0.00613 mg/L 0.000124 0.00613 mg/L 0.000124 2.03%
 QC value within limits for Si 251.611 Recovery = Not calculated
 Sn 189.927† 8.8 0.00319 mg/L 0.000412 0.00319 mg/L 0.000412 12.93%
 QC value within limits for Sn 189.927 Recovery = Not calculated
 Ti 334.940† 109.8 0.00456 mg/L 0.000009 0.00456 mg/L 0.000009 0.19%
 QC value within limits for Ti 334.940 Recovery = Not calculated
 Tl 190.801† -2.1 -0.00071 mg/L 0.000132 -0.00071 mg/L 0.000132 18.70%
 QC value within limits for Tl 190.801 Recovery = Not calculated
 V 290.880† -355.1 0.00075 mg/L 0.001083 0.00075 mg/L 0.001083 143.98%
 QC value within limits for V 290.880 Recovery = Not calculated
 Zn 206.200† 10.3 0.00248 mg/L 0.000028 0.00248 mg/L 0.000028 1.14%
 QC value within limits for Zn 206.200 Recovery = Not calculated
 K 766.490† 119.9 -0.0778 mg/L 0.05193 -0.0778 mg/L 0.05193 66.76%
 QC value within limits for K 766.490 Recovery = Not calculated
 Na 589.592† 74.2 -0.0105 mg/L 0.01030 -0.0105 mg/L 0.01030 97.76%
 QC value within limits for Na 589.592 Recovery = Not calculated
 Sr 407.771† 81.2 0.00566 mg/L 0.000012 0.00566 mg/L 0.000012 0.21%
 QC value within limits for Sr 407.771 Recovery = Not calculated
 Li 670.784† 71.0 0.00202 mg/L 0.000551 0.00202 mg/L 0.000551 27.32%
 QC value within limits for Li 670.784 Recovery = Not calculated
 All analyte(s) passed QC.

Sequence No.: 13

Sample ID: L1206049807

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 50

Date Collected: 6/21/2012 2:37:55 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206049807

Analyte Back Pressure Flow
 All 158.0 kPa 0.50 L/min

Mean Data: L1206049807

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	1957306.4					33821.20	1.73%
YRADIAL	252795.8					5558.73	2.20%
Ga 417.206	1251781.7					13129.57	1.05%
GaRADIAL	79664.2					1261.68	1.58%
Ag 328.068†	118.2	0.00092 mg/L	0.000120	0.00092 mg/L	0.000120	13.07%	
Al 396.153†	7.6	0.0355 mg/L	0.00237	0.0355 mg/L	0.00237	6.68%	
As 188.979†	-4.6	0.00084 mg/L	0.000915	0.00084 mg/L	0.000915	109.18%	
Ba 233.527†	2958.0	0.0194 mg/L	0.00023	0.0194 mg/L	0.00023	1.19%	
Be 234.861†	18.1	0.00020 mg/L	0.000020	0.00020 mg/L	0.000020	10.02%	
B 249.677†	27051.8	0.291 mg/L	0.0023	0.291 mg/L	0.0023	0.80%	
Ca 227.546†	2463.9	5.97 mg/L	0.031	5.97 mg/L	0.031	0.52%	
Cd 228.802†	-13.9	-0.00004 mg/L	0.000094	-0.00004 mg/L	0.000094	236.29%	
Co 228.616†	-9.7	0.00015 mg/L	0.000087	0.00015 mg/L	0.000087	57.49%	
Cr 267.716†	68.6	0.00204 mg/L	0.000232	0.00204 mg/L	0.000232	11.40%	
Cu 327.393†	-92.7	0.00130 mg/L	0.000448	0.00130 mg/L	0.000448	34.45%	
Fe 239.562†	575.1	0.0575 mg/L	0.00090	0.0575 mg/L	0.00090	1.57%	
Mg 279.077†	7962.3	2.39 mg/L	0.059	2.39 mg/L	0.059	2.48%	
Mn 257.610†	4615.3	0.00571 mg/L	0.000134	0.00571 mg/L	0.000134	2.35%	
Mo 202.031†	16.2	0.00364 mg/L	0.000109	0.00364 mg/L	0.000109	3.00%	
Ni 231.604†	-2.7	0.00063 mg/L	0.000142	0.00063 mg/L	0.000142	22.35%	
Pb 220.353†	3.0	0.00141 mg/L	0.000198	0.00141 mg/L	0.000198	13.98%	
Sb 206.836†	-6.9	0.00262 mg/L	0.001120	0.00262 mg/L	0.001120	42.81%	
Se 196.026†	-1.6	-0.00038 mg/L	0.001808	-0.00038 mg/L	0.001808	480.76%	
Si 251.611†	159596.2	3.56 mg/L	0.038	3.56 mg/L	0.038	1.06%	
Sn 189.927†	-57.7	-0.00248 mg/L	0.000341	-0.00248 mg/L	0.000341	13.74%	
Ti 334.940†	-948.7	0.00434 mg/L	0.000053	0.00434 mg/L	0.000053	1.22%	
Tl 190.801†	-4.8	-0.00137 mg/L	0.003840	-0.00137 mg/L	0.003840	280.24%	
V 290.880†	595.1	0.00503 mg/L	0.001370	0.00503 mg/L	0.001370	27.27%	
Zn 206.200†	286.8	0.00753 mg/L	0.000210	0.00753 mg/L	0.000210	2.79%	
K 766.490†	6411.4	2.23 mg/L	0.044	2.23 mg/L	0.044	1.97%	
Na 589.592†	2805964.6	161 mg/L	2.0	161 mg/L	2.0	1.26%	

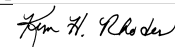
Approved: June 22, 2012

John H. Rhodes

Sr 407.771†	257947.4	0.110 mg/L	0.0023	0.110 mg/L	0.0023	2.07%
Li 670.784†	1500.3	0.0134 mg/L	0.00039	0.0134 mg/L	0.00039	2.90%

User canceled analysis.

Approved: June 22, 2012



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Analysis Begun

Start Time: 6/21/2012 2:45:31 PM

Plasma On Time: 6/20/2012 6:30:43 AM

Logged In Analyst: peicp2

Technique: ICP Continuous

Spectrometer Model: Optima 4300 DV, S/N 077N401140 Autosampler Model: Cetac

Sample Information File: C:\pe\peicp2\Sample Information\THURSDAY1.sif

Batch ID:

Results Data Set: 062112H

Results Library: C:\pe\peicp2\Results\Results.mdb

=====

Sequence No.: 1

Autosampler Location: 51

Sample ID: L1206049808

Date Collected: 6/21/2012 2:45:34 PM

Analyst: KHR

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: L1206049808

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Mean Data: L1206049808

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1946644.0						10890.85	0.56%
Y RADIAL	247639.6						4580.74	1.85%
Ga 417.206	1251125.6						16438.65	1.31%
Ga RADIAL	78737.2						1577.02	2.00%
Ag 328.068†	-9.4	0.00052	mg/L	0.000282	0.00052	mg/L	0.000282	54.02%
Al 396.153†	219.5	0.0704	mg/L	0.00139	0.0704	mg/L	0.00139	1.97%
As 188.979†	-1.8	0.00175	mg/L	0.001922	0.00175	mg/L	0.001922	110.06%
Ba 233.527†	1748.0	0.0123	mg/L	0.00013	0.0123	mg/L	0.00013	1.05%
Be 234.861†	26.2	0.00021	mg/L	0.000012	0.00021	mg/L	0.000012	5.79%
B 249.677†	21695.7	0.234	mg/L	0.0032	0.234	mg/L	0.0032	1.39%
Ca 227.546†	1469.5	3.59	mg/L	0.025	3.59	mg/L	0.025	0.70%
Cd 228.802†	-6.5	0.00009	mg/L	0.000111	0.00009	mg/L	0.000111	118.47%
Co 228.616†	-13.7	0.00005	mg/L	0.000204	0.00005	mg/L	0.000204	376.58%
Cr 267.716†	55.8	0.00193	mg/L	0.000071	0.00193	mg/L	0.000071	3.66%
Cu 327.393†	220.5	0.00260	mg/L	0.000340	0.00260	mg/L	0.000340	13.07%
Fe 239.562†	572.7	0.0574	mg/L	0.00031	0.0574	mg/L	0.00031	0.54%
Mg 279.077†	3903.0	1.20	mg/L	0.017	1.20	mg/L	0.017	1.45%
Mn 257.610†	1334.0	0.00175	mg/L	0.000008	0.00175	mg/L	0.000008	0.45%
Mo 202.031†	5.5	0.00336	mg/L	0.000150	0.00336	mg/L	0.000150	4.47%
Ni 231.604†	16.2	0.00090	mg/L	0.000097	0.00090	mg/L	0.000097	10.76%
Pb 220.353†	13.2	0.00222	mg/L	0.000701	0.00222	mg/L	0.000701	31.57%
Sb 206.836†	-6.0	0.00283	mg/L	0.000604	0.00283	mg/L	0.000604	21.36%
Se 196.026†	-0.4	0.00028	mg/L	0.002300	0.00028	mg/L	0.002300	817.08%
Si 251.611†	175517.5	3.91	mg/L	0.039	3.91	mg/L	0.039	1.00%
Sn 189.927†	-33.0	-0.00037	mg/L	0.000599	-0.00037	mg/L	0.000599	161.01%
Ti 334.940†	160.2	0.00514	mg/L	0.000520	0.00514	mg/L	0.000520	10.12%
Tl 190.801†	-11.9	-0.00309	mg/L	0.000305	-0.00309	mg/L	0.000305	9.88%
V 290.880†	666.0	0.00538	mg/L	0.000440	0.00538	mg/L	0.000440	8.17%
Zn 206.200†	264.0	0.00711	mg/L	0.000089	0.00711	mg/L	0.000089	1.25%
K 766.490†	5570.4	1.92	mg/L	0.008	1.92	mg/L	0.008	0.43%
Na 589.592†	2468678.7	141	mg/L	5.4	141	mg/L	5.4	3.81%
Sr 407.771†	143928.1	0.0638	mg/L	0.00100	0.0638	mg/L	0.00100	1.56%
Li 670.784†	1501.1	0.0134	mg/L	0.00035	0.0134	mg/L	0.00035	2.63%

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Sequence No.: 2

Autosampler Location: 52

Sample ID: L1206049809

Date Collected: 6/21/2012 2:52:33 PM

Analyst: KHR

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: L1206049809

Approved: June 22, 2012

John H. Rhodes

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206049809

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1961925.8					27736.21	1.41%
YRADIAL	259491.3					6967.76	2.69%
Ga 417.206	1246179.3					10197.99	0.82%
GaRADIAL	81855.4					748.36	0.91%
Ag 328.068†	53.0	0.00070 mg/L		0.000086	0.00070 mg/L	0.000086	12.22%
Al 396.153†	23.7	0.0381 mg/L		0.00078	0.0381 mg/L	0.00078	2.05%
As 188.979†	1.1	0.00269 mg/L		0.001199	0.00269 mg/L	0.001199	44.51%
Ba 233.527†	3088.8	0.0202 mg/L		0.00030	0.0202 mg/L	0.00030	1.47%
Be 234.861†	2.1	0.00019 mg/L		0.000027	0.00019 mg/L	0.000027	14.41%
B 249.677†	21592.8	0.233 mg/L		0.0039	0.233 mg/L	0.0039	1.69%
Ca 227.546†	3209.9	7.75 mg/L		0.044	7.75 mg/L	0.044	0.57%
Cd 228.802†	-6.0	0.00010 mg/L		0.000089	0.00010 mg/L	0.000089	90.48%
Co 228.616†	-14.1	0.00004 mg/L		0.000146	0.00004 mg/L	0.000146	328.56%
Cr 267.716†	46.8	0.00186 mg/L		0.000111	0.00186 mg/L	0.000111	5.99%
Cu 327.393†	37.3	0.00185 mg/L		0.000459	0.00185 mg/L	0.000459	24.84%
Fe 239.562†	476.2	0.0507 mg/L		0.00094	0.0507 mg/L	0.00094	1.86%
Mg 279.077†	11280.2	3.36 mg/L		0.093	3.36 mg/L	0.093	2.78%
Mn 257.610†	1367.6	0.00180 mg/L		0.000031	0.00180 mg/L	0.000031	1.74%
Mo 202.031†	9.1	0.00345 mg/L		0.000250	0.00345 mg/L	0.000250	7.25%
Ni 231.604†	-18.9	0.00041 mg/L		0.000404	0.00041 mg/L	0.000404	99.68%
Pb 220.353†	8.5	0.00188 mg/L		0.000654	0.00188 mg/L	0.000654	34.88%
Sb 206.836†	-6.5	0.00273 mg/L		0.001146	0.00273 mg/L	0.001146	42.01%
Se 196.026†	-4.1	-0.00169 mg/L		0.001755	-0.00169 mg/L	0.001755	103.74%
Si 251.611†	163087.8	3.64 mg/L		0.078	3.64 mg/L	0.078	2.14%
Sn 189.927†	-86.8	-0.00497 mg/L		0.000061	-0.00497 mg/L	0.000061	1.24%
Ti 334.940†	-1269.4	0.00427 mg/L		0.000063	0.00427 mg/L	0.000063	1.47%
Tl 190.801†	-5.8	-0.00162 mg/L		0.001926	-0.00162 mg/L	0.001926	119.14%
V 290.880†	355.3	0.00391 mg/L		0.000870	0.00391 mg/L	0.000870	22.28%
Zn 206.200†	6510.6	0.121 mg/L		0.0030	0.121 mg/L	0.0030	2.47%
K 766.490†	6586.1	2.34 mg/L		0.040	2.34 mg/L	0.040	1.69%
Na 589.592†	1999201.3	115 mg/L		2.4	115 mg/L	2.4	2.11%
Sr 407.771†	305760.9	0.129 mg/L		0.0038	0.129 mg/L	0.0038	2.93%
Li 670.784†	1506.6	0.0134 mg/L		0.00015	0.0134 mg/L	0.00015	1.08%

Sequence No.: 3

Sample ID: L1206049812

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 53

Date Collected: 6/21/2012 2:59:32 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206049812

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206049812

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1948149.0					14865.55	0.76%
YRADIAL	251323.7					10878.57	4.33%
Ga 417.206	1241239.6					16599.97	1.34%
GaRADIAL	79924.5					1068.34	1.34%
Ag 328.068†	127.0	0.00092 mg/L		0.000409	0.00092 mg/L	0.000409	44.33%
Al 396.153†	27.5	0.0387 mg/L		0.00077	0.0387 mg/L	0.00077	1.99%
As 188.979†	-10.4	-0.00101 mg/L		0.001400	-0.00101 mg/L	0.001400	138.47%
Ba 233.527†	7521.3	0.0464 mg/L		0.00007	0.0464 mg/L	0.00007	0.15%
Be 234.861†	8.0	0.00020 mg/L		0.000024	0.00020 mg/L	0.000024	11.88%
B 249.677†	3404.1	0.0396 mg/L		0.00081	0.0396 mg/L	0.00081	2.04%
Ca 227.546†	13363.7	32.0 mg/L		0.71	32.0 mg/L	0.71	2.23%
Cd 228.802†	-7.7	0.00009 mg/L		0.000078	0.00009 mg/L	0.000078	91.06%
Co 228.616†	-11.6	0.00011 mg/L		0.000136	0.00011 mg/L	0.000136	126.32%
Cr 267.716†	116.0	0.00244 mg/L		0.000031	0.00244 mg/L	0.000031	1.27%
Cu 327.393†	2025.9	0.0101 mg/L		0.00028	0.0101 mg/L	0.00028	2.76%

Approved: June 22, 2012

John H. Rhodes

Fe 239.562†	76.1	0.0229 mg/L	0.00141	0.0229 mg/L	0.00141	6.15%
Mg 279.077†	54362.7	16.0 mg/L	0.53	16.0 mg/L	0.53	3.31%
Mn 257.610†	226.4	0.00041 mg/L	0.000008	0.00041 mg/L	0.000008	1.87%
Mo 202.031†	20.0	0.00374 mg/L	0.000214	0.00374 mg/L	0.000214	5.73%
Ni 231.604†	292.0	0.00480 mg/L	0.000355	0.00480 mg/L	0.000355	7.39%
Pb 220.353†	33.8	0.00409 mg/L	0.001062	0.00409 mg/L	0.001062	25.95%
Sb 206.836†	-3.9	0.00333 mg/L	0.001233	0.00333 mg/L	0.001233	37.01%
Se 196.026†	2.4	0.00169 mg/L	0.003782	0.00169 mg/L	0.003782	223.37%
Si 251.611†	239269.9	5.33 mg/L	0.089	5.33 mg/L	0.089	1.66%
Sn 189.927†	-200.2	-0.0146 mg/L	0.00043	-0.0146 mg/L	0.00043	2.93%
Ti 334.940†	-5414.9	0.00357 mg/L	0.000363	0.00357 mg/L	0.000363	10.16%
Tl 190.801†	-22.8	-0.00585 mg/L	0.002328	-0.00585 mg/L	0.002328	39.79%
V 290.880†	281.8	0.00324 mg/L	0.001508	0.00324 mg/L	0.001508	46.49%
Zn 206.200†	1297.0	0.0259 mg/L	0.00021	0.0259 mg/L	0.00021	0.82%
K 766.490†	7131.4	2.67 mg/L	0.062	2.67 mg/L	0.062	2.33%
Na 589.592†	117271.9	6.78 mg/L	0.109	6.78 mg/L	0.109	1.60%
Sr 407.771†	339695.3	0.142 mg/L	0.0041	0.142 mg/L	0.0041	2.86%
Li 670.784†	550.4	0.00583 mg/L	0.000548	0.00583 mg/L	0.000548	9.40%

Sequence No.: 4

Sample ID: L1206049813

Analyst: KHR

Initial Sample Wt:

Dilution:

Utosampler Location: 54

Date Collected: 6/21/2012 3:06:27 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206049813

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206049813

Mean Corrected		Calib.		Sample				
Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	1994120.1						34247.28	1.72%
YRADIAL	254499.4						4234.28	1.66%
Ga 417.206	1276028.6						20759.41	1.63%
GaRADIAL	81105.2						1176.24	1.45%
Ag 328.068†	123.8	0.00092	mg/L	0.000418	0.00092	mg/L	0.000418	45.50%
Al 396.153†	26.9	0.0386	mg/L	0.00045	0.0386	mg/L	0.00045	1.18%
As 188.979†	-9.0	-0.00057	mg/L	0.002056	-0.00057	mg/L	0.002056	358.20%
Ba 233.527†	4119.2	0.0263	mg/L	0.00030	0.0263	mg/L	0.00030	1.12%
Be 234.861†	58.6	0.00024	mg/L	0.000020	0.00024	mg/L	0.000020	8.21%
B 249.677†	3277.8	0.0382	mg/L	0.00057	0.0382	mg/L	0.00057	1.48%
Ca 227.546†	11179.5	26.8	mg/L	0.52	26.8	mg/L	0.52	1.93%
Cd 228.802†	-7.1	0.00009	mg/L	0.000068	0.00009	mg/L	0.000068	72.31%
Co 228.616†	-11.2	0.00012	mg/L	0.000095	0.00012	mg/L	0.000095	78.58%
Cr 267.716†	113.4	0.00242	mg/L	0.000177	0.00242	mg/L	0.000177	7.33%
Cu 327.393†	36.8	0.00183	mg/L	0.000482	0.00183	mg/L	0.000482	26.30%
Fe 239.562†	68.6	0.0224	mg/L	0.00060	0.0224	mg/L	0.00060	2.69%
Mg 279.077†	55206.1	16.2	mg/L	0.02	16.2	mg/L	0.02	0.10%
Mn 257.610†	331.5	0.00054	mg/L	0.000018	0.00054	mg/L	0.000018	3.37%
Mo 202.031†	15.8	0.00363	mg/L	0.000102	0.00363	mg/L	0.000102	2.80%
Ni 231.604†	157.4	0.00290	mg/L	0.000329	0.00290	mg/L	0.000329	11.34%
Pb 220.353†	11.9	0.00230	mg/L	0.000550	0.00230	mg/L	0.000550	23.91%
Sb 206.836†	-5.1	0.00305	mg/L	0.000470	0.00305	mg/L	0.000470	15.44%
Se 196.026†	-5.5	-0.00240	mg/L	0.003604	-0.00240	mg/L	0.003604	149.92%
Si 251.611†	221703.8	4.94	mg/L	0.125	4.94	mg/L	0.125	2.53%
Sn 189.927†	-192.7	-0.0140	mg/L	0.00042	-0.0140	mg/L	0.00042	3.02%
Ti 334.940†	-4133.3	0.00413	mg/L	0.000812	0.00413	mg/L	0.000812	19.67%
Tl 190.801†	-10.0	-0.00269	mg/L	0.002880	-0.00269	mg/L	0.002880	106.95%
V 290.880†	96.1	0.00239	mg/L	0.000839	0.00239	mg/L	0.000839	35.09%
Zn 206.200†	110.5	0.00432	mg/L	0.000291	0.00432	mg/L	0.000291	6.74%
K 766.490†	4788.2	1.75	mg/L	0.032	1.75	mg/L	0.032	1.85%
Na 589.592†	114056.3	6.59	mg/L	0.224	6.59	mg/L	0.224	3.39%
Sr 407.771†	237990.2	0.101	mg/L	0.0005	0.101	mg/L	0.0005	0.45%
Li 670.784†	472.9	0.00522	mg/L	0.000503	0.00522	mg/L	0.000503	9.64%

Sequence No.: 5

Sample ID: L1206049910

Utosampler Location: 55

Date Collected: 6/21/2012 3:13:22 PM

Approved: June 22, 2012

John H. Rhodes

Analyst: KHR
Initial Sample Wt:
Dilution:

alpha Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1206049910

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206049910

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1985450.9				7864.08	0.40%
YRADIAL	253501.8				4249.08	1.68%
Ga 417.206	1233968.5				20849.40	1.69%
GaRADIAL	79848.5				1382.57	1.73%
Ag 328.068†	493.9	0.00216 mg/L	0.000083	0.00216 mg/L	0.000083	3.86%
Al 396.153†	-21.7	0.0306 mg/L	0.00884	0.0306 mg/L	0.00884	28.88%
As 188.979†	-13.6	-0.00202 mg/L	0.000705	-0.00202 mg/L	0.000705	34.85%
Ba 233.527†	9924.9	0.0606 mg/L	0.00017	0.0606 mg/L	0.00017	0.28%
Be 234.861†	143.3	0.00028 mg/L	0.000032	0.00028 mg/L	0.000032	11.51%
B 249.677†	4519.3	0.0513 mg/L	0.00110	0.0513 mg/L	0.00110	2.14%
Ca 227.546†	24851.9	59.4 mg/L	1.31	59.4 mg/L	1.31	2.20%
Cd 228.802†	1.3	0.00026 mg/L	0.000068	0.00026 mg/L	0.000068	26.07%
Co 228.616†	6.9	0.00056 mg/L	0.000306	0.00056 mg/L	0.000306	54.97%
Cr 267.716†	111.4	0.00240 mg/L	0.000078	0.00240 mg/L	0.000078	3.25%
Cu 327.393†	6006.7	0.0267 mg/L	0.00077	0.0267 mg/L	0.00077	2.87%
Fe 239.562†	3126.0	0.233 mg/L	0.0062	0.233 mg/L	0.0062	2.65%
Mg 279.077†	62067.1	18.2 mg/L	0.39	18.2 mg/L	0.39	2.11%
Mn 257.610†	129008.2	0.156 mg/L	0.0014	0.156 mg/L	0.0014	0.91%
Mo 202.031†	40.9	0.00434 mg/L	0.000051	0.00434 mg/L	0.000051	1.18%
Ni 231.604†	37.7	0.00121 mg/L	0.000213	0.00121 mg/L	0.000213	17.68%
Pb 220.353†	21.4	0.00318 mg/L	0.001011	0.00318 mg/L	0.001011	31.74%
Sb 206.836†	-11.5	0.00154 mg/L	0.001494	0.00154 mg/L	0.001494	96.72%
Se 196.026†	0.0	0.00049 mg/L	0.004005	0.00049 mg/L	0.004005	815.52%
Si 251.611†	252357.2	5.62 mg/L	0.057	5.62 mg/L	0.057	1.01%
Sn 189.927†	-254.1	-0.0192 mg/L	0.00051	-0.0192 mg/L	0.00051	2.65%
Ti 334.940†	-8920.4	0.00402 mg/L	0.000893	0.00402 mg/L	0.000893	22.19%
Tl 190.801†	-14.0	-0.00388 mg/L	0.001617	-0.00388 mg/L	0.001617	41.64%
V 290.880†	1480.7	0.00864 mg/L	0.002028	0.00864 mg/L	0.002028	23.47%
Zn 206.200†	622.2	0.0136 mg/L	0.00011	0.0136 mg/L	0.00011	0.82%
K 766.490†	5383.7	1.98 mg/L	0.002	1.98 mg/L	0.002	0.12%
Na 589.592†	152098.0	8.80 mg/L	0.035	8.80 mg/L	0.035	0.40%
Sr 407.771†	560979.8	0.231 mg/L	0.0028	0.231 mg/L	0.0028	1.21%
Li 670.784†	811.7	0.00791 mg/L	0.000240	0.00791 mg/L	0.000240	3.04%

Sequence No.: 6

Sample ID: L1206049911

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 56

Date Collected: 6/21/2012 3:19:20 PM

alpha Type: Original

Initial Sample Vol:

Sample Prep Vol:

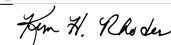
Nebulizer Parameters: L1206049911

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206049911

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2030428.0				23551.48	1.16%
YRADIAL	253827.4				6348.72	2.50%
Ga 417.206	1309051.0				25121.05	1.92%
GaRADIAL	80459.8				1308.44	1.63%
Ag 328.068†	195.3	0.00117 mg/L	0.000131	0.00117 mg/L	0.000131	11.19%
Al 396.153†	174.8	0.0630 mg/L	0.00170	0.0630 mg/L	0.00170	2.70%
As 188.979†	-5.5	0.00055 mg/L	0.001171	0.00055 mg/L	0.001171	213.26%
Ba 233.527†	5445.6	0.0341 mg/L	0.00064	0.0341 mg/L	0.00064	1.88%
Be 234.861†	98.7	0.00026 mg/L	0.000010	0.00026 mg/L	0.000010	3.96%

Approved: June 22, 2012



B 249.677†	2014.6	0.0248 mg/L	0.00075	0.0248 mg/L	0.00075	3.01%
Ca 227.546†	7231.2	17.3 mg/L	0.57	17.3 mg/L	0.57	3.31%
Cd 228.802†	-11.1	0.00001 mg/L	0.000088	0.00001 mg/L	0.000088	647.10%
Co 228.616†	-11.9	0.00010 mg/L	0.000342	0.00010 mg/L	0.000342	351.22%
Cr 267.716†	99.8	0.00233 mg/L	0.000203	0.00233 mg/L	0.000203	8.69%
Cu 327.393†	3586.6	0.0166 mg/L	0.00031	0.0166 mg/L	0.00031	1.83%
Fe 239.562†	602.0	0.0592 mg/L	0.00087	0.0592 mg/L	0.00087	1.47%
Mg 279.077†	31411.5	9.26 mg/L	0.230	9.26 mg/L	0.230	2.49%
Mn 257.610†	3589.9	0.00451 mg/L	0.000075	0.00451 mg/L	0.000075	1.66%
Mo 202.031†	19.0	0.00372 mg/L	0.000019	0.00372 mg/L	0.000019	0.50%
Ni 231.604†	151.3	0.00281 mg/L	0.000230	0.00281 mg/L	0.000230	8.17%
Pb 220.353†	37.2	0.00424 mg/L	0.001929	0.00424 mg/L	0.001929	45.47%
Sb 206.836†	-4.7	0.00314 mg/L	0.000653	0.00314 mg/L	0.000653	20.77%
Se 196.026†	-2.5	-0.00085 mg/L	0.001161	-0.00085 mg/L	0.001161	136.50%
Si 251.611†	193413.6	4.31 mg/L	0.055	4.31 mg/L	0.055	1.28%
Sn 189.927†	-146.4	-0.0100 mg/L	0.00053	-0.0100 mg/L	0.00053	5.30%
Ti 334.940†	-2476.4	0.00445 mg/L	0.000729	0.00445 mg/L	0.000729	16.38%
Tl 190.801†	-9.3	-0.00250 mg/L	0.002222	-0.00250 mg/L	0.002222	88.73%
V 290.880†	268.1	0.00335 mg/L	0.001768	0.00335 mg/L	0.001768	52.71%
Zn 206.200†	34953.5	0.639 mg/L	0.0066	0.639 mg/L	0.0066	1.04%
K 766.490†	4075.8	1.46 mg/L	0.034	1.46 mg/L	0.034	2.34%
Na 589.592†	225890.7	13.1 mg/L	0.31	13.1 mg/L	0.31	2.35%
Sr 407.771†	150709.3	0.0663 mg/L	0.00064	0.0663 mg/L	0.00064	0.96%
Li 670.784†	221.5	0.00321 mg/L	0.000086	0.00321 mg/L	0.000086	2.66%

Sequence No.: 7

Sample ID: L1206050014

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 57

Date Collected: 6/21/2012 3:26:16 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206050014

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206050014

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1936265.3						11436.82	0.59%
YRADIAL	245489.3						2863.37	1.17%
Ga 417.206	1247145.3						1807.73	0.14%
GaRADIAL	77416.2						2321.23	3.00%
Ag 328.068†	-18.1	0.00048 mg/L	0.000499	0.00048 mg/L	0.000499	103.06%		
Al 396.153†	54.8	0.0433 mg/L	0.00100	0.0433 mg/L	0.00100	2.31%		
As 188.979†	2.3	0.00308 mg/L	0.001677	0.00308 mg/L	0.001677	54.42%		
Ba 233.527†	1304.4	0.00964 mg/L	0.000101	0.00964 mg/L	0.000101	1.05%		
Be 234.861†	-21.3	0.00018 mg/L	0.000011	0.00018 mg/L	0.000011	6.42%		
B 249.677†	20067.8	0.217 mg/L	0.0010	0.217 mg/L	0.0010	0.48%		
Ca 227.546†	951.0	2.35 mg/L	0.034	2.35 mg/L	0.034	1.46%		
Cd 228.802†	-13.8	-0.00005 mg/L	0.000054	-0.00005 mg/L	0.000054	107.77%		
Co 228.616†	-9.8	0.00015 mg/L	0.000341	0.00015 mg/L	0.000341	227.35%		
Cr 267.716†	76.9	0.00211 mg/L	0.000025	0.00211 mg/L	0.000025	1.20%		
Cu 327.393†	148.8	0.00230 mg/L	0.000470	0.00230 mg/L	0.000470	20.41%		
Fe 239.562†	139.0	0.0275 mg/L	0.00021	0.0275 mg/L	0.00021	0.77%		
Mg 279.077†	2163.6	0.685 mg/L	0.0082	0.685 mg/L	0.0082	1.19%		
Mn 257.610†	4099.7	0.00509 mg/L	0.000051	0.00509 mg/L	0.000051	1.00%		
Mo 202.031†	-1.0	0.00318 mg/L	0.000165	0.00318 mg/L	0.000165	5.19%		
Ni 231.604†	26.3	0.00105 mg/L	0.000094	0.00105 mg/L	0.000094	8.98%		
Pb 220.353†	16.7	0.00249 mg/L	0.000996	0.00249 mg/L	0.000996	39.96%		
Sb 206.836†	-3.2	0.00349 mg/L	0.000844	0.00349 mg/L	0.000844	24.19%		
Se 196.026†	0.4	0.00067 mg/L	0.001725	0.00067 mg/L	0.001725	258.92%		
Si 251.611†	165929.3	3.70 mg/L	0.008	3.70 mg/L	0.008	0.21%		
Sn 189.927†	-23.2	0.00046 mg/L	0.000260	0.00046 mg/L	0.000260	56.26%		
Ti 334.940†	-282.9	0.00449 mg/L	0.000126	0.00449 mg/L	0.000126	2.80%		
Tl 190.801†	-2.8	-0.00086 mg/L	0.003016	-0.00086 mg/L	0.003016	351.41%		
V 290.880†	539.0	0.00482 mg/L	0.000640	0.00482 mg/L	0.000640	13.29%		
Zn 206.200†	247.1	0.00681 mg/L	0.000145	0.00681 mg/L	0.000145	2.12%		
K 766.490†	4083.3	1.33 mg/L	0.012	1.33 mg/L	0.012	0.91%		
Na 589.592†	2562450.1	147 mg/L	4.1	147 mg/L	4.1	2.80%		

Approved: June 22, 2012

John H. Rhodes

Sr 407.771†	86468.3	0.0406 mg/L	0.00052	0.0406 mg/L	0.00052	1.28%
Li 670.784†	1154.8	0.0106 mg/L	0.00066	0.0106 mg/L	0.00066	6.21%

Sequence No.: 8

Sample ID: L1206050015

Analyst: KHR

Initial Sample Wt:

Dilution:

UAsampler Location: 58

Date Collected: 6/21/2012 3:33:17 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206050015

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Mean Data: L1206050015

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1961995.5				17733.43	0.90%
YRADIAL	250335.3				3854.53	1.54%
Ga 417.206	1299955.6				20651.59	1.59%
GA RADIAL	81666.0				970.45	1.19%
Ag 328.068†	782.9	0.00297 mg/L	0.000301	0.00297 mg/L	0.000301	10.13%
Al 396.153†	44.8	0.0415 mg/L	0.00147	0.0415 mg/L	0.00147	3.54%
As 188.979†	-14.8	-0.00243 mg/L	0.000650	-0.00243 mg/L	0.000650	26.71%
Ba 233.527†	10576.8	0.0645 mg/L	0.00083	0.0645 mg/L	0.00083	1.28%
Be 234.861†	101.8	0.00028 mg/L	0.000010	0.00028 mg/L	0.000010	3.69%
B 249.677†	4054.7	0.0465 mg/L	0.00179	0.0465 mg/L	0.00179	3.84%
Ca 227.546†	44629.4	107 mg/L	0.8	107 mg/L	0.8	0.77%
Cd 228.802†	-7.3	0.00010 mg/L	0.000172	0.00010 mg/L	0.000172	171.84%
Co 228.616†	-12.4	0.00011 mg/L	0.000055	0.00011 mg/L	0.000055	48.76%
Cr 267.716†	173.5	0.00293 mg/L	0.000150	0.00293 mg/L	0.000150	5.10%
Cu 327.393†	2424.2	0.0117 mg/L	0.00077	0.0117 mg/L	0.00077	6.57%
Fe 239.562†	344.4	0.0411 mg/L	0.00114	0.0411 mg/L	0.00114	2.77%
Mg 279.077†	106743.7	31.3 mg/L	0.30	31.3 mg/L	0.30	0.97%
Mn 257.610†	67491.9	0.0816 mg/L	0.00053	0.0816 mg/L	0.00053	0.65%
Mo 202.031†	59.5	0.00480 mg/L	0.000309	0.00480 mg/L	0.000309	6.43%
Ni 231.604†	31.5	0.00112 mg/L	0.000037	0.00112 mg/L	0.000037	3.33%
Pb 220.353†	22.7	0.00374 mg/L	0.000708	0.00374 mg/L	0.000708	18.90%
Sb 206.836†	-8.2	0.00231 mg/L	0.000916	0.00231 mg/L	0.000916	39.61%
Se 196.026†	1.9	0.00145 mg/L	0.003803	0.00145 mg/L	0.003803	262.85%
Si 251.611†	204897.0	4.57 mg/L	0.048	4.57 mg/L	0.048	1.04%
Sn 189.927†	-309.7	-0.0240 mg/L	0.00037	-0.0240 mg/L	0.00037	1.54%
Ti 334.940†	-17864.5	0.00176 mg/L	0.000597	0.00176 mg/L	0.000597	34.00%
Tl 190.801†	-32.4	-0.00844 mg/L	0.001869	-0.00844 mg/L	0.001869	22.13%
V 290.880†	182.5	0.00239 mg/L	0.000797	0.00239 mg/L	0.000797	33.36%
Zn 206.200†	1049.8	0.0214 mg/L	0.00040	0.0214 mg/L	0.00040	1.89%
K 766.490†	8865.5	3.34 mg/L	0.033	3.34 mg/L	0.033	1.00%
Na 589.592†	206259.0	11.9 mg/L	0.25	11.9 mg/L	0.25	2.06%
Sr 407.771†	896070.1	0.366 mg/L	0.0062	0.366 mg/L	0.0062	1.71%
Li 670.784†	1371.2	0.0124 mg/L	0.00015	0.0124 mg/L	0.00015	1.18%

Sequence No.: 9

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

UAsampler Location: 6

Date Collected: 6/21/2012 3:40:14 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1965293.3				19042.24	0.97%
YRADIAL	253587.6				1659.42	0.65%
Ga 417.206	1167467.2				35476.59	3.04%

Approved: June 22, 2012

John H. Rhodes

Ag	328.068†	122429.4	0.395 mg/L	0.0088	0.395 mg/L	1400.98	1.80%
QC value within limits for Ag	328.068	Recovery = 98.83%				0.0088	2.21%
Al	396.153†	59759.1	9.82 mg/L	0.029	9.82 mg/L	0.029	0.29%
QC value within limits for Al	396.153	Recovery = 98.22%					
As	188.979†	1222.4	0.391 mg/L	0.0104	0.391 mg/L	0.0104	2.66%
QC value within limits for As	188.979	Recovery = 97.65%					
Ba	233.527†	166294.3	0.985 mg/L	0.0059	0.985 mg/L	0.0059	0.60%
QC value within limits for Ba	233.527	Recovery = 98.53%					
Be	234.861†	63303.3	0.0491 mg/L	0.00093	0.0491 mg/L	0.00093	1.90%
QC value within limits for Be	234.861	Recovery = 98.26%					
B	249.677†	47712.5	0.507 mg/L	0.0129	0.507 mg/L	0.0129	2.55%
QC value within limits for B	249.677	Recovery = 101.34%					
Ca	227.546†	4076.3	10.3 mg/L	0.33	10.3 mg/L	0.33	3.21%
QC value within limits for Ca	227.546	Recovery = 102.76%					
Cd	228.802†	2602.7	0.0476 mg/L	0.00212	0.0476 mg/L	0.00212	4.45%
QC value within limits for Cd	228.802	Recovery = 95.10%					
Co	228.616†	8150.4	0.197 mg/L	0.0005	0.197 mg/L	0.0005	0.26%
QC value within limits for Co	228.616	Recovery = 98.64%					
Cr	267.716†	57234.7	0.491 mg/L	0.0016	0.491 mg/L	0.0016	0.32%
QC value within limits for Cr	267.716	Recovery = 98.11%					
Cu	327.393†	118068.6	0.494 mg/L	0.0102	0.494 mg/L	0.0102	2.07%
QC value within limits for Cu	327.393	Recovery = 98.78%					
Fe	239.562†	55761.5	3.86 mg/L	0.016	3.86 mg/L	0.016	0.41%
QC value within limits for Fe	239.562	Recovery = 96.39%					
Mg	279.077†	32876.0	9.70 mg/L	0.032	9.70 mg/L	0.032	0.33%
QC value within limits for Mg	279.077	Recovery = 97.05%					
Mn	257.610†	407298.5	0.493 mg/L	0.0046	0.493 mg/L	0.0046	0.94%
QC value within limits for Mn	257.610	Recovery = 98.51%					
Mo	202.031†	37054.7	0.985 mg/L	0.0040	0.985 mg/L	0.0040	0.40%
QC value within limits for Mo	202.031	Recovery = 98.51%					
Ni	231.604†	36065.3	0.510 mg/L	0.0023	0.510 mg/L	0.0023	0.44%
QC value within limits for Ni	231.604	Recovery = 102.10%					
Pb	220.353†	6143.5	0.496 mg/L	0.0008	0.496 mg/L	0.0008	0.16%
QC value within limits for Pb	220.353	Recovery = 99.13%					
Sb	206.836†	5033.1	1.18 mg/L	0.044	1.18 mg/L	0.044	3.69%
QC value within limits for Sb	206.836	Recovery = 98.39%					
Se	196.026†	767.7	0.402 mg/L	0.0185	0.402 mg/L	0.0185	4.60%
QC value within limits for Se	196.026	Recovery = 100.53%					
Si	251.611†	238861.9	5.31 mg/L	0.065	5.31 mg/L	0.065	1.22%
QC value within limits for Si	251.611	Recovery = 106.23%					
Sn	189.927†	11532.8	0.986 mg/L	0.0055	0.986 mg/L	0.0055	0.56%
QC value within limits for Sn	189.927	Recovery = 98.64%					
Ti	334.940†	935869.7	0.984 mg/L	0.0049	0.984 mg/L	0.0049	0.50%
QC value within limits for Ti	334.940	Recovery = 98.35%					
Tl	190.801†	2032.3	0.514 mg/L	0.0059	0.514 mg/L	0.0059	1.15%
QC value within limits for Tl	190.801	Recovery = 102.77%					
V	290.880†	214573.9	0.981 mg/L	0.0076	0.981 mg/L	0.0076	0.77%
QC value within limits for V	290.880	Recovery = 98.12%					
Zn	206.200†	53618.7	0.984 mg/L	0.0063	0.984 mg/L	0.0063	0.64%
QC value within limits for Zn	206.200	Recovery = 98.38%					
K	766.490†	131077.9	50.1 mg/L	0.17	50.1 mg/L	0.17	0.34%
QC value within limits for K	766.490	Recovery = 100.10%					
Na	589.592†	861767.2	49.7 mg/L	1.10	49.7 mg/L	1.10	2.22%
QC value within limits for Na	589.592	Recovery = 99.48%					
Sr	407.771†	2418642.8	0.985 mg/L	0.0125	0.985 mg/L	0.0125	1.27%
QC value within limits for Sr	407.771	Recovery = 98.46%					
Li	670.784†	126140.3	1.01 mg/L	0.007	1.01 mg/L	0.007	0.71%
QC value within limits for Li	670.784	Recovery = 100.60%					

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Udosampler Location: 1

Date Collected: 6/21/2012 3:46:13 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Approved: June 22, 2012

John H. Rhodes

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1987572.6				28221.55	1.42%
YRADIAL	245725.2				2381.07	0.97%
Ga 417.206	1197714.0				23497.73	1.96%
GaRADIAL	75924.3				1108.71	1.46%
Ag 328.068†	-149.0	0.00007 mg/L	0.000254	0.00007 mg/L	0.000254	383.57%
QC value within limits for Ag		328.068 Recovery =	Not calculated			
Al 396.153†	0.6	0.0343 mg/L	0.00102	0.0343 mg/L	0.00102	2.97%
QC value within limits for Al		396.153 Recovery =	Not calculated			
As 188.979†	-2.5	0.00154 mg/L	0.001921	0.00154 mg/L	0.001921	124.85%
QC value within limits for As		188.979 Recovery =	Not calculated			
Ba 233.527†	-18.1	0.00183 mg/L	0.000171	0.00183 mg/L	0.000171	9.34%
QC value within limits for Ba		233.527 Recovery =	Not calculated			
Be 234.861†	-82.2	0.00013 mg/L	0.000035	0.00013 mg/L	0.000035	27.07%
QC value within limits for Be		234.861 Recovery =	Not calculated			
B 249.677†	271.9	0.00628 mg/L	0.000190	0.00628 mg/L	0.000190	3.02%
QC value within limits for B		249.677 Recovery =	Not calculated			
Ca 227.546†	-3.0	0.0778 mg/L	0.00728	0.0778 mg/L	0.00728	9.35%
QC value within limits for Ca		227.546 Recovery =	Not calculated			
Cd 228.802†	2.7	0.00027 mg/L	0.000038	0.00027 mg/L	0.000038	14.30%
QC value within limits for Cd		228.802 Recovery =	Not calculated			
Co 228.616†	-5.4	0.00026 mg/L	0.000260	0.00026 mg/L	0.000260	100.29%
QC value within limits for Co		228.616 Recovery =	Not calculated			
Cr 267.716†	3.8	0.00149 mg/L	0.000077	0.00149 mg/L	0.000077	5.21%
QC value within limits for Cr		267.716 Recovery =	Not calculated			
Cu 327.393†	-60.0	0.00144 mg/L	0.000505	0.00144 mg/L	0.000505	35.19%
QC value within limits for Cu		327.393 Recovery =	Not calculated			
Fe 239.562†	17.5	0.0192 mg/L	0.00047	0.0192 mg/L	0.00047	2.46%
QC value within limits for Fe		239.562 Recovery =	Not calculated			
Mg 279.077†	16.0	0.0558 mg/L	0.00366	0.0558 mg/L	0.00366	6.56%
QC value within limits for Mg		279.077 Recovery =	Not calculated			
Mn 257.610†	57.5	0.00021 mg/L	0.000004	0.00021 mg/L	0.000004	1.74%
QC value within limits for Mn		257.610 Recovery =	Not calculated			
Mo 202.031†	5.5	0.00335 mg/L	0.000117	0.00335 mg/L	0.000117	3.49%
QC value within limits for Mo		202.031 Recovery =	Not calculated			
Ni 231.604†	-12.3	0.00050 mg/L	0.000051	0.00050 mg/L	0.000051	10.24%
QC value within limits for Ni		231.604 Recovery =	Not calculated			
Pb 220.353†	-6.9	0.00058 mg/L	0.001418	0.00058 mg/L	0.001418	245.93%
QC value within limits for Pb		220.353 Recovery =	Not calculated			
Sb 206.836†	-0.3	0.00416 mg/L	0.001012	0.00416 mg/L	0.001012	24.33%
QC value within limits for Sb		206.836 Recovery =	Not calculated			
Se 196.026†	-3.3	-0.00124 mg/L	0.002996	-0.00124 mg/L	0.002996	242.27%
QC value within limits for Se		196.026 Recovery =	Not calculated			
Si 251.611†	103.4	0.00647 mg/L	0.000204	0.00647 mg/L	0.000204	3.15%
QC value within limits for Si		251.611 Recovery =	Not calculated			
Sn 189.927†	14.6	0.00369 mg/L	0.000726	0.00369 mg/L	0.000726	19.71%
QC value within limits for Sn		189.927 Recovery =	Not calculated			
Ti 334.940†	95.8	0.00455 mg/L	0.000010	0.00455 mg/L	0.000010	0.22%
QC value within limits for Ti		334.940 Recovery =	Not calculated			
Tl 190.801†	-9.7	-0.00256 mg/L	0.002644	-0.00256 mg/L	0.002644	103.26%
QC value within limits for Tl		190.801 Recovery =	Not calculated			
V 290.880†	195.5	0.00327 mg/L	0.000798	0.00327 mg/L	0.000798	24.44%
QC value within limits for V		290.880 Recovery =	Not calculated			
Zn 206.200†	10.9	0.00250 mg/L	0.000075	0.00250 mg/L	0.000075	2.99%
QC value within limits for Zn		206.200 Recovery =	Not calculated			
K 766.490†	110.3	-0.0816 mg/L	0.01050	-0.0816 mg/L	0.01050	12.87%
QC value within limits for K		766.490 Recovery =	Not calculated			
Na 589.592†	64.1	-0.0111 mg/L	0.01136	-0.0111 mg/L	0.01136	102.25%
QC value within limits for Na		589.592 Recovery =	Not calculated			
Sr 407.771†	41.0	0.00564 mg/L	0.000019	0.00564 mg/L	0.000019	0.33%
QC value within limits for Sr		407.771 Recovery =	Not calculated			
Li 670.784†	126.1	0.00245 mg/L	0.000318	0.00245 mg/L	0.000318	12.97%
QC value within limits for Li		670.784 Recovery =	Not calculated			

All analyte(s) passed QC.

Sequence No.: 11

Sample ID: L1206050016

Udosampler Location: 59

Date Collected: 6/21/2012 3:53:06 PM

Approved: June 22, 2012

John H. Rhodes

Analyst: KHR
Initial Sample Wt:
Dilution:

alpha Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1206050016

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206050016

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2021018.9				15860.74	0.78%
YRADIAL	261651.7				3438.77	1.31%
Ga 417.206	1281120.8				35924.67	2.80%
GA RADIAL	79896.5				666.99	0.83%
Ag 328.068†	-36.6	0.00152 mg/L	0.000211	0.00152 mg/L	0.000211	13.88%
Al 396.153†	6530.7	1.11 mg/L	0.007	1.11 mg/L	0.007	0.61%
As 188.979†	7.9	0.00513 mg/L	0.002163	0.00513 mg/L	0.002163	42.18%
Ba 233.527†	10114.1	0.0617 mg/L	0.00046	0.0617 mg/L	0.00046	0.74%
Be 234.861†	1091.7	0.00058 mg/L	0.000022	0.00058 mg/L	0.000022	3.81%
B 249.677†	3688.7	0.0414 mg/L	0.00128	0.0414 mg/L	0.00128	3.09%
Ca 227.546†	13463.7	32.3 mg/L	0.95	32.3 mg/L	0.95	2.94%
Cd 228.802†	3.0	0.00026 mg/L	0.000217	0.00026 mg/L	0.000217	83.88%
Co 228.616†	87.1	0.00238 mg/L	0.000261	0.00238 mg/L	0.000261	10.94%
Cr 267.716†	197.3	0.00305 mg/L	0.000104	0.00305 mg/L	0.000104	3.42%
Cu 327.393†	2383.3	0.0118 mg/L	0.00056	0.0118 mg/L	0.00056	4.75%
Fe 239.562†	40167.8	2.78 mg/L	0.011	2.78 mg/L	0.011	0.39%
Mg 279.077†	26278.8	7.75 mg/L	0.049	7.75 mg/L	0.049	0.63%
Mn 257.610†	997379.3	1.20 mg/L	0.008	1.20 mg/L	0.008	0.69%
Mo 202.031†	110.8	0.00653 mg/L	0.000060	0.00653 mg/L	0.000060	0.92%
Ni 231.604†	269.3	0.00448 mg/L	0.000503	0.00448 mg/L	0.000503	11.22%
Pb 220.353†	27.2	0.00280 mg/L	0.000576	0.00280 mg/L	0.000576	20.53%
Sb 206.836†	-8.0	0.00248 mg/L	0.000579	0.00248 mg/L	0.000579	23.41%
Se 196.026†	0.8	0.00138 mg/L	0.001346	0.00138 mg/L	0.001346	97.19%
Si 251.611†	151847.3	3.38 mg/L	0.060	3.38 mg/L	0.060	1.78%
Sn 189.927†	-202.2	-0.0148 mg/L	0.00054	-0.0148 mg/L	0.00054	3.67%
Ti 334.940†	14274.7	0.0242 mg/L	0.00056	0.0242 mg/L	0.00056	2.32%
Tl 190.801†	-13.5	-0.00447 mg/L	0.001869	-0.00447 mg/L	0.001869	41.80%
V 290.880†	2068.7	0.0114 mg/L	0.00202	0.0114 mg/L	0.00202	17.73%
Zn 206.200†	1050.2	0.0214 mg/L	0.00010	0.0214 mg/L	0.00010	0.45%
K 766.490†	16765.9	6.43 mg/L	0.036	6.43 mg/L	0.036	0.56%
Na 589.592†	141823.7	8.20 mg/L	0.054	8.20 mg/L	0.054	0.66%
Sr 407.771†	277681.0	0.117 mg/L	0.0015	0.117 mg/L	0.0015	1.32%
Li 670.784†	178.8	0.00287 mg/L	0.000326	0.00287 mg/L	0.000326	11.35%

Sequence No.: 12

Sample ID: L1206050017

Analyst: KHR

Initial Sample Wt:

Dilution:

Sampler Location: 60

Date Collected: 6/21/2012 3:59:03 PM

alpha Type: Original

Initial Sample Vol:

Sample Prep Vol:

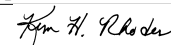
Nebulizer Parameters: L1206050017

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206050017

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2015183.9				36259.07	1.80%
YRADIAL	260484.2				2647.36	1.02%
Ga 417.206	1300696.5				30055.07	2.31%
GA RADIAL	79625.1				809.41	1.02%
Ag 328.068†	-1429.8	0.00141 mg/L	0.000092	0.00141 mg/L	0.000092	6.54%
Al 396.153†	3169.2	0.558 mg/L	0.0061	0.558 mg/L	0.0061	1.10%
As 188.979†	-5.7	0.00181 mg/L	0.001415	0.00181 mg/L	0.001415	78.36%
Ba 233.527†	17543.4	0.105 mg/L	0.0028	0.105 mg/L	0.0028	2.67%
Be 234.861†	3562.8	0.00042 mg/L	0.000105	0.00042 mg/L	0.000105	25.05%

Approved: June 22, 2012



B 249.677†	3749.8	0.0380 mg/L	0.00028	0.0380 mg/L	0.00028	0.74%
Ca 227.546†	14385.9	34.7 mg/L	0.69	34.7 mg/L	0.69	1.98%
Cd 228.802†	7.2	0.00034 mg/L	0.000148	0.00034 mg/L	0.000148	43.43%
Co 228.616†	66.2	0.00164 mg/L	0.000142	0.00164 mg/L	0.000142	8.62%
Cr 267.716†	118.7	0.00204 mg/L	0.000201	0.00204 mg/L	0.000201	9.88%
Cu 327.393†	552.4	0.00500 mg/L	0.000432	0.00500 mg/L	0.000432	8.65%
Fe 239.562†	174867.2	12.1 mg/L	0.07	12.1 mg/L	0.07	0.56%
Mg 279.077†	33484.8	9.86 mg/L	0.051	9.86 mg/L	0.051	0.52%
Mn 257.610†	211692.7	0.256 mg/L	0.0060	0.256 mg/L	0.0060	2.35%
Mo 202.031†	34.6	0.00477 mg/L	0.000643	0.00477 mg/L	0.000643	13.48%
Ni 231.604†	283.8	0.00469 mg/L	0.000589	0.00469 mg/L	0.000589	12.57%
Pb 220.353†	26.5	0.00244 mg/L	0.001059	0.00244 mg/L	0.001059	43.47%
Sb 206.836†	-13.0	0.00163 mg/L	0.001821	0.00163 mg/L	0.001821	111.67%
Se 196.026†	-2.8	0.00254 mg/L	0.002730	0.00254 mg/L	0.002730	107.27%
Si 251.611†	288663.4	6.43 mg/L	0.106	6.43 mg/L	0.106	1.65%
Sn 189.927†	-204.3	-0.0150 mg/L	0.00121	-0.0150 mg/L	0.00121	8.10%
Ti 334.940†	1879.4	0.0116 mg/L	0.00046	0.0116 mg/L	0.00046	4.00%
Tl 190.801†	-21.6	-0.00569 mg/L	0.000195	-0.00569 mg/L	0.000195	3.43%
V 290.880†	1903.8	0.00987 mg/L	0.002721	0.00987 mg/L	0.002721	27.57%
Zn 206.200†	836.1	0.0173 mg/L	0.00014	0.0173 mg/L	0.00014	0.79%
K 766.490†	6397.6	2.38 mg/L	0.032	2.38 mg/L	0.032	1.35%
Na 589.592†	88741.0	5.13 mg/L	0.026	5.13 mg/L	0.026	0.51%
Sr 407.771†	455471.8	0.189 mg/L	0.0043	0.189 mg/L	0.0043	2.28%
Li 670.784†	825.3	0.00802 mg/L	0.000616	0.00802 mg/L	0.000616	7.68%

Sequence No.: 13

Sample ID: L1206050218 WG400914-01

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 61

Date Collected: 6/21/2012 4:05:01 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206050218 WG400914-01

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206050218 WG400914-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1972152.9						24659.01	1.25%
YRADIAL	254636.8						4840.69	1.90%
Ga 417.206	1285949.4						13244.84	1.03%
GaRADIAL	81341.1						1128.33	1.39%
Ag 328.068†	327.0	0.00148 mg/L		0.000137	0.00148 mg/L		0.000137	9.25%
Al 396.153†	6.7	0.0353 mg/L		0.00188	0.0353 mg/L		0.00188	5.32%
As 188.979†	-3.1	0.00132 mg/L		0.001227	0.00132 mg/L		0.001227	92.66%
Ba 233.527†	26516.2	0.159 mg/L		0.0020	0.159 mg/L		0.0020	1.24%
Be 234.861†	72.8	0.00025 mg/L		0.000025	0.00025 mg/L		0.000025	10.12%
B 249.677†	9355.6	0.103 mg/L		0.0021	0.103 mg/L		0.0021	2.08%
Ca 227.546†	15449.9	37.0 mg/L		0.88	37.0 mg/L		0.88	2.38%
Cd 228.802†	-5.8	0.00011 mg/L		0.000149	0.00011 mg/L		0.000149	138.61%
Co 228.616†	-18.3	-0.00009 mg/L		0.000084	-0.00009 mg/L		0.000084	95.29%
Cr 267.716†	103.7	0.00234 mg/L		0.000199	0.00234 mg/L		0.000199	8.53%
Cu 327.393†	6929.8	0.0305 mg/L		0.00090	0.0305 mg/L		0.00090	2.94%
Fe 239.562†	59.4	0.0218 mg/L		0.00024	0.0218 mg/L		0.00024	1.08%
Mg 279.077†	39633.3	11.7 mg/L		0.18	11.7 mg/L		0.18	1.58%
Mn 257.610†	649.8	0.00092 mg/L		0.000072	0.00092 mg/L		0.000072	7.86%
Mo 202.031†	43.2	0.00435 mg/L		0.000124	0.00435 mg/L		0.000124	2.86%
Ni 231.604†	-1.5	0.00065 mg/L		0.000340	0.00065 mg/L		0.000340	52.07%
Pb 220.353†	18.0	0.00284 mg/L		0.000842	0.00284 mg/L		0.000842	29.64%
Sb 206.836†	-7.2	0.00255 mg/L		0.000266	0.00255 mg/L		0.000266	10.44%
Se 196.026†	-1.2	-0.00015 mg/L		0.000765	-0.00015 mg/L		0.000765	493.86%
Si 251.611†	254136.7	5.66 mg/L		0.081	5.66 mg/L		0.081	1.44%
Sn 189.927†	-228.5	-0.0171 mg/L		0.00070	-0.0171 mg/L		0.00070	4.08%
Ti 334.940†	-6537.7	0.00315 mg/L		0.000114	0.00315 mg/L		0.000114	3.62%
Tl 190.801†	-29.2	-0.00745 mg/L		0.002627	-0.00745 mg/L		0.002627	35.29%
V 290.880†	296.4	0.00342 mg/L		0.002026	0.00342 mg/L		0.002026	59.29%
Zn 206.200†	435.8	0.0102 mg/L		0.00008	0.0102 mg/L		0.00008	0.78%
K 766.490†	7114.7	2.64 mg/L		0.035	2.64 mg/L		0.035	1.35%
Na 589.592†	546509.1	31.6 mg/L		0.87	31.6 mg/L		0.87	2.76%

Approved: June 22, 2012

John H. Rhodes

Sr 407.771†	1367660.8	0.558 mg/L	0.0066	0.558 mg/L	0.0066	1.18%
Li 670.784†	558.2	0.00590 mg/L	0.000362	0.00590 mg/L	0.000362	6.14%

Sequence No.: 14

Sample ID: L1206050218S WG400914-04

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 62

Date Collected: 6/21/2012 4:11:58 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206050218S WG400914-04

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206050218S WG400914-04

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1977744.3				29687.34	1.50%
YRADIAL	255641.5				3047.51	1.19%
Ga 417.206	1233353.4				7950.69	0.64%
GaRADIAL	79137.2				895.75	1.13%
Ag 328.068†	59241.6	0.192 mg/L	0.0022	0.192 mg/L	0.0022	1.13%
Al 396.153†	29576.2	4.88 mg/L	0.012	4.88 mg/L	0.012	0.24%
As 188.979†	582.4	0.187 mg/L	0.0006	0.187 mg/L	0.0006	0.32%
Ba 233.527†	107797.4	0.639 mg/L	0.0137	0.639 mg/L	0.0137	2.14%
Be 234.861†	29991.4	0.0234 mg/L	0.00020	0.0234 mg/L	0.00020	0.87%
B 249.677†	97743.0	1.04 mg/L	0.009	1.04 mg/L	0.009	0.87%
Ca 227.546†	18359.2	44.1 mg/L	0.38	44.1 mg/L	0.38	0.87%
Cd 228.802†	1209.4	0.0222 mg/L	0.00074	0.0222 mg/L	0.00074	3.31%
Co 228.616†	3938.2	0.0955 mg/L	0.00151	0.0955 mg/L	0.00151	1.58%
Cr 267.716†	28201.1	0.242 mg/L	0.0038	0.242 mg/L	0.0038	1.58%
Cu 327.393†	63470.8	0.266 mg/L	0.0021	0.266 mg/L	0.0021	0.79%
Fe 239.562†	27002.3	1.88 mg/L	0.004	1.88 mg/L	0.004	0.21%
Mg 279.077†	56240.9	16.5 mg/L	0.07	16.5 mg/L	0.07	0.40%
Mn 257.610†	201479.4	0.244 mg/L	0.0053	0.244 mg/L	0.0053	2.18%
Mo 202.031†	18312.1	0.488 mg/L	0.0089	0.488 mg/L	0.0089	1.82%
Ni 231.604†	16901.9	0.240 mg/L	0.0044	0.240 mg/L	0.0044	1.83%
Pb 220.353†	3060.0	0.248 mg/L	0.0046	0.248 mg/L	0.0046	1.88%
Sb 206.836†	2402.5	0.566 mg/L	0.0093	0.566 mg/L	0.0093	1.64%
Se 196.026†	369.4	0.194 mg/L	0.0043	0.194 mg/L	0.0043	2.21%
Si 251.611†	375800.1	8.37 mg/L	0.023	8.37 mg/L	0.023	0.28%
Sn 189.927†	5839.6	0.501 mg/L	0.0075	0.501 mg/L	0.0075	1.50%
Ti 334.940†	457976.8	0.489 mg/L	0.0017	0.489 mg/L	0.0017	0.35%
Tl 190.801†	985.9	0.249 mg/L	0.0027	0.249 mg/L	0.0027	1.08%
V 290.880†	108287.8	0.496 mg/L	0.0047	0.496 mg/L	0.0047	0.95%
Zn 206.200†	26083.1	0.480 mg/L	0.0085	0.480 mg/L	0.0085	1.78%
K 766.490†	73040.9	28.1 mg/L	0.11	28.1 mg/L	0.11	0.39%
Na 589.592†	994758.4	57.4 mg/L	1.22	57.4 mg/L	1.22	2.12%
Sr 407.771†	2536695.3	1.03 mg/L	0.018	1.03 mg/L	0.018	1.70%
Li 670.784†	64820.2	0.518 mg/L	0.0031	0.518 mg/L	0.0031	0.60%

Sequence No.: 15

Sample ID: L1206050218SD WG400914-05

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 63

Date Collected: 6/21/2012 4:17:57 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206050218SD WG400914-05

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206050218SD WG400914-05

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1938412.0				18772.24	0.97%
YRADIAL	255622.1				1058.31	0.41%
Ga 417.206	1201064.8				23814.07	1.98%

Approved: June 22, 2012

John H. Rhodes

GA RADIAL	78918.4					1007.35	1.28%
Ag 328.068†	60171.0	0.194 mg/L	0.0047	0.194 mg/L	0.0047	2.43%	
Al 396.153†	29693.9	4.90 mg/L	0.004	4.90 mg/L	0.004	0.07%	
As 188.979†	585.0	0.188 mg/L	0.0033	0.188 mg/L	0.0033	1.75%	
Ba 233.527†	109096.2	0.647 mg/L	0.0063	0.647 mg/L	0.0063	0.97%	
Be 234.861†	30677.9	0.0239 mg/L	0.00069	0.0239 mg/L	0.00069	2.87%	
B 249.677†	100316.2	1.07 mg/L	0.032	1.07 mg/L	0.032	2.96%	
Ca 227.546†	18615.6	44.7 mg/L	1.30	44.7 mg/L	1.30	2.90%	
Cd 228.802†	1231.9	0.0226 mg/L	0.00109	0.0226 mg/L	0.00109	4.83%	
Co 228.616†	3975.0	0.0964 mg/L	0.00101	0.0964 mg/L	0.00101	1.04%	
Cr 267.716†	28650.1	0.246 mg/L	0.0023	0.246 mg/L	0.0023	0.92%	
Cu 327.393†	65073.1	0.273 mg/L	0.0085	0.273 mg/L	0.0085	3.13%	
Fe 239.562†	27115.6	1.88 mg/L	0.013	1.88 mg/L	0.013	0.69%	
Mg 279.077†	56138.2	16.5 mg/L	0.04	16.5 mg/L	0.04	0.22%	
Mn 257.610†	204544.6	0.247 mg/L	0.0033	0.247 mg/L	0.0033	1.32%	
Mo 202.031†	18683.8	0.498 mg/L	0.0056	0.498 mg/L	0.0056	1.13%	
Ni 231.604†	17798.0	0.252 mg/L	0.0022	0.252 mg/L	0.0022	0.88%	
Pb 220.353†	3045.3	0.247 mg/L	0.0030	0.247 mg/L	0.0030	1.23%	
Sb 206.836†	2439.9	0.575 mg/L	0.0160	0.575 mg/L	0.0160	2.79%	
Se 196.026†	371.8	0.195 mg/L	0.0052	0.195 mg/L	0.0052	2.64%	
Si 251.611†	382030.0	8.50 mg/L	0.189	8.50 mg/L	0.189	2.22%	
Sn 189.927†	5921.1	0.508 mg/L	0.0040	0.508 mg/L	0.0040	0.79%	
Ti 334.940†	461326.0	0.493 mg/L	0.0011	0.493 mg/L	0.0011	0.22%	
Tl 190.801†	1000.4	0.253 mg/L	0.0024	0.253 mg/L	0.0024	0.94%	
V 290.880†	109677.0	0.502 mg/L	0.0073	0.502 mg/L	0.0073	1.45%	
Zn 206.200†	26440.1	0.486 mg/L	0.0038	0.486 mg/L	0.0038	0.78%	
K 766.490†	72517.2	27.9 mg/L	0.14	27.9 mg/L	0.14	0.49%	
Na 589.592†	1003301.2	57.9 mg/L	0.96	57.9 mg/L	0.96	1.66%	
Sr 407.771†	2544232.4	1.03 mg/L	0.005	1.03 mg/L	0.005	0.45%	
Li 670.784†	65069.6	0.520 mg/L	0.0015	0.520 mg/L	0.0015	0.28%	

Sequence No.: 16

Sample ID: L1206044501 0.1

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 64

Date Collected: 6/21/2012 4:23:56 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044501 0.1

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206044501 0.1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2016557.1						17302.01	0.86%
Y RADIAL	255143.5						1782.68	0.70%
Ga 417.206	1266191.7						51589.22	4.07%
GA RADIAL	80727.2						3289.16	4.07%
Ag 328.068†	36.7	0.00066 mg/L		0.000409	0.00066 mg/L		0.000409	61.83%
Al 396.153†	44.0	0.0415 mg/L		0.00053	0.0415 mg/L		0.00053	1.29%
As 188.979†	-0.4	0.00220 mg/L		0.001152	0.00220 mg/L		0.001152	52.39%
Ba 233.527†	2580.7	0.0172 mg/L		0.00019	0.0172 mg/L		0.00019	1.10%
Be 234.861†	118.3	0.00028 mg/L		0.000034	0.00028 mg/L		0.000034	12.00%
B 249.677†	548.2	0.00922 mg/L		0.000697	0.00922 mg/L		0.000697	7.57%
Ca 227.546†	3225.5	7.78 mg/L		0.309	7.78 mg/L		0.309	3.97%
Cd 228.802†	-16.5	-0.00009 mg/L		0.000172	-0.00009 mg/L		0.000172	182.59%
Co 228.616†	0.7	0.00041 mg/L		0.000266	0.00041 mg/L		0.000266	65.66%
Cr 267.716†	35.5	0.00176 mg/L		0.000139	0.00176 mg/L		0.000139	7.90%
Cu 327.393†	-160.8	0.00102 mg/L		0.000374	0.00102 mg/L		0.000374	36.78%
Fe 239.562†	223.0	0.0333 mg/L		0.00033	0.0333 mg/L		0.00033	0.99%
Mg 279.077†	12251.6	3.64 mg/L		0.093	3.64 mg/L		0.093	2.55%
Mn 257.610†	480.6	0.00072 mg/L		0.000018	0.00072 mg/L		0.000018	2.47%
Mo 202.031†	-5.4	0.00307 mg/L		0.000263	0.00307 mg/L		0.000263	8.59%
Ni 231.604†	-0.8	0.00066 mg/L		0.000288	0.00066 mg/L		0.000288	43.65%
Pb 220.353†	14.9	0.00239 mg/L		0.000154	0.00239 mg/L		0.000154	6.46%
Sb 206.836†	-8.2	0.00232 mg/L		0.001862	0.00232 mg/L		0.001862	80.13%
Se 196.026†	-2.0	-0.00060 mg/L		0.005911	-0.00060 mg/L		0.005911	986.53%
Si 251.611†	24399.9	0.547 mg/L		0.0194	0.547 mg/L		0.0194	3.54%
Sn 189.927†	-67.3	-0.00330 mg/L		0.000918	-0.00330 mg/L		0.000918	27.84%

Approved: June 22, 2012

John H. Rhodes

Ti 334.940†	-1235.4	0.00431 mg/L	0.000075	0.00431 mg/L	0.000075	1.74%
Tl 190.801†	-1.0	-0.00044 mg/L	0.001291	-0.00044 mg/L	0.001291	293.95%
V 290.880†	260.4	0.00347 mg/L	0.000748	0.00347 mg/L	0.000748	21.58%
Zn 206.200†	154.8	0.00512 mg/L	0.000126	0.00512 mg/L	0.000126	2.45%
K 766.490†	540.0	0.0868 mg/L	0.00899	0.0868 mg/L	0.00899	10.35%
Na 589.592†	7422.6	0.415 mg/L	0.0184	0.415 mg/L	0.0184	4.44%
Sr 407.771†	61251.3	0.0303 mg/L	0.00033	0.0303 mg/L	0.00033	1.08%
Li 670.784†	265.7	0.00357 mg/L	0.000417	0.00357 mg/L	0.000417	11.70%

Sequence No.: 17

Sample ID: L1206044503 0.1

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 65

Date Collected: 6/21/2012 4:30:50 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044503 0.1

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Mean Data: L1206044503 0.1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2047757.4				2200.70	0.11%
YRADIAL	257150.8				7388.23	2.87%
Ga 417.206	1278585.2				22740.12	1.78%
GaRADIAL	80722.6				284.53	0.35%
Ag 328.068†	-2.7	0.00053 mg/L	0.000151	0.00053 mg/L	0.000151	28.35%
Al 396.153†	36.9	0.0403 mg/L	0.00090	0.0403 mg/L	0.00090	2.22%
As 188.979†	-1.0	0.00202 mg/L	0.000642	0.00202 mg/L	0.000642	31.80%
Ba 233.527†	1076.1	0.00829 mg/L	0.000079	0.00829 mg/L	0.000079	0.95%
Be 234.861†	131.4	0.00030 mg/L	0.000008	0.00030 mg/L	0.000008	2.79%
B 249.677†	378.0	0.00741 mg/L	0.000180	0.00741 mg/L	0.000180	2.44%
Ca 227.546†	3436.3	8.28 mg/L	0.226	8.28 mg/L	0.226	2.73%
Cd 228.802†	-9.3	0.00004 mg/L	0.000106	0.00004 mg/L	0.000106	262.46%
Co 228.616†	-8.1	0.00020 mg/L	0.000231	0.00020 mg/L	0.000231	118.45%
Cr 267.716†	35.3	0.00175 mg/L	0.000154	0.00175 mg/L	0.000154	8.76%
Cu 327.393†	-160.2	0.00102 mg/L	0.000361	0.00102 mg/L	0.000361	35.43%
Fe 239.562†	171.2	0.0297 mg/L	0.00024	0.0297 mg/L	0.00024	0.81%
Mg 279.077†	11339.4	3.38 mg/L	0.034	3.38 mg/L	0.034	0.99%
Mn 257.610†	116.2	0.00028 mg/L	0.000004	0.00028 mg/L	0.000004	1.61%
Mo 202.031†	-2.7	0.00314 mg/L	0.000182	0.00314 mg/L	0.000182	5.80%
Ni 231.604†	-12.2	0.00050 mg/L	0.000421	0.00050 mg/L	0.000421	84.21%
Pb 220.353†	18.2	0.00266 mg/L	0.001147	0.00266 mg/L	0.001147	43.18%
Sb 206.836†	-7.4	0.00250 mg/L	0.000766	0.00250 mg/L	0.000766	30.68%
Se 196.026†	-2.2	-0.00070 mg/L	0.004055	-0.00070 mg/L	0.004055	579.36%
Si 251.611†	21012.9	0.472 mg/L	0.0167	0.472 mg/L	0.0167	3.55%
Sn 189.927†	-84.3	-0.00475 mg/L	0.000808	-0.00475 mg/L	0.000808	17.03%
Ti 334.940†	-1303.3	0.00431 mg/L	0.000186	0.00431 mg/L	0.000186	4.30%
Tl 190.801†	-1.4	-0.00053 mg/L	0.001943	-0.00053 mg/L	0.001943	365.68%
V 290.880†	-44.2	0.00208 mg/L	0.000070	0.00208 mg/L	0.000070	3.34%
Zn 206.200†	68.6	0.00355 mg/L	0.000062	0.00355 mg/L	0.000062	1.76%
K 766.490†	469.9	0.0588 mg/L	0.01903	0.0588 mg/L	0.01903	32.36%
Na 589.592†	15447.8	0.881 mg/L	0.0355	0.881 mg/L	0.0355	4.04%
Sr 407.771†	30867.2	0.0179 mg/L	0.00009	0.0179 mg/L	0.00009	0.51%
Li 670.784†	315.8	0.00396 mg/L	0.000600	0.00396 mg/L	0.000600	15.14%

Sequence No.: 18

Sample ID: L1206044504 0.1

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 66

Date Collected: 6/21/2012 4:37:45 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044504 0.1

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Approved: June 22, 2012

John H. Rhodes

Mean Data: L1206044504 0.1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Std.Dev.	RSD
Y 371.029	2003076.7					25054.45	1.25%
YRADIAL	253898.2					5727.09	2.26%
Ga 417.206	1257564.7					21060.40	1.67%
GarADIAL	79542.0					779.37	0.98%
Ag 328.068†	63.4	0.00074	mg/L	0.000043	0.00074	0.000043	5.85%
Al 396.153†	8.9	0.0357	mg/L	0.00032	0.0357	0.00032	0.90%
As 188.979†	-8.3	-0.00033	mg/L	0.000404	-0.00033	0.000404	124.31%
Ba 233.527†	1068.8	0.00825	mg/L	0.000043	0.00825	0.000043	0.52%
Be 234.861†	90.3	0.00027	mg/L	0.000012	0.00027	0.000012	4.47%
B 249.677†	279.0	0.00636	mg/L	0.000028	0.00636	0.000028	0.44%
Ca 227.546†	3402.2	8.20	mg/L	0.235	8.20	0.235	2.87%
Cd 228.802†	-2.7	0.00018	mg/L	0.000038	0.00018	0.000038	21.88%
Co 228.616†	-11.9	0.00010	mg/L	0.000145	0.00010	0.000145	140.04%
Cr 267.716†	30.3	0.00171	mg/L	0.000053	0.00171	0.000053	3.09%
Cu 327.393†	-116.3	0.00120	mg/L	0.000164	0.00120	0.000164	13.66%
Fe 239.562†	23.3	0.0195	mg/L	0.00025	0.0195	0.00025	1.30%
Mg 279.077†	10988.2	3.27	mg/L	0.041	3.27	0.041	1.25%
Mn 257.610†	-2.7	0.00013	mg/L	0.000040	0.00013	0.000040	30.16%
Mo 202.031†	6.4	0.00338	mg/L	0.000052	0.00338	0.000052	1.52%
Ni 231.604†	-9.4	0.00054	mg/L	0.000024	0.00054	0.000024	4.50%
Pb 220.353†	5.0	0.00160	mg/L	0.001440	0.00160	0.001440	90.23%
Sb 206.836†	-9.2	0.00208	mg/L	0.000296	0.00208	0.000296	14.21%
Se 196.026†	-1.8	-0.00051	mg/L	0.002566	-0.00051	0.002566	507.01%
Si 251.611†	20649.2	0.464	mg/L	0.0173	0.464	0.0173	3.74%
Sn 189.927†	-85.5	-0.00485	mg/L	0.000912	-0.00485	0.000912	18.79%
Ti 334.940†	-1487.9	0.00411	mg/L	0.000116	0.00411	0.000116	2.82%
Tl 190.801†	-3.3	-0.00102	mg/L	0.002462	-0.00102	0.002462	241.77%
V 290.880†	248.2	0.00342	mg/L	0.001336	0.00342	0.001336	39.04%
Zn 206.200†	60.4	0.00340	mg/L	0.000122	0.00340	0.000122	3.58%
K 766.490†	505.3	0.0727	mg/L	0.04127	0.0727	0.04127	56.74%
Na 589.592†	15115.4	0.861	mg/L	0.0367	0.861	0.0367	4.27%
Sr 407.771†	29819.2	0.0175	mg/L	0.00008	0.0175	0.00008	0.45%
Li 670.784†	358.2	0.00430	mg/L	0.000409	0.00430	0.000409	9.50%

Sequence No.: 19

Sample ID: L1206044505 WG400908-02

Analyst: KHR

Initial Sample Wt:

Dilution:

Sampler Location: 67

Date Collected: 6/21/2012 4:44:40 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044505 WG400908-02

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206044505 WG400908-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Std.Dev.	RSD
Y 371.029	2026428.4					29204.88	1.44%
YRADIAL	258749.2					2344.08	0.91%
Ga 417.206	1313628.0					6329.45	0.48%
GarADIAL	81222.4					1823.30	2.24%
Ag 328.068†	44.4	0.00070	mg/L	0.000187	0.00070	0.000187	26.87%
Al 396.153†	154.1	0.0597	mg/L	0.00116	0.0597	0.00116	1.95%
As 188.979†	-2.1	0.00165	mg/L	0.002422	0.00165	0.002422	147.20%
Ba 233.527†	860.1	0.00702	mg/L	0.000135	0.00702	0.000135	1.93%
Be 234.861†	186.0	0.00033	mg/L	0.000007	0.00033	0.000007	2.15%
B 249.677†	126.7	0.00473	mg/L	0.000162	0.00473	0.000162	3.42%
Ca 227.546†	3540.7	8.53	mg/L	0.151	8.53	0.151	1.77%
Cd 228.802†	-10.4	0.00002	mg/L	0.000043	0.00002	0.000043	202.97%
Co 228.616†	-8.6	0.00018	mg/L	0.000316	0.00018	0.000316	173.40%
Cr 267.716†	16.8	0.00160	mg/L	0.000061	0.00160	0.000061	3.85%
Cu 327.393†	-57.4	0.00145	mg/L	0.000193	0.00145	0.000193	13.34%
Fe 239.562†	424.3	0.0471	mg/L	0.00082	0.0471	0.00082	1.73%
Mg 279.077†	11429.3	3.40	mg/L	0.038	3.40	0.038	1.13%
Mn 257.610†	156.1	0.00033	mg/L	0.000016	0.00033	0.000016	4.91%
Mo 202.031†	-10.5	0.00293	mg/L	0.000053	0.00293	0.000053	1.79%

Approved: June 22, 2012

John H. Rhodes

Ni 231.604†	-9.3	0.00054 mg/L	0.000248	0.00054 mg/L	0.000248	46.01%
Pb 220.353†	3.8	0.00150 mg/L	0.000644	0.00150 mg/L	0.000644	42.82%
Sb 206.836†	-11.3	0.00160 mg/L	0.001097	0.00160 mg/L	0.001097	68.54%
Se 196.026†	-8.2	-0.00379 mg/L	0.004104	-0.00379 mg/L	0.004104	108.19%
Si 251.611†	24745.3	0.555 mg/L	0.0129	0.555 mg/L	0.0129	2.33%
Sn 189.927†	-90.0	-0.00524 mg/L	0.000825	-0.00524 mg/L	0.000825	15.75%
Ti 334.940†	-1241.4	0.00442 mg/L	0.000206	0.00442 mg/L	0.000206	4.67%
Tl 190.801†	3.2	0.00059 mg/L	0.002128	0.00059 mg/L	0.002128	361.59%
V 290.880†	234.4	0.00335 mg/L	0.000822	0.00335 mg/L	0.000822	24.50%
Zn 206.200†	112.8	0.00435 mg/L	0.000160	0.00435 mg/L	0.000160	3.68%
K 766.490†	435.4	0.0456 mg/L	0.02672	0.0456 mg/L	0.02672	58.54%
Na 589.592†	9174.4	0.517 mg/L	0.0251	0.517 mg/L	0.0251	4.86%
Sr 407.771†	29781.9	0.0175 mg/L	0.00018	0.0175 mg/L	0.00018	1.03%
Li 670.784†	368.5	0.00438 mg/L	0.000164	0.00438 mg/L	0.000164	3.74%

Sequence No.: 20

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 6/21/2012 4:51:35 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1946758.9				18889.71	0.97%
YRADIAL	250233.1				4166.18	1.66%
Ga 417.206	1173290.2				23056.14	1.97%
GaRADIAL	77886.1				1067.76	1.37%
Ag 328.068†	122222.9	0.395 mg/L	0.0079	0.395 mg/L	0.0079	2.00%
QC value within limits for Ag 328.068 Recovery = 98.67%						
Al 396.153†	59536.4	9.78 mg/L	0.017	9.78 mg/L	0.017	0.17%
QC value within limits for Al 396.153 Recovery = 97.83%						
As 188.979†	1212.3	0.387 mg/L	0.0084	0.387 mg/L	0.0084	2.18%
QC value within limits for As 188.979 Recovery = 96.80%						
Ba 233.527†	167577.0	0.993 mg/L	0.0094	0.993 mg/L	0.0094	0.95%
QC value within limits for Ba 233.527 Recovery = 99.29%						
Be 234.861†	63045.4	0.0489 mg/L	0.00104	0.0489 mg/L	0.00104	2.13%
QC value within limits for Be 234.861 Recovery = 97.88%						
B 249.677†	47562.8	0.505 mg/L	0.0097	0.505 mg/L	0.0097	1.91%
QC value within limits for B 249.677 Recovery = 101.03%						
Ca 227.546†	4068.0	10.3 mg/L	0.23	10.3 mg/L	0.23	2.22%
QC value within limits for Ca 227.546 Recovery = 102.58%						
Cd 228.802†	2572.4	0.0470 mg/L	0.00174	0.0470 mg/L	0.00174	3.71%
QC value within limits for Cd 228.802 Recovery = 94.00%						
Co 228.616†	8178.5	0.198 mg/L	0.0029	0.198 mg/L	0.0029	1.48%
QC value within limits for Co 228.616 Recovery = 99.00%						
Cr 267.716†	57478.5	0.493 mg/L	0.0065	0.493 mg/L	0.0065	1.32%
QC value within limits for Cr 267.716 Recovery = 98.53%						
Cu 327.393†	118165.8	0.494 mg/L	0.0103	0.494 mg/L	0.0103	2.09%
QC value within limits for Cu 327.393 Recovery = 98.87%						
Fe 239.562†	55857.0	3.86 mg/L	0.010	3.86 mg/L	0.010	0.27%
QC value within limits for Fe 239.562 Recovery = 96.56%						
Mg 279.077†	32692.5	9.65 mg/L	0.071	9.65 mg/L	0.071	0.74%
QC value within limits for Mg 279.077 Recovery = 96.52%						
Mn 257.610†	411681.5	0.498 mg/L	0.0066	0.498 mg/L	0.0066	1.33%
QC value within limits for Mn 257.610 Recovery = 99.57%						
Mo 202.031†	38314.4	1.02 mg/L	0.011	1.02 mg/L	0.011	1.11%
QC value within limits for Mo 202.031 Recovery = 101.85%						
Ni 231.604†	36233.7	0.513 mg/L	0.0066	0.513 mg/L	0.0066	1.29%
QC value within limits for Ni 231.604 Recovery = 102.58%						
Pb 220.353†	6210.3	0.501 mg/L	0.0054	0.501 mg/L	0.0054	1.08%
QC value within limits for Pb 220.353 Recovery = 100.20%						
Sb 206.836†	5002.8	1.17 mg/L	0.028	1.17 mg/L	0.028	2.39%
QC value within limits for Sb 206.836 Recovery = 97.80%						
Se 196.026†	767.9	0.402 mg/L	0.0100	0.402 mg/L	0.0100	2.50%

Approved: June 22, 2012

John H. Rhodes

QC value within limits for Se	196.026	Recovery = 100.55%			
Si 251.611†	238430.7	5.30 mg/L	0.079	1.49%	
QC value within limits for Si	251.611	Recovery = 106.03%			
Sn 189.927†	11574.9	0.990 mg/L	0.0115	1.16%	
QC value within limits for Sn	189.927	Recovery = 99.00%			
Ti 334.940†	945646.8	0.994 mg/L	0.0067	0.68%	
QC value within limits for Ti	334.940	Recovery = 99.37%			
Tl 190.801†	2056.2	0.520 mg/L	0.0050	0.96%	
QC value within limits for Tl	190.801	Recovery = 103.97%			
V 290.880†	216087.9	0.988 mg/L	0.0073	0.74%	
QC value within limits for V	290.880	Recovery = 98.81%			
Zn 206.200†	53705.5	0.985 mg/L	0.0164	1.67%	
QC value within limits for Zn	206.200	Recovery = 98.54%			
K 766.490†	130745.1	49.9 mg/L	0.20	0.40%	
QC value within limits for K	766.490	Recovery = 99.85%			
Na 589.592†	864520.0	49.9 mg/L	1.36	2.72%	
QC value within limits for Na	589.592	Recovery = 99.80%			
Sr 407.771†	2462385.9	1.00 mg/L	0.030	3.01%	
QC value within limits for Sr	407.771	Recovery = 100.23%			
Li 670.784†	125407.3	1.00 mg/L	0.008	0.80%	
QC value within limits for Li	670.784	Recovery = 100.02%			
All analyte(s) passed QC.					

Sequence No.: 21

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 6/21/2012 4:57:35 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2022133.8				49010.58	2.42%
YRADIAL	249940.5				3154.44	1.26%
Ga 417.206	1224761.0				43901.00	3.58%
GaRADIAL	77462.2				2070.24	2.67%
Ag 328.068†	111.1	0.00090 mg/L	0.000170	0.00090 mg/L	0.000170	18.99%
QC value within limits for Ag	328.068	Recovery = Not calculated				
Al 396.153†	14.2	0.0366 mg/L	0.00214	0.0366 mg/L	0.00214	5.86%
QC value within limits for Al	396.153	Recovery = Not calculated				
As 188.979†	-1.6	0.00182 mg/L	0.000383	0.00182 mg/L	0.000383	21.04%
QC value within limits for As	188.979	Recovery = Not calculated				
Ba 233.527†	-20.9	0.00181 mg/L	0.000018	0.00181 mg/L	0.000018	1.00%
QC value within limits for Ba	233.527	Recovery = Not calculated				
Be 234.861†	-29.5	0.00017 mg/L	0.000046	0.00017 mg/L	0.000046	26.74%
QC value within limits for Be	234.861	Recovery = Not calculated				
B 249.677†	242.9	0.00597 mg/L	0.000297	0.00597 mg/L	0.000297	4.97%
QC value within limits for B	249.677	Recovery = Not calculated				
Ca 227.546†	0.4	0.0858 mg/L	0.02310	0.0858 mg/L	0.02310	26.92%
QC value within limits for Ca	227.546	Recovery = Not calculated				
Cd 228.802†	-1.5	0.00019 mg/L	0.000033	0.00019 mg/L	0.000033	17.52%
QC value within limits for Cd	228.802	Recovery = Not calculated				
Co 228.616†	-9.9	0.00015 mg/L	0.000216	0.00015 mg/L	0.000216	142.74%
QC value within limits for Co	228.616	Recovery = Not calculated				
Cr 267.716†	11.3	0.00155 mg/L	0.000112	0.00155 mg/L	0.000112	7.22%
QC value within limits for Cr	267.716	Recovery = Not calculated				
Cu 327.393†	-97.9	0.00128 mg/L	0.000244	0.00128 mg/L	0.000244	19.08%
QC value within limits for Cu	327.393	Recovery = Not calculated				
Fe 239.562†	8.0	0.0185 mg/L	0.00011	0.0185 mg/L	0.00011	0.60%
QC value within limits for Fe	239.562	Recovery = Not calculated				
Mg 279.077†	15.4	0.0556 mg/L	0.00202	0.0556 mg/L	0.00202	3.64%
QC value within limits for Mg	279.077	Recovery = Not calculated				
Mn 257.610†	56.2	0.00020 mg/L	0.000024	0.00020 mg/L	0.000024	11.85%
QC value within limits for Mn	257.610	Recovery = Not calculated				
Mo 202.031†	0.1	0.00321 mg/L	0.000143	0.00321 mg/L	0.000143	4.46%

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John H. Rhodes

QC value within limits for Mo 202.031 Recovery = Not calculated
 Ni 231.604† -5.2 0.00060 mg/L 0.000051 0.00060 mg/L 0.000051 8.52%
 QC value within limits for Ni 231.604 Recovery = Not calculated
 Pb 220.353† 6.3 0.00164 mg/L 0.000833 0.00164 mg/L 0.000833 50.95%
 QC value within limits for Pb 220.353 Recovery = Not calculated
 Sb 206.836† -7.3 0.00253 mg/L 0.000407 0.00253 mg/L 0.000407 16.07%
 QC value within limits for Sb 206.836 Recovery = Not calculated
 Se 196.026† -3.7 -0.00146 mg/L 0.000930 -0.00146 mg/L 0.000930 63.64%
 QC value within limits for Se 196.026 Recovery = Not calculated
 Si 251.611† 116.8 0.00677 mg/L 0.000371 0.00677 mg/L 0.000371 5.47%
 QC value within limits for Si 251.611 Recovery = Not calculated
 Sn 189.927† 13.7 0.00361 mg/L 0.000777 0.00361 mg/L 0.000777 21.50%
 QC value within limits for Sn 189.927 Recovery = Not calculated
 Ti 334.940† 98.0 0.00455 mg/L 0.000086 0.00455 mg/L 0.000086 1.89%
 QC value within limits for Ti 334.940 Recovery = Not calculated
 Tl 190.801† 0.0 -0.00018 mg/L 0.002715 -0.00018 mg/L 0.002715 >999.9%
 QC value within limits for Tl 190.801 Recovery = Not calculated
 V 290.880† 43.2 0.00257 mg/L 0.001276 0.00257 mg/L 0.001276 49.63%
 QC value within limits for V 290.880 Recovery = Not calculated
 Zn 206.200† 9.6 0.00247 mg/L 0.000084 0.00247 mg/L 0.000084 3.40%
 QC value within limits for Zn 206.200 Recovery = Not calculated
 K 766.490† 8.4 -0.122 mg/L 0.0429 -0.122 mg/L 0.0429 35.28%
 QC value within limits for K 766.490 Recovery = Not calculated
 Na 589.592† 57.4 -0.0115 mg/L 0.00635 -0.0115 mg/L 0.00635 55.15%
 QC value within limits for Na 589.592 Recovery = Not calculated
 Sr 407.771† 125.7 0.00568 mg/L 0.000022 0.00568 mg/L 0.000022 0.40%
 QC value within limits for Sr 407.771 Recovery = Not calculated
 Li 670.784† 63.8 0.00196 mg/L 0.001022 0.00196 mg/L 0.001022 52.20%
 QC value within limits for Li 670.784 Recovery = Not calculated
 All analyte(s) passed QC.

Sequence No.: 22

Sample ID: L1206044506S WG400908-07

Analyst: KHR

Initial Sample Wt:

Dilution:

Udosampler Location: 68

Date Collected: 6/21/2012 5:04:28 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044506S WG400908-07

Analyte	Back Pressure	Flow
All	158.0 kPa	0.50 L/min

Mean Data: L1206044506S WG400908-07

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2019290.8						20976.49	1.04%
YRADIAL	255664.6						1724.07	0.67%
Ga 417.206	1241203.5						32545.64	2.62%
GaRADIAL	78467.1						302.83	0.39%
Ag 328.068†	6503.7	0.0215 mg/L		0.00116	0.0215 mg/L		0.00116	5.39%
Al 396.153†	3551.8	0.616 mg/L		0.0092	0.616 mg/L		0.0092	1.49%
As 188.979†	59.1	0.0211 mg/L		0.00151	0.0211 mg/L		0.00151	7.15%
Ba 233.527†	9597.0	0.0587 mg/L		0.00077	0.0587 mg/L		0.00077	1.31%
Be 234.861†	3575.8	0.00295 mg/L		0.000138	0.00295 mg/L		0.000138	4.67%
B 249.677†	9282.9	0.102 mg/L		0.0041	0.102 mg/L		0.0041	3.98%
Ca 227.546†	4005.8	9.67 mg/L		0.426	9.67 mg/L		0.426	4.41%
Cd 228.802†	131.8	0.00262 mg/L		0.000327	0.00262 mg/L		0.000327	12.51%
Co 228.616†	429.3	0.0108 mg/L		0.00041	0.0108 mg/L		0.00041	3.86%
Cr 267.716†	3115.6	0.0281 mg/L		0.00026	0.0281 mg/L		0.00026	0.92%
Cu 327.393†	5726.9	0.0256 mg/L		0.00111	0.0256 mg/L		0.00111	4.35%
Fe 239.562†	3518.0	0.260 mg/L		0.0045	0.260 mg/L		0.0045	1.73%
Mg 279.077†	12965.8	3.85 mg/L		0.055	3.85 mg/L		0.055	1.44%
Mn 257.610†	21548.9	0.0262 mg/L		0.00031	0.0262 mg/L		0.00031	1.20%
Mo 202.031†	1925.8	0.0542 mg/L		0.00026	0.0542 mg/L		0.00026	0.48%
Ni 231.604†	1893.8	0.0274 mg/L		0.00056	0.0274 mg/L		0.00056	2.03%
Pb 220.353†	328.9	0.0277 mg/L		0.00054	0.0277 mg/L		0.00054	1.96%
Sb 206.836†	241.9	0.0608 mg/L		0.00224	0.0608 mg/L		0.00224	3.69%
Se 196.026†	36.3	0.0195 mg/L		0.00463	0.0195 mg/L		0.00463	23.77%
Si 251.611†	40058.0	0.895 mg/L		0.0428	0.895 mg/L		0.0428	4.78%
Sn 189.927†	552.8	0.0496 mg/L		0.00057	0.0496 mg/L		0.00057	1.16%

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John H. Rhodes

Ti 334.940†	47881.8	0.0559 mg/L	0.00119	0.0559 mg/L	0.00119	2.13%
Tl 190.801†	86.3	0.0218 mg/L	0.00128	0.0218 mg/L	0.00128	5.85%
V 290.880†	12363.3	0.0587 mg/L	0.00234	0.0587 mg/L	0.00234	3.99%
Zn 206.200†	2917.7	0.0557 mg/L	0.00076	0.0557 mg/L	0.00076	1.36%
K 766.490†	7694.5	2.89 mg/L	0.042	2.89 mg/L	0.042	1.45%
Na 589.592†	57374.9	3.31 mg/L	0.025	3.31 mg/L	0.025	0.77%
Sr 407.771†	159214.5	0.0699 mg/L	0.00004	0.0699 mg/L	0.00004	0.06%
Li 670.784†	7564.3	0.0617 mg/L	0.00177	0.0617 mg/L	0.00177	2.88%

Sequence No.: 23

Sample ID: L1206044507SD WG400908-08

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 69

Date Collected: 6/21/2012 5:10:26 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044507SD WG400908-08

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Mean Data: L1206044507SD WG400908-08

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2037552.8				18934.76	0.93%
YRADIAL	259830.6				3123.14	1.20%
Ga 417.206	1242988.0				28829.31	2.32%
GaRADIAL	80618.3				710.48	0.88%
Ag 328.068†	6444.3	0.0213 mg/L	0.00120	0.0213 mg/L	0.00120	5.61%
Al 396.153†	3472.4	0.603 mg/L	0.0138	0.603 mg/L	0.0138	2.29%
As 188.979†	60.6	0.0216 mg/L	0.00087	0.0216 mg/L	0.00087	4.03%
Ba 233.527†	9442.1	0.0578 mg/L	0.00127	0.0578 mg/L	0.00127	2.19%
Be 234.861†	3595.9	0.00297 mg/L	0.000092	0.00297 mg/L	0.000092	3.10%
B 249.677†	9310.0	0.102 mg/L	0.0038	0.102 mg/L	0.0038	3.70%
Ca 227.546†	4000.4	9.66 mg/L	0.360	9.66 mg/L	0.360	3.73%
Cd 228.802†	129.9	0.00258 mg/L	0.000160	0.00258 mg/L	0.000160	6.22%
Co 228.616†	425.2	0.0107 mg/L	0.00021	0.0107 mg/L	0.00021	2.01%
Cr 267.716†	3101.9	0.0280 mg/L	0.00051	0.0280 mg/L	0.00051	1.84%
Cu 327.393†	5658.4	0.0253 mg/L	0.00102	0.0253 mg/L	0.00102	4.05%
Fe 239.562†	3468.1	0.257 mg/L	0.0082	0.257 mg/L	0.0082	3.21%
Mg 279.077†	12791.6	3.80 mg/L	0.072	3.80 mg/L	0.072	1.90%
Mn 257.610†	21263.5	0.0258 mg/L	0.00015	0.0258 mg/L	0.00015	0.59%
Mo 202.031†	1921.4	0.0541 mg/L	0.00070	0.0541 mg/L	0.00070	1.29%
Ni 231.604†	1902.5	0.0276 mg/L	0.00064	0.0276 mg/L	0.00064	2.33%
Pb 220.353†	313.3	0.0264 mg/L	0.00115	0.0264 mg/L	0.00115	4.36%
Sb 206.836†	248.0	0.0622 mg/L	0.00298	0.0622 mg/L	0.00298	4.79%
Se 196.026†	39.2	0.0210 mg/L	0.00460	0.0210 mg/L	0.00460	21.93%
Si 251.611†	39972.6	0.894 mg/L	0.0340	0.894 mg/L	0.0340	3.81%
Sn 189.927†	539.4	0.0485 mg/L	0.00018	0.0485 mg/L	0.00018	0.38%
Ti 334.940†	47179.5	0.0552 mg/L	0.00101	0.0552 mg/L	0.00101	1.84%
Tl 190.801†	85.7	0.0216 mg/L	0.00406	0.0216 mg/L	0.00406	18.76%
V 290.880†	11955.7	0.0568 mg/L	0.00240	0.0568 mg/L	0.00240	4.23%
Zn 206.200†	2920.6	0.0558 mg/L	0.00089	0.0558 mg/L	0.00089	1.59%
K 766.490†	7585.5	2.85 mg/L	0.061	2.85 mg/L	0.061	2.16%
Na 589.592†	56403.8	3.25 mg/L	0.018	3.25 mg/L	0.018	0.55%
Sr 407.771†	158942.6	0.0698 mg/L	0.00016	0.0698 mg/L	0.00016	0.23%
Li 670.784†	7361.4	0.0601 mg/L	0.00102	0.0601 mg/L	0.00102	1.70%

Sequence No.: 24

Sample ID: L1206044508 0.1

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 70

Date Collected: 6/21/2012 5:16:26 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044508 0.1

Analyte

Back Pressure

Flow

All

158.0 kPa

0.50 L/min

Approved: June 22, 2012

John H. Rhodes

Mean Data: L1206044508 0.1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Std.Dev.	RSD
Y 371.029	2055165.9					33398.05	1.63%
YRADIAL	260916.7					5302.32	2.03%
Ga 417.206	1295269.6					39762.05	3.07%
GarADIAL	82035.3					1420.22	1.73%
Ag 328.068†	45.8	0.00070	mg/L	0.000152	0.00070	0.000152	21.89%
Al 396.153†	137.4	0.0569	mg/L	0.00080	0.0569	0.00080	1.40%
As 188.979†	-5.5	0.00057	mg/L	0.000791	0.00057	0.000791	138.15%
Ba 233.527†	876.6	0.00711	mg/L	0.000121	0.00711	0.000121	1.70%
Be 234.861†	153.5	0.00031	mg/L	0.000032	0.00031	0.000032	10.22%
B 249.677†	142.8	0.00490	mg/L	0.000104	0.00490	0.000104	2.13%
Ca 227.546†	3527.1	8.50	mg/L	0.341	8.50	0.341	4.01%
Cd 228.802†	-11.6	0.00001	mg/L	0.000105	0.00001	0.000105	>999.9%
Co 228.616†	-6.8	0.00023	mg/L	0.000043	0.00023	0.000043	19.18%
Cr 267.716†	8.3	0.00152	mg/L	0.000083	0.00152	0.000083	5.46%
Cu 327.393†	-46.7	0.00149	mg/L	0.000126	0.00149	0.000126	8.43%
Fe 239.562†	337.8	0.0412	mg/L	0.00076	0.0412	0.00076	1.84%
Mg 279.077†	11121.4	3.31	mg/L	0.057	3.31	0.057	1.71%
Mn 257.610†	101.8	0.00026	mg/L	0.000010	0.00026	0.000010	3.93%
Mo 202.031†	2.4	0.00327	mg/L	0.000167	0.00327	0.000167	5.12%
Ni 231.604†	10.5	0.00082	mg/L	0.000147	0.00082	0.000147	17.94%
Pb 220.353†	21.9	0.00296	mg/L	0.001459	0.00296	0.001459	49.31%
Sb 206.836†	-7.5	0.00249	mg/L	0.000636	0.00249	0.000636	25.54%
Se 196.026†	-8.1	-0.00377	mg/L	0.000476	-0.00377	0.000476	12.64%
Si 251.611†	22519.5	0.506	mg/L	0.0229	0.506	0.0229	4.54%
Sn 189.927†	-86.7	-0.00496	mg/L	0.000464	-0.00496	0.000464	9.35%
Ti 334.940†	-1203.2	0.00445	mg/L	0.000042	0.00445	0.000042	0.94%
Tl 190.801†	-9.9	-0.00262	mg/L	0.001739	-0.00262	0.001739	66.31%
V 290.880†	47.2	0.00250	mg/L	0.000922	0.00250	0.000922	36.83%
Zn 206.200†	59.9	0.00339	mg/L	0.000045	0.00339	0.000045	1.32%
K 766.490†	346.3	0.0107	mg/L	0.00781	0.0107	0.00781	73.24%
Na 589.592†	8953.3	0.504	mg/L	0.0211	0.504	0.0211	4.18%
Sr 407.771†	29297.4	0.0173	mg/L	0.00004	0.0173	0.00004	0.25%
Li 670.784†	306.3	0.00389	mg/L	0.000206	0.00389	0.000206	5.31%

Sequence No.: 25

Sample ID: L1206044511 0.1

Analyst: KHR

Initial Sample Wt:

Dilution:

UASampler Location: 71

Date Collected: 6/21/2012 5:23:22 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044511 0.1

Analyte	Back Pressure	Flow
All	157.0 kPa	0.50 L/min

Mean Data: L1206044511 0.1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Std.Dev.	RSD
Y 371.029	2031407.5					23413.96	1.15%
YRADIAL	249923.9					1746.53	0.70%
Ga 417.206	1283852.2					24957.44	1.94%
GarADIAL	79112.7					1705.13	2.16%
Ag 328.068†	54.4	0.00075	mg/L	0.000150	0.00075	0.000150	19.89%
Al 396.153†	510.4	0.118	mg/L	0.0005	0.118	0.0005	0.40%
As 188.979†	-0.7	0.00212	mg/L	0.001180	0.00212	0.001180	55.73%
Ba 233.527†	988.5	0.00778	mg/L	0.000084	0.00778	0.000084	1.08%
Be 234.861†	164.8	0.00030	mg/L	0.000023	0.00030	0.000023	7.70%
B 249.677†	113.8	0.00456	mg/L	0.000160	0.00456	0.000160	3.50%
Ca 227.546†	3730.1	8.99	mg/L	0.212	8.99	0.212	2.35%
Cd 228.802†	-7.4	0.00008	mg/L	0.000117	0.00008	0.000117	155.91%
Co 228.616†	-3.4	0.00030	mg/L	0.000148	0.00030	0.000148	48.68%
Cr 267.716†	42.9	0.00182	mg/L	0.000158	0.00182	0.000158	8.68%
Cu 327.393†	-57.1	0.00145	mg/L	0.000316	0.00145	0.000316	21.75%
Fe 239.562†	1297.4	0.107	mg/L	0.0019	0.107	0.0019	1.75%
Mg 279.077†	11677.4	3.47	mg/L	0.036	3.47	0.036	1.02%
Mn 257.610†	410.9	0.00063	mg/L	0.000014	0.00063	0.000014	2.20%
Mo 202.031†	-1.2	0.00318	mg/L	0.000020	0.00318	0.000020	0.62%

Approved: June 22, 2012

John H. Rhodes

Ni 231.604†	1.1	0.00069 mg/L	0.000208	0.00069 mg/L	0.000208	30.25%
Pb 220.353†	13.9	0.00232 mg/L	0.001437	0.00232 mg/L	0.001437	61.83%
Sb 206.836†	-6.0	0.00283 mg/L	0.000972	0.00283 mg/L	0.000972	34.37%
Se 196.026†	-4.8	-0.00202 mg/L	0.001902	-0.00202 mg/L	0.001902	94.20%
Si 251.611†	26687.9	0.598 mg/L	0.0229	0.598 mg/L	0.0229	3.83%
Sn 189.927†	-98.7	-0.00598 mg/L	0.000275	-0.00598 mg/L	0.000275	4.59%
Ti 334.940†	-322.4	0.00544 mg/L	0.000136	0.00544 mg/L	0.000136	2.50%
Tl 190.801†	-0.8	-0.00037 mg/L	0.001609	-0.00037 mg/L	0.001609	438.65%
V 290.880†	94.9	0.00271 mg/L	0.001664	0.00271 mg/L	0.001664	61.39%
Zn 206.200†	80.7	0.00377 mg/L	0.000116	0.00377 mg/L	0.000116	3.07%
K 766.490†	707.0	0.152 mg/L	0.0040	0.152 mg/L	0.0040	2.62%
Na 589.592†	9126.8	0.514 mg/L	0.0240	0.514 mg/L	0.0240	4.67%
Sr 407.771†	30689.0	0.0179 mg/L	0.00001	0.0179 mg/L	0.00001	0.04%
Li 670.784†	487.2	0.00533 mg/L	0.000271	0.00533 mg/L	0.000271	5.08%

Sequence No.: 26

Sample ID: L1206044512 0.1

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 72

Date Collected: 6/21/2012 5:30:16 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206044512 0.1

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: L1206044512 0.1

Mean Data: 11200044512 0.1		Mean Corrected		Calib.		Sample		
Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	2040470.4						9713.47	0.48%
YRADIAL	248949.8						6774.38	2.72%
Ga 417.206	1289909.0						11745.46	0.91%
GaRADIAL	78087.6						1430.52	1.83%
Ag 328.068†	45.1	0.00068	mg/L	0.000208	0.00068	mg/L	0.000208	30.36%
Al 396.153†	-1.0	0.0341	mg/L	0.00182	0.0341	mg/L	0.00182	5.33%
As 188.979†	-0.3	0.00225	mg/L	0.002399	0.00225	mg/L	0.002399	106.79%
Ba 233.527†	942.8	0.00751	mg/L	0.000076	0.00751	mg/L	0.000076	1.01%
Be 234.861†	114.0	0.00028	mg/L	0.000025	0.00028	mg/L	0.000025	8.64%
B 249.677†	101.5	0.00447	mg/L	0.000097	0.00447	mg/L	0.000097	2.16%
Ca 227.546†	3670.9	8.84	mg/L	0.015	8.84	mg/L	0.015	0.17%
Cd 228.802†	-10.9	0.00001	mg/L	0.000079	0.00001	mg/L	0.000079	756.59%
Co 228.616†	-6.9	0.00022	mg/L	0.000208	0.00022	mg/L	0.000208	92.87%
Cr 267.716†	15.2	0.00158	mg/L	0.000141	0.00158	mg/L	0.000141	8.91%
Cu 327.393†	-132.8	0.00113	mg/L	0.000643	0.00113	mg/L	0.000643	56.90%
Fe 239.562†	16.1	0.0190	mg/L	0.00082	0.0190	mg/L	0.00082	4.32%
Mg 279.077†	11612.5	3.46	mg/L	0.052	3.46	mg/L	0.052	1.51%
Mn 257.610†	-17.9	0.00011	mg/L	0.000006	0.00011	mg/L	0.000006	5.24%
Mo 202.031†	-11.2	0.00291	mg/L	0.000174	0.00291	mg/L	0.000174	5.96%
Ni 231.604†	-6.8	0.00058	mg/L	0.000117	0.00058	mg/L	0.000117	20.32%
Pb 220.353†	7.1	0.00177	mg/L	0.000345	0.00177	mg/L	0.000345	19.42%
Sb 206.836†	-5.6	0.00293	mg/L	0.001337	0.00293	mg/L	0.001337	45.61%
Se 196.026†	-4.9	-0.00208	mg/L	0.002451	-0.00208	mg/L	0.002451	117.77%
Si 251.611†	21241.5	0.477	mg/L	0.0021	0.477	mg/L	0.0021	0.43%
Sn 189.927†	-99.7	-0.00606	mg/L	0.000424	-0.00606	mg/L	0.000424	6.99%
Ti 334.940†	-1637.2	0.00405	mg/L	0.000222	0.00405	mg/L	0.000222	5.48%
Tl 190.801†	4.3	0.00087	mg/L	0.003630	0.00087	mg/L	0.003630	415.81%
V 290.880†	210.6	0.00325	mg/L	0.001536	0.00325	mg/L	0.001536	47.32%
Zn 206.200†	61.6	0.00342	mg/L	0.000062	0.00342	mg/L	0.000062	1.80%
K 766.490†	344.8	0.0100	mg/L	0.03409	0.0100	mg/L	0.03409	339.62%
Na 589.592†	9288.4	0.524	mg/L	0.0189	0.524	mg/L	0.0189	3.60%
Sr 407.771†	30255.6	0.0177	mg/L	0.00019	0.0177	mg/L	0.00019	1.10%
Li 670.784†	328.3	0.00406	mg/L	0.000552	0.00406	mg/L	0.000552	13.59%

Sequence No.: 27

Sample ID: L1206047101 0.01

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 73

Date Collected: 6/21/2012 5:37:10 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Approved: June 22, 2012

John H. Rhodes

Nebulizer Parameters: L1206047101 0.01

Analyte Back Pressure Flow
All 158.0 kPa 0.50 L/min

Mean Data: L1206047101 0.01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2027604.8						22192.48	1.09%
YRADIAL	252499.3						4605.36	1.82%
Ga 417.206	1276177.2						19334.05	1.51%
GaRADIAL	79612.0						3479.09	4.37%
Ag 328.068†	-35.7	0.00042	mg/L	0.000255	0.00042	mg/L	0.000255	61.02%
Al 396.153†	17.5	0.0371	mg/L	0.00160	0.0371	mg/L	0.00160	4.33%
As 188.979†	-1.6	0.00180	mg/L	0.000850	0.00180	mg/L	0.000850	47.14%
Ba 233.527†	31.9	0.00212	mg/L	0.000088	0.00212	mg/L	0.000088	4.13%
Be 234.861†	120.5	0.00029	mg/L	0.000036	0.00029	mg/L	0.000036	12.26%
B 249.677†	7044.8	0.0783	mg/L	0.00127	0.0783	mg/L	0.00127	1.63%
Ca 227.546†	1446.0	3.54	mg/L	0.042	3.54	mg/L	0.042	1.18%
Cd 228.802†	-9.0	0.00005	mg/L	0.000028	0.00005	mg/L	0.000028	59.04%
Co 228.616†	-3.0	0.00032	mg/L	0.000069	0.00032	mg/L	0.000069	21.59%
Cr 267.716†	2.9	0.00148	mg/L	0.000078	0.00148	mg/L	0.000078	5.28%
Cu 327.393†	-199.6	0.00085	mg/L	0.000687	0.00085	mg/L	0.000687	80.47%
Fe 239.562†	95.2	0.0245	mg/L	0.00070	0.0245	mg/L	0.00070	2.84%
Mg 279.077†	4982.7	1.51	mg/L	0.056	1.51	mg/L	0.056	3.73%
Mn 257.610†	36401.2	0.0441	mg/L	0.00037	0.0441	mg/L	0.00037	0.83%
Mo 202.031†	10.2	0.00349	mg/L	0.000210	0.00349	mg/L	0.000210	6.02%
Ni 231.604†	-2.0	0.00064	mg/L	0.000148	0.00064	mg/L	0.000148	22.98%
Pb 220.353†	11.0	0.00202	mg/L	0.000777	0.00202	mg/L	0.000777	38.55%
Sb 206.836†	-5.7	0.00291	mg/L	0.002066	0.00291	mg/L	0.002066	70.91%
Se 196.026†	-3.3	-0.00128	mg/L	0.003061	-0.00128	mg/L	0.003061	239.88%
Si 251.611†	3446.0	0.0809	mg/L	0.00114	0.0809	mg/L	0.00114	1.41%
Sn 189.927†	-38.4	-0.00083	mg/L	0.000275	-0.00083	mg/L	0.000275	33.01%
Ti 334.940†	-524.0	0.00442	mg/L	0.000071	0.00442	mg/L	0.000071	1.60%
Tl 190.801†	0.4	-0.00013	mg/L	0.001986	-0.00013	mg/L	0.001986	>999.9%
V 290.880†	47.2	0.00255	mg/L	0.001010	0.00255	mg/L	0.001010	39.60%
Zn 206.200†	74.1	0.00365	mg/L	0.000218	0.00365	mg/L	0.000218	5.98%
K 766.490†	346.8	0.00895	mg/L	0.030494	0.00895	mg/L	0.030494	340.64%
Na 589.592†	41290.2	2.38	mg/L	0.106	2.38	mg/L	0.106	4.47%
Sr 407.771†	74879.4	0.0359	mg/L	0.00021	0.0359	mg/L	0.00021	0.59%
Li 670.784†	1376.8	0.0124	mg/L	0.00087	0.0124	mg/L	0.00087	7.04%

Sequence No.: 28

Sample ID: L1206047102 0.01

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 74

Date Collected: 6/21/2012 5:44:04 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047102 0.01

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206047102 0.01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2034170.8						36176.70	1.78%
YRADIAL	252460.4						2873.78	1.14%
Ga 417.206	1282806.8						13621.89	1.06%
GaRADIAL	79369.7						1724.55	2.17%
Ag 328.068†	66.9	0.00075	mg/L	0.000442	0.00075	mg/L	0.000442	59.24%
Al 396.153†	0.3	0.0343	mg/L	0.00162	0.0343	mg/L	0.00162	4.73%
As 188.979†	-1.7	0.00177	mg/L	0.001151	0.00177	mg/L	0.001151	64.94%
Ba 233.527†	31.6	0.00212	mg/L	0.000161	0.00212	mg/L	0.000161	7.61%
Be 234.861†	139.8	0.00031	mg/L	0.000021	0.00031	mg/L	0.000021	6.84%
B 249.677†	7072.5	0.0786	mg/L	0.00038	0.0786	mg/L	0.00038	0.48%
Ca 227.546†	1417.8	3.47	mg/L	0.021	3.47	mg/L	0.021	0.62%
Cd 228.802†	-9.7	0.00003	mg/L	0.000074	0.00003	mg/L	0.000074	214.46%
Co 228.616†	-5.3	0.00027	mg/L	0.000193	0.00027	mg/L	0.000193	72.56%

Approved: June 22, 2012

John H. Rhodes

Cr 267.716†	5.6	0.00150 mg/L	0.000114	0.00150 mg/L	0.000114	7.57%
Cu 327.393†	-68.1	0.00140 mg/L	0.000430	0.00140 mg/L	0.000430	30.68%
Fe 239.562†	46.1	0.0211 mg/L	0.00021	0.0211 mg/L	0.00021	0.99%
Mg 279.077†	4872.8	1.48 mg/L	0.020	1.48 mg/L	0.020	1.34%
Mn 257.610†	35203.2	0.0426 mg/L	0.00086	0.0426 mg/L	0.00086	2.01%
Mo 202.031†	17.0	0.00367 mg/L	0.000081	0.00367 mg/L	0.000081	2.22%
Ni 231.604†	-2.9	0.00063 mg/L	0.000171	0.00063 mg/L	0.000171	27.14%
Pb 220.353†	1.7	0.00127 mg/L	0.000523	0.00127 mg/L	0.000523	41.14%
Sb 206.836†	-4.5	0.00319 mg/L	0.000533	0.00319 mg/L	0.000533	16.71%
Se 196.026†	-5.9	-0.00263 mg/L	0.001690	-0.00263 mg/L	0.001690	64.19%
Si 251.611†	3352.1	0.0788 mg/L	0.00081	0.0788 mg/L	0.00081	1.03%
Sn 189.927†	-42.6	-0.00119 mg/L	0.000220	-0.00119 mg/L	0.000220	18.51%
Ti 334.940†	-703.0	0.00422 mg/L	0.000082	0.00422 mg/L	0.000082	1.95%
Tl 190.801†	4.9	0.00098 mg/L	0.003360	0.00098 mg/L	0.003360	342.52%
V 290.880†	257.2	0.00351 mg/L	0.001091	0.00351 mg/L	0.001091	31.08%
Zn 206.200†	61.3	0.00341 mg/L	0.000096	0.00341 mg/L	0.000096	2.82%
K 766.490†	353.8	0.0118 mg/L	0.02245	0.0118 mg/L	0.02245	190.49%
Na 589.592†	40196.9	2.31 mg/L	0.100	2.31 mg/L	0.100	4.32%
Sr 407.771†	73450.8	0.0353 mg/L	0.00028	0.0353 mg/L	0.00028	0.79%
Li 670.784†	1371.6	0.0124 mg/L	0.00070	0.0124 mg/L	0.00070	5.64%

Sequence No.: 29

Sample ID: L1206047105 0.01

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 75

Date Collected: 6/21/2012 5:50:58 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047105 0.01

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: L1206047105 0.01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2084491.1				31733.54	1.52%
YRADIAL	259496.7				4623.83	1.78%
Ga 417.206	1321088.3				15071.37	1.14%
GaRADIAL	82076.9				1003.40	1.22%
Ag 328.068†	57.6	0.00072 mg/L	0.000257	0.00072 mg/L	0.000257	35.54%
Al 396.153†	6.9	0.0353 mg/L	0.00023	0.0353 mg/L	0.00023	0.66%
As 188.979†	1.2	0.00270 mg/L	0.002392	0.00270 mg/L	0.002392	88.60%
Ba 233.527†	16.8	0.00203 mg/L	0.000158	0.00203 mg/L	0.000158	7.78%
Be 234.861†	168.3	0.00033 mg/L	0.000037	0.00033 mg/L	0.000037	11.26%
B 249.677†	387.8	0.00752 mg/L	0.000068	0.00752 mg/L	0.000068	0.91%
Ca 227.546†	21.4	0.136 mg/L	0.0094	0.136 mg/L	0.0094	6.95%
Cd 228.802†	-13.7	-0.00005 mg/L	0.000033	-0.00005 mg/L	0.000033	72.58%
Co 228.616†	-5.5	0.00026 mg/L	0.000227	0.00026 mg/L	0.000227	86.90%
Cr 267.716†	-4.5	0.00141 mg/L	0.000080	0.00141 mg/L	0.000080	5.67%
Cu 327.393†	-50.8	0.00147 mg/L	0.000438	0.00147 mg/L	0.000438	29.75%
Fe 239.562†	18.0	0.0192 mg/L	0.00048	0.0192 mg/L	0.00048	2.52%
Mg 279.077†	51.8	0.0663 mg/L	0.00167	0.0663 mg/L	0.00167	2.52%
Mn 257.610†	0.6	0.00014 mg/L	0.000010	0.00014 mg/L	0.000010	7.64%
Mo 202.031†	65.4	0.00494 mg/L	0.000048	0.00494 mg/L	0.000048	0.97%
Ni 231.604†	-2.6	0.00063 mg/L	0.000222	0.00063 mg/L	0.000222	34.97%
Pb 220.353†	3.6	0.00142 mg/L	0.000896	0.00142 mg/L	0.000896	63.13%
Sb 206.836†	-8.4	0.00228 mg/L	0.000693	0.00228 mg/L	0.000693	30.45%
Se 196.026†	-5.1	-0.00221 mg/L	0.003436	-0.00221 mg/L	0.003436	155.55%
Si 251.611†	1460.8	0.0367 mg/L	0.00036	0.0367 mg/L	0.00036	0.99%
Sn 189.927†	-12.4	0.00138 mg/L	0.000132	0.00138 mg/L	0.000132	9.54%
Ti 334.940†	36.6	0.00449 mg/L	0.000136	0.00449 mg/L	0.000136	3.02%
Tl 190.801†	9.3	0.00211 mg/L	0.001513	0.00211 mg/L	0.001513	71.82%
V 290.880†	-21.3	0.00227 mg/L	0.001068	0.00227 mg/L	0.001068	46.94%
Zn 206.200†	56.2	0.00332 mg/L	0.000196	0.00332 mg/L	0.000196	5.90%
K 766.490†	55.1	-0.106 mg/L	0.0205	-0.106 mg/L	0.0205	19.27%
Na 589.592†	52362.7	3.02 mg/L	0.140	3.02 mg/L	0.140	4.65%
Sr 407.771†	3394.4	0.00700 mg/L	0.000069	0.00700 mg/L	0.000069	0.99%
Li 670.784†	-71.1	0.00088 mg/L	0.000248	0.00088 mg/L	0.000248	28.06%

Approved: June 22, 2012

John H. Rhodes

Sequence No.: 30
 Sample ID: L1206047106 0.01
 Analyst: KHR
 Initial Sample Wt:
 Dilution:

Autosampler Location: 76
 Date Collected: 6/21/2012 5:57:52 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: L1206047106 0.01

Analyte Back Pressure Flow
 All 157.0 kPa 0.50 L/min

Mean Data: L1206047106 0.01

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2017595.2					39410.26	1.95%
YRADIAL	248835.5					2418.08	0.97%
Ga 417.206	1266186.6					15058.28	1.19%
GaRADIAL	79153.2					1692.10	2.14%
Ag 328.068†	-129.1	0.00013 mg/L		0.000173	0.00013 mg/L	0.000173	133.82%
Al 396.153†	-0.8	0.0340 mg/L		0.00106	0.0340 mg/L	0.00106	3.12%
As 188.979†	-3.6	0.00117 mg/L		0.001827	0.00117 mg/L	0.001827	156.61%
Ba 233.527†	33.0	0.00213 mg/L		0.000057	0.00213 mg/L	0.000057	2.69%
Be 234.861†	115.5	0.00029 mg/L		0.000012	0.00029 mg/L	0.000012	4.22%
B 249.677†	374.0	0.00737 mg/L		0.000198	0.00737 mg/L	0.000198	2.69%
Ca 227.546†	21.3	0.136 mg/L		0.0146	0.136 mg/L	0.0146	10.71%
Cd 228.802†	-9.6	0.00004 mg/L		0.000191	0.00004 mg/L	0.000191	496.90%
Co 228.616†	-8.5	0.00019 mg/L		0.000288	0.00019 mg/L	0.000288	152.35%
Cr 267.716†	-8.4	0.00138 mg/L		0.000082	0.00138 mg/L	0.000082	5.95%
Cu 327.393†	-124.1	0.00117 mg/L		0.000476	0.00117 mg/L	0.000476	40.76%
Fe 239.562†	0.3	0.0180 mg/L		0.00051	0.0180 mg/L	0.00051	2.83%
Mg 279.077†	49.6	0.0656 mg/L		0.00020	0.0656 mg/L	0.00020	0.31%
Mn 257.610†	-29.0	0.00010 mg/L		0.000031	0.00010 mg/L	0.000031	30.63%
Mo 202.031†	72.8	0.00514 mg/L		0.000010	0.00514 mg/L	0.000010	0.19%
Ni 231.604†	4.6	0.00074 mg/L		0.000339	0.00074 mg/L	0.000339	45.96%
Pb 220.353†	-3.6	0.00085 mg/L		0.001243	0.00085 mg/L	0.001243	146.65%
Sb 206.836†	-9.1	0.00211 mg/L		0.000181	0.00211 mg/L	0.000181	8.60%
Se 196.026†	-1.5	-0.00032 mg/L		0.001191	-0.00032 mg/L	0.001191	377.81%
Si 251.611†	1488.4	0.0373 mg/L		0.00053	0.0373 mg/L	0.00053	1.42%
Sn 189.927†	-7.4	0.00181 mg/L		0.000700	0.00181 mg/L	0.000700	38.58%
Ti 334.940†	-37.3	0.00442 mg/L		0.000112	0.00442 mg/L	0.000112	2.53%
Tl 190.801†	3.5	0.00067 mg/L		0.000994	0.00067 mg/L	0.000994	147.98%
V 290.880†	193.3	0.00325 mg/L		0.000483	0.00325 mg/L	0.000483	14.85%
Zn 206.200†	99.1	0.00410 mg/L		0.000200	0.00410 mg/L	0.000200	4.88%
K 766.490†	112.6	-0.0837 mg/L		0.03419	-0.0837 mg/L	0.03419	40.85%
Na 589.592†	52925.1	3.05 mg/L		0.142	3.05 mg/L	0.142	4.67%
Sr 407.771†	3433.3	0.00701 mg/L		0.000015	0.00701 mg/L	0.000015	0.21%
Li 670.784†	34.5	0.00172 mg/L		0.000415	0.00172 mg/L	0.000415	24.07%

Sequence No.: 31
 Sample ID: CCV
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 6
 Date Collected: 6/21/2012 6:04:47 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

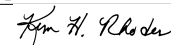
Nebulizer Parameters: CCV

Analyte Back Pressure Flow
 All 157.0 kPa 0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1939663.5					26733.07	1.38%
YRADIAL	243313.6					5203.18	2.14%
Ga 417.206	1170527.2					20897.85	1.79%
GaRADIAL	75389.6					1296.85	1.72%
Ag 328.068†	125090.7	0.404 mg/L		0.0100	0.404 mg/L	0.0100	2.47%
QC value within limits for Ag 328.068 Recovery = 100.99%							
Al 396.153†	61044.8	10.0 mg/L		0.00	10.0 mg/L	0.00	0.02%

Approved: June 22, 2012



QC value within limits for Al	396.153	Recovery = 100.33%			
As 188.979†	1234.7	0.394 mg/L	0.0095	2.40%	
QC value within limits for As	188.979	Recovery = 98.62%			
Ba 233.527†	172072.3	1.02 mg/L	0.011	1.07%	
QC value within limits for Ba	233.527	Recovery = 101.95%			
Be 234.861†	63241.4	0.0491 mg/L	0.00121	2.47%	
QC value within limits for Be	234.861	Recovery = 98.12%			
B 249.677†	47805.1	0.508 mg/L	0.0100	1.98%	
QC value within limits for B	249.677	Recovery = 101.51%			
Ca 227.546†	4167.6	10.5 mg/L	0.23	2.18%	
QC value within limits for Ca	227.546	Recovery = 104.95%			
Cd 228.802†	2640.6	0.0483 mg/L	0.00165	3.42%	
QC value within limits for Cd	228.802	Recovery = 96.51%			
Co 228.616†	8405.0	0.203 mg/L	0.0045	2.21%	
QC value within limits for Co	228.616	Recovery = 101.71%			
Cr 267.716†	58800.6	0.504 mg/L	0.0006	0.12%	
QC value within limits for Cr	267.716	Recovery = 100.79%			
Cu 327.393†	119767.4	0.501 mg/L	0.0122	2.44%	
QC value within limits for Cu	327.393	Recovery = 100.20%			
Fe 239.562†	57735.1	3.99 mg/L	0.022	0.54%	
QC value within limits for Fe	239.562	Recovery = 99.79%			
Mg 279.077†	33875.9	10.00 mg/L	0.045	0.45%	
QC value within limits for Mg	279.077	Recovery = 99.98%			
Mn 257.610†	427709.7	0.517 mg/L	0.0058	1.12%	
QC value within limits for Mn	257.610	Recovery = 103.44%			
Mo 202.031†	37709.8	1.00 mg/L	0.005	0.50%	
QC value within limits for Mo	202.031	Recovery = 100.25%			
Ni 231.604†	35948.5	0.509 mg/L	0.0049	0.96%	
QC value within limits for Ni	231.604	Recovery = 101.77%			
Pb 220.353†	6368.9	0.514 mg/L	0.0099	1.93%	
QC value within limits for Pb	220.353	Recovery = 102.75%			
Sb 206.836†	5098.5	1.20 mg/L	0.027	2.27%	
QC value within limits for Sb	206.836	Recovery = 99.66%			
Se 196.026†	771.2	0.404 mg/L	0.0071	1.77%	
QC value within limits for Se	196.026	Recovery = 101.00%			
Si 251.611†	244346.0	5.43 mg/L	0.090	1.65%	
QC value within limits for Si	251.611	Recovery = 108.66%			
Sn 189.927†	11859.5	1.01 mg/L	0.020	1.97%	
QC value within limits for Sn	189.927	Recovery = 101.43%			
Ti 334.940†	965587.2	1.01 mg/L	0.003	0.30%	
QC value within limits for Ti	334.940	Recovery = 101.46%			
Tl 190.801†	2096.3	0.530 mg/L	0.0059	1.11%	
QC value within limits for Tl	190.801	Recovery = 106.01%			
V 290.880†	222699.8	1.02 mg/L	0.002	0.18%	
QC value within limits for V	290.880	Recovery = 101.83%			
Zn 206.200†	55151.9	1.01 mg/L	0.005	0.47%	
QC value within limits for Zn	206.200	Recovery = 101.18%			
K 766.490†	134251.5	51.2 mg/L	0.22	0.43%	
QC value within limits for K	766.490	Recovery = 102.47%			
Na 589.592†	896334.2	51.7 mg/L	0.62	1.19%	
QC value within limits for Na	589.592	Recovery = 103.46%			
Sr 407.771†	2527838.8	1.03 mg/L	0.022	2.17%	
QC value within limits for Sr	407.771	Recovery = 102.88%			
Li 670.784†	128101.5	1.02 mg/L	0.005	0.48%	
QC value within limits for Li	670.784	Recovery = 102.16%			

All analyte(s) passed QC.

Sequence No.: 32

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Sampler Location: 1

Date Collected: 6/21/2012 6:10:48 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte

Back Pressure

Flow

All

157.0 kPa

0.50 L/min

Mean Data: CCB

Mean Corrected

Calib.

Sample

Approved: June 22, 2012

John H. Rhodes

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	2041883.5				56507.46	2.77%
YRADIAL	251666.8				4741.26	1.88%
Ga 417.206	1233140.5				19259.54	1.56%
GaRADIAL	77583.6				1232.25	1.59%
Ag 328.068†	11.4	0.00058 mg/L	0.000723	0.00058 mg/L	0.000723	125.32%
QC value within limits for Ag 328.068		Recovery =	Not calculated			
Al 396.153†	15.5	0.0368 mg/L	0.00130	0.0368 mg/L	0.00130	3.53%
QC value within limits for Al 396.153		Recovery =	Not calculated			
As 188.979†	-1.5	0.00186 mg/L	0.000642	0.00186 mg/L	0.000642	34.61%
QC value within limits for As 188.979		Recovery =	Not calculated			
Ba 233.527†	-12.0	0.00186 mg/L	0.000127	0.00186 mg/L	0.000127	6.84%
QC value within limits for Ba 233.527		Recovery =	Not calculated			
Be 234.861†	-42.4	0.00016 mg/L	0.000017	0.00016 mg/L	0.000017	10.51%
QC value within limits for Be 234.861		Recovery =	Not calculated			
B 249.677†	228.1	0.00582 mg/L	0.000388	0.00582 mg/L	0.000388	6.67%
QC value within limits for B 249.677		Recovery =	Not calculated			
Ca 227.546†	1.8	0.0892 mg/L	0.01805	0.0892 mg/L	0.01805	20.25%
QC value within limits for Ca 227.546		Recovery =	Not calculated			
Cd 228.802†	-6.1	0.00010 mg/L	0.000130	0.00010 mg/L	0.000130	127.66%
QC value within limits for Cd 228.802		Recovery =	Not calculated			
Co 228.616†	-4.5	0.00028 mg/L	0.000256	0.00028 mg/L	0.000256	91.19%
QC value within limits for Co 228.616		Recovery =	Not calculated			
Cr 267.716†	18.2	0.00161 mg/L	0.000085	0.00161 mg/L	0.000085	5.29%
QC value within limits for Cr 267.716		Recovery =	Not calculated			
Cu 327.393†	-87.1	0.00132 mg/L	0.000535	0.00132 mg/L	0.000535	40.49%
QC value within limits for Cu 327.393		Recovery =	Not calculated			
Fe 239.562†	15.4	0.0190 mg/L	0.00032	0.0190 mg/L	0.00032	1.66%
QC value within limits for Fe 239.562		Recovery =	Not calculated			
Mg 279.077†	13.1	0.0549 mg/L	0.00647	0.0549 mg/L	0.00647	11.79%
QC value within limits for Mg 279.077		Recovery =	Not calculated			
Mn 257.610†	94.8	0.00025 mg/L	0.000012	0.00025 mg/L	0.000012	4.64%
QC value within limits for Mn 257.610		Recovery =	Not calculated			
Mo 202.031†	9.1	0.00345 mg/L	0.000211	0.00345 mg/L	0.000211	6.11%
QC value within limits for Mo 202.031		Recovery =	Not calculated			
Ni 231.604†	-14.6	0.00047 mg/L	0.000324	0.00047 mg/L	0.000324	69.67%
QC value within limits for Ni 231.604		Recovery =	Not calculated			
Pb 220.353†	3.3	0.00140 mg/L	0.000499	0.00140 mg/L	0.000499	35.72%
QC value within limits for Pb 220.353		Recovery =	Not calculated			
Sb 206.836†	-2.9	0.00355 mg/L	0.000118	0.00355 mg/L	0.000118	3.31%
QC value within limits for Sb 206.836		Recovery =	Not calculated			
Se 196.026†	-4.9	-0.00208 mg/L	0.002249	-0.00208 mg/L	0.002249	107.92%
QC value within limits for Se 196.026		Recovery =	Not calculated			
Si 251.611†	82.6	0.00601 mg/L	0.000346	0.00601 mg/L	0.000346	5.75%
QC value within limits for Si 251.611		Recovery =	Not calculated			
Sn 189.927†	12.7	0.00353 mg/L	0.000589	0.00353 mg/L	0.000589	16.68%
QC value within limits for Sn 189.927		Recovery =	Not calculated			
Ti 334.940†	197.3	0.00465 mg/L	0.000135	0.00465 mg/L	0.000135	2.91%
QC value within limits for Ti 334.940		Recovery =	Not calculated			
Tl 190.801†	-0.7	-0.00034 mg/L	0.000733	-0.00034 mg/L	0.000733	212.43%
QC value within limits for Tl 190.801		Recovery =	Not calculated			
V 290.880†	16.7	0.00245 mg/L	0.000756	0.00245 mg/L	0.000756	30.87%
QC value within limits for V 290.880		Recovery =	Not calculated			
Zn 206.200†	15.6	0.00258 mg/L	0.000175	0.00258 mg/L	0.000175	6.76%
QC value within limits for Zn 206.200		Recovery =	Not calculated			
K 766.490†	50.8	-0.105 mg/L	0.0150	-0.105 mg/L	0.0150	14.28%
QC value within limits for K 766.490		Recovery =	Not calculated			
Na 589.592†	28.5	-0.0132 mg/L	0.00273	-0.0132 mg/L	0.00273	20.69%
QC value within limits for Na 589.592		Recovery =	Not calculated			
Sr 407.771†	311.2	0.00575 mg/L	0.000029	0.00575 mg/L	0.000029	0.51%
QC value within limits for Sr 407.771		Recovery =	Not calculated			
Li 670.784†	60.1	0.00193 mg/L	0.000163	0.00193 mg/L	0.000163	8.45%
QC value within limits for Li 670.784		Recovery =	Not calculated			

All analyte(s) passed QC.

Sequence No.: 33

Sample ID: L1206047106PS WG401208-01

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 77

Date Collected: 6/21/2012 6:17:41 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Approved: June 22, 2012

John H. Rhodes

Nebulizer Parameters: L1206047106PS WG401208-01

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206047106PS WG401208-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1990342.2				13225.22	0.66%
YRADIAL	249111.9				7236.87	2.91%
Ga 417.206	1223031.5				32885.90	2.69%
GaRADIAL	76934.2				1952.14	2.54%
Ag 328.068†	62545.1	0.202 mg/L	0.0077	0.202 mg/L	0.0077	3.79%
Al 396.153†	30913.1	5.10 mg/L	0.072	5.10 mg/L	0.072	1.41%
As 188.979†	608.7	0.196 mg/L	0.0060	0.196 mg/L	0.0060	3.09%
Ba 233.527†	85580.1	0.508 mg/L	0.0092	0.508 mg/L	0.0092	1.82%
Be 234.861†	32201.1	0.0251 mg/L	0.00064	0.0251 mg/L	0.00064	2.57%
B 249.677†	91216.8	0.971 mg/L	0.0362	0.971 mg/L	0.0362	3.73%
Ca 227.546†	2016.8	5.13 mg/L	0.121	5.13 mg/L	0.121	2.36%
Cd 228.802†	1314.8	0.0241 mg/L	0.00110	0.0241 mg/L	0.00110	4.55%
Co 228.616†	4201.9	0.102 mg/L	0.0017	0.102 mg/L	0.0017	1.66%
Cr 267.716†	29297.0	0.252 mg/L	0.0029	0.252 mg/L	0.0029	1.15%
Cu 327.393†	58000.3	0.244 mg/L	0.0091	0.244 mg/L	0.0091	3.75%
Fe 239.562†	28680.5	1.99 mg/L	0.038	1.99 mg/L	0.038	1.89%
Mg 279.077†	17401.3	5.16 mg/L	0.103	5.16 mg/L	0.103	1.99%
Mn 257.610†	210030.2	0.254 mg/L	0.0050	0.254 mg/L	0.0050	1.97%
Mo 202.031†	18830.2	0.502 mg/L	0.0081	0.502 mg/L	0.0081	1.62%
Ni 231.604†	18049.7	0.256 mg/L	0.0039	0.256 mg/L	0.0039	1.54%
Pb 220.353†	3216.3	0.260 mg/L	0.0037	0.260 mg/L	0.0037	1.43%
Sb 206.836†	2534.8	0.597 mg/L	0.0171	0.597 mg/L	0.0171	2.87%
Se 196.026†	407.4	0.214 mg/L	0.0108	0.214 mg/L	0.0108	5.07%
Si 251.611†	115562.1	2.57 mg/L	0.069	2.57 mg/L	0.069	2.70%
Sn 189.927†	-59.2	-0.00261 mg/L	0.000314	-0.00261 mg/L	0.000314	12.05%
Ti 334.940†	470306.0	0.496 mg/L	0.0011	0.496 mg/L	0.0011	0.23%
Tl 190.801†	1081.1	0.273 mg/L	0.0017	0.273 mg/L	0.0017	0.61%
V 290.880†	110362.5	0.506 mg/L	0.0031	0.506 mg/L	0.0031	0.61%
Zn 206.200†	28862.8	0.530 mg/L	0.0061	0.530 mg/L	0.0061	1.16%
K 766.490†	68447.1	26.4 mg/L	0.41	26.4 mg/L	0.41	1.57%
Na 589.592†	499116.0	28.9 mg/L	1.31	28.9 mg/L	1.31	4.56%
Sr 407.771†	1231127.1	0.504 mg/L	0.0258	0.504 mg/L	0.0258	5.12%
Li 670.784†	65570.1	0.524 mg/L	0.0047	0.524 mg/L	0.0047	0.89%

Sequence No.: 34

Sample ID: L1206047106DL WG401208-02

Analyst: KHR

Initial Sample Wt:

Dilution:

Autosampler Location: 78

Date Collected: 6/21/2012 6:23:40 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047106DL WG401208-02

Analyte Back Pressure Flow
All 157.0 kPa 0.50 L/min

Mean Data: L1206047106DL WG401208-02

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1985237.1				12887.83	0.65%
YRADIAL	247616.8				5130.96	2.07%
Ga 417.206	1233163.7				23315.79	1.89%
GaRADIAL	78224.4				1341.15	1.71%
Ag 328.068†	-1.0	0.00054 mg/L	0.000524	0.00054 mg/L	0.000524	96.85%
Al 396.153†	10.0	0.0359 mg/L	0.00045	0.0359 mg/L	0.00045	1.26%
As 188.979†	2.7	0.00320 mg/L	0.001475	0.00320 mg/L	0.001475	46.12%
Ba 233.527†	18.5	0.00204 mg/L	0.000135	0.00204 mg/L	0.000135	6.60%
Be 234.861†	79.5	0.00026 mg/L	0.000013	0.00026 mg/L	0.000013	5.02%
B 249.677†	523.4	0.00895 mg/L	0.000636	0.00895 mg/L	0.000636	7.10%
Ca 227.546†	12.3	0.114 mg/L	0.0351	0.114 mg/L	0.0351	30.78%
Cd 228.802†	-5.3	0.00011 mg/L	0.000127	0.00011 mg/L	0.000127	115.01%
Co 228.616†	-2.2	0.00034 mg/L	0.000197	0.00034 mg/L	0.000197	58.12%

Approved: June 22, 2012

John H. Rhodes

Cr 267.716†	4.7	0.00149 mg/L	0.000153	0.00149 mg/L	0.000153	10.22%
Cu 327.393†	-72.9	0.00138 mg/L	0.000294	0.00138 mg/L	0.000294	21.26%
Fe 239.562†	5.8	0.0184 mg/L	0.00056	0.0184 mg/L	0.00056	3.03%
Mg 279.077†	34.9	0.0613 mg/L	0.00115	0.0613 mg/L	0.00115	1.87%
Mn 257.610†	33.2	0.00018 mg/L	0.000023	0.00018 mg/L	0.000023	12.86%
Mo 202.031†	12.6	0.00354 mg/L	0.000209	0.00354 mg/L	0.000209	5.91%
Ni 231.604†	-5.6	0.00059 mg/L	0.000141	0.00059 mg/L	0.000141	23.84%
Pb 220.353†	0.1	0.00114 mg/L	0.000420	0.00114 mg/L	0.000420	36.93%
Sb 206.836†	-9.0	0.00213 mg/L	0.001141	0.00213 mg/L	0.001141	53.44%
Se 196.026†	-2.2	-0.00069 mg/L	0.001586	-0.00069 mg/L	0.001586	231.18%
Si 251.611†	326.7	0.0114 mg/L	0.00072	0.0114 mg/L	0.00072	6.26%
Sn 189.927†	-1.5	0.00232 mg/L	0.000477	0.00232 mg/L	0.000477	20.61%
Ti 334.940†	-41.4	0.00441 mg/L	0.000111	0.00441 mg/L	0.000111	2.51%
Tl 190.801†	-1.1	-0.00045 mg/L	0.001307	-0.00045 mg/L	0.001307	293.46%
V 290.880†	393.5	0.00417 mg/L	0.000992	0.00417 mg/L	0.000992	23.78%
Zn 206.200†	83.2	0.00381 mg/L	0.000186	0.00381 mg/L	0.000186	4.88%
K 766.490†	22.2	-0.117 mg/L	0.0233	-0.117 mg/L	0.0233	19.99%
Na 589.592†	10821.5	0.612 mg/L	0.0088	0.612 mg/L	0.0088	1.44%
Sr 407.771†	958.3	0.00601 mg/L	0.000102	0.00601 mg/L	0.000102	1.69%
Li 670.784†	-9.8	0.00137 mg/L	0.000781	0.00137 mg/L	0.000781	56.93%

Sequence No.: 35

Sample ID: L1206047107 0.01

Analyst: KHR

Initial Sample Wt:

Dilution:

autosampler Location: 79

Date Collected: 6/21/2012 6:30:35 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: L1206047107 0.01

Analyte	Back Pressure	Flow
All	156.0 kPa	0.50 L/min

Mean Data: L1206047107 0.01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2064840.7				50031.06	2.42%
YRADIAL	248145.3				8345.54	3.36%
Ga 417.206	1273972.1				49340.42	3.87%
GaRADIAL	78052.0				1305.18	1.67%
Ag 328.068†	33.1	0.00065 mg/L	0.000276	0.00065 mg/L	0.000276	42.64%
Al 396.153†	16.2	0.0368 mg/L	0.00132	0.0368 mg/L	0.00132	3.58%
As 188.979†	1.7	0.00287 mg/L	0.000950	0.00287 mg/L	0.000950	33.14%
Ba 233.527†	41.1	0.00218 mg/L	0.000110	0.00218 mg/L	0.000110	5.04%
Be 234.861†	107.1	0.00028 mg/L	0.000025	0.00028 mg/L	0.000025	9.00%
B 249.677†	502.5	0.00874 mg/L	0.000570	0.00874 mg/L	0.000570	6.53%
Ca 227.546†	10.5	0.110 mg/L	0.0259	0.110 mg/L	0.0259	23.54%
Cd 228.802†	-8.3	0.00006 mg/L	0.000071	0.00006 mg/L	0.000071	127.02%
Co 228.616†	-3.4	0.00031 mg/L	0.000342	0.00031 mg/L	0.000342	109.86%
Cr 267.716†	-1.5	0.00144 mg/L	0.000122	0.00144 mg/L	0.000122	8.48%
Cu 327.393†	-79.1	0.00136 mg/L	0.000083	0.00136 mg/L	0.000083	6.11%
Fe 239.562†	8.5	0.0186 mg/L	0.00035	0.0186 mg/L	0.00035	1.91%
Mg 279.077†	58.8	0.0683 mg/L	0.00352	0.0683 mg/L	0.00352	5.15%
Mn 257.610†	13.9	0.00015 mg/L	0.000031	0.00015 mg/L	0.000031	20.36%
Mo 202.031†	78.9	0.00530 mg/L	0.000040	0.00530 mg/L	0.000040	0.75%
Ni 231.604†	5.2	0.00075 mg/L	0.000186	0.00075 mg/L	0.000186	24.95%
Pb 220.353†	8.7	0.00183 mg/L	0.000484	0.00183 mg/L	0.000484	26.45%
Sb 206.836†	-6.4	0.00274 mg/L	0.000477	0.00274 mg/L	0.000477	17.38%
Se 196.026†	-2.7	-0.00096 mg/L	0.002562	-0.00096 mg/L	0.002562	266.71%
Si 251.611†	1585.3	0.0394 mg/L	0.00231	0.0394 mg/L	0.00231	5.85%
Sn 189.927†	-10.2	0.00157 mg/L	0.000421	0.00157 mg/L	0.000421	26.79%
Ti 334.940†	81.4	0.00454 mg/L	0.000121	0.00454 mg/L	0.000121	2.66%
Tl 190.801†	4.0	0.00080 mg/L	0.002444	0.00080 mg/L	0.002444	303.85%
V 290.880†	82.7	0.00275 mg/L	0.001739	0.00275 mg/L	0.001739	63.26%
Zn 206.200†	83.6	0.00382 mg/L	0.000031	0.00382 mg/L	0.000031	0.80%
K 766.490†	56.7	-0.106 mg/L	0.0329	-0.106 mg/L	0.0329	31.17%
Na 589.592†	51606.6	2.98 mg/L	0.064	2.98 mg/L	0.064	2.16%
Sr 407.771†	3344.1	0.00698 mg/L	0.000078	0.00698 mg/L	0.000078	1.12%
Li 670.784†	-90.6	0.00073 mg/L	0.000363	0.00073 mg/L	0.000363	49.91%

Approved: June 22, 2012

John H. Rhodes

Sequence No.: 36
 Sample ID: L1206047108 0.01
 Analyst: KHR
 Initial Sample Wt:
 Dilution:

Autosampler Location: 80
 Date Collected: 6/21/2012 6:37:30 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: L1206047108 0.01

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: L1206047108 0.01

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2054614.0				28469.95	1.39%
YRADIAL	253783.7				8988.31	3.54%
Ga 417.206	1292087.2				29183.28	2.26%
GaRADIAL	80025.8				615.80	0.77%
Ag 328.068†	33.7	0.00065 mg/L	0.000191	0.00065 mg/L	0.000191	29.55%
Al 396.153†	0.9	0.0343 mg/L	0.00229	0.0343 mg/L	0.00229	6.67%
As 188.979†	5.1	0.00397 mg/L	0.002129	0.00397 mg/L	0.002129	53.60%
Ba 233.527†	38.0	0.00216 mg/L	0.000120	0.00216 mg/L	0.000120	5.57%
Be 234.861†	150.5	0.00031 mg/L	0.000011	0.00031 mg/L	0.000011	3.52%
B 249.677†	419.1	0.00785 mg/L	0.000186	0.00785 mg/L	0.000186	2.37%
Ca 227.546†	21.9	0.137 mg/L	0.0274	0.137 mg/L	0.0274	19.93%
Cd 228.802†	-7.7	0.00006 mg/L	0.000109	0.00006 mg/L	0.000109	181.16%
Co 228.616†	-15.9	0.00001 mg/L	0.000173	0.00001 mg/L	0.000173	>999.9%
Cr 267.716†	-16.0	0.00131 mg/L	0.000016	0.00131 mg/L	0.000016	1.21%
Cu 327.393†	-51.2	0.00147 mg/L	0.000449	0.00147 mg/L	0.000449	30.52%
Fe 239.562†	1.8	0.0181 mg/L	0.00055	0.0181 mg/L	0.00055	3.02%
Mg 279.077†	57.1	0.0678 mg/L	0.00217	0.0678 mg/L	0.00217	3.21%
Mn 257.610†	-27.6	0.00010 mg/L	0.000015	0.00010 mg/L	0.000015	14.10%
Mo 202.031†	72.9	0.00514 mg/L	0.000211	0.00514 mg/L	0.000211	4.10%
Ni 231.604†	3.1	0.00072 mg/L	0.000361	0.00072 mg/L	0.000361	50.37%
Pb 220.353†	-0.4	0.00110 mg/L	0.000757	0.00110 mg/L	0.000757	68.69%
Sb 206.836†	-6.4	0.00275 mg/L	0.001376	0.00275 mg/L	0.001376	49.95%
Se 196.026†	3.6	0.00231 mg/L	0.003104	0.00231 mg/L	0.003104	134.14%
Si 251.611†	1453.5	0.0365 mg/L	0.00106	0.0365 mg/L	0.00106	2.91%
Sn 189.927†	-10.2	0.00157 mg/L	0.000231	0.00157 mg/L	0.000231	14.67%
Ti 334.940†	12.6	0.00447 mg/L	0.000051	0.00447 mg/L	0.000051	1.15%
Tl 190.801†	0.4	-0.00009 mg/L	0.000719	-0.00009 mg/L	0.000719	812.85%
V 290.880†	-130.0	0.00178 mg/L	0.002009	0.00178 mg/L	0.002009	112.94%
Zn 206.200†	57.4	0.00334 mg/L	0.000219	0.00334 mg/L	0.000219	6.54%
K 766.490†	19.5	-0.120 mg/L	0.0188	-0.120 mg/L	0.0188	15.62%
Na 589.592†	50782.0	2.93 mg/L	0.084	2.93 mg/L	0.084	2.88%
Sr 407.771†	3374.2	0.00699 mg/L	0.000030	0.00699 mg/L	0.000030	0.43%
Li 670.784†	-30.6	0.00121 mg/L	0.000645	0.00121 mg/L	0.000645	53.54%

Sequence No.: 37
 Sample ID: CCV
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 6
 Date Collected: 6/21/2012 6:44:25 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

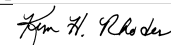
Nebulizer Parameters: CCV

Analyte Back Pressure Flow
 All 156.0 kPa 0.50 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1984489.3				15190.57	0.77%
YRADIAL	246952.1				2704.74	1.10%
Ga 417.206	1167273.5				23170.84	1.99%
GaRADIAL	76027.1				1087.60	1.43%
Ag 328.068†	124830.2	0.403 mg/L	0.0071	0.403 mg/L	0.0071	1.76%
QC value within limits for Ag 328.068 Recovery = 100.76%						
Al 396.153†	59276.4	9.74 mg/L	0.046	9.74 mg/L	0.046	0.47%

Approved: June 22, 2012



QC value within limits for Al	396.153	Recovery = 97.42%			
As 188.979†	1229.9	0.393 mg/L	0.0084	0.393 mg/L	0.0084 2.14%
QC value within limits for As	188.979	Recovery = 98.25%			
Ba 233.527†	167495.3	0.992 mg/L	0.0130	0.992 mg/L	0.0130 1.31%
QC value within limits for Ba	233.527	Recovery = 99.24%			
Be 234.861†	63139.2	0.0490 mg/L	0.00109	0.0490 mg/L	0.00109 2.22%
QC value within limits for Be	234.861	Recovery = 98.00%			
B 249.677†	47744.2	0.507 mg/L	0.0098	0.507 mg/L	0.0098 1.94%
QC value within limits for B	249.677	Recovery = 101.40%			
Ca 227.546†	4061.9	10.2 mg/L	0.16	10.2 mg/L	0.16 1.53%
QC value within limits for Ca	227.546	Recovery = 102.30%			
Cd 228.802†	2622.5	0.0479 mg/L	0.00195	0.0479 mg/L	0.00195 4.07%
QC value within limits for Cd	228.802	Recovery = 95.82%			
Co 228.616†	8163.9	0.198 mg/L	0.0028	0.198 mg/L	0.0028 1.40%
QC value within limits for Co	228.616	Recovery = 98.82%			
Cr 267.716†	57356.4	0.492 mg/L	0.0034	0.492 mg/L	0.0034 0.69%
QC value within limits for Cr	267.716	Recovery = 98.32%			
Cu 327.393†	119215.2	0.499 mg/L	0.0072	0.499 mg/L	0.0072 1.44%
QC value within limits for Cu	327.393	Recovery = 99.74%			
Fe 239.562†	56066.7	3.88 mg/L	0.037	3.88 mg/L	0.037 0.95%
QC value within limits for Fe	239.562	Recovery = 96.92%			
Mg 279.077†	32923.4	9.72 mg/L	0.056	9.72 mg/L	0.056 0.58%
QC value within limits for Mg	279.077	Recovery = 97.19%			
Mn 257.610†	416436.2	0.504 mg/L	0.0080	0.504 mg/L	0.0080 1.59%
QC value within limits for Mn	257.610	Recovery = 100.72%			
Mo 202.031†	37144.6	0.988 mg/L	0.0096	0.988 mg/L	0.0096 0.97%
QC value within limits for Mo	202.031	Recovery = 98.75%			
Ni 231.604†	34986.0	0.495 mg/L	0.0071	0.495 mg/L	0.0071 1.43%
QC value within limits for Ni	231.604	Recovery = 99.05%			
Pb 220.353†	6187.0	0.499 mg/L	0.0059	0.499 mg/L	0.0059 1.17%
QC value within limits for Pb	220.353	Recovery = 99.82%			
Sb 206.836†	5042.8	1.18 mg/L	0.028	1.18 mg/L	0.028 2.38%
QC value within limits for Sb	206.836	Recovery = 98.58%			
Se 196.026†	768.6	0.403 mg/L	0.0086	0.403 mg/L	0.0086 2.14%
QC value within limits for Se	196.026	Recovery = 100.64%			
Si 251.611†	241807.0	5.38 mg/L	0.090	5.38 mg/L	0.090 1.67%
QC value within limits for Si	251.611	Recovery = 107.54%			
Sn 189.927†	11544.1	0.987 mg/L	0.0110	0.987 mg/L	0.0110 1.11%
QC value within limits for Sn	189.927	Recovery = 98.74%			
Ti 334.940†	931387.5	0.979 mg/L	0.0049	0.979 mg/L	0.0049 0.50%
QC value within limits for Ti	334.940	Recovery = 97.88%			
Tl 190.801†	2031.0	0.513 mg/L	0.0022	0.513 mg/L	0.0022 0.42%
QC value within limits for Tl	190.801	Recovery = 102.70%			
V 290.880†	216822.5	0.991 mg/L	0.0083	0.991 mg/L	0.0083 0.84%
QC value within limits for V	290.880	Recovery = 99.14%			
Zn 206.200†	54279.8	0.996 mg/L	0.0043	0.996 mg/L	0.0043 0.44%
QC value within limits for Zn	206.200	Recovery = 99.58%			
K 766.490†	131416.0	50.2 mg/L	0.22	50.2 mg/L	0.22 0.43%
QC value within limits for K	766.490	Recovery = 100.36%			
Na 589.592†	863858.9	49.9 mg/L	1.46	49.9 mg/L	1.46 2.93%
QC value within limits for Na	589.592	Recovery = 99.72%			
Sr 407.771†	2416437.0	0.984 mg/L	0.0223	0.984 mg/L	0.0223 2.26%
QC value within limits for Sr	407.771	Recovery = 98.37%			
Li 670.784†	124201.2	0.991 mg/L	0.0044	0.991 mg/L	0.0044 0.45%
QC value within limits for Li	670.784	Recovery = 99.06%			
All analyte(s) passed QC.					

Sequence No.: 38

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Sampler Location: 1

Date Collected: 6/21/2012 6:50:26 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte

Back Pressure

Flow

All

156.0 kPa

0.50 L/min

Mean Data: CCB

Mean Corrected

Calib.

Sample

Approved: June 22, 2012

John H. Rhodes

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	2023329.7				10366.70	0.51%
YRADIAL	245140.4				905.42	0.37%
Ga 417.206	1207457.3				39241.93	3.25%
GaRADIAL	75659.3				2722.08	3.60%
Ag 328.068†	-64.9	0.00033 mg/L	0.000110	0.00033 mg/L	0.000110	32.89%
QC value within limits for Ag	328.068	Recovery =	Not calculated			
Al 396.153†	7.4	0.0355 mg/L	0.00074	0.0355 mg/L	0.00074	2.10%
QC value within limits for Al	396.153	Recovery =	Not calculated			
As 188.979†	-1.6	0.00181 mg/L	0.001997	0.00181 mg/L	0.001997	110.17%
QC value within limits for As	188.979	Recovery =	Not calculated			
Ba 233.527†	14.1	0.00202 mg/L	0.000130	0.00202 mg/L	0.000130	6.44%
QC value within limits for Ba	233.527	Recovery =	Not calculated			
Be 234.861†	-54.7	0.00015 mg/L	0.000022	0.00015 mg/L	0.000022	14.66%
QC value within limits for Be	234.861	Recovery =	Not calculated			
B 249.677†	277.3	0.00634 mg/L	0.000484	0.00634 mg/L	0.000484	7.64%
QC value within limits for B	249.677	Recovery =	Not calculated			
Ca 227.546†	-6.7	0.0691 mg/L	0.04147	0.0691 mg/L	0.04147	60.05%
QC value within limits for Ca	227.546	Recovery =	Not calculated			
Cd 228.802†	-11.9	-0.00001 mg/L	0.000109	-0.00001 mg/L	0.000109	>999.9%
QC value within limits for Cd	228.802	Recovery =	Not calculated			
Co 228.616†	-3.6	0.00030 mg/L	0.000102	0.00030 mg/L	0.000102	33.70%
QC value within limits for Co	228.616	Recovery =	Not calculated			
Cr 267.716†	8.4	0.00152 mg/L	0.000139	0.00152 mg/L	0.000139	9.09%
QC value within limits for Cr	267.716	Recovery =	Not calculated			
Cu 327.393†	55.6	0.00192 mg/L	0.000064	0.00192 mg/L	0.000064	3.34%
QC value within limits for Cu	327.393	Recovery =	Not calculated			
Fe 239.562†	16.0	0.0191 mg/L	0.00014	0.0191 mg/L	0.00014	0.74%
QC value within limits for Fe	239.562	Recovery =	Not calculated			
Mg 279.077†	26.3	0.0588 mg/L	0.00089	0.0588 mg/L	0.00089	1.51%
QC value within limits for Mg	279.077	Recovery =	Not calculated			
Mn 257.610†	103.3	0.00026 mg/L	0.000005	0.00026 mg/L	0.000005	1.91%
QC value within limits for Mn	257.610	Recovery =	Not calculated			
Mo 202.031†	3.1	0.00329 mg/L	0.000284	0.00329 mg/L	0.000284	8.65%
QC value within limits for Mo	202.031	Recovery =	Not calculated			
Ni 231.604†	-4.6	0.00061 mg/L	0.000296	0.00061 mg/L	0.000296	48.67%
QC value within limits for Ni	231.604	Recovery =	Not calculated			
Pb 220.353†	-1.6	0.00100 mg/L	0.000293	0.00100 mg/L	0.000293	29.27%
QC value within limits for Pb	220.353	Recovery =	Not calculated			
Sb 206.836†	4.8	0.00535 mg/L	0.000834	0.00535 mg/L	0.000834	15.58%
QC value within limits for Sb	206.836	Recovery =	Not calculated			
Se 196.026†	4.4	0.00277 mg/L	0.002501	0.00277 mg/L	0.002501	90.31%
QC value within limits for Se	196.026	Recovery =	Not calculated			
Si 251.611†	109.6	0.00661 mg/L	0.000855	0.00661 mg/L	0.000855	12.94%
QC value within limits for Si	251.611	Recovery =	Not calculated			
Sn 189.927†	16.2	0.00382 mg/L	0.000620	0.00382 mg/L	0.000620	16.21%
QC value within limits for Sn	189.927	Recovery =	Not calculated			
Ti 334.940†	331.9	0.00479 mg/L	0.000038	0.00479 mg/L	0.000038	0.79%
QC value within limits for Ti	334.940	Recovery =	Not calculated			
Tl 190.801†	3.1	0.00058 mg/L	0.001313	0.00058 mg/L	0.001313	227.84%
QC value within limits for Tl	190.801	Recovery =	Not calculated			
V 290.880†	56.3	0.00263 mg/L	0.000320	0.00263 mg/L	0.000320	12.17%
QC value within limits for V	290.880	Recovery =	Not calculated			
Zn 206.200†	10.9	0.00250 mg/L	0.000109	0.00250 mg/L	0.000109	4.35%
QC value within limits for Zn	206.200	Recovery =	Not calculated			
K 766.490†	68.3	-0.0981 mg/L	0.03465	-0.0981 mg/L	0.03465	35.34%
QC value within limits for K	766.490	Recovery =	Not calculated			
Na 589.592†	203.7	-0.00302 mg/L	0.005172	-0.00302 mg/L	0.005172	171.06%
QC value within limits for Na	589.592	Recovery =	Not calculated			
Sr 407.771†	431.6	0.00580 mg/L	0.000025	0.00580 mg/L	0.000025	0.43%
QC value within limits for Sr	407.771	Recovery =	Not calculated			
Li 670.784†	78.6	0.00208 mg/L	0.000074	0.00208 mg/L	0.000074	3.55%
QC value within limits for Li	670.784	Recovery =	Not calculated			
All analyte(s) passed QC.						

Approved: June 22, 2012

John H. Rhodes

2.3.2 Metals ICP-MS Data

2.3.2.1 Summary Data



Login Number: L12060445
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG400788 - All acceptance criteria were met.

Matrix Spikes: WG400788 - Sample 05 was chosen by the client for MS/MSD analysis. Samples 06(MS) and 07(MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 48166

Approved By: Sheri Pfalzgraf

A handwritten signature in black ink, appearing to read "Sheri L. Pfalzgraf".

Certificate of Analysis

Sample #: L12060445-01

PrePrep Method: N/A

Instrument: ICP-MS2

Client ID: 40MW7GW601212

Prep Method: 3015

Prep Date: 06/15/2012 07:39

Matrix: Water

Analytical Method: 6020

Cal Date: 06/19/2012 08:58

Workgroup #: WG400788

Analyst: JYH

Run Date: 06/19/2012 09:47

Collect Date: 06/12/2012 10:25

Dilution: 1

File ID: NI.061912.094714

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.146		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00213		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00647		0.00200	0.00100
Nickel, Total	7440-02-0	0.00482		0.00400	0.00200
Selenium, Total	7782-49-2	0.000652	J	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-03	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: LFMW01GW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:09
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: NI.061912.110907
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0657		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00314		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00115	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00218		0.00200	0.00100
Nickel, Total	7440-02-0	0.00495		0.00400	0.00200
Selenium, Total	7782-49-2	0.000726	J	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: LFMW01GW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:12
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: NI.061912.111223
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2		U	0.00100	0.000500
Barium, Dissolved	7440-39-3	0.0634		0.00300	0.00150
Cadmium, Dissolved	7440-43-9		U	0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.00272		0.00200	0.00100
Cobalt, Dissolved	7440-48-4		U	0.00100	0.000500
Copper, Dissolved	7440-50-8		U	0.00200	0.00100
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Manganese, Dissolved	7439-96-5		U	0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.00481		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.000700	J	0.00100	0.000500
Silver, Dissolved	7440-22-4		U	0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW6GW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 09:37
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: NI.061912.093733
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0522		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00197	J	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00201		0.00200	0.00100
Lead, Total	7439-92-1	0.000525	J	0.00100	0.000500
Manganese, Total	7439-96-5	0.00293		0.00200	0.00100
Nickel, Total	7440-02-0	0.00489		0.00400	0.00200
Selenium, Total	7782-49-2	0.00124		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW6MSGW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 09:40
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: NI.061912.094047
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0628		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0641		0.00100	0.000500
Barium, Total	7440-39-3	0.112		0.00300	0.00150
Cadmium, Total	7440-43-9	0.0639		0.000600	0.000300
Chromium, Total	7440-47-3	0.0662		0.00200	0.00100
Cobalt, Total	7440-48-4	0.0633		0.00100	0.000500
Copper, Total	7440-50-8	0.0633		0.00200	0.00100
Lead, Total	7439-92-1	0.0638		0.00100	0.000500
Manganese, Total	7439-96-5	0.0674		0.00200	0.00100
Nickel, Total	7440-02-0	0.0671		0.00400	0.00200
Selenium, Total	7782-49-2	0.0649		0.00100	0.000500
Silver, Total	7440-22-4	0.0574		0.00100	0.000500
Thallium, Total	7440-28-0	0.0629		0.000200	0.000100

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW6MSDGW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 09:44
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: NI.061912.094400
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0628		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0652		0.00100	0.000500
Barium, Total	7440-39-3	0.115		0.00300	0.00150
Cadmium, Total	7440-43-9	0.0649		0.000600	0.000300
Chromium, Total	7440-47-3	0.0686		0.00200	0.00100
Cobalt, Total	7440-48-4	0.0648		0.00100	0.000500
Copper, Total	7440-50-8	0.0643		0.00200	0.00100
Lead, Total	7439-92-1	0.0651		0.00100	0.000500
Manganese, Total	7439-96-5	0.0686		0.00200	0.00100
Nickel, Total	7440-02-0	0.0681		0.00400	0.00200

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Selenium, Total	7782-49-2	0.0665		0.00100	0.000500
Silver, Total	7440-22-4	0.0585		0.00100	0.000500
Thallium, Total	7440-28-0	0.0646		0.000200	0.000100

Sample #: L12060445-08

PrePrep Method: N/A

Instrument: ICP-MS2

Client ID: 40DUPGW061212

Prep Method: 3015

Prep Date: 06/15/2012 07:39

Matrix: Water

Analytical Method: 6020

Cal Date: 06/19/2012 08:58

Workgroup #: WG400788

Analyst: JYH

Run Date: 06/19/2012 11:15

Collect Date: 06/12/2012 15:02

Dilution: 1

File ID: NI.061912.111538

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0488		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00143	J	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00114	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00182	J	0.00200	0.00100
Nickel, Total	7440-02-0	0.00494		0.00400	0.00200
Selenium, Total	7782-49-2	0.000697	J	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40FB061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:18
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: NI.061912.111853
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3		U	0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3		U	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5		U	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40EQR061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:22
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: NI.061912.112207
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3		U	0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3		U	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5		U	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW5GW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:25
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: NI.061912.112522
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0569		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00262		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00198	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00484		0.00200	0.00100
Nickel, Total	7440-02-0	0.00552		0.00400	0.00200
Selenium, Total	7782-49-2	0.000784	J	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-12	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW5GW061212	Prep Method: 3015	Prep Date: 06/15/2012 07:39
Matrix: Water	Analytical Method: 6020	Cal Date: 06/19/2012 08:58
Workgroup #: WG400788	Analyst: JYH	Run Date: 06/19/2012 11:28
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: NI.061912.112835
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2		U	0.00100	0.000500
Barium, Dissolved	7440-39-3	0.0543		0.00300	0.00150
Cadmium, Dissolved	7440-43-9		U	0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.00135	J	0.00200	0.00100
Cobalt, Dissolved	7440-48-4		U	0.00100	0.000500
Copper, Dissolved	7440-50-8		U	0.00200	0.00100
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Manganese, Dissolved	7439-96-5		U	0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.00489		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.000847	J	0.00100	0.000500
Silver, Dissolved	7440-22-4		U	0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

2.3.2.2 QC Summary Data

Example 6020 Calculations
Perkin Elmer NexION 300X

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/L)

Example:

0.1

100

40

1

0.25

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/kg)

Example:

0.1

200

0.5

1

40

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (ug/kg)

Example:

40

80

50

50 ug/kg = 0.050 mg/kg

Perkin Elmer NexION ICP/MS

STANDARDS KEY

QC Std 1 - ICV

QC Std 2 - ICB

QC Std 3 - LLICV

QC Std 4 - ICSA

QC Std 5 - ICSAB

QC Std 6 - CCV

QC Std 7 - CCB

QC Std 8 - LLCCV

Calibration Solutions

Analyte	Stock Conc. (mg/L)	S1 (mg/L)	S2 (mg/L)	S3 (mg/L)	S4 (mg/L)
Al	10	0	0.00005	0.05	0.1
Sb	10	0	0.00005	0.05	0.1
As	10	0	0.00005	0.05	0.1
Ba	10	0	0.00005	0.05	0.1
Be	10	0	0.00005	0.05	0.1
Ca	1000	0	0.005	5	10
Cd	10	0	0.0005	0.05	0.1
Cr	10	0	0.0005	0.05	0.1
Co	10	0	0.0005	0.05	0.1
Cu	10	0	0.0005	0.05	0.1
Fe	1000	0	0.005	5	10
Pb	10	0	0.00005	0.05	0.1
Mg	1000	0	0.005	5	10
Mn	10	0	0.00005	0.05	0.1
Ni	10	0	0.00005	0.05	0.1
K	1000	0	0.005	5	10
Se	10	0	0.00005	0.05	0.1
Ag	10	0	0.00005	0.05	0.1
Na	1000	0	0.005	5	10
Tl	10	0	0.00005	0.05	0.1
V	10	0	0.00005	0.05	0.1
U	1000	0	0.00005	0.05	0.1
Zn	10	0	0.00005	0.05	0.1

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG400743
Analyst: VC
Spike Analyst: VC
Run Date: 06/15/2012 07:39
Method: 3015
Balance: BAL016
Instrument: MW-3

SOP: ME407 Revision 12
Spike Solution: STD49281
Spike Witness: REK
Digestion Tubes Lot #: COA16074
HNO3 Lot #: COA16174
MS WG# 397700 SYRINGE FIC COA16156

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG400743-02	BLANK	1	40 mL	100 mL	205.244 g	205.241 g		
2	WG400743-03	LCS	1	40 mL	100 mL	208.461 g	208.453 g	.25 mL	
3	L12060409-01	SAMP	1	40 mL	100 mL	206.185 g	206.173 g		06/20/12
4	L12060410-01	SAMP	1	40 mL	100 mL	205.555 g	205.547 g		06/20/12
5	L12060445-01	SAMP	1	40 mL	100 mL	205.944 g	205.918 g		06/25/12
6	L12060445-03	SAMP	1	40 mL	100 mL	207.797 g	207.779 g		06/25/12
7	L12060445-04	SAMP	1	40 mL	100 mL	206.544 g	206.532 g		06/25/12
8	WG400743-01	REF	1	40 mL	100 mL	207.749 g	207.731 g		
9	L12060445-05	RS01	1	40 mL	100 mL	207.749 g	207.731 g		06/25/12
10	WG400743-04	MS	1	40 mL	100 mL	206.699 g	206.684 g	.25 mL	
11	L12060445-06	MS01	1	40 mL	100 mL	206.699 g	206.684 g	.25 mL	06/25/12
12	WG400743-05	MSD	1	40 mL	100 mL	209.548 g	209.53 g	.25 mL	
13	L12060445-07	SD01	1	40 mL	100 mL	209.548 g	209.53 g	.25 mL	06/25/12
14	L12060445-08	SAMP	1	40 mL	100 mL	207.263 g	207.244 g		06/25/12
15	L12060445-09	SAMP	1	40 mL	100 mL	206.546 g	206.522 g		06/25/12
16	L12060445-10	SAMP	1	40 mL	100 mL	206.649 g	206.636 g		06/25/12
17	L12060445-11	SAMP	1	40 mL	100 mL	206.733 g	206.716 g		06/25/12
18	L12060445-12	SAMP	1	40 mL	100 mL	209.843 g	209.821 g		06/25/12
19	L12060447-01	SAMP	1	40 mL	100 mL	206.914 g	206.903 g		06/25/12
20	L12060447-02	SAMP	1	40 mL	100 mL	208.384 g	208.362 g		06/25/12
21	L12060447-03	SAMP	1	40 mL	100 mL	207.755 g	207.742 g		06/25/12
22	L12060448-01	SAMP	1	40 mL	100 mL	208.426 g	208.406 g		06/25/12
23	L12060448-02	SAMP	1	40 mL	100 mL	207.229 g	207.208 g		06/25/12
24	L12060448-03	SAMP	1	40 mL	100 mL	209.729 g	209.706 g		06/25/12

Analyst: Vicki Collier

Reviewer: REK



Microbac Laboratories Inc. Instrument Run Log

Instrument: ICP-MS2 Dataset: 061912A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020 SOP: ME700A Rev: _____
Maintenance Log ID: 42164

Calibration Std: STD52301 ICV Std: STD52072 Post Spike: STD47984
ICSA: STD52000 ICSAB: STD52001 Int. Std: RGT17150
CCV: STD51981 LLCCV: STD52004

400788,400786,401027,40164

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.061912.084520	Blank	Blank		1		06/19/12 08:45
2	NI.061912.084836	WG401056-01	Calibration Point		1		06/19/12 08:48
3	NI.061912.085152	WG401056-02	Calibration Point		1		06/19/12 08:51
4	NI.061912.085508	WG401056-03	Calibration Point		1		06/19/12 08:55
5	NI.061912.085823	WG401056-04	Calibration Point		1		06/19/12 08:58
6	NI.061912.090142	WG401056-05	Initial Calibration Verification		1		06/19/12 09:01
7	NI.061912.090458	WG401056-06	Initial Calib Blank		1		06/19/12 09:04
8	NI.061912.090816	WG401056-07	Low Level Initial Calibration V		1		06/19/12 09:08
9	NI.061912.091130	WG401056-08	Interference Check		1		06/19/12 09:11
10	NI.061912.091445	WG401056-09	Interference Check		1		06/19/12 09:14
11	NI.061912.091802	WG401056-10	CCV		1		06/19/12 09:18
12	NI.061912.092117	WG401056-11	CCB		1		06/19/12 09:21
13	NI.061912.092434	WG400743-02	Method/Prep Blank	40/100	1		06/19/12 09:24
14	NI.061912.092749	WG400743-03	Laboratory Control S	40/100	1		06/19/12 09:27
15	NI.061912.093103	L12060409-01	ID8001	40/100	1		06/19/12 09:31
16	NI.061912.093418	L12060410-01	GG8001	40/100	1		06/19/12 09:34
17	NI.061912.093733	WG400743-01	Reference Sample		1	L12060445-05	06/19/12 09:37
18	NI.061912.094047	WG400743-04	Matrix Spike	40/100	1	L12060445-05	06/19/12 09:40
19	NI.061912.094400	WG400743-05	Matrix Spike Duplica	40/100	1	L12060445-05	06/19/12 09:44
20	NI.061912.094714	L12060445-01	40MW7GW601212	40/100	1		06/19/12 09:47
21	NI.061912.095029	WG400788-01	Post Digestion Spike		1	L12060445-01	06/19/12 09:50
22	NI.061912.095345	WG400788-02	Serial Dilution		5	L12060445-01	06/19/12 09:53
23	NI.061912.095701	WG401056-12	CCV		1		06/19/12 09:57
24	NI.061912.100018	WG401056-13	CCB		1		06/19/12 10:00
25	NI.061912.100334	L12060376-03	DUP-01-120612	40/100	100		06/19/12 10:03
26	NI.061912.100649	WG401056-14	Interference Check		1		06/19/12 10:06
27	NI.061912.101005	WG401056-15	Interference Check		1		06/19/12 10:10
28	NI.061912.101322	WG401056-16	CCV		1		06/19/12 10:13
29	NI.061912.101638	WG401056-17	CCB		1		06/19/12 10:16
30	NI.061912.101955	WG401056-18	Low Level Continuing Calibra		1		06/19/12 10:19
31	NI.061912.102616	WG401006-02	Method/Prep Blank	40/100	1		06/19/12 10:26
32	NI.061912.102931	WG400950-01	Fluid Blank		1		06/19/12 10:29
33	NI.061912.103247	WG401006-03	Laboratory Control S	40/100	1		06/19/12 10:32
34	NI.061912.103603	WG401006-01	Reference Sample		1	L12060542-01	06/19/12 10:36

Page: 1 Approved: June 20, 2012

Shari L. Bahgat



Microbac Laboratories Inc.
Instrument Run Log

Instrument: ICP-MS2 Dataset: 061912A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700A Rev: _____
 Maintenance Log ID: 42164

Calibration Std: STD52301 ICV Std: STD52072 Post Spike: STD47984
 ICSA: STD52000 ICSAB: STD52001 Int. Std: RGT17150
 CCV: STD51981 LLCCV: STD52004

400788,400786,401027,40164

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	NI.061912.103918	WG401006-04	Matrix Spike	40/100	1	L12060542-01	06/19/12 10:39
36	NI.061912.104233	WG401006-05	Matrix Spike Duplica	40/100	1	L12060542-01	06/19/12 10:42
37	NI.061912.104547	L12060503-02	60500-SSP0240	40/100	1		06/19/12 10:45
38	NI.061912.104902	WG401027-01	Post Digestion Spike		1	L12060503-02	06/19/12 10:49
39	NI.061912.105216	WG401027-02	Serial Dilution		5	L12060503-02	06/19/12 10:52
40	NI.061912.105533	WG401056-19	CCV		1		06/19/12 10:55
41	NI.061912.105848	WG401056-20	CCB		1		06/19/12 10:58
42	NI.061912.110907	L12060445-03	LFMW01GW061212	40/100	1		06/19/12 11:09
43	NI.061912.111223	L12060445-04	LFMW01GW061212	40/100	1		06/19/12 11:12
44	NI.061912.111538	L12060445-08	40DUPGW061212	40/100	1		06/19/12 11:15
45	NI.061912.111853	L12060445-09	40FB061212	40/100	1		06/19/12 11:18
46	NI.061912.112207	L12060445-10	40EQR061212	40/100	1		06/19/12 11:22
47	NI.061912.112522	L12060445-11	40MW5GW061212	40/100	1		06/19/12 11:25
48	NI.061912.112835	L12060445-12	40MW5GW061212	40/100	1		06/19/12 11:28
49	NI.061912.113149	L12060447-01	SR-SW-08	40/100	1		06/19/12 11:31
50	NI.061912.113506	WG401056-21	CCV		1		06/19/12 11:35
51	NI.061912.113822	WG401056-22	CCB		1		06/19/12 11:38
52	NI.061912.114140	L12060447-02	SR-SW-09	40/100	1		06/19/12 11:41
53	NI.061912.114456	L12060447-03	SR-SW-11	40/100	1		06/19/12 11:44
54	NI.061912.114810	L12060448-01	SRTD-SW-03	40/100	1		06/19/12 11:48
55	NI.061912.115126	L12060448-02	SRTD-SW-04	40/100	1		06/19/12 11:51
56	NI.061912.115441	L12060448-03	SR-SW-06	40/100	1		06/19/12 11:54
57	NI.061912.115758	WG401056-23	CCV		1		06/19/12 11:57
58	NI.061912.120113	WG401056-24	CCB		1		06/19/12 12:01
59	NI.061912.134745	WG401015-02	Method/Prep Blank		1		06/19/12 13:47
60	NI.061912.143453	WG401015-02	Method/Prep Blank	5/50	10		06/19/12 14:34
61	NI.061912.143808	WG400954-01	TCLP Fluid Blank 1		10		06/19/12 14:38
62	NI.061912.144122	WG400954-02	TCLP Fluid Blank 2		10		06/19/12 14:41
63	NI.061912.144438	WG401015-03	Laboratory Control S		100		06/19/12 14:44
64	NI.061912.144754	WG401056-25	CCV		1		06/19/12 14:47
65	NI.061912.145109	WG401056-26	CCB		1		06/19/12 14:51
66	NI.061912.145909	WG401015-03	Laboratory Control S	5/50	50		06/19/12 14:59
67	NI.061912.150337	WG401015-01	Reference Sample		50	L12060458-05	06/19/12 15:03
68	NI.061912.150653	WG401015-04	Matrix Spike	5/50	50	L12060458-05	06/19/12 15:06

Page: 2 Approved: June 20, 2012

Shari L. Bahgat



Microbac Laboratories Inc.
Instrument Run Log

Instrument: ICP-MS2 Dataset: 061912A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020 SOP: ME700A Rev: _____
 Maintenance Log ID: 42164

Calibration Std: STD52301 ICV Std: STD52072 Post Spike: STD47984
 ICSA: STD52000 ICSAB: STD52001 Int. Std: RGT17150
 CCV: STD51981 LLCCV: STD52004

400788,400786,401027,40164

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	NI.061912.151008	WG401015-05	Matrix Spike Duplica	5/50	50	L12060458-05	06/19/12 15:10
70	NI.061912.151324	L12060461-01	NOVELIS BLUE	5/50	50		06/19/12 15:13
71	NI.061912.151639	WG401064-01	Post Digestion Spike		50	L12060461-01	06/19/12 15:16
72	NI.061912.151957	WG401064-02	Serial Dilution		250	L12060461-01	06/19/12 15:19
73	NI.061912.152314	WG401056-27	CCV		1		06/19/12 15:23
74	NI.061912.152630	WG401056-28	CCB		1		06/19/12 15:26
75	NI.061912.152948	WG401056-29	Low Level Continuing Calibra		1		06/19/12 15:29

Page: 3 Approved: June 20, 2012

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 19-JUN-2012

Analyst: JYH

Analyst: NA

Method: 6020

Instrument: ICP-MS2

Curve Workgroup: 401056

Runlog ID: 47370

Analytical Workgroups: 400788,400786,401027,401064

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	409,410,445,447,448,503,461
Client Forms	
Level X	
Level 3	
Level 4	409,410,445,447,448,503
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	SLP
Comments	

Primary Reviewer:

Secondary Reviewer:
20-JUN-2012



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6020

AAB#: WG400788

Login Number: L12060445

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
40MW7GW061212	01	06/12/12					06/15/12	2.9	180		06/19/12	7	180	
LFMW01GW061212	03	06/12/12					06/15/12	2.8	180		06/19/12	6.9	180	
LFMW01GW061212	04	06/12/12					06/15/12	2.8	180		06/19/12	6.9	180	
40MW6GW061212	05	06/12/12					06/15/12	2.7	180		06/19/12	6.8	180	
40MW6MSGW061212	06	06/12/12					06/15/12	2.7	180		06/19/12	6.8	180	
40MW6MSDGW061212	07	06/12/12					06/15/12	2.7	180		06/19/12	6.8	180	
40DUPGW061212	08	06/12/12					06/15/12	2.7	180		06/19/12	6.8	180	
40FB061212	09	06/12/12					06/15/12	2.7	180		06/19/12	6.8	180	
40EQR061212	10	06/12/12					06/15/12	2.6	180		06/19/12	6.8	180	
40MW5GW061212	11	06/12/12					06/15/12	2.6	180		06/19/12	6.7	180	
40MW5GW061212	12	06/12/12					06/15/12	2.6	180		06/19/12	6.7	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2457842
Report generated 06/19/2012 13:14



METHOD BLANK SUMMARY

Login Number: <u>L12060445</u>	Work Group: <u>WG400788</u>
Blank File ID: <u>NI.061912.092434</u>	Blank Sample ID: <u>WG400743-02</u>
Prep Date: <u>06/15/12 07:39</u>	Instrument ID: <u>ICP-MS2</u>
Analyzed Date: <u>06/19/12 09:24</u>	Method: <u>6020</u>
Analyst: <u>JYH</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG400743-03	NI.061912.092749	06/19/12 09:27	01
40MW6GW061212	L12060445-05	NI.061912.093733	06/19/12 09:37	01
40MW6MSGW061212	L12060445-06	NI.061912.094047	06/19/12 09:40	01
40MW6MSDGW061212	L12060445-07	NI.061912.094400	06/19/12 09:44	01
40MW7GW061212	L12060445-01	NI.061912.094714	06/19/12 09:47	01
LFMW01GW061212	L12060445-03	NI.061912.110907	06/19/12 11:09	01
LFMW01GW061212	L12060445-04	NI.061912.111223	06/19/12 11:12	01
40DUPGW061212	L12060445-08	NI.061912.111538	06/19/12 11:15	01
40FB061212	L12060445-09	NI.061912.111853	06/19/12 11:18	01
40EQR061212	L12060445-10	NI.061912.112207	06/19/12 11:22	01
40MW5GW061212	L12060445-11	NI.061912.112522	06/19/12 11:25	01
40MW5GW061212	L12060445-12	NI.061912.112835	06/19/12 11:28	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2457843
 Report generated 06/19/2012 13:38



METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/15/12 07:39 Sample ID: WG400743-02
 Instrument ID: ICP-MS2 Run Date: 06/19/12 09:24 Prep Method: 3015
 File ID: NI.061912.092434 Analyst: JYH Method: 6020
 Workgroup (AAB#): WG400788 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: ICP-MS - 19-JUN-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Antimony, Total	0.000500	0.00100	0.000500	1	U
Arsenic, Total	0.000500	0.00100	0.000500	1	U
Barium, Total	0.00150	0.00300	0.00150	1	U
Cadmium, Total	0.000300	0.000600	0.000300	1	U
Chromium, Total	0.00100	0.00200	0.00100	1	U
Cobalt, Total	0.000500	0.00100	0.000500	1	U
Copper, Total	0.00100	0.00200	0.00100	1	U
Lead, Total	0.000500	0.00100	0.000500	1	U
Manganese, Total	0.00100	0.00200	0.00100	1	U
Nickel, Total	0.00200	0.00400	0.00200	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Silver, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit
 LOQ Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2457844

19-JUN-2012 13:38



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L12060445</u>	Run Date: <u>06/19/2012</u>	Sample ID: <u>WG400743-03</u>
Instrument ID: <u>ICP-MS2</u>	Run Time: <u>09:27</u>	Prep Method: <u>3015</u>
File ID: <u>NI.061912.092749</u>	Analyst: <u>JYH</u>	Method: <u>6020</u>
Workgroup (AAB#): <u>WG400788</u>	Matrix: <u>Water</u>	Units: <u>mg/L</u>
QC Key: <u>DOD4</u>	Lot#: <u>STD49281</u>	Cal ID: <u>ICP-MS - 19-JUN-12</u>

Analytes	Expected	Found	% Rec	LCS Limits			Q
Antimony, Total	0.0625	0.0632	101	80	-	120	
Arsenic, Total	0.0625	0.0603	96.4	80	-	120	
Barium, Total	0.0625	0.0613	98.1	80	-	120	
Cadmium, Total	0.0625	0.0636	102	80	-	120	
Chromium, Total	0.0625	0.0641	103	80	-	120	
Cobalt, Total	0.0625	0.0646	103	80	-	120	
Copper, Total	0.0625	0.0653	104	80	-	120	
Lead, Total	0.0625	0.0639	102	80	-	120	
Manganese, Total	0.0625	0.0654	105	80	-	120	
Nickel, Total	0.0625	0.0638	102	80	-	120	
Selenium, Total	0.0625	0.0578	92.5	80	-	120	
Silver, Total	0.0625	0.0593	94.9	80	-	120	
Thallium, Total	0.0625	0.0629	101	80	-	120	

LCS - Modified 03/06/2008
 PDF File ID: 2457845
 Report generated: 06/19/2012 13:38



MS/MSD REPORT

Loginnum: L12060445Cal ID: ICP-MS2- 19-JUN-12Worknum: WG400788Instrument ID: ICP-MS2

Contract #: _____

Prep Method: 3015Parent ID: L12060445-05File ID: NI.061912.093733Dil: 1Method: 6020Sample ID: L12060445-06 MSFile ID: NI.061912.094047Dil: 1Matrix: WaterSample ID: L12060445-07 MSDFile ID: NI.061912.094400Dil: 1Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Total	U	0.0625	0.0628	100	0.0625	0.0628	101	0.125	80 - 120	20	
Arsenic, Total	U	0.0625	0.0641	103	0.0625	0.0652	104	1.81	80 - 120	20	
Barium, Total	0.0522	0.0625	0.112	95.8	0.0625	0.115	101	2.75	80 - 120	20	
Cadmium, Total	U	0.0625	0.0639	102	0.0625	0.0649	104	1.53	80 - 120	20	
Chromium, Total	0.00197	0.0625	0.0662	103	0.0625	0.0686	107	3.61	80 - 120	20	
Cobalt, Total	U	0.0625	0.0633	101	0.0625	0.0648	104	2.36	80 - 120	20	
Copper, Total	0.00201	0.0625	0.0633	98.1	0.0625	0.0643	99.7	1.59	80 - 120	20	
Lead, Total	0.000525	0.0625	0.0638	101	0.0625	0.0651	103	2.01	80 - 120	20	
Manganese, Total	0.00293	0.0625	0.0674	103	0.0625	0.0686	105	1.73	80 - 120	20	
Nickel, Total	0.00489	0.0625	0.0671	99.6	0.0625	0.0681	101	1.35	80 - 120	20	
Selenium, Total	0.00124	0.0625	0.0649	102	0.0625	0.0665	104	2.49	80 - 120	20	
Silver, Total	U	0.0625	0.0574	91.8	0.0625	0.0585	93.6	1.95	80 - 120	20	
Thallium, Total	U	0.0625	0.0629	101	0.0625	0.0646	103	2.61	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 2457846

Report generated 06/19/2012 13:38



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12060445 **Worknum:** WG400788
Instrument: ICP-MS2 **Method:** 6020
Serial Dil: WG400788-02 **File ID:** NI.061912.095345 **Dil:** 5 **Units:** ug/L
Sample: L12060445-01 **File ID:** NI.061912.094714 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	ND	U	ND	U		
Barium	58.3	X	59.0	X	1.29	
Cadmium	ND	U	ND	U		
Chromium	0.854	X	ND	U		
Cobalt	ND	U	ND	U		
Copper	ND	U	ND	U		
Lead	ND	U	ND	U		
Manganese	2.59	X	3.56	F	37.50	
Nickel	1.93	X	ND	U		
Selenium	0.261	F	ND	U		
Silver	ND	U	ND	U		
Thallium	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2457840

06/19/2012 13:38



**Microbac Laboratories Inc.
POST SPIKE REPORT**

Sample Login ID: L12060445
Instrument ID: ICP-MS2
Post Spike ID: WG400788-01
Sample ID: L12060445-01

Worknum: WG400788
Method: 6020
Units: ug/L
Matrix: Water
File ID: NI.061912.095029 Dil: 1
File ID: NI.061912.094714 Dil: 1

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	51.0		0	U	50	102.1	75 - 125	
ARSENIC	50.4		0	U	50	100.9	75 - 125	
BARIUM	109		58.3		50	101.5	75 - 125	
CADMIUM	51.1		0	U	50	102.1	75 - 125	
CHROMIUM	54.1		0.854		50	106.5	75 - 125	
COBALT	52.4		0	U	50	104.7	75 - 125	
COPPER	50.9		0	U	50	101.8	75 - 125	
LEAD	51.8		0	U	50	103.6	75 - 125	
MANGANESE	56.3		2.59		50	107.5	75 - 125	
NICKEL	53.2		1.93		50	102.5	75 - 125	
SELENIUM	50.3		0.261	F	50	100.1	75 - 125	
SILVER	47.1		0	U	50	94.2	75 - 125	
THALLIUM	51.7		0	U	50	103.4	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	L12060445	Workgroup (AAB#):	WG400788
Analytical Method:	6020	Instrument ID:	ICP-MS2
ICAL Worknum:	WG401056	Initial Calibration Date:	19-JUN-2012 08:58

	WG401056-01		WG401056-02		WG401056-03		WG401056-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	26.3	.4	354	50	351000	100	687000	.999993	
ARSENIC	0	-279	.4	-184	50	60500	100	117000	.999997	
BARIUM	0	31.0	.4	210	50	158000	100	307000	.999999	
CADMIUM	0	87.0	.4	241	50	149000	100	286000	.999988	
CHROMIUM	0	11100	.4	11500	50	543000	100	1040000	.999985	
COBALT	0	100	.4	837	50	677000	100	1310000	.999985	
COPPER	0	122	.4	302	50	132000	100	251000	.999997	
LEAD	0	659	.4	2320	50	1610000	100	3100000	.999991	
MANGANESE	0	1030	.4	1840	50	718000	100	1360000	.999994	
NICKEL	0	83.7	.4	250	50	142000	100	270000	.999997	
SELENIUM	0	23.0	.4	27.1	50	6250	100	12000	.999997	
SILVER	0	36.3	.4	430	50	358000	100	687000	.999975	
THALLIUM	0	3.30	.4	541	50	509000	100	988000	1	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
***** = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
 PDF File ID: 2457850
 Report generated: 19-JUN-2012 13:14



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401056-06
Instrument ID: ICP-MS2 Run Time: 09:04 Method: 6020
File ID: NI.061912.090458 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG400788 Cal ID: ICP-MS2 - 19-JUN-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2457852
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401056-11
Instrument ID: ICP-MS2 Run Time: 09:21 Method: 6020
File ID: NI.061912.092117 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG400788 Cal ID: ICP-MS - 19-JUN-12
Matrix: WATER QAPP: D0D4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2457855
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401056-13
Instrument ID: ICP-MS2 Run Time: 10:00 Method: 6020
File ID: NI.061912.100018 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG400788 Cal ID: ICP-MS - 19-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2457855
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401056-17
Instrument ID: ICP-MS2 Run Time: 10:16 Method: 6020
File ID: NI.061912.101638 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG400788 Cal ID: ICP-MS - 19-JUN-12
Matrix: WATER QAPP: D0D4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2457855
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401056-20
Instrument ID: ICP-MS2 Run Time: 10:58 Method: 6020
File ID: NI.061912.105848 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG400788 Cal ID: ICP-MS - 19-JUN-12
Matrix: WATER QAPP: D0D4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2457855
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/19/2012 Sample ID: WG401056-22
Instrument ID: ICP-MS2 Run Time: 11:38 Method: 6020
File ID: NI.061912.113822 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG400788 Cal ID: ICP-MS - 19-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2457855
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: <u>L12060445</u>	Run Date: <u>06/19/2012</u>	Sample ID: <u>WG401056-05</u>
Instrument ID: <u>ICP-MS2</u>	Run Time: <u>09:01</u>	Method: <u>6020</u>
File ID: <u>NI.061912.090142</u>	Analyst: <u>JYH</u>	Units: <u>ug/L</u>
Workgroup (AAB#): <u>WG400788</u>	Cal ID: <u>ICP-MS - 19-JUN-12</u>	
QC Key: <u>D0D4</u>		

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	50.1	100	90 - 110	
Arsenic	50	49.6	99.2	90 - 110	
Barium	50	49.9	99.9	90 - 110	
Cadmium	50	50.6	101	90 - 110	
Chromium	50	49.8	99.6	90 - 110	
Cobalt	50	50.2	100	90 - 110	
Copper	50	50.3	101	90 - 110	
Lead	50	49.5	99.0	90 - 110	
Manganese	50	50.0	100	90 - 110	
Nickel	50	49.7	99.3	90 - 110	
Selenium	50	50.3	101	90 - 110	
Silver	50	49.8	99.7	90 - 110	
Thallium	50	49.3	98.6	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
 PDF File ID: 2457851
 Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/19/2012</u>	Sample ID: <u>WG401056-10</u>
Instrument ID: <u>ICP-MS2</u>	Run Time: <u>09:18</u>	Method: <u>6020</u>
File ID: <u>NI.061912.091802</u>	Analyst: <u>JYH</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400788</u>	Cal ID: <u>ICP-MS - 19-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	51.2	ug/L	102	90 - 110		
Arsenic		50.0	50.1	ug/L	100	90 - 110		
Barium		50.0	49.7	ug/L	99.5	90 - 110		
Cadmium		50.0	51.4	ug/L	103	90 - 110		
Chromium		50.0	50.2	ug/L	100	90 - 110		
Cobalt		50.0	50.6	ug/L	101	90 - 110		
Copper		50.0	50.4	ug/L	101	90 - 110		
Lead		50.0	50.1	ug/L	100	90 - 110		
Manganese		50.0	50.8	ug/L	102	90 - 110		
Nickel		50.0	50.2	ug/L	100	90 - 110		
Selenium		50.0	51.0	ug/L	102	90 - 110		
Silver		50.0	49.2	ug/L	98.4	90 - 110		
Thallium		50.0	49.7	ug/L	99.4	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2457854
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/19/2012</u>	Sample ID: <u>WG401056-12</u>
Instrument ID: <u>ICP-MS2</u>	Run Time: <u>09:57</u>	Method: <u>6020</u>
File ID: <u>NI.061912.095701</u>	Analyst: <u>JYH</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400788</u>	Cal ID: <u>ICP-MS - 19-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.8	ug/L	99.5	90 - 110		
Arsenic		50.0	50.1	ug/L	100	90 - 110		
Barium		50.0	49.7	ug/L	99.4	90 - 110		
Cadmium		50.0	50.6	ug/L	101	90 - 110		
Chromium		50.0	50.9	ug/L	102	90 - 110		
Cobalt		50.0	49.5	ug/L	98.9	90 - 110		
Copper		50.0	50.0	ug/L	100	90 - 110		
Lead		50.0	50.2	ug/L	100	90 - 110		
Manganese		50.0	51.3	ug/L	103	90 - 110		
Nickel		50.0	49.1	ug/L	98.2	90 - 110		
Selenium		50.0	50.5	ug/L	101	90 - 110		
Silver		50.0	48.4	ug/L	96.7	90 - 110		
Thallium		50.0	49.8	ug/L	99.6	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2457854
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/19/2012</u>	Sample ID: <u>WG401056-16</u>
Instrument ID: <u>ICP-MS2</u>	Run Time: <u>10:13</u>	Method: <u>6020</u>
File ID: <u>NI.061912.101322</u>	Analyst: <u>JYH</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400788</u>	Cal ID: <u>ICP-MS - 19-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.9	ug/L	102	90 - 110		
Arsenic		50.0	50.0	ug/L	100	90 - 110		
Barium		50.0	49.6	ug/L	99.2	90 - 110		
Cadmium		50.0	51.5	ug/L	103	90 - 110		
Chromium		50.0	51.0	ug/L	102	90 - 110		
Cobalt		50.0	50.3	ug/L	101	90 - 110		
Copper		50.0	49.9	ug/L	99.8	90 - 110		
Lead		50.0	49.9	ug/L	99.7	90 - 110		
Manganese		50.0	51.7	ug/L	103	90 - 110		
Nickel		50.0	50.0	ug/L	100	90 - 110		
Selenium		50.0	51.1	ug/L	102	90 - 110		
Silver		50.0	47.2	ug/L	94.4	90 - 110		
Thallium		50.0	49.6	ug/L	99.2	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2457854
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/19/2012</u>	Sample ID: <u>WG401056-19</u>
Instrument ID: <u>ICP-MS2</u>	Run Time: <u>10:55</u>	Method: <u>6020</u>
File ID: <u>NI.061912.105533</u>	Analyst: <u>JYH</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400788</u>	Cal ID: <u>ICP-MS - 19-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.4	ug/L	101	90 - 110		
Arsenic		50.0	50.2	ug/L	100	90 - 110		
Barium		50.0	49.5	ug/L	98.9	90 - 110		
Cadmium		50.0	50.7	ug/L	101	90 - 110		
Chromium		50.0	51.3	ug/L	103	90 - 110		
Cobalt		50.0	49.8	ug/L	99.5	90 - 110		
Copper		50.0	49.3	ug/L	98.6	90 - 110		
Lead		50.0	50.5	ug/L	101	90 - 110		
Manganese		50.0	51.8	ug/L	104	90 - 110		
Nickel		50.0	49.5	ug/L	99.0	90 - 110		
Selenium		50.0	51.1	ug/L	102	90 - 110		
Silver		50.0	46.3	ug/L	92.6	90 - 110		
Thallium		50.0	50.1	ug/L	100	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2457854
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L12060445</u>	Run Date: <u>06/19/2012</u>	Sample ID: <u>WG401056-21</u>
Instrument ID: <u>ICP-MS2</u>	Run Time: <u>11:35</u>	Method: <u>6020</u>
File ID: <u>NI.061912.113506</u>	Analyst: <u>JYH</u>	QC Key: <u>D0D4</u>
Workgroup (AAB#): <u>WG400788</u>	Cal ID: <u>ICP-MS - 19-JUN-12</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	48.6	ug/L	97.1	90 - 110		
Arsenic		50.0	50.6	ug/L	101	90 - 110		
Barium		50.0	49.4	ug/L	98.7	90 - 110		
Cadmium		50.0	49.3	ug/L	98.7	90 - 110		
Chromium		50.0	52.4	ug/L	105	90 - 110		
Cobalt		50.0	49.3	ug/L	98.6	90 - 110		
Copper		50.0	49.8	ug/L	99.7	90 - 110		
Lead		50.0	50.1	ug/L	100	90 - 110		
Manganese		50.0	52.8	ug/L	106	90 - 110		
Nickel		50.0	49.3	ug/L	98.6	90 - 110		
Selenium		50.0	51.2	ug/L	102	90 - 110		
Silver		50.0	46.2	ug/L	92.4	90 - 110		
Thallium		50.0	49.9	ug/L	99.9	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2457854
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12060445
Instrument ID: ICP-MS2
Sol. A : WG401056-08
Sol. AB : WG401056-09

File ID: NI.061912.091130
File ID: NI.061912.091445

Workgroup (AAB#): WG400788
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0701	NS	100	107	107	
Arsenic	NS	-0.0289	NS	100	104	104	
Barium	NS	0.0387	NS	100	102	102	
Cadmium	NS	-0.0506	NS	100	106	106	
Chromium	NS	0.0398	NS	100	102	102	
Cobalt	NS	0.0297	NS	100	103	103	
Copper	NS	0.216	NS	100	101	101	
Lead	NS	0.0152	NS	100	103	103	
Manganese	NS	0.0599	NS	100	103	103	
Nickel	NS	0.597	NS	100	101	101	
Selenium	NS	0.0593	NS	100	105	105	
Silver	NS	0.00230	NS	100	86.5	86.5	
Thallium	NS	0.00320	NS	100	103	103	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2457853
Report generated 06/19/2012 13:14



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12060445
Instrument ID: ICP-MS2
Sol. A : WG401056-14
Sol. AB : WG401056-15

File ID: NI.061912.100649
File ID: NI.061912.101005

Workgroup (AAB#): WG400788
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0827	NS	100	106	106	
Arsenic	NS	0.0268	NS	100	105	105	
Barium	NS	0.0544	NS	100	102	102	
Cadmium	NS	-0.00540	NS	100	105	105	
Chromium	NS	0.0910	NS	100	105	105	
Cobalt	NS	0.0326	NS	100	102	102	
Copper	NS	0.211	NS	100	100	100	
Lead	NS	0.0199	NS	100	103	103	
Manganese	NS	0.0878	NS	100	105	105	
Nickel	NS	0.625	NS	100	101	101	
Selenium	NS	0.0617	NS	100	106	106	
Silver	NS	0.0100	NS	100	91.8	91.8	
Thallium	NS	0.00810	NS	100	103	103	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2457853
Report generated 06/19/2012 13:14



INTERNAL STANDARD REPORT

Login: L12060445 Analytical Method: 6020
 Analytical Workgroup: WG400788 Matrix: 1
 Instrument: ICP-MS2 Analyst: JYH
 ICAL Date: 19-JUN-2012 08:48

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM	TERBIUM
			% Rec	% Rec	% Rec	% Rec
L12060445-01	SAMP	19-JUN-2012 09:47	100.962	101.465	106.427	107.028
L12060445-03	SAMP	19-JUN-2012 11:09	100.402	95.825	105.036	106.546
L12060445-04	SAMP	19-JUN-2012 11:12	102.662	97.731	106.484	108.115
L12060445-05	SAMP	19-JUN-2012 09:37	101.586	103.393	107.958	108.466
L12060445-06	SAMP	19-JUN-2012 09:40	102.254	103.241	106.401	107.687
L12060445-07	SAMP	19-JUN-2012 09:44	100.803	100.463	105.441	107.234
L12060445-08	SAMP	19-JUN-2012 11:15	101.582	96.902	107.09	107.638
L12060445-09	SAMP	19-JUN-2012 11:18	105.237	98.666	107.802	108.025
L12060445-10	SAMP	19-JUN-2012 11:22	104.787	97.511	107.243	107.34
L12060445-11	SAMP	19-JUN-2012 11:25	101.019	96.419	105.983	107.868
L12060445-12	SAMP	19-JUN-2012 11:28	102.726	96.768	107.795	108.956
WG400743-02	BLANK	19-JUN-2012 09:24	102.497	100.731	105.777	103.492
WG400743-03	LCS	19-JUN-2012 09:27	107.774	108.753	113.133	110.999
WG400788-01	PSPK	19-JUN-2012 09:50	105.347	105.442	111.665	113.802
WG400788-02	SERIAL	19-JUN-2012 09:53	103.474	100.718	106.1	106.25
WG401056-05	ICV	19-JUN-2012 09:01	99.706	97.65	99.785	101.226
WG401056-06	ICB	19-JUN-2012 09:04	98.685	97.021	99.149	98.932
WG401056-07	LLICV	19-JUN-2012 09:08	99.402	96.763	98.822	99.074
WG401056-08	ICS	19-JUN-2012 09:11	98.822	99.814	101.425	104.386
WG401056-09	ICS	19-JUN-2012 09:14	101.957	102.882	106.298	109.797
WG401056-10	CCV	19-JUN-2012 09:18	103.627	103.219	105.763	107.901
WG401056-11	CCB	19-JUN-2012 09:21	102.714	100.626	104.234	104.487
WG401056-12	CCV	19-JUN-2012 09:57	104.436	101.268	106.025	107.938
WG401056-13	CCB	19-JUN-2012 10:00	104.579	98.356	104.972	105.636
WG401056-14	ICS	19-JUN-2012 10:06	101.153	99.411	104.589	107.421
WG401056-15	ICS	19-JUN-2012 10:10	103.474	101.168	107.47	111.498
WG401056-16	CCV	19-JUN-2012 10:13	105.045	100.929	107.887	110.952
WG401056-17	CCB	19-JUN-2012 10:16	103.965	98.625	106.897	106.952
WG401056-18	LLCCV	19-JUN-2012 10:19	103.636	97.728	106.045	106.802
WG401056-19	CCV	19-JUN-2012 10:55	103.375	99.241	107.317	110.143
WG401056-20	CCB	19-JUN-2012 10:58	103.102	95.354	104.166	105.689
WG401056-21	CCV	19-JUN-2012 11:35	101.273	93.454	102.528	104.008
WG401056-22	CCB	19-JUN-2012 11:38	102.174	92.709	101.872	102.349

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2457849
 Report generated: 06/19/2012 13:38



Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12060445

Date: 03/16/2012

Instrument ID: ICP-MS2

Method: 6020

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Uranium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 2457847
Report generated: 06/19/2012 13:14



2.3.2.3 Raw Data

MassCal File Name

Mass Calibration File Name Default.tun

MassCal File Path C:\NexlONData\MassCal\Default.tun

Peak Search Window: 1.00

Sample Information

Sample Date/Time: Tuesday, June 19, 2012 08:22:43

Mass Calibration and Resolution

Analyte	E Mass	Meas Mass	Mass C DAC Val	Res DAC Value	Meas Peak WCustom Res
Li	7.016	7.025	1348	2022	0.698
Mg	23.985	24.025	4721	2020	0.707
In	114.904	114.875	22867	2022	0.700
U	238.050	238.075	47469	2034	0.681

Relative Std. Dev.

Mass	Meas. Intens. RSD
5.525	8.151
5.575	2.335
5.625	2.519
5.675	3.692
5.725	2.555
5.775	3.625
5.825	3.131
5.875	2.196
5.925	3.520
5.975	4.198
6.025	4.182
6.075	2.286
6.125	2.050
6.175	2.507
6.225	42.857
6.275	223.607
6.325	104.583
6.375	108.653
6.425	10.322
6.475	7.066
6.525	5.516
6.575	4.419
6.625	3.453
6.675	6.397
6.725	2.642
6.775	1.334
6.825	1.734
6.875	2.923

Report Date/Time: Tuesday, June 19, 2012 08:25:18

Page 1

Approved: June 19, 2012



6.925	1.711
6.975	3.414
7.025	1.563
7.075	3.239
7.125	3.418
7.175	7.878
7.225	27.394
7.275	223.607
7.325	
7.375	
7.425	223.607
7.475	223.607
7.525	136.931
7.575	223.607
7.625	
7.675	223.607
7.725	
7.775	223.607
7.825	223.607
7.875	
7.925	
7.975	223.607
8.025	
8.075	223.607
8.125	223.607
8.175	223.607
8.225	223.607
8.275	223.607
8.325	223.607
8.375	149.071
8.425	69.722
8.475	27.637
22.525	4.386
22.575	2.384
22.625	1.199
22.675	1.112
22.725	0.998
22.775	0.897
22.825	1.009
22.875	1.196
22.925	1.220
22.975	1.212
23.025	1.087
23.075	1.147
23.125	0.913
23.175	0.487
23.225	1.365

Report Date/Time: Tuesday, June 19, 2012 08:25:18
Page 2

Approved: June 19, 2012


23.275	4.315
23.325	50.000
23.375	223.607
23.425	74.689
23.475	32.165
23.525	3.630
23.575	2.575
23.625	3.164
23.675	3.060
23.725	2.452
23.775	1.427
23.825	2.895
23.875	1.133
23.925	3.212
23.975	2.334
24.025	1.877
24.075	2.901
24.125	2.460
24.175	1.068
24.225	4.135
24.275	5.178
24.325	223.607
24.375	136.931
24.425	149.071
24.475	108.653
24.525	18.763
24.575	8.926
24.625	11.419
24.675	4.939
24.725	4.242
24.775	6.802
24.825	7.540
24.875	3.901
24.925	2.423
24.975	4.534
25.025	2.834
25.075	5.931
25.125	3.433
25.175	3.721
25.225	5.764
25.275	13.976
25.325	
25.375	223.607
25.425	136.931
25.475	23.570
113.525	15.216
113.575	8.674

Report Date/Time: Tuesday, June 19, 2012 08:25:18
Page 3

Approved: June 19, 2012


113.625	6.419
113.675	4.853
113.725	3.505
113.775	2.489
113.825	3.100
113.875	3.991
113.925	5.725
113.975	2.868
114.025	5.758
114.075	3.953
114.125	5.193
114.175	7.704
114.225	20.537
114.275	50.047
114.325	91.287
114.375	33.248
114.425	19.508
114.475	10.731
114.525	7.344
114.575	3.052
114.625	1.408
114.675	3.471
114.725	0.856
114.775	0.983
114.825	0.863
114.875	2.092
114.925	1.143
114.975	0.681
115.025	2.642
115.075	1.511
115.125	2.125
115.175	1.758
115.225	3.856
115.275	20.761
115.325	100.000
115.375	
115.425	59.266
115.475	42.596
115.525	13.784
115.575	6.223
115.625	10.291
115.675	8.254
115.725	7.266
115.775	4.880
115.825	5.758
115.875	6.358
115.925	4.975

Report Date/Time: Tuesday, June 19, 2012 08:25:18
Page 4

Approved: June 19, 2012


115.975	8.958
116.025	5.517
116.075	8.618
116.125	3.444
116.175	14.653
116.225	29.300
116.275	57.735
116.325	
116.375	223.607
116.425	223.607
116.475	70.711
236.525	
236.575	
236.625	
236.675	
236.725	
236.775	
236.825	
236.875	
236.925	
236.975	
237.025	
237.075	
237.125	
237.175	
237.225	
237.275	223.607
237.325	223.607
237.375	
237.425	
237.475	55.902
237.525	63.888
237.575	47.884
237.625	12.193
237.675	8.941
237.725	8.788
237.775	2.805
237.825	2.889
237.875	1.928
237.925	2.359
237.975	3.008
238.025	1.853
238.075	1.412
238.125	0.713
238.175	1.558
238.225	1.226
238.275	2.100

Report Date/Time: Tuesday, June 19, 2012 08:25:18
Page 5

Approved: June 19, 2012


238.325	3.907
238.375	3.855
238.425	2.873
238.475	9.586
238.525	14.391
238.575	24.845
238.625	
238.675	
238.725	
238.775	
238.825	223.607
238.875	
238.925	
238.975	
239.025	223.607
239.075	
239.125	223.607
239.175	
239.225	
239.275	
239.325	
239.375	
239.425	
239.475	

Report Date/Time: Tuesday, June 19, 2012 08:25:18
Page 6

Approved: June 19, 2012


SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Start Time: 6/19/2012 8:29:49 AM

End Time: 6/19/2012 8:31:25 AM

Daily Performance Check - [Failed]
[Cancelled]

Report Date/Time: Tuesday, June 19, 2012 08:31:26
Page 1

Approved: June 19, 2012



SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\NexIONData\wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Optimization Status

Start Time: 6/19/2012 8:29:49 AM

Daily Performance Check

Optimization Settings:

Method: C:\NexIONData\Method\ESI Daily Performance.mth.
Intensity Criterion: Be 9.0122 > 2000
Intensity Criterion: Mg 23.985 > 15000
Intensity Criterion: In 114.904 > 40000
Intensity Criterion: U 238.05 > 30000
Intensity Criterion: Bkgd 220 <= 1
Formula Criterion: CeO 155.9 / Ce 139.905 <= 0.025
Formula Criterion: Ce++ 69.9527 / Ce 139.905 <= 0.03

Optimization Results:

Initial Try

[Cancelled]

[Failed]

[Cancelled]

End Time: 6/19/2012 8:31:25 AM

Report Date/Time: Tuesday, June 19, 2012 08:31:26
Page 2

Approved: June 19, 2012



SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Start Time: 6/19/2012 8:32:38 AM

End Time: 6/19/2012 8:34:58 AM

Daily Performance Check - [Passed] Optimum value(s): N/A

Obtained Intensity (Be 9.0122): 2250.03

Obtained Intensity (Mg 23.985): 31852.45

Obtained Intensity (In 114.904): 40907.98

Obtained Intensity (U 238.05): 31866.68

Obtained Intensity (Bkgd 220): 0.07

Obtained Formula (CeO 155.9 / Ce 139.905): 0.014 (=727.08 / 50558.68)

Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.015 (=735.22 / 50558.68)

Report Date/Time: Tuesday, June 19, 2012 08:34:58

Page 1

Approved: June 19, 2012



SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Optimization Status

Start Time: 6/19/2012 8:32:38 AM

Daily Performance Check

Optimization Settings:

Method: C:\NexIONData\Method\ESI Daily Performance.mth.
Intensity Criterion: Be 9.0122 > 2000
Intensity Criterion: Mg 23.985 > 15000
Intensity Criterion: In 114.904 > 40000
Intensity Criterion: U 238.05 > 30000
Intensity Criterion: Bkgd 220 <= 1
Formula Criterion: CeO 155.9 / Ce 139.905 <= 0.025
Formula Criterion: Ce++ 69.9527 / Ce 139.905 <= 0.03

Optimization Results:

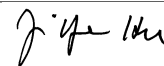
Initial Try

Obtained Intensity (Be 9.0122): 2250.03
Obtained Intensity (Mg 23.985): 31852.45
Obtained Intensity (In 114.904): 40907.98
Obtained Intensity (U 238.05): 31866.68
Obtained Intensity (Bkgd 220): 0.07
Obtained Formula (CeO 155.9 / Ce 139.905): 0.014 (=727.08 / 50558.68)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.015 (=735.22 / 50558.68)

[Passed] Optimum value(s): N/A

End Time: 6/19/2012 8:34:58 AM

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: Blank

Sample Date/Time: Tuesday, June 19, 2012 08:45:20

Number of Replicates: 3

Autosampler Position: 1

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8387.3	2.7				ug/L		Standard
	Be	9	38.3	106.2				ug/L		Standard
	Al	27	15111.7	107.9				ug/L		Standard
>	Sc	45	276213.4	1.0				ug/L		Standard
	Ti	47	124.0	31.6				ug/L		Standard
	V	51	3503.4	3.4				ug/L		Standard
	Cr	52	11027.7	1.4				ug/L		Standard
	Cr	53	333.3	9.5				ug/L		Standard
	Mn	55	3794.0	125.0				ug/L		Standard
	Co	59	200.0	84.6				ug/L		Standard
	Ni	60	111.0	42.9				ug/L		Standard
	Cu	65	137.0	30.0				ug/L		Standard
	Zn	66	360.3	18.5				ug/L		Standard
>	Ge	72	236617.9	1.5				ug/L		Standard
	As	75	-269.3	7.6				ug/L		Standard
	Se	82	21.6	14.8				ug/L		Standard
	Se-1	77	91.3	13.6				ug/L		Standard
>	Ga	71	202509.5	1.5				mg/L		Standard
	Rb	85	10.0	50.0				ug/L		Standard
	Y	89	222253.4	1.2				ug/L		Standard
>	Rh	103	115393.1	1.4				ug/L		Standard
	Mo	98	14.3	83.5				ug/L		Standard
	Ag	107	47.7	24.9				ug/L		Standard
	Cd	111	86.3	12.4				mg/L		Standard
	Cd	114	245.8	8.9				ug/L		Standard
>	In	115	421413.4	0.9				ug/L		Standard
	Sn	118	392.0	5.1				ug/L		Standard
	Sb	123	70.5	29.8				ug/L		Standard
	Ba	135	39.0	21.9				ug/L		Standard
	Ce	140	138.0	19.5				ug/L		Standard
>	Tb	159	426403.9	1.0				ug/L		Standard
	Ho	165	6.7	8.7				ug/L		Standard
	Tl	203	11.0	104.8				ug/L		Standard
	Tl	205	18.0	111.5				ug/L		Standard
	Pb	206	174.0	16.0				ug/L		Standard
	Pb	207	146.3	4.6				ug/L		Standard
	Pb	208	686.7	11.9				ug/L		Standard
	U	238	131.0	170.6				ug/L		Standard
>	Bi	209	245542.5	1.3				ug/L		Standard
	Na	23	180.0	17.3				mg/L		Standard
	Mg	24	930.1	150.9				mg/L		Standard

Sample ID: Blank

Report Date/Time: Tuesday, June 19, 2012 08:47:52

Page 1

Approved: June 19, 2012



	K	39	161.7	6.4	mg/L	Standard
	Ca	43	1.7	173.2	mg/L	Standard
	Fe	54	438.9	16.0	mg/L	Standard
	Fe	57	5846.2	32.4	mg/L	Standard
>	Sc-1	45	276213.4	1.0	mg/L	Standard
	Cl	35	6.0	28.9	ug/L	Standard
	Kr	83	41.2	9.6	ug/L	Standard
	Br	81	5072.5	4.2	ug/L	Standard
	P	31	51446.5	4.1	ug/L	Standard
	S	34	649594.1	1.8	ug/L	Standard
	Sr	88	65.0	93.6	ug/L	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72			
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			
Y	89			
> Rh	103			
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115			
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159			
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: Blank

Report Date/Time: Tuesday, June 19, 2012 08:47:52

Page 2

Approved: June 19, 2012



	Pb	207
	Pb	208
	U	238
>	Bi	209
	Na	23
	Mg	24
	K	39
	Ca	43
	Fe	54
	Fe	57
>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88

QC Out of Limits

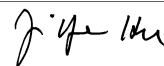
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Blank

Report Date/Time: Tuesday, June 19, 2012 08:47:52

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Tuesday, June 19, 2012 08:48:36

Number of Replicates: 3

Autosampler Position: 1

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8480.7	4.3				ug/L	8387	Standard
	Be	9	5.0	100.0				ug/L	38	Standard
	Al	27	5082.5	1.7				ug/L	15112	Standard
>	Sc	45	278584.4	0.1				ug/L	276213	Standard
	Ti	47	98.7	6.1				ug/L	124	Standard
	V	51	3495.0	0.5				ug/L	3503	Standard
	Cr	52	11115.7	0.7				ug/L	11028	Standard
	Cr	53	306.7	2.6				ug/L	333	Standard
	Mn	55	1026.0	0.5				ug/L	3794	Standard
	Co	59	100.3	7.1				ug/L	200	Standard
	Ni	60	83.7	15.6				ug/L	111	Standard
	Cu	65	122.3	9.1				ug/L	137	Standard
	Zn	66	326.7	5.2				ug/L	360	Standard
>	Ge	72	238663.4	0.5				ug/L	236618	Standard
	As	75	-279.0	8.4				ug/L	-269	Standard
	Se	82	23.0	25.6				ug/L	22	Standard
	Se-1	77	85.0	14.3				ug/L	91	Standard
>	Ga	71	205417.4	3.2				mg/L	202510	Standard
	Rb	85	20.0	66.1				ug/L	10	Standard
	Y	89	223092.6	2.2				ug/L	222253	Standard
>	Rh	103	116768.9	1.3				ug/L	115393	Standard
	Mo	98	5.2	62.2				ug/L	14	Standard
	Ag	107	36.3	28.9				ug/L	48	Standard
	Cd	111	87.0	14.3				mg/L	86	Standard
	Cd	114	236.0	5.3				ug/L	246	Standard
>	In	115	428639.1	1.1				ug/L	421413	Standard
	Sn	118	384.0	6.7				ug/L	392	Standard
	Sb	123	26.3	28.5				ug/L	70	Standard
	Ba	135	31.0	25.8				ug/L	39	Standard
	Ce	140	75.0	27.6				ug/L	138	Standard
>	Tb	159	432474.7	1.3				ug/L	426404	Standard
	Ho	165	4.0	75.0				ug/L	7	Standard
	Tl	203	3.3	45.8				ug/L	11	Standard
	Tl	205	7.0	14.3				ug/L	18	Standard
	Pb	206	170.3	3.2				ug/L	174	Standard
	Pb	207	142.3	20.0				ug/L	146	Standard
	Pb	208	659.3	6.8				ug/L	687	Standard
	U	238	1.3	86.6				ug/L	131	Standard
>	Bi	209	248317.2	1.5				ug/L	245542	Standard
	Na	23	166.7	18.3				mg/L	180	Standard
	Mg	24	128.3	4.5				mg/L	930	Standard

Sample ID: Standard 1

Report Date/Time: Tuesday, June 19, 2012 08:51:09

Page 1

Approved: June 19, 2012



	K	39	158.3	7.9	mg/L	162	Standard
	Ca	43	0.0		mg/L	2	Standard
	Fe	54	367.1	10.2	mg/L	439	Standard
	Fe	57	4899.1	4.6	mg/L	5846	Standard
>	Sc-1	45	278584.4	0.1	mg/L	276213	Standard
	Cl	35	5.7	10.2	ug/L	6	Standard
	Kr	83	42.0	9.2	ug/L	41	Standard
	Br	81	5197.6	0.8	ug/L	5073	Standard
	P	31	51627.0	1.9	ug/L	51446	Standard
	S	34	664586.9	1.1	ug/L	649594	Standard
	Sr	88	28.3	44.4	ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72		
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71		
	Rb	85		
	Y	89		
>	Rh	103		
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115		
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: Standard 1

Report Date/Time: Tuesday, June 19, 2012 08:51:09

Page 2

Approved: June 19, 2012



	Pb	207
	Pb	208
	U	238
>	Bi	209
	Na	23
	Mg	24
	K	39
	Ca	43
	Fe	54
	Fe	57
>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 1

Report Date/Time: Tuesday, June 19, 2012 08:51:09

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Tuesday, June 19, 2012 08:51:52

Number of Replicates: 3

Autosampler Position: 2

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8434.0	2.9				ug/L	8387	Standard
	Be	9	141.7	20.7				ug/L	38	Standard
	Al	27	5647.7	2.0				ug/L	15112	Standard
>	Sc	45	277861.4	0.7				ug/L	276213	Standard
	Ti	47	237.3	1.7				ug/L	124	Standard
	V	51	4117.7	3.3				ug/L	3503	Standard
	Cr	52	11495.4	0.7				ug/L	11028	Standard
	Cr	53	388.3	3.5				ug/L	333	Standard
	Mn	55	1841.8	1.1				ug/L	3794	Standard
	Co	59	837.0	1.7				ug/L	200	Standard
	Ni	60	250.0	11.8				ug/L	111	Standard
	Cu	65	302.3	7.4				ug/L	137	Standard
	Zn	66	529.3	0.1				ug/L	360	Standard
>	Ge	72	237155.6	1.8				ug/L	236618	Standard
	As	75	-184.0	1.7				ug/L	-269	Standard
	Se	82	27.1	17.3				ug/L	22	Standard
	Se-1	77	101.0	3.0				ug/L	91	Standard
>	Ga	71	203968.9	1.4				mg/L	202510	Standard
	Rb	85	20.0	50.0				ug/L	10	Standard
	Y	89	226741.0	1.7				ug/L	222253	Standard
>	Rh	103	116366.0	2.2				ug/L	115393	Standard
	Mo	98	479.9	2.9				ug/L	14	Standard
	Ag	107	430.3	6.5				ug/L	48	Standard
	Cd	111	240.5	7.3				mg/L	86	Standard
	Cd	114	654.6	6.8				ug/L	246	Standard
>	In	115	427602.3	2.5				ug/L	421413	Standard
	Sn	118	899.4	2.9				ug/L	392	Standard
	Sb	123	354.3	1.0				ug/L	70	Standard
	Ba	135	210.3	7.3				ug/L	39	Standard
	Ce	140	56.0	26.7				ug/L	138	Standard
>	Tb	159	434919.3	0.8				ug/L	426404	Standard
	Ho	165	3.0	0.0				ug/L	7	Standard
	Tl	203	541.0	4.5				ug/L	11	Standard
	Tl	205	1237.7	1.5				ug/L	18	Standard
	Pb	206	593.0	2.4				ug/L	174	Standard
	Pb	207	491.3	1.9				ug/L	146	Standard
	Pb	208	2320.4	0.6				ug/L	687	Standard
	U	238	720.7	4.1				ug/L	131	Standard
>	Bi	209	249390.6	2.0				ug/L	245542	Standard
	Na	23	265.0	8.6				mg/L	180	Standard
	Mg	24	2408.5	5.6				mg/L	930	Standard

Sample ID: Standard 2

Report Date/Time: Tuesday, June 19, 2012 08:54:25

Page 1

Approved: June 19, 2012



	K	39	171.7	23.5	mg/L	162	Standard
	Ca	43	0.0		mg/L	2	Standard
	Fe	54	458.2	12.3	mg/L	439	Standard
	Fe	57	5462.7	12.3	mg/L	5846	Standard
>	Sc-1	45	277861.4	0.7	mg/L	276213	Standard
	Cl	35	4.0	90.1	ug/L	6	Standard
	Kr	83	43.6	13.5	ug/L	41	Standard
	Br	81	5220.9	2.6	ug/L	5073	Standard
	P	31	50559.2	0.6	ug/L	51446	Standard
	S	34	665912.5	3.1	ug/L	649594	Standard
	Sr	88	35.0	28.6	ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72		
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71		
	Rb	85		
	Y	89		
>	Rh	103		
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115		
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: Standard 2

Report Date/Time: Tuesday, June 19, 2012 08:54:25

Page 2

Approved: June 19, 2012



	Pb	207
	Pb	208
	U	238
>	Bi	209
	Na	23
	Mg	24
	K	39
	Ca	43
	Fe	54
	Fe	57
>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 2

Report Date/Time: Tuesday, June 19, 2012 08:54:25

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: Standard 3

Sample Date/Time: Tuesday, June 19, 2012 08:55:08

Number of Replicates: 3

Autosampler Position: 3

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

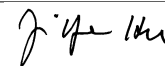
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8379.0	2.0	50.0000	192.563	385.1	ug/L	8387	Standard
	Be	9	122446.2	1.2	50.0000	1.174	2.3	ug/L	38	Standard
	Al	27	593084.0	1.8	50.0000	1.799	3.6	ug/L	15112	Standard
>	Sc	45	273866.8	1.8				ug/L	276213	Standard
	Ti	47	143162.5	0.9	100.0000	0.893	0.9	ug/L	124	Standard
	V	51	721649.4	0.4	50.0000	0.601	1.2	ug/L	3503	Standard
	Cr	52	542685.6	0.5	50.0000	0.420	0.8	ug/L	11028	Standard
	Cr	53	83161.8	0.9	50.0000	0.921	1.8	ug/L	333	Standard
	Mn	55	717765.2	1.5	50.0000	0.628	1.3	ug/L	3794	Standard
	Co	59	677287.3	0.7	50.0000	0.271	0.5	ug/L	200	Standard
	Ni	60	141525.9	0.9	50.0000	0.318	0.6	ug/L	111	Standard
	Cu	65	131586.4	1.8	50.0000	0.485	1.0	ug/L	137	Standard
	Zn	66	63646.7	0.6	50.0000	0.271	0.5	ug/L	360	Standard
>	Ge	72	237755.7	0.9				ug/L	236618	Standard
	As	75	60458.5	0.7	50.0000	0.113	0.2	ug/L	-269	Standard
	Se	82	6246.1	0.7	50.0000	0.778	1.6	ug/L	22	Standard
	Se-1	77	4409.3	1.0	50.0000	0.453	0.9	ug/L	91	Standard
>	Ga	71	202901.3	0.9				mg/L	202510	Standard
	Rb	85	953.4	4.5				ug/L	10	Standard
	Y	89	221293.1	2.2				ug/L	222253	Standard
>	Rh	103	112853.8	1.8				ug/L	115393	Standard
	Mo	98	435964.5	0.3	100.0000	0.403	0.4	ug/L	14	Standard
	Ag	107	358185.1	1.3	50.0000	0.665	1.3	ug/L	48	Standard
	Cd	111	148606.8	1.0	50.0000	0.436	0.9	mg/L	86	Standard
	Cd	114	419535.8	0.9	50.0000	0.492	1.0	ug/L	246	Standard
>	In	115	427279.4	0.1				ug/L	421413	Standard
	Sn	118	488075.7	0.4	50.0000	0.184	0.4	ug/L	392	Standard
	Sb	123	350567.4	0.7	50.0000	0.337	0.7	ug/L	70	Standard
	Ba	135	158153.5	0.5	50.0000	0.246	0.5	ug/L	39	Standard
	Ce	140	641.7	4.3				ug/L	138	Standard
>	Tb	159	441449.8	0.6				ug/L	426404	Standard
	Ho	165	6.0	16.7				ug/L	7	Standard
	Tl	203	508652.4	0.8	50.0000	0.214	0.4	ug/L	11	Standard
	Tl	205	1216322.2	0.8	50.0000	0.328	0.7	ug/L	18	Standard
	Pb	206	414925.4	0.4	50.0000	0.414	0.8	ug/L	174	Standard
	Pb	207	354963.2	0.5	50.0000	0.501	1.0	ug/L	146	Standard
	Pb	208	1613862.3	0.2	50.0000	0.368	0.7	ug/L	687	Standard
	U	238	724497.5	0.6	50.0000	0.528	1.1	ug/L	131	Standard
>	Bi	209	246682.3	0.5				ug/L	245542	Standard
	Na	23	60592.7	4.0	5.0000	0.123	2.5	mg/L	180	Standard
	Mg	24	1630168.4	1.1	5.0000	0.124	2.5	mg/L	930	Standard

Sample ID: Standard 3

Report Date/Time: Tuesday, June 19, 2012 08:57:40

Page 1

Approved: June 19, 2012



	K	39	4519.0	1.6	5.0000	0.073	1.5	mg/L	162	Standard
	Ca	43	1.7	173.2	5.0000	8.652	173.0	mg/L	2	Standard
	Fe	54	13982.3	3.2	5.0000	0.233	4.7	mg/L	439	Standard
	Fe	57	562600.9	3.4	5.0000	0.116	2.3	mg/L	5846	Standard
>	Sc-1	45	273866.8	1.8				mg/L	276213	Standard
	Cl	35	4.0	86.6				ug/L	6	Standard
	Kr	83	42.8	12.3				ug/L	41	Standard
	Br	81	5201.7	5.1				ug/L	5073	Standard
	P	31	62471.1	2.9				ug/L	51446	Standard
	S	34	717673.2	1.7				ug/L	649594	Standard
	Sr	88	111.7	46.0				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72		
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71		
	Rb	85		
	Y	89		
>	Rh	103		
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115		
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: Standard 3

Report Date/Time: Tuesday, June 19, 2012 08:57:40

Page 2

Approved: June 19, 2012



	Pb	207
	Pb	208
	U	238
>	Bi	209
	Na	23
	Mg	24
	K	39
	Ca	43
	Fe	54
	Fe	57
>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 3

Report Date/Time: Tuesday, June 19, 2012 08:57:40

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: Standard 4

Sample Date/Time: Tuesday, June 19, 2012 08:58:23

Number of Replicates: 3

Autosampler Position: 4

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

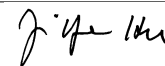
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9026.0	3.0	177.2067	51.646	29.1	ug/L	8387	Standard
	Be	9	240737.4	0.4	100.9895	0.113	0.1	ug/L	38	Standard
	Al	27	1103616.8	1.1	98.4324	1.367	1.4	ug/L	15112	Standard
>	Sc	45	263896.7	0.3				ug/L	276213	Standard
	Ti	47	278438.8	0.4	201.5431	2.212	1.1	ug/L	124	Standard
	V	51	1403020.8	0.9	100.8512	0.210	0.2	ug/L	3503	Standard
	Cr	52	1040387.3	0.9	100.5459	0.199	0.2	ug/L	11028	Standard
	Cr	53	159963.3	0.6	100.2884	0.241	0.2	ug/L	333	Standard
	Mn	55	1364497.6	0.6	99.6550	1.252	1.3	ug/L	3794	Standard
	Co	59	1311865.8	0.9	100.5537	0.697	0.7	ug/L	200	Standard
	Ni	60	269713.1	0.4	99.7575	0.898	0.9	ug/L	111	Standard
	Cu	65	250647.9	0.5	99.7485	0.511	0.5	ug/L	137	Standard
	Zn	66	122261.3	0.8	100.3190	1.030	1.0	ug/L	360	Standard
>	Ge	72	227746.3	0.7				ug/L	236618	Standard
	As	75	116610.6	0.2	100.2363	0.717	0.7	ug/L	-269	Standard
	Se	82	12009.8	0.4	100.2633	1.008	1.0	ug/L	22	Standard
	Se-1	77	8268.3	1.7	99.4730	1.191	1.2	ug/L	91	Standard
>	Ga	71	194389.1	0.8				mg/L	202510	Standard
	Rb	85	6379.7	1.8				ug/L	10	Standard
	Y	89	216406.3	1.2				ug/L	222253	Standard
>	Rh	103	109039.7	1.4				ug/L	115393	Standard
	Mo	98	849219.3	1.0	200.1827	2.847	1.4	ug/L	14	Standard
	Ag	107	686709.7	0.9	99.2972	0.508	0.5	ug/L	48	Standard
	Cd	111	286136.3	1.6	99.5208	1.001	1.0	mg/L	86	Standard
	Cd	114	812955.5	0.7	99.8396	0.578	0.6	ug/L	246	Standard
>	In	115	415443.7	1.2				ug/L	421413	Standard
	Sn	118	960077.7	1.2	100.5979	1.230	1.2	ug/L	392	Standard
	Sb	123	686747.9	0.6	100.3717	1.062	1.1	ug/L	70	Standard
	Ba	135	306605.6	0.8	99.8582	0.960	1.0	ug/L	39	Standard
	Ce	140	256.3	6.0				ug/L	138	Standard
>	Tb	159	431105.8	0.2				ug/L	426404	Standard
	Ho	165	16.0	47.2				ug/L	7	Standard
	Tl	203	988256.1	0.8	100.0709	0.641	0.6	ug/L	11	Standard
	Tl	205	2281190.5	1.0	98.3045	0.762	0.8	ug/L	18	Standard
	Pb	206	811597.4	0.5	100.4156	0.755	0.8	ug/L	174	Standard
	Pb	207	674478.0	0.9	98.9641	0.524	0.5	ug/L	146	Standard
	Pb	208	3104598.7	0.8	99.5825	0.509	0.5	ug/L	687	Standard
	U	238	1411788.3	1.0	100.2182	1.655	1.7	ug/L	131	Standard
>	Bi	209	239316.7	1.2				ug/L	245542	Standard
	Na	23	82480.6	0.9	8.2853	0.069	0.8	mg/L	180	Standard
	Mg	24	3576278.3	0.9	10.6465	0.056	0.5	mg/L	930	Standard

Sample ID: Standard 4

Report Date/Time: Tuesday, June 19, 2012 09:00:57

Page 1

Approved: June 19, 2012



	K	39	8722.5	1.0	10.1011	0.073	0.7	mg/L	162	Standard
	Ca	43	18.3	15.7	17.0546	2.735	16.0	mg/L	2	Standard
	Fe	54	26538.6	2.5	10.0002	0.218	2.2	mg/L	439	Standard
	Fe	57	1120773.3	3.6	10.1889	0.405	4.0	mg/L	5846	Standard
>	Sc-1	45	263896.7	0.3				mg/L	276213	Standard
	Cl	35	4.3	53.3				ug/L	6	Standard
	Kr	83	46.7	10.0				ug/L	41	Standard
	Br	81	4963.3	3.7				ug/L	5073	Standard
	P	31	60929.0	1.8				ug/L	51446	Standard
	S	34	666085.1	1.8				ug/L	649594	Standard
	Sr	88	1730.1	11.2				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72		
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71		
	Rb	85		
	Y	89		
>	Rh	103		
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115		
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: Standard 4

Report Date/Time: Tuesday, June 19, 2012 09:00:57

Page 2

Approved: June 19, 2012



	Pb	207
	Pb	208
	U	238
>	Bi	209
	Na	23
	Mg	24
	K	39
	Ca	43
	Fe	54
	Fe	57
>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Corr. Coef.	Na	23	Correlation coefficient < 0.998
Corr. Coef.	Mg	24	Correlation coefficient < 0.998
Corr. Coef.	Ca	43	Correlation coefficient < 0.998

Sample ID: Standard 4

Report Date/Time: Tuesday, June 19, 2012 09:00:57

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Tuesday, June 19, 2012 09:01:42

Number of Replicates: 3

Autosampler Position: 201

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	7985.4	5.1	-10.2120	64.037	627.1	ug/L	8387	Standard
	Be	9	120880.5	2.3	50.4983	0.468	0.9	ug/L	38	Standard
	Al	27	566742.5	2.0	50.1310	0.288	0.6	ug/L	15112	Standard
>	Sc	45	264960.3	1.4				ug/L	276213	Standard
	Ti	47	140400.5	0.7	100.1495	1.544	1.5	ug/L	124	Standard
	V	51	699186.0	1.0	49.4340	1.281	2.6	ug/L	3503	Standard
	Cr	52	528262.7	0.4	49.8170	0.747	1.5	ug/L	11028	Standard
	Cr	53	81092.3	1.9	50.0208	0.547	1.1	ug/L	333	Standard
	Mn	55	694927.5	1.2	49.9971	1.224	2.4	ug/L	3794	Standard
	Co	59	665044.5	0.8	50.2473	0.792	1.6	ug/L	200	Standard
	Ni	60	136248.9	0.9	49.6569	0.637	1.3	ug/L	111	Standard
	Cu	65	128413.2	0.4	50.3469	0.730	1.4	ug/L	137	Standard
	Zn	66	63220.3	2.0	50.9502	0.645	1.3	ug/L	360	Standard
>	Ge	72	231056.5	1.8				ug/L	236618	Standard
	As	75	58391.5	1.4	49.5810	0.895	1.8	ug/L	-269	Standard
	Se	82	6123.4	1.8	50.3076	0.809	1.6	ug/L	22	Standard
	Se-1	77	4256.6	0.2	49.9319	0.918	1.8	ug/L	91	Standard
>	Ga	71	196030.0	0.7				mg/L	202510	Standard
	Rb	85	888.4	5.2				ug/L	10	Standard
	Y	89	220095.4	0.7				ug/L	222253	Standard
>	Rh	103	109678.5	0.5				ug/L	115393	Standard
	Mo	98	426634.9	0.4	99.3488	1.038	1.0	ug/L	14	Standard
	Ag	107	348871.8	0.0	49.8332	0.310	0.6	ug/L	48	Standard
	Cd	111	147201.6	0.4	50.5669	0.143	0.3	mg/L	86	Standard
	Cd	114	412629.0	0.4	50.0493	0.184	0.4	ug/L	246	Standard
>	In	115	420509.2	0.6				ug/L	421413	Standard
	Sn	118	483206.3	0.6	49.9996	0.532	1.1	ug/L	392	Standard
	Sb	123	347009.3	0.9	50.1049	0.715	1.4	ug/L	70	Standard
	Ba	135	155226.4	0.6	49.9378	0.600	1.2	ug/L	39	Standard
	Ce	140	631.0	2.6				ug/L	138	Standard
>	Tb	159	431631.7	1.2				ug/L	426404	Standard
	Ho	165	9.0	19.2				ug/L	7	Standard
	Tl	203	498102.3	0.6	49.3006	0.287	0.6	ug/L	11	Standard
	Tl	205	1193443.5	1.1	50.2701	0.404	0.8	ug/L	18	Standard
	Pb	206	405346.3	0.7	49.0106	0.248	0.5	ug/L	174	Standard
	Pb	207	348847.9	0.2	50.0237	0.103	0.2	ug/L	146	Standard
	Pb	208	1578704.3	0.3	49.4871	0.118	0.2	ug/L	687	Standard
	U	238	718403.3	1.0	49.8455	0.437	0.9	ug/L	131	Standard
>	Bi	209	244820.8	0.3				ug/L	245542	Standard
	Na	23	59146.9	1.3	5.9130	0.145	2.5	mg/L	180	Standard
	Mg	24	1592037.2	0.4	4.7201	0.067	1.4	mg/L	930	Standard

Sample ID: QC Std 1

Report Date/Time: Tuesday, June 19, 2012 09:04:14

Page 1

Approved: June 19, 2012



	K	39	4514.0	3.6	5.1174	0.239	4.7	mg/L	162	Standard
	Ca	43	6.7	43.3	6.1591	2.589	42.0	mg/L	2	Standard
	Fe	54	13696.3	2.5	5.0615	0.056	1.1	mg/L	439	Standard
	Fe	57	575044.5	4.5	5.1841	0.162	3.1	mg/L	5846	Standard
>	Sc-1	45	264960.3	1.4				mg/L	276213	Standard
	Cl	35	5.7	27.0				ug/L	6	Standard
	Kr	83	40.1	2.7				ug/L	41	Standard
	Br	81	4956.6	1.7				ug/L	5073	Standard
	P	31	60557.5	1.3				ug/L	51446	Standard
	S	34	668247.5	0.9				ug/L	649594	Standard
	Sr	88	76.7	7.5				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9	100.997		
Al	27	100.262		
> Sc	45			
Ti	47	100.150		
V	51	98.868		
Cr	52	99.634		
Cr	53	100.042		
Mn	55	99.994		
Co	59	100.495		
Ni	60	99.314		
Cu	65	100.694		
Zn	66	101.900		
> Ge	72		97.650	
As	75	99.162		
Se	82	100.615		
Se-1	77			
> Ga	71		96.800	
Rb	85			
Y	89			
> Rh	103		95.048	
Mo	98	99.349		
Ag	107	99.666		
Cd	111	101.134		
Cd	114			
> In	115		99.785	
Sn	118	99.999		
Sb	123	100.210		
Ba	135	99.876		
Ce	140			
> Tb	159		101.226	
Ho	165			
Tl	203	98.601		
Tl	205			
Pb	206	98.021		

Sample ID: QC Std 1

Report Date/Time: Tuesday, June 19, 2012 09:04:14

Page 2

Approved: June 19, 2012



	Pb	207	100.047	
	Pb	208	98.974	
	U	238	99.691	
>	Bi	209		99.706
	Na	23	118.261	
	Mg	24	94.402	
	K	39	102.349	
	Ca	43	123.181	
	Fe	54	101.229	
	Fe	57	103.681	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Na	23	
QC Std 1	Ca	43	

Sample ID: QC Std 1

Report Date/Time: Tuesday, June 19, 2012 09:04:14

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Tuesday, June 19, 2012 09:04:58

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	7983.8	1.7	-14.0683	51.108	363.3	ug/L	8387	Standard
	Be	9	46.7	32.7	0.0130	0.007	51.9	ug/L	38	Standard
	Al	27	4759.1	10.1	-0.0065	0.052	803.8	ug/L	15112	Standard
>	Sc	45	265810.5	2.3				ug/L	276213	Standard
	Ti	47	120.0	26.5	0.0214	0.024	112.7	ug/L	124	Standard
	V	51	2805.5	0.9	-0.0343	0.003	8.1	ug/L	3503	Standard
	Cr	52	9340.2	2.4	-0.1229	0.035	28.7	ug/L	11028	Standard
	Cr	53	291.7	19.8	-0.0023	0.039	1730.6	ug/L	333	Standard
	Mn	55	1142.0	8.9	0.0035	0.008	231.1	ug/L	3794	Standard
	Co	59	177.3	54.4	0.0019	0.008	396.2	ug/L	200	Standard
	Ni	60	90.0	21.6	-0.0057	0.008	135.5	ug/L	111	Standard
	Cu	65	147.0	10.6	-0.0074	0.007	95.4	ug/L	137	Standard
	Zn	66	324.3	5.0	-0.1036	0.016	15.1	ug/L	360	Standard
>	Ge	72	229568.0	1.5				ug/L	236618	Standard
	As	75	-218.7	5.8	0.0156	0.008	51.3	ug/L	-269	Standard
	Se	82	22.7	29.5	0.0212	0.057	267.5	ug/L	22	Standard
	Se-1	77	101.3	5.6	0.0935	0.085	90.8	ug/L	91	Standard
>	Ga	71	196117.2	3.7				mg/L	202510	Standard
	Rb	85	11.7	65.5				ug/L	10	Standard
	Y	89	216529.6	0.8				ug/L	222253	Standard
>	Rh	103	110176.8	0.9				ug/L	115393	Standard
	Mo	98	123.9	62.7	0.0192	0.018	95.5	ug/L	14	Standard
	Ag	107	86.0	48.4	0.0020	0.006	307.8	ug/L	48	Standard
	Cd	111	107.0	18.8	0.0058	0.007	121.5	mg/L	86	Standard
	Cd	114	289.0	25.0	0.0072	0.009	123.5	ug/L	246	Standard
>	In	115	417825.4	0.8				ug/L	421413	Standard
	Sn	118	597.7	18.1	0.0207	0.012	56.3	ug/L	392	Standard
	Sb	123	847.6	39.5	0.1230	0.049	40.0	ug/L	70	Standard
	Ba	135	107.3	62.9	0.0182	0.022	120.9	ug/L	39	Standard
	Ce	140	24.3	20.7				ug/L	138	Standard
>	Tb	159	421850.1	0.7				ug/L	426404	Standard
	Ho	165	3.7	41.7				ug/L	7	Standard
	Tl	203	94.3	73.5	0.0069	0.007	101.3	ug/L	11	Standard
	Tl	205	224.7	68.9	0.0084	0.007	78.9	ug/L	18	Standard
	Pb	206	270.3	29.6	0.0126	0.010	78.2	ug/L	174	Standard
	Pb	207	244.7	37.5	0.0163	0.013	82.1	ug/L	146	Standard
	Pb	208	1066.0	34.6	0.0123	0.012	95.2	ug/L	687	Standard
	U	238	179.0	69.7	0.0135	0.009	64.9	ug/L	131	Standard
>	Bi	209	242314.3	0.7				ug/L	245542	Standard
	Na	23	166.7	15.4	-0.0037	0.003	77.9	mg/L	180	Standard
	Mg	24	455.0	48.0	-0.0005	0.001	148.1	mg/L	930	Standard

Sample ID: QC Std 2

Report Date/Time: Tuesday, June 19, 2012 09:07:32

Page 1

Approved: June 19, 2012



	K	39	150.0	12.0	-0.0119	0.017	143.1	mg/L	162	Standard
	Ca	43	3.3	86.6	3.1184	2.697	86.5	mg/L	2	Standard
	Fe	54	430.3	8.7	0.0018	0.011	611.1	mg/L	439	Standard
	Fe	57	4889.1	5.0	0.0020	0.003	159.7	mg/L	5846	Standard
>	Sc-1	45	265810.5	2.3				mg/L	276213	Standard
	Cl	35	4.7	24.7				ug/L	6	Standard
	Kr	83	36.8	8.1				ug/L	41	Standard
	Br	81	5135.0	0.8				ug/L	5073	Standard
	P	31	57644.5	1.5				ug/L	51446	Standard
	S	34	655217.4	1.0				ug/L	649594	Standard
	Sr	88	43.3	66.6				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	97.021	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	96.843	
	Rb	85		
	Y	89		
>	Rh	103	95.480	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	99.149	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	98.932	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: QC Std 2

Report Date/Time: Tuesday, June 19, 2012 09:07:32

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	98.685
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 2	Ca	43	

Sample ID: QC Std 2

Report Date/Time: Tuesday, June 19, 2012 09:07:32

Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Tuesday, June 19, 2012 09:08:16

Number of Replicates: 3

Autosampler Position: 202

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

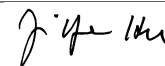
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8240.6	4.1	32.9168	69.363	210.7	ug/L	8387	Standard
	Be	9	203.3	162.6	0.0779	0.137	175.8	ug/L	38	Standard
	Al	27	13283.0	99.0	0.7486	1.162	155.2	ug/L	15112	Standard
>	Sc	45	265366.9	3.2				ug/L	276213	Standard
	Ti	47	295.7	110.0	0.1489	0.237	158.8	ug/L	124	Standard
	V	51	8547.3	0.8	0.3779	0.014	3.7	ug/L	3503	Standard
	Cr	52	17628.6	1.6	0.6843	0.029	4.2	ug/L	11028	Standard
	Cr	53	1649.3	13.5	0.8466	0.145	17.1	ug/L	333	Standard
	Mn	55	8822.3	18.8	0.5626	0.125	22.2	ug/L	3794	Standard
	Co	59	6133.3	21.9	0.4565	0.106	23.1	ug/L	200	Standard
	Ni	60	4668.1	6.3	1.6796	0.113	6.7	ug/L	111	Standard
	Cu	65	2355.9	8.9	0.8683	0.092	10.6	ug/L	137	Standard
	Zn	66	8926.6	2.1	6.9439	0.109	1.6	ug/L	360	Standard
>	Ge	72	228958.0	1.8				ug/L	236618	Standard
	As	75	284.7	26.9	0.4452	0.068	15.3	ug/L	-269	Standard
	Se	82	76.3	7.0	0.4677	0.053	11.4	ug/L	22	Standard
	Se-1	77	121.7	9.1	0.3422	0.135	39.3	ug/L	91	Standard
>	Ga	71	194732.2	2.4				mg/L	202510	Standard
	Rb	85	15.0	33.3				ug/L	10	Standard
	Y	89	218321.1	3.2				ug/L	222253	Standard
>	Rh	103	110334.1	2.3				ug/L	115393	Standard
	Mo	98	135.4	104.0	0.0217	0.033	149.8	ug/L	14	Standard
	Ag	107	2967.0	6.9	0.4174	0.024	5.7	ug/L	48	Standard
	Cd	111	807.0	8.9	0.2490	0.026	10.6	mg/L	86	Standard
	Cd	114	2258.4	4.8	0.2486	0.011	4.2	ug/L	246	Standard
>	In	115	416447.0	1.6				ug/L	421413	Standard
	Sn	118	639.3	17.9	0.0252	0.011	45.3	ug/L	392	Standard
	Sb	123	3049.1	1.5	0.4442	0.004	1.0	ug/L	70	Standard
	Ba	135	2341.2	4.0	0.7440	0.025	3.4	ug/L	39	Standard
	Ce	140	41.3	64.7				ug/L	138	Standard
>	Tb	159	422454.3	1.2				ug/L	426404	Standard
	Ho	165	3.3	45.8				ug/L	7	Standard
	Tl	203	872.7	12.4	0.0841	0.010	12.5	ug/L	11	Standard
	Tl	205	2118.1	9.3	0.0884	0.009	10.1	ug/L	18	Standard
	Pb	206	1898.5	3.4	0.2100	0.009	4.5	ug/L	174	Standard
	Pb	207	1603.4	4.4	0.2115	0.010	4.7	ug/L	146	Standard
	Pb	208	7340.0	4.8	0.2095	0.013	6.0	ug/L	687	Standard
	U	238	6787.9	27.5	0.4738	0.132	27.9	ug/L	131	Standard
>	Bi	209	244074.2	2.4				ug/L	245542	Standard
	Na	23	430.0	69.5	0.0226	0.030	130.9	mg/L	180	Standard
	Mg	24	4098.2	160.5	0.0103	0.019	188.6	mg/L	930	Standard

Sample ID: QC Std 3

Report Date/Time: Tuesday, June 19, 2012 09:10:49

Page 1

Approved: June 19, 2012



	K	39	146.7	31.7	-0.0155	0.053	342.4	mg/L	162	Standard
	Ca	43	1.7	173.2	1.6016	2.765	172.7	mg/L	2	Standard
	Fe	54	467.0	2.1	0.0162	0.003	16.9	mg/L	439	Standard
	Fe	57	6781.8	50.2	0.0191	0.031	159.6	mg/L	5846	Standard
>	Sc-1	45	265366.9	3.2				mg/L	276213	Standard
	Cl	35	2.7	43.3				ug/L	6	Standard
	Kr	83	37.1	5.8				ug/L	41	Standard
	Br	81	5045.8	2.1				ug/L	5073	Standard
	P	31	56572.9	0.5				ug/L	51446	Standard
	S	34	676590.2	0.5				ug/L	649594	Standard
	Sr	88	91.7	83.5				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51	94.467		
Cr	52	85.534		
Cr	53			
Mn	55	112.522		
Co	59	114.129		
Ni	60	104.972		
Cu	65	108.538		
Zn	66	111.103		
> Ge	72		96.763	
As	75	111.299		
Se	82	116.918		
Se-1	77			
> Ga	71		96.160	
Rb	85			
Y	89			
> Rh	103		95.616	
Mo	98			
Ag	107	104.350		
Cd	111	103.732		
Cd	114			
> In	115		98.822	
Sn	118			
Sb	123	111.056		
Ba	135	99.207		
Ce	140			
> Tb	159		99.074	
Ho	165			
Tl	203	105.079		
Tl	205			
Pb	206			

Sample ID: QC Std 3

Report Date/Time: Tuesday, June 19, 2012 09:10:49

Page 2

Approved: June 19, 2012



	Pb	207		
	Pb	208	104.765	
	U	238	118.456	
>	Bi	209		99.402
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 3

Report Date/Time: Tuesday, June 19, 2012 09:10:49

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Tuesday, June 19, 2012 09:11:30

Number of Replicates: 3

Autosampler Position: 203

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

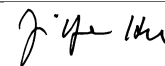
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[	Li	7	8894.3	3.0	79.5705	50.694	63.7	ug/L	8387	Standard
	Be	9	33.3	17.3	0.0068	0.002	28.6	ug/L	38	Standard
	Al	27	44934638.7	1.0	3832.7893	148.282	3.9	ug/L	15112	Standard
[>	Sc	45	277387.1	4.0				ug/L	276213	Standard
[	Ti	47	162703.1	1.7	113.5545	1.507	1.3	ug/L	124	Standard
	V	51	3927.4	4.7	0.0379	0.006	15.5	ug/L	3503	Standard
	Cr	52	11337.2	0.7	0.0398	0.021	52.2	ug/L	11028	Standard
	Cr	53	2607.7	9.7	1.3932	0.114	8.2	ug/L	333	Standard
	Mn	55	1974.1	3.0	0.0599	0.007	11.9	ug/L	3794	Standard
	Co	59	558.7	4.1	0.0297	0.001	3.2	ug/L	200	Standard
	Ni	60	1780.8	4.4	0.5965	0.016	2.7	ug/L	111	Standard
	Cu	65	732.4	6.7	0.2155	0.012	5.4	ug/L	137	Standard
	Zn	66	2163.2	1.9	1.3500	0.061	4.5	ug/L	360	Standard
[>	Ge	72	236177.7	2.7				ug/L	236618	Standard
	As	75	-278.2	20.9	-0.0289	0.050	174.0	ug/L	-269	Standard
	Se	82	28.1	18.7	0.0593	0.046	77.8	ug/L	22	Standard
[	Se-1	77	286.7	3.6	2.2345	0.144	6.5	ug/L	91	Standard
[>	Ga	71	195401.1	3.2				mg/L	202510	Standard
	Rb	85	3248.7	3.2				ug/L	10	Standard
	Y	89	222768.4	3.1				ug/L	222253	Standard
[>	Rh	103	107932.6	2.4				ug/L	115393	Standard
[	Mo	98	438511.0	2.8	100.4486	1.583	1.6	ug/L	14	Standard
	Ag	107	90.3	6.3	0.0023	0.001	42.2	ug/L	48	Standard
	Cd	111	-57.4	24.7	-0.0506	0.005	9.0	mg/L	86	Standard
	Cd	114	2086.9	4.7	0.2210	0.009	4.0	ug/L	246	Standard
[>	In	115	427417.6	1.4				ug/L	421413	Standard
	Sn	118	1362.7	0.7	0.0972	0.001	1.3	ug/L	392	Standard
	Sb	123	495.7	8.5	0.0701	0.006	9.1	ug/L	70	Standard
	Ba	135	175.0	7.6	0.0387	0.004	9.1	ug/L	39	Standard
[	Ce	140	1381.1	3.8				ug/L	138	Standard
[>	Tb	159	445106.5	1.7				ug/L	426404	Standard
[	Ho	165	8.3	90.1				ug/L	7	Standard
	Tl	203	57.7	18.4	0.0032	0.001	32.9	ug/L	11	Standard
	Tl	205	128.7	9.0	0.0043	0.000	11.1	ug/L	18	Standard
	Pb	206	303.7	3.8	0.0166	0.001	7.6	ug/L	174	Standard
	Pb	207	264.0	3.7	0.0190	0.001	6.5	ug/L	146	Standard
	Pb	208	1160.0	1.8	0.0152	0.000	3.1	ug/L	687	Standard
	U	238	5.7	90.6	0.0013	0.000	27.1	ug/L	131	Standard
[>	Bi	209	242649.9	0.5				ug/L	245542	Standard
[	Na	23	92885.5	0.8	8.8876	0.357	4.0	mg/L	180	Standard
	Mg	24	1624724.8	1.6	4.6037	0.123	2.7	mg/L	930	Standard

Sample ID: QC Std 4

Report Date/Time: Tuesday, June 19, 2012 09:14:04

Page 1

Approved: June 19, 2012



	K	39	4419.0	5.8	4.7691	0.095	2.0	mg/L	162	Standard
	Ca	43	26.7	21.7	23.7091	5.734	24.2	mg/L	2	Standard
	Fe	54	33098.2	1.8	11.9081	0.491	4.1	mg/L	439	Standard
	Fe	57	1529421.3	4.8	13.2383	0.315	2.4	mg/L	5846	Standard
>	Sc-1	45	277387.1	4.0				mg/L	276213	Standard
	Cl	35	192.7	4.7				ug/L	6	Standard
	Kr	83	48.2	2.4				ug/L	41	Standard
	Br	81	5350.1	1.9				ug/L	5073	Standard
	P	31	4580844.2	1.9				ug/L	51446	Standard
	S	34	1285051.0	1.4				ug/L	649594	Standard
	Sr	88	160.0	12.5				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	76.656		
> Sc	45			
Ti	47	113.554		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		99.814	
As	75			
Se	82			
Se-1	77			
> Ga	71		96.490	
Rb	85			
Y	89			
> Rh	103		93.535	
Mo	98	100.449		
Ag	107			
Cd	111			
Cd	114			
> In	115		101.425	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		104.386	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: QC Std 4

Report Date/Time: Tuesday, June 19, 2012 09:14:04

Page 2

Approved: June 19, 2012



	Pb	207		
	Pb	208		
	U	238		
>	Bi	209		98.822
	Na	23	71.101	
	Mg	24	92.074	
	K	39	95.382	
	Ca	43	158.061	
	Fe	54	95.265	
	Fe	57	105.907	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Al	27	
QC Std 4	Na	23	
QC Std 4	Ca	43	

Sample ID: QC Std 4

Report Date/Time: Tuesday, June 19, 2012 09:14:04

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Tuesday, June 19, 2012 09:14:45

Number of Replicates: 3

Autosampler Position: 204

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

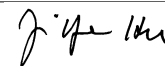
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9081.1	1.7	70.7059	9.994	14.1	ug/L	8387	Standard
	Be	9	270484.2	2.7	105.1657	2.581	2.5	ug/L	38	Standard
	Al	27	44633508.9	0.6	3705.6713	62.366	1.7	ug/L	15112	Standard
>	Sc	45	284768.8	2.3				ug/L	276213	Standard
	Ti	47	160594.9	2.4	108.7082	1.703	1.6	ug/L	124	Standard
	V	51	1516209.3	0.2	101.9730	1.112	1.1	ug/L	3503	Standard
	Cr	52	1130716.3	0.2	102.2549	0.731	0.7	ug/L	11028	Standard
	Cr	53	177840.8	3.3	104.3114	2.949	2.8	ug/L	333	Standard
	Mn	55	1500333.0	1.1	102.5095	0.494	0.5	ug/L	3794	Standard
	Co	59	1432899.6	1.9	102.7458	1.118	1.1	ug/L	200	Standard
	Ni	60	293247.6	1.3	101.4741	1.666	1.6	ug/L	111	Standard
	Cu	65	272088.0	0.4	101.3052	0.661	0.7	ug/L	137	Standard
	Zn	66	135397.7	1.4	103.9478	1.174	1.1	ug/L	360	Standard
>	Ge	72	243437.2	1.0				ug/L	236618	Standard
	As	75	129597.2	1.3	104.2074	0.754	0.7	ug/L	-269	Standard
	Se	82	13410.9	1.0	104.7493	0.917	0.9	ug/L	22	Standard
	Se-1	77	9399.6	2.7	105.8690	2.583	2.4	ug/L	91	Standard
>	Ga	71	210228.5	0.8				mg/L	202510	Standard
	Rb	85	3387.0	4.3				ug/L	10	Standard
	Y	89	237867.9	1.6				ug/L	222253	Standard
>	Rh	103	111450.8	1.2				ug/L	115393	Standard
	Mo	98	432367.5	0.9	94.5104	0.789	0.8	ug/L	14	Standard
	Ag	107	645126.5	3.1	86.5112	2.714	3.1	ug/L	48	Standard
	Cd	111	328326.0	0.4	105.9101	0.290	0.3	mg/L	86	Standard
	Cd	114	906313.2	0.6	103.2236	0.530	0.5	ug/L	246	Standard
>	In	115	447952.3	0.1				ug/L	421413	Standard
	Sn	118	1128.0	1.9	0.0680	0.002	3.2	ug/L	392	Standard
	Sb	123	785901.3	0.7	106.5194	0.701	0.7	ug/L	70	Standard
	Ba	135	338788.1	0.4	102.3266	0.293	0.3	ug/L	39	Standard
	Ce	140	1392.4	3.7				ug/L	138	Standard
>	Tb	159	468177.2	1.2				ug/L	426404	Standard
	Ho	165	13.7	29.6				ug/L	7	Standard
	Tl	203	1062205.6	0.9	102.8215	1.583	1.5	ug/L	11	Standard
	Tl	205	2486601.2	2.0	102.4418	2.712	2.6	ug/L	18	Standard
	Pb	206	867526.5	0.6	102.6047	1.196	1.2	ug/L	174	Standard
	Pb	207	743289.2	0.9	104.2587	1.524	1.5	ug/L	146	Standard
	Pb	208	3368733.8	0.5	103.2949	1.170	1.1	ug/L	687	Standard
	U	238	1554538.8	1.6	105.4864	2.307	2.2	ug/L	131	Standard
>	Bi	209	250348.0	0.6				ug/L	245542	Standard
	Na	23	92553.5	1.1	8.6183	0.112	1.3	mg/L	180	Standard
	Mg	24	1594866.6	1.0	4.3998	0.065	1.5	mg/L	930	Standard

Sample ID: QC Std 5

Report Date/Time: Tuesday, June 19, 2012 09:17:18

Page 1

Approved: June 19, 2012



	K	39	4177.2	4.6	4.3778	0.144	3.3	mg/L	162	Standard
	Ca	43	20.0	43.3	17.3489	7.930	45.7	mg/L	2	Standard
	Fe	54	32769.8	1.3	11.4730	0.401	3.5	mg/L	439	Standard
	Fe	57	1519177.1	2.8	12.8082	0.194	1.5	mg/L	5846	Standard
>	Sc-1	45	284768.8	2.3				mg/L	276213	Standard
	Cl	35	190.0	9.9				ug/L	6	Standard
	Kr	83	50.1	5.7				ug/L	41	Standard
	Br	81	5581.9	1.8				ug/L	5073	Standard
	P	31	4517779.5	0.8				ug/L	51446	Standard
	S	34	1313263.1	1.8				ug/L	649594	Standard
	Sr	88	225.0	13.9				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	74.113		
> Sc	45			
Ti	47	108.708		
V	51	101.973		
Cr	52	102.255		
Cr	53			
Mn	55	102.510		
Co	59	102.746		
Ni	60	101.474		
Cu	65	101.305		
Zn	66	103.948		
> Ge	72		102.882	
As	75	104.207		
Se	82	104.749		
Se-1	77			
> Ga	71		103.812	
Rb	85			
Y	89			
> Rh	103		96.584	
Mo	98	94.510		
Ag	107	86.511		
Cd	111	105.910		
Cd	114			
> In	115		106.298	
Sn	118			
Sb	123	106.519		
Ba	135	102.327		
Ce	140			
> Tb	159		109.797	
Ho	165			
Tl	203	102.821		
Tl	205			
Pb	206	102.605		

Sample ID: QC Std 5

Report Date/Time: Tuesday, June 19, 2012 09:17:18

Page 2

Approved: June 19, 2012



	Pb	207	104.259	
	Pb	208	103.295	
	U	238	105.486	
>	Bi	209		101.957
	Na	23	68.946	
	Mg	24	87.997	
	K	39	87.555	
	Ca	43	115.659	
	Fe	54	91.784	
	Fe	57	102.465	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Na	23	
QC Std 5	Ca	43	

Sample ID: QC Std 5

Report Date/Time: Tuesday, June 19, 2012 09:17:18

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, June 19, 2012 09:18:02

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8757.5	4.7	3.3580	75.969	2262.4	ug/L	8387	Standard
	Be	9	130516.4	1.0	50.1880	0.142	0.3	ug/L	38	Standard
	Al	27	618623.6	3.4	50.3810	2.143	4.3	ug/L	15112	Standard
>	Sc	45	287874.2	0.9				ug/L	276213	Standard
	Ti	47	147937.1	0.7	99.8203	0.869	0.9	ug/L	124	Standard
	V	51	748001.2	1.7	50.0185	0.417	0.8	ug/L	3503	Standard
	Cr	52	562238.1	1.1	50.1592	0.307	0.6	ug/L	11028	Standard
	Cr	53	85963.2	1.7	50.1665	0.890	1.8	ug/L	333	Standard
	Mn	55	745856.7	0.2	50.7581	0.559	1.1	ug/L	3794	Standard
	Co	59	708225.4	0.7	50.6167	0.421	0.8	ug/L	200	Standard
	Ni	60	145672.3	0.2	50.2249	0.570	1.1	ug/L	111	Standard
	Cu	65	135791.5	1.2	50.3584	0.051	0.1	ug/L	137	Standard
	Zn	66	64783.9	0.9	49.3813	0.086	0.2	ug/L	360	Standard
>	Ge	72	244233.5	1.1				ug/L	236618	Standard
	As	75	62401.6	1.3	50.1197	0.634	1.3	ug/L	-269	Standard
	Se	82	6558.6	0.9	50.9769	0.615	1.2	ug/L	22	Standard
	Se-1	77	4522.0	0.9	50.1792	0.188	0.4	ug/L	91	Standard
>	Ga	71	207364.9	2.4				mg/L	202510	Standard
	Rb	85	1001.7	11.2				ug/L	10	Standard
	Y	89	231253.3	1.5				ug/L	222253	Standard
>	Rh	103	114250.9	1.7				ug/L	115393	Standard
	Mo	98	446516.0	1.3	98.0962	0.778	0.8	ug/L	14	Standard
	Ag	107	364960.1	1.4	49.1823	0.407	0.8	ug/L	48	Standard
	Cd	111	158460.7	1.9	51.3572	0.823	1.6	mg/L	86	Standard
	Cd	114	438252.5	1.1	50.1547	0.711	1.4	ug/L	246	Standard
>	In	115	445698.5	0.8				ug/L	421413	Standard
	Sn	118	517760.5	0.7	50.5465	0.307	0.6	ug/L	392	Standard
	Sb	123	376043.1	0.0	51.2279	0.392	0.8	ug/L	70	Standard
	Ba	135	163842.8	0.8	49.7285	0.123	0.2	ug/L	39	Standard
	Ce	140	672.7	5.6				ug/L	138	Standard
>	Tb	159	460094.9	0.9				ug/L	426404	Standard
	Ho	165	8.0	21.7				ug/L	7	Standard
	Tl	203	521800.4	0.8	49.6933	0.366	0.7	ug/L	11	Standard
	Tl	205	1249085.2	1.3	50.6262	0.756	1.5	ug/L	18	Standard
	Pb	206	425979.6	0.7	49.5585	0.310	0.6	ug/L	174	Standard
	Pb	207	367468.7	1.5	50.7007	0.625	1.2	ug/L	146	Standard
	Pb	208	1660646.5	1.1	50.0869	0.394	0.8	ug/L	687	Standard
	U	238	757524.9	0.7	50.5744	0.586	1.2	ug/L	131	Standard
>	Bi	209	254447.5	0.9				ug/L	245542	Standard
	Na	23	63695.3	2.8	5.8601	0.191	3.3	mg/L	180	Standard
	Mg	24	1667227.5	1.1	4.5494	0.088	1.9	mg/L	930	Standard

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 09:20:35

Page 1

Approved: June 19, 2012



	K	39	4529.0	0.7	4.7103	0.073	1.5	mg/L	162	Standard
	Ca	43	15.0	57.7	12.7624	7.289	57.1	mg/L	2	Standard
	Fe	54	14378.0	1.1	4.8854	0.016	0.3	mg/L	439	Standard
	Fe	57	664483.7	3.1	5.5180	0.174	3.2	mg/L	5846	Standard
>	Sc-1	45	287874.2	0.9				mg/L	276213	Standard
	Cl	35	5.0	20.0				ug/L	6	Standard
	Kr	83	41.9	4.7				ug/L	41	Standard
	Br	81	5534.3	1.9				ug/L	5073	Standard
	P	31	64701.2	1.9				ug/L	51446	Standard
	S	34	737392.3	1.5				ug/L	649594	Standard
	Sr	88	108.3	11.6				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	100.762		
> Sc	45			
Ti	47	99.820		
V	51	100.037		
Cr	52	100.318		
Cr	53			
Mn	55	101.516		
Co	59	101.233		
Ni	60	100.450		
Cu	65	100.717		
Zn	66	98.763		
> Ge	72		103.219	
As	75	100.239		
Se	82	101.954		
Se-1	77			
> Ga	71		102.398	
Rb	85			
Y	89			
> Rh	103		99.010	
Mo	98	98.096		
Ag	107	98.365		
Cd	111	102.714		
Cd	114			
> In	115		105.763	
Sn	118	101.093		
Sb	123	102.456		
Ba	135	99.457		
Ce	140			
> Tb	159		107.901	
Ho	165			
Tl	203	99.387		
Tl	205			
Pb	206	99.117		

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 09:20:35

Page 2

Approved: June 19, 2012



	Pb	207	101.401	
	Pb	208	100.174	
	U	238	101.149	
>	Bi	209		103.627
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 09:20:35

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, June 19, 2012 09:21:17

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

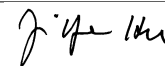
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8399.0	2.8	-12.1847	49.860	409.2	ug/L	8387	Standard
	Be	9	33.3	74.0	0.0068	0.010	145.1	ug/L	38	Standard
	Al	27	7587.0	31.6	0.2137	0.211	98.7	ug/L	15112	Standard
>	Sc	45	279179.0	1.6				ug/L	276213	Standard
	Ti	47	113.3	16.4	0.0136	0.014	105.0	ug/L	124	Standard
	V	51	3112.1	2.8	-0.0203	0.010	49.7	ug/L	3503	Standard
	Cr	52	10005.3	2.0	-0.0931	0.037	39.5	ug/L	11028	Standard
	Cr	53	371.7	19.1	0.0395	0.047	118.3	ug/L	333	Standard
	Mn	55	1131.7	12.4	-0.0001	0.011	20444.6	ug/L	3794	Standard
	Co	59	177.3	49.0	0.0014	0.007	459.2	ug/L	200	Standard
	Ni	60	94.0	28.1	-0.0054	0.010	185.2	ug/L	111	Standard
	Cu	65	155.0	16.3	-0.0064	0.011	167.4	ug/L	137	Standard
	Zn	66	320.0	6.9	-0.1167	0.015	13.0	ug/L	360	Standard
>	Ge	72	238100.1	2.0				ug/L	236618	Standard
	As	75	-261.1	6.5	-0.0125	0.010	77.9	ug/L	-269	Standard
	Se	82	26.1	8.5	0.0415	0.015	37.1	ug/L	22	Standard
	Se-1	77	104.7	17.1	0.0872	0.203	233.3	ug/L	91	Standard
>	Ga	71	203364.7	2.7				mg/L	202510	Standard
	Rb	85	18.3	56.8				ug/L	10	Standard
	Y	89	227605.7	2.3				ug/L	222253	Standard
>	Rh	103	114033.9	0.9				ug/L	115393	Standard
	Mo	98	152.8	71.0	0.0243	0.024	100.7	ug/L	14	Standard
	Ag	107	111.3	66.7	0.0049	0.010	211.5	ug/L	48	Standard
	Cd	111	101.6	27.8	0.0022	0.010	426.7	mg/L	86	Standard
	Cd	114	319.2	38.7	0.0091	0.015	161.1	ug/L	246	Standard
>	In	115	439256.4	1.1				ug/L	421413	Standard
	Sn	118	589.0	23.4	0.0168	0.014	83.6	ug/L	392	Standard
	Sb	123	1105.3	40.6	0.1528	0.063	41.3	ug/L	70	Standard
	Ba	135	102.7	68.4	0.0151	0.022	144.9	ug/L	39	Standard
	Ce	140	28.3	34.8				ug/L	138	Standard
>	Tb	159	445536.0	1.3				ug/L	426404	Standard
	Ho	165	3.3	45.8				ug/L	7	Standard
	Tl	203	70.0	90.0	0.0042	0.006	146.2	ug/L	11	Standard
	Tl	205	173.3	92.2	0.0060	0.007	111.7	ug/L	18	Standard
	Pb	206	281.0	41.8	0.0127	0.014	112.6	ug/L	174	Standard
	Pb	207	219.3	40.1	0.0114	0.013	111.0	ug/L	146	Standard
	Pb	208	1066.3	38.9	0.0111	0.013	117.6	ug/L	687	Standard
	U	238	156.3	74.0	0.0115	0.008	69.0	ug/L	131	Standard
>	Bi	209	252205.9	1.1				ug/L	245542	Standard
	Na	23	275.0	3.6	0.0058	0.001	17.4	mg/L	180	Standard
	Mg	24	325.0	68.5	-0.0009	0.001	71.7	mg/L	930	Standard

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 09:23:50

Page 1

Approved: June 19, 2012



	K	39	151.7	11.6	-0.0180	0.022	121.6	mg/L	162	Standard
	Ca	43	1.7	173.2	1.4428	2.490	172.6	mg/L	2	Standard
	Fe	54	460.0	19.4	0.0052	0.034	665.7	mg/L	439	Standard
	Fe	57	5376.0	8.6	0.0040	0.004	109.3	mg/L	5846	Standard
>	Sc-1	45	279179.0	1.6				mg/L	276213	Standard
	Cl	35	3.7	56.8				ug/L	6	Standard
	Kr	83	37.0	6.3				ug/L	41	Standard
	Br	81	5456.8	4.0				ug/L	5073	Standard
	P	31	61413.5	3.4				ug/L	51446	Standard
	S	34	721288.4	0.9				ug/L	649594	Standard
	Sr	88	43.3	17.6				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	100.626	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	100.422	
	Rb	85		
	Y	89		
>	Rh	103	98.822	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	104.234	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	104.487	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 09:23:50

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.714
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 09:23:50

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: PBW E3 WG400743-02

Sample Date/Time: Tuesday, June 19, 2012 09:24:34

Number of Replicates: 3

Autosampler Position: 205

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

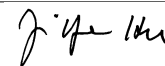
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8520.7	1.3	2.0623	54.461	2640.8	ug/L	8387	Standard
	Be	9	41.7	79.9	0.0101	0.014	134.8	ug/L	38	Standard
	Al	27	8044.0	33.3	0.2504	0.241	96.3	ug/L	15112	Standard
>	Sc	45	280501.2	3.3				ug/L	276213	Standard
	Ti	47	119.7	8.4	0.0179	0.009	48.2	ug/L	124	Standard
	V	51	3195.9	5.7	-0.0146	0.017	118.6	ug/L	3503	Standard
	Cr	52	9841.2	1.5	-0.1094	0.032	29.2	ug/L	11028	Standard
	Cr	53	313.3	5.9	0.0039	0.014	373.9	ug/L	333	Standard
	Mn	55	1254.1	13.5	0.0084	0.014	162.7	ug/L	3794	Standard
	Co	59	165.3	46.8	0.0005	0.006	1089.3	ug/L	200	Standard
	Ni	60	157.7	9.0	0.0171	0.006	35.6	ug/L	111	Standard
	Cu	65	209.3	8.2	0.0142	0.008	56.8	ug/L	137	Standard
	Zn	66	1804.8	2.2	1.0521	0.054	5.1	ug/L	360	Standard
>	Ge	72	238346.6	2.1				ug/L	236618	Standard
	As	75	-266.3	4.9	-0.0165	0.007	39.9	ug/L	-269	Standard
	Se	82	21.4	21.7	0.0036	0.037	1031.4	ug/L	22	Standard
	Se-1	77	103.3	2.4	0.0716	0.052	72.5	ug/L	91	Standard
>	Ga	71	203968.9	1.3				mg/L	202510	Standard
	Rb	85	30.0	33.3				ug/L	10	Standard
	Y	89	226458.3	1.4				ug/L	222253	Standard
>	Rh	103	114763.7	1.7				ug/L	115393	Standard
	Mo	98	113.8	41.1	0.0152	0.011	70.2	ug/L	14	Standard
	Ag	107	112.0	86.8	0.0048	0.013	279.7	ug/L	48	Standard
	Cd	111	129.7	41.6	0.0110	0.018	165.2	mg/L	86	Standard
	Cd	114	366.4	50.3	0.0140	0.022	154.6	ug/L	246	Standard
>	In	115	445757.1	1.7				ug/L	421413	Standard
	Sn	118	569.0	24.0	0.0140	0.014	99.8	ug/L	392	Standard
	Sb	123	496.6	45.8	0.0676	0.032	47.3	ug/L	70	Standard
	Ba	135	100.0	74.6	0.0139	0.023	166.6	ug/L	39	Standard
	Ce	140	36.7	11.0				ug/L	138	Standard
>	Tb	159	441294.9	1.3				ug/L	426404	Standard
	Ho	165	5.7	10.2				ug/L	7	Standard
	Tl	203	145.3	132.7	0.0116	0.019	163.1	ug/L	11	Standard
	Tl	205	374.7	135.1	0.0144	0.021	147.1	ug/L	18	Standard
	Pb	206	310.0	49.7	0.0162	0.019	116.1	ug/L	174	Standard
	Pb	207	233.3	52.8	0.0135	0.018	131.9	ug/L	146	Standard
	Pb	208	1136.4	47.2	0.0134	0.017	127.1	ug/L	687	Standard
	U	238	137.7	118.2	0.0103	0.011	108.6	ug/L	131	Standard
>	Bi	209	251673.6	1.5				ug/L	245542	Standard
	Na	23	301.7	11.0	0.0083	0.004	48.6	mg/L	180	Standard
	Mg	24	648.4	67.0	0.0000	0.001	5362.1	mg/L	930	Standard

Sample ID: PBW E3 WG400743-02

Report Date/Time: Tuesday, June 19, 2012 09:27:08

Page 1

Approved: June 19, 2012



	K	39	140.0	25.0	-0.0310	0.043	139.5	mg/L	162	Standard
	Ca	43	1.7	173.2	1.4096	2.433	172.6	mg/L	2	Standard
	Fe	54	445.3	13.7	-0.0007	0.027	3685.0	mg/L	439	Standard
	Fe	57	4910.8	5.7	-0.0001	0.004	2787.9	mg/L	5846	Standard
>	Sc-1	45	280501.2	3.3				mg/L	276213	Standard
	Cl	35	7.7	86.8				ug/L	6	Standard
	Kr	83	39.3	8.6				ug/L	41	Standard
	Br	81	5621.0	3.5				ug/L	5073	Standard
	P	31	60606.0	1.2				ug/L	51446	Standard
	S	34	727620.4	1.9				ug/L	649594	Standard
	Sr	88	45.0	0.0				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	100.731	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	100.721	
	Rb	85		
	Y	89		
>	Rh	103	99.455	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	105.777	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	103.492	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: PBW E3 WG400743-02

Report Date/Time: Tuesday, June 19, 2012 09:27:08

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.497
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: PBW E3 WG400743-02
 Report Date/Time: Tuesday, June 19, 2012 09:27:08
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: LCSW E3 WG400743-03

Sample Date/Time: Tuesday, June 19, 2012 09:27:49

Number of Replicates: 3

Autosampler Position: 206

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9251.2	3.1	12.7722	39.694	310.8	ug/L	8387	Standard
	Be	9	67341.0	1.1	24.6840	0.404	1.6	ug/L	38	Standard
	Al	27	368805.3	18.7	28.3974	4.997	17.6	ug/L	15112	Standard
>	Sc	45	301988.5	1.3				ug/L	276213	Standard
	Ti	47	330.0	110.3	0.1462	0.233	159.3	ug/L	124	Standard
	V	51	399925.6	2.0	25.2659	0.260	1.0	ug/L	3503	Standard
	Cr	52	308611.5	1.7	25.6380	0.200	0.8	ug/L	11028	Standard
	Cr	53	46403.5	1.0	25.6143	0.456	1.8	ug/L	333	Standard
	Mn	55	405953.4	2.7	26.1791	0.548	2.1	ug/L	3794	Standard
	Co	59	380780.8	0.5	25.8254	0.343	1.3	ug/L	200	Standard
	Ni	60	78067.3	0.5	25.5275	0.267	1.0	ug/L	111	Standard
	Cu	65	74289.7	0.7	26.1213	0.491	1.9	ug/L	137	Standard
	Zn	66	35134.0	1.5	25.2384	0.050	0.2	ug/L	360	Standard
>	Ge	72	257329.4	1.4				ug/L	236618	Standard
	As	75	31493.7	1.3	24.1121	0.019	0.1	ug/L	-269	Standard
	Se	82	3146.4	1.7	23.1188	0.279	1.2	ug/L	22	Standard
	Se-1	77	2339.2	2.9	24.0602	0.643	2.7	ug/L	91	Standard
>	Ga	71	226102.9	0.3				mg/L	202510	Standard
	Rb	85	18.3	41.7				ug/L	10	Standard
	Y	89	246927.6	0.6				ug/L	222253	Standard
>	Rh	103	122647.7	0.4				ug/L	115393	Standard
	Mo	98	210.2	116.1	0.0329	0.049	150.2	ug/L	14	Standard
	Ag	107	188267.2	1.2	23.7160	0.206	0.9	ug/L	48	Standard
	Cd	111	84052.0	1.0	25.4549	0.278	1.1	mg/L	86	Standard
	Cd	114	223590.8	1.2	23.9084	0.240	1.0	ug/L	246	Standard
>	In	115	476759.6	2.0				ug/L	421413	Standard
	Sn	118	794.7	21.1	0.0309	0.015	47.4	ug/L	392	Standard
	Sb	123	198412.2	1.6	25.2690	0.122	0.5	ug/L	70	Standard
	Ba	135	86468.7	0.9	24.5303	0.328	1.3	ug/L	39	Standard
	Ce	140	2177.5	2.7				ug/L	138	Standard
>	Tb	159	473304.6	1.5				ug/L	426404	Standard
	Ho	165	5.3	28.6				ug/L	7	Standard
	Tl	203	274980.7	1.1	25.1795	0.185	0.7	ug/L	11	Standard
	Tl	205	661314.0	0.9	25.7733	0.347	1.3	ug/L	18	Standard
	Pb	206	226863.6	1.3	25.3679	0.144	0.6	ug/L	174	Standard
	Pb	207	193948.5	0.6	25.7228	0.251	1.0	ug/L	146	Standard
	Pb	208	882239.2	1.2	25.5755	0.091	0.4	ug/L	687	Standard
	U	238	390012.2	1.5	25.0361	0.202	0.8	ug/L	131	Standard
>	Bi	209	264631.0	1.6				ug/L	245542	Standard
	Na	23	476.7	85.1	0.0213	0.035	163.9	mg/L	180	Standard
	Mg	24	3686.2	156.5	0.0077	0.015	193.1	mg/L	930	Standard

Sample ID: LCSW E3 WG400743-03

Report Date/Time: Tuesday, June 19, 2012 09:30:22

Page 1

Approved: June 19, 2012

	K	39	180.0	19.4	-0.0016	0.037	2266.2	mg/L	162	Standard
	Ca	43	0.0		0.0050			mg/L	2	Standard
	Fe	54	548.2	14.1	0.0217	0.024	112.4	mg/L	439	Standard
	Fe	57	7500.4	41.9	0.0173	0.024	139.7	mg/L	5846	Standard
>	Sc-1	45	301988.5	1.3				mg/L	276213	Standard
	Cl	35	7.3	31.5				ug/L	6	Standard
	Kr	83	45.0	11.6				ug/L	41	Standard
	Br	81	6244.6	2.3				ug/L	5073	Standard
	P	31	91849.3	11.8				ug/L	51446	Standard
	S	34	773203.9	0.9				ug/L	649594	Standard
	Sr	88	91.7	30.0				ug/L	65	Standard

QC Calculated Values

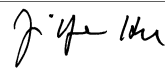
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	108.753	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	111.650	
	Rb	85		
	Y	89		
>	Rh	103	106.287	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	113.133	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	110.999	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: LCSW E3 WG400743-03

Report Date/Time: Tuesday, June 19, 2012 09:30:22

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	107.774
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

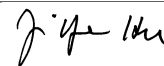
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: LCSW E3 WG400743-03

Report Date/Time: Tuesday, June 19, 2012 09:30:22

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206040901

Sample Date/Time: Tuesday, June 19, 2012 09:31:03

Number of Replicates: 3

Autosampler Position: 207

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

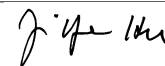
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	68790.8	1.9	8702.9245	88.772	1.0	ug/L	8387	Standard
	Be	9	80.0	65.8	0.0221	0.019	87.9	ug/L	38	Standard
	Al	27	1492555.0	1.6	112.0792	1.336	1.2	ug/L	15112	Standard
>	Sc	45	313668.5	2.8				ug/L	276213	Standard
	Ti	47	7712.3	2.8	5.2690	0.204	3.9	ug/L	124	Standard
	V	51	10467.0	4.6	0.4856	0.041	8.5	ug/L	3503	Standard
	Cr	52	24918.1	2.5	1.2960	0.085	6.6	ug/L	11028	Standard
	Cr	53	2476.0	1.9	1.3007	0.010	0.7	ug/L	333	Standard
	Mn	55	941955.0	1.7	65.6695	1.060	1.6	ug/L	3794	Standard
	Co	59	14997.4	2.8	1.0866	0.043	4.0	ug/L	200	Standard
	Ni	60	11039.0	2.6	3.8620	0.108	2.8	ug/L	111	Standard
	Cu	65	11698.5	0.7	4.3838	0.070	1.6	ug/L	137	Standard
	Zn	66	14757.9	0.3	11.2388	0.158	1.4	ug/L	360	Standard
>	Ge	72	238483.0	1.2				ug/L	236618	Standard
	As	75	789.7	3.8	0.8488	0.031	3.7	ug/L	-269	Standard
	Se	82	73.6	11.8	0.4209	0.075	17.7	ug/L	22	Standard
	Se-1	77	142.0	8.3	0.5206	0.154	29.6	ug/L	91	Standard
>	Ga	71	201662.1	2.7				mg/L	202510	Standard
	Rb	85	122407.5	0.5				ug/L	10	Standard
	Y	89	230224.6	1.8				ug/L	222253	Standard
>	Rh	103	111539.7	0.2				ug/L	115393	Standard
	Mo	98	21076.7	3.0	4.6130	0.168	3.6	ug/L	14	Standard
	Ag	107	326.0	81.6	0.0336	0.036	107.8	ug/L	48	Standard
	Cd	111	287.1	41.6	0.0619	0.039	63.8	mg/L	86	Standard
	Cd	114	910.1	30.3	0.0761	0.032	42.7	ug/L	246	Standard
>	In	115	446542.6	0.8				ug/L	421413	Standard
	Sn	118	3886.8	3.0	0.3374	0.008	2.5	ug/L	392	Standard
	Sb	123	1045.1	20.9	0.1419	0.031	21.7	ug/L	70	Standard
	Ba	135	71622.9	0.3	21.6885	0.109	0.5	ug/L	39	Standard
	Ce	140	11428.3	4.5				ug/L	138	Standard
>	Tb	159	462602.0	1.6				ug/L	426404	Standard
	Ho	165	115.7	7.8				ug/L	7	Standard
	Tl	203	238.7	77.5	0.0209	0.018	87.5	ug/L	11	Standard
	Tl	205	522.7	78.0	0.0207	0.017	82.9	ug/L	18	Standard
	Pb	206	7688.6	1.3	0.9026	0.018	2.0	ug/L	174	Standard
	Pb	207	6229.3	0.8	0.8676	0.013	1.5	ug/L	146	Standard
	Pb	208	28946.7	0.6	0.8794	0.011	1.2	ug/L	687	Standard
	U	238	1407.1	9.6	0.0978	0.010	10.1	ug/L	131	Standard
>	Bi	209	246704.0	0.7				ug/L	245542	Standard
	Na	23	110023.1	1.7	9.3027	0.099	1.1	mg/L	180	Standard
	Mg	24	3177126.5	2.6	7.9574	0.031	0.4	mg/L	930	Standard

Sample ID: L1206040901

Report Date/Time: Tuesday, June 19, 2012 09:33:37

Page 1

Approved: June 19, 2012



	K	39	9287.8	1.3	9.0339	0.256	2.8	mg/L	162	Standard
	Ca	43	45.0	40.1	35.4303	14.902	42.1	mg/L	2	Standard
	Fe	54	5077.6	0.6	1.4749	0.037	2.5	mg/L	439	Standard
	Fe	57	250617.1	3.2	1.8828	0.062	3.3	mg/L	5846	Standard
>	Sc-1	45	313668.5	2.8				mg/L	276213	Standard
	Cl	35	44.0	8.2				ug/L	6	Standard
	Kr	83	41.0	2.4				ug/L	41	Standard
	Br	81	10408.6	1.2				ug/L	5073	Standard
	P	31	1074642.6	0.6				ug/L	51446	Standard
	S	34	965044.3	3.2				ug/L	649594	Standard
	Sr	88	261000.5	0.6				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		100.788	
As	75			
Se	82			
Se-1	77			
> Ga	71		99.582	
Rb	85			
Y	89			
> Rh	103		96.661	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		105.963	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		108.489	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206040901

Report Date/Time: Tuesday, June 19, 2012 09:33:37

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.473
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206040901

Report Date/Time: Tuesday, June 19, 2012 09:33:37

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206041001

Sample Date/Time: Tuesday, June 19, 2012 09:34:18

Number of Replicates: 3

Autosampler Position: 208

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

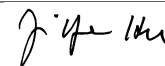
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	15287.7	2.2	988.6665	39.898	4.0	ug/L	8387	Standard
	Be	9	35.0	14.3	0.0066	0.002	23.6	ug/L	38	Standard
	Al	27	230939.5	3.1	18.0962	1.156	6.4	ug/L	15112	Standard
>	Sc	45	295086.5	3.6				ug/L	276213	Standard
	Ti	47	443.0	4.9	0.2336	0.013	5.5	ug/L	124	Standard
	V	51	5592.9	1.0	0.1404	0.001	0.8	ug/L	3503	Standard
	Cr	52	12741.7	0.5	0.1307	0.010	7.4	ug/L	11028	Standard
	Cr	53	595.0	6.4	0.1635	0.018	11.1	ug/L	333	Standard
	Mn	55	15737.2	1.4	0.9921	0.028	2.8	ug/L	3794	Standard
	Co	59	466.3	0.1	0.0217	0.000	1.9	ug/L	200	Standard
	Ni	60	1312.1	5.0	0.4132	0.017	4.2	ug/L	111	Standard
	Cu	65	1895.5	1.6	0.6375	0.014	2.3	ug/L	137	Standard
	Zn	66	24186.0	4.0	18.1771	0.547	3.0	ug/L	360	Standard
>	Ge	72	244545.2	1.3				ug/L	236618	Standard
	As	75	-92.5	21.7	0.1278	0.015	12.0	ug/L	-269	Standard
	Se	82	35.1	5.8	0.1056	0.014	13.3	ug/L	22	Standard
	Se-1	77	97.0	7.4	-0.0318	0.070	218.5	ug/L	91	Standard
>	Ga	71	210781.5	2.1				mg/L	202510	Standard
	Rb	85	8987.7	3.1				ug/L	10	Standard
	Y	89	231777.7	0.8				ug/L	222253	Standard
>	Rh	103	115180.2	1.8				ug/L	115393	Standard
	Mo	98	475.4	8.3	0.0932	0.008	8.5	ug/L	14	Standard
	Ag	107	46.0	14.3	-0.0043	0.001	20.0	ug/L	48	Standard
	Cd	111	170.5	9.7	0.0233	0.004	19.3	mg/L	86	Standard
	Cd	114	473.5	8.1	0.0254	0.004	15.5	ug/L	246	Standard
>	In	115	451452.8	1.4				ug/L	421413	Standard
	Sn	118	515.7	4.2	0.0081	0.003	31.1	ug/L	392	Standard
	Sb	123	1838.3	1.8	0.2470	0.007	2.8	ug/L	70	Standard
	Ba	135	32928.4	0.8	9.8545	0.136	1.4	ug/L	39	Standard
	Ce	140	910.0	4.5				ug/L	138	Standard
>	Tb	159	460405.0	1.4				ug/L	426404	Standard
	Ho	165	16.7	13.9				ug/L	7	Standard
	Tl	203	41.0	12.9	0.0013	0.000	35.9	ug/L	11	Standard
	Tl	205	109.0	8.8	0.0032	0.000	11.7	ug/L	18	Standard
	Pb	206	4171.9	1.8	0.4608	0.013	2.8	ug/L	174	Standard
	Pb	207	3474.4	1.7	0.4560	0.013	2.9	ug/L	146	Standard
	Pb	208	15690.8	0.5	0.4477	0.006	1.4	ug/L	687	Standard
	U	238	275.0	4.2	0.0191	0.001	5.3	ug/L	131	Standard
>	Bi	209	256796.1	1.3				ug/L	245542	Standard
	Na	23	10752.2	7.2	0.9505	0.106	11.2	mg/L	180	Standard
	Mg	24	110232.9	1.5	0.2921	0.015	5.1	mg/L	930	Standard

Sample ID: L1206041001

Report Date/Time: Tuesday, June 19, 2012 09:36:52

Page 1

Approved: June 19, 2012



	K	39	935.0	8.4	0.8019	0.121	15.1	mg/L	162	Standard
	Ca	43	8.3	91.7	7.0368	6.566	93.3	mg/L	2	Standard
	Fe	54	521.4	11.5	0.0168	0.018	108.2	mg/L	439	Standard
	Fe	57	12551.9	7.4	0.0603	0.010	16.6	mg/L	5846	Standard
>	Sc-1	45	295086.5	3.6				mg/L	276213	Standard
	Cl	35	9.0	55.6				ug/L	6	Standard
	Kr	83	40.4	4.7				ug/L	41	Standard
	Br	81	6022.0	0.7				ug/L	5073	Standard
	P	31	88824.6	1.1				ug/L	51446	Standard
	S	34	819805.9	1.0				ug/L	649594	Standard
	Sr	88	39021.9	3.8				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	103.350	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	104.085	
	Rb	85		
	Y	89		
>	Rh	103	99.815	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	107.128	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	107.974	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206041001

Report Date/Time: Tuesday, June 19, 2012 09:36:52

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	104.583
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

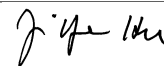
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206041001

Report Date/Time: Tuesday, June 19, 2012 09:36:52

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044505 WG400743-01

Sample Date/Time: Tuesday, June 19, 2012 09:37:33

Number of Replicates: 3

Autosampler Position: 209

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

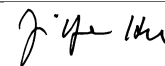
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	195930.5	1.4	26671.1659	659.779	2.5	ug/L	8387	Standard
	Be	9	75.0	52.1	0.0194	0.014	71.3	ug/L	38	Standard
	Al	27	1921926.9	1.5	140.9336	4.552	3.2	ug/L	15112	Standard
>	Sc	45	321516.2	1.9				ug/L	276213	Standard
	Ti	47	4015.5	1.3	2.6418	0.056	2.1	ug/L	124	Standard
	V	51	11097.0	4.3	0.5095	0.032	6.2	ug/L	3503	Standard
	Cr	52	19959.1	1.7	0.7864	0.045	5.8	ug/L	11028	Standard
	Cr	53	1350.1	2.1	0.6052	0.025	4.1	ug/L	333	Standard
	Mn	55	18412.2	4.1	1.1735	0.052	4.4	ug/L	3794	Standard
	Co	59	1863.4	14.6	0.1214	0.020	16.2	ug/L	200	Standard
	Ni	60	5793.1	1.6	1.9565	0.017	0.9	ug/L	111	Standard
	Cu	65	2342.5	3.0	0.8030	0.032	3.9	ug/L	137	Standard
	Zn	66	3390.7	1.8	2.2310	0.058	2.6	ug/L	360	Standard
>	Ge	72	244645.7	1.0				ug/L	236618	Standard
	As	75	-154.3	47.0	0.0781	0.059	75.5	ug/L	-269	Standard
	Se	82	85.0	46.1	0.4944	0.304	61.5	ug/L	22	Standard
	Se-1	77	125.7	4.4	0.2929	0.059	20.2	ug/L	91	Standard
>	Ga	71	207577.5	1.8				mg/L	202510	Standard
	Rb	85	13432.6	3.3				ug/L	10	Standard
	Y	89	236218.9	0.7				ug/L	222253	Standard
>	Rh	103	114382.1	0.3				ug/L	115393	Standard
	Mo	98	1452.9	137.7	0.3020	0.429	142.0	ug/L	14	Standard
	Ag	107	684.7	160.4	0.0797	0.145	181.4	ug/L	48	Standard
	Cd	111	381.9	122.7	0.0898	0.148	165.2	mg/L	86	Standard
	Cd	114	1000.0	114.0	0.0838	0.127	151.9	ug/L	246	Standard
>	In	115	454948.4	0.4				ug/L	421413	Standard
	Sn	118	1097.0	60.6	0.0633	0.063	100.0	ug/L	392	Standard
	Sb	123	752.4	100.2	0.0999	0.100	100.3	ug/L	70	Standard
	Ba	135	70190.9	0.8	20.8616	0.240	1.1	ug/L	39	Standard
	Ce	140	9912.6	0.6				ug/L	138	Standard
>	Tb	159	462502.4	1.1				ug/L	426404	Standard
	Ho	165	258.7	7.2				ug/L	7	Standard
	Tl	203	380.0	149.8	0.0343	0.055	161.0	ug/L	11	Standard
	Tl	205	846.1	146.3	0.0337	0.051	151.4	ug/L	18	Standard
	Pb	206	1992.1	21.9	0.2160	0.051	23.7	ug/L	174	Standard
	Pb	207	1650.4	20.9	0.2131	0.048	22.5	ug/L	146	Standard
	Pb	208	7522.7	19.6	0.2100	0.045	21.2	ug/L	687	Standard
	U	238	3150.7	9.3	0.2155	0.020	9.1	ug/L	131	Standard
>	Bi	209	249437.2	0.9				ug/L	245542	Standard
	Na	23	36913.3	3.6	3.0300	0.056	1.8	mg/L	180	Standard
	Mg	24	5159602.0	2.6	12.6114	0.433	3.4	mg/L	930	Standard

Sample ID: L1206044505 WG400743-01

Report Date/Time: Tuesday, June 19, 2012 09:40:06

Page 1

Approved: June 19, 2012



	K	39	616.7	6.5	0.4097	0.037	9.1	mg/L	162	Standard
	Ca	43	86.7	40.5	65.8454	25.646	38.9	mg/L	2	Standard
	Fe	54	914.2	4.3	0.1257	0.014	10.9	mg/L	439	Standard
	Fe	57	46220.5	5.4	0.3040	0.021	6.8	mg/L	5846	Standard
>	Sc-1	45	321516.2	1.9				mg/L	276213	Standard
	Cl	35	19.7	15.5				ug/L	6	Standard
	Kr	83	40.7	5.7				ug/L	41	Standard
	Br	81	8188.9	3.1				ug/L	5073	Standard
	P	31	69526.7	1.8				ug/L	51446	Standard
	S	34	1184403.4	1.5				ug/L	649594	Standard
	Sr	88	123390.7	7.8				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		103.393	
As	75			
Se	82			
Se-1	77			
> Ga	71		102.503	
Rb	85			
Y	89			
> Rh	103		99.124	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		107.958	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		108.466	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206044505 WG400743-01

Report Date/Time: Tuesday, June 19, 2012 09:40:06

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.586
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044505 WG400743-01
 Report Date/Time: Tuesday, June 19, 2012 09:40:06
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206044506S WG400743-04

Sample Date/Time: Tuesday, June 19, 2012 09:40:47

Number of Replicates: 3

Autosampler Position: 210

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	194895.7	1.8	26799.1440	92.077	0.3	ug/L	8387	Standard
	Be	9	68204.9	2.8	23.7276	1.001	4.2	ug/L	38	Standard
	Al	27	1766547.4	0.5	130.7916	1.964	1.5	ug/L	15112	Standard
>	Sc	45	318287.2	1.6				ug/L	276213	Standard
	Ti	47	4636.0	5.3	3.0657	0.197	6.4	ug/L	124	Standard
	V	51	397637.0	0.9	26.4780	0.473	1.8	ug/L	3503	Standard
	Cr	52	302117.2	1.1	26.4753	0.588	2.2	ug/L	11028	Standard
	Cr	53	44826.2	1.4	26.0643	0.200	0.8	ug/L	333	Standard
	Mn	55	397045.7	0.2	26.9776	0.327	1.2	ug/L	3794	Standard
	Co	59	354591.4	1.3	25.3298	0.039	0.2	ug/L	200	Standard
	Ni	60	77977.5	1.4	26.8588	0.166	0.6	ug/L	111	Standard
	Cu	65	68365.2	1.3	25.3159	0.278	1.1	ug/L	137	Standard
	Zn	66	35888.5	1.5	27.1847	0.202	0.7	ug/L	360	Standard
>	Ge	72	244287.4	1.1				ug/L	236618	Standard
	As	75	31791.8	0.6	25.6280	0.157	0.6	ug/L	-269	Standard
	Se	82	3348.9	0.4	25.9430	0.408	1.6	ug/L	22	Standard
	Se-1	77	2354.8	0.8	25.5864	0.485	1.9	ug/L	91	Standard
>	Ga	71	211565.4	1.7				mg/L	202510	Standard
	Rb	85	13047.3	1.4				ug/L	10	Standard
	Y	89	234722.6	0.8				ug/L	222253	Standard
>	Rh	103	113879.1	1.7				ug/L	115393	Standard
	Mo	98	214.0	1.8	0.0368	0.001	2.4	ug/L	14	Standard
	Ag	107	171298.9	0.4	22.9422	0.254	1.1	ug/L	48	Standard
	Cd	111	79407.0	0.8	25.5663	0.067	0.3	mg/L	86	Standard
	Cd	114	220030.2	0.8	25.0149	0.195	0.8	ug/L	246	Standard
>	In	115	448388.1	0.7				ug/L	421413	Standard
	Sn	118	1134.4	0.6	0.0685	0.001	1.0	ug/L	392	Standard
	Sb	123	185391.7	0.5	25.1034	0.073	0.3	ug/L	70	Standard
	Ba	135	148516.7	0.6	44.8074	0.569	1.3	ug/L	39	Standard
	Ce	140	10345.2	0.2				ug/L	138	Standard
>	Tb	159	459182.5	1.2				ug/L	426404	Standard
	Ho	165	293.3	5.4				ug/L	7	Standard
	Tl	203	260798.8	0.5	25.1700	0.182	0.7	ug/L	11	Standard
	Tl	205	626209.7	0.3	25.7216	0.224	0.9	ug/L	18	Standard
	Pb	206	214143.4	0.8	25.2384	0.156	0.6	ug/L	174	Standard
	Pb	207	184412.9	1.2	25.7762	0.104	0.4	ug/L	146	Standard
	Pb	208	835082.2	0.6	25.5158	0.186	0.7	ug/L	687	Standard
	U	238	367988.8	0.4	24.8991	0.295	1.2	ug/L	131	Standard
>	Bi	209	251076.1	1.2				ug/L	245542	Standard
	Na	23	34322.2	3.2	2.8463	0.126	4.4	mg/L	180	Standard
	Mg	24	4843473.1	1.2	11.9582	0.298	2.5	mg/L	930	Standard

Sample ID: L1206044506S WG400743-04

Report Date/Time: Tuesday, June 19, 2012 09:43:20

Page 1

Approved: June 19, 2012



	K	39	566.7	4.2	0.3672	0.031	8.6	mg/L	162	Standard
	Ca	43	70.0	18.9	53.8658	9.294	17.3	mg/L	2	Standard
	Fe	54	806.0	8.0	0.0944	0.023	24.6	mg/L	439	Standard
	Fe	57	43544.2	4.2	0.2874	0.019	6.6	mg/L	5846	Standard
>	Sc-1	45	318287.2	1.6				mg/L	276213	Standard
	Cl	35	17.0	10.2				ug/L	6	Standard
	Kr	83	40.4	3.1				ug/L	41	Standard
	Br	81	8105.5	2.0				ug/L	5073	Standard
	P	31	67808.1	1.1				ug/L	51446	Standard
	S	34	1181622.2	0.8				ug/L	649594	Standard
	Sr	88	105989.5	1.7				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		103.241	
As	75			
Se	82			
Se-1	77			
> Ga	71		104.472	
Rb	85			
Y	89			
> Rh	103		98.688	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		106.401	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		107.687	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206044506S WG400743-04

Report Date/Time: Tuesday, June 19, 2012 09:43:20

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.254
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044506S WG400743-04
 Report Date/Time: Tuesday, June 19, 2012 09:43:20
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206044507SD WG400743-05

Sample Date/Time: Tuesday, June 19, 2012 09:44:00

Number of Replicates: 3

Autosampler Position: 211

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

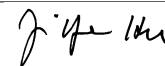
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	192635.5	1.9	26478.2912	446.783	1.7	ug/L	8387	Standard
	Be	9	69617.9	1.6	24.2139	0.283	1.2	ug/L	38	Standard
	Al	27	1934936.2	0.3	143.3146	0.943	0.7	ug/L	15112	Standard
>	Sc	45	318213.6	0.5				ug/L	276213	Standard
	Ti	47	4065.9	3.2	2.7553	0.088	3.2	ug/L	124	Standard
	V	51	396800.9	0.9	27.1556	0.240	0.9	ug/L	3503	Standard
	Cr	52	304425.9	0.5	27.4474	0.140	0.5	ug/L	11028	Standard
	Cr	53	44914.0	0.4	26.8431	0.113	0.4	ug/L	333	Standard
	Mn	55	393127.1	0.1	27.4489	0.035	0.1	ug/L	3794	Standard
	Co	59	353293.1	0.3	25.9355	0.072	0.3	ug/L	200	Standard
	Ni	60	76909.7	1.6	27.2242	0.413	1.5	ug/L	111	Standard
	Cu	65	67593.4	0.6	25.7227	0.139	0.5	ug/L	137	Standard
	Zn	66	35235.6	1.1	27.4318	0.286	1.0	ug/L	360	Standard
>	Ge	72	237713.9	0.0				ug/L	236618	Standard
	As	75	31507.0	0.6	26.0959	0.163	0.6	ug/L	-269	Standard
	Se	82	3340.7	1.6	26.5961	0.425	1.6	ug/L	22	Standard
	Se-1	77	2325.2	0.4	25.9756	0.119	0.5	ug/L	91	Standard
>	Ga	71	202918.4	1.8				mg/L	202510	Standard
	Rb	85	13107.3	2.6				ug/L	10	Standard
	Y	89	230536.0	2.0				ug/L	222253	Standard
>	Rh	103	111533.3	0.4				ug/L	115393	Standard
	Mo	98	234.3	6.3	0.0417	0.003	8.2	ug/L	14	Standard
	Ag	107	173098.3	1.3	23.3930	0.294	1.3	ug/L	48	Standard
	Cd	111	79902.2	0.8	25.9601	0.100	0.4	mg/L	86	Standard
	Cd	114	222505.7	0.6	25.5268	0.121	0.5	ug/L	246	Standard
>	In	115	444344.2	0.4				ug/L	421413	Standard
	Sn	118	1141.4	2.5	0.0702	0.002	3.5	ug/L	392	Standard
	Sb	123	183951.1	0.4	25.1347	0.070	0.3	ug/L	70	Standard
	Ba	135	151281.2	0.5	46.0550	0.312	0.7	ug/L	39	Standard
	Ce	140	10365.5	1.2				ug/L	138	Standard
>	Tb	159	457251.1	0.4				ug/L	426404	Standard
	Ho	165	318.7	4.3				ug/L	7	Standard
	Tl	203	263913.3	0.5	25.8365	0.128	0.5	ug/L	11	Standard
	Tl	205	632408.7	0.4	26.3491	0.155	0.6	ug/L	18	Standard
	Pb	206	216295.0	0.9	25.8582	0.056	0.2	ug/L	174	Standard
	Pb	207	183681.7	0.2	26.0448	0.226	0.9	ug/L	146	Standard
	Pb	208	839963.4	0.5	26.0340	0.127	0.5	ug/L	687	Standard
	U	238	373340.0	0.4	25.6233	0.167	0.7	ug/L	131	Standard
>	Bi	209	247514.8	0.9				ug/L	245542	Standard
	Na	23	34519.3	0.4	2.8624	0.012	0.4	mg/L	180	Standard
	Mg	24	5039853.7	1.2	12.4429	0.131	1.1	mg/L	930	Standard

Sample ID: L1206044507SD WG400743-05

Report Date/Time: Tuesday, June 19, 2012 09:46:34

Page 1

Approved: June 19, 2012



	K	39	631.7	7.4	0.4307	0.048	11.2	mg/L	162	Standard
	Ca	43	70.0	14.3	53.9492	7.447	13.8	mg/L	2	Standard
	Fe	54	779.0	2.1	0.0857	0.006	7.6	mg/L	439	Standard
	Fe	57	43415.5	4.0	0.2863	0.013	4.4	mg/L	5846	Standard
>	Sc-1	45	318213.6	0.5				mg/L	276213	Standard
	Cl	35	14.3	10.7				ug/L	6	Standard
	Kr	83	41.9	8.0				ug/L	41	Standard
	Br	81	7536.9	3.5				ug/L	5073	Standard
	P	31	68448.5	3.3				ug/L	51446	Standard
	S	34	1204908.8	2.0				ug/L	649594	Standard
	Sr	88	108971.1	4.8				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	100.463	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	100.202	
	Rb	85		
	Y	89		
>	Rh	103	96.655	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	105.441	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	107.234	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044507SD WG400743-05

Report Date/Time: Tuesday, June 19, 2012 09:46:34

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.803
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044507SD WG400743-05
 Report Date/Time: Tuesday, June 19, 2012 09:46:34
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206044501

Sample Date/Time: Tuesday, June 19, 2012 09:47:14

Number of Replicates: 3

Autosampler Position: 212

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	172511.6	0.7	23341.0289	238.550	1.0	ug/L	8387	Standard
	Be	9	66.7	63.8	0.0166	0.015	89.2	ug/L	38	Standard
	Al	27	636159.6	2.2	46.3979	0.875	1.9	ug/L	15112	Standard
>	Sc	45	321151.8	1.6				ug/L	276213	Standard
	Ti	47	2408.5	13.0	1.5886	0.207	13.1	ug/L	124	Standard
	V	51	9458.8	1.1	0.4116	0.007	1.7	ug/L	3503	Standard
	Cr	52	20319.3	1.3	0.8539	0.015	1.7	ug/L	11028	Standard
	Cr	53	1883.5	5.4	0.9376	0.054	5.8	ug/L	333	Standard
	Mn	55	38454.4	1.7	2.5871	0.061	2.3	ug/L	3794	Standard
	Co	59	2153.5	30.2	0.1449	0.047	32.4	ug/L	200	Standard
	Ni	60	5600.4	4.7	1.9269	0.092	4.8	ug/L	111	Standard
	Cu	65	1100.0	16.5	0.3499	0.068	19.4	ug/L	137	Standard
	Zn	66	5918.5	2.0	4.2550	0.098	2.3	ug/L	360	Standard
>	Ge	72	240085.3	0.7				ug/L	236618	Standard
	As	75	-149.6	66.4	0.0798	0.081	101.5	ug/L	-269	Standard
	Se	82	54.0	12.9	0.2609	0.055	21.1	ug/L	22	Standard
	Se-1	77	150.3	15.5	0.6043	0.265	43.8	ug/L	91	Standard
>	Ga	71	203001.0	1.1				mg/L	202510	Standard
	Rb	85	15736.5	3.0				ug/L	10	Standard
	Y	89	228222.7	0.7				ug/L	222253	Standard
>	Rh	103	111324.5	1.0				ug/L	115393	Standard
	Mo	98	442.5	18.5	0.0867	0.018	20.2	ug/L	14	Standard
	Ag	107	176.3	83.5	0.0131	0.020	148.9	ug/L	48	Standard
	Cd	111	162.6	38.2	0.0211	0.020	93.9	mg/L	86	Standard
	Cd	114	463.3	33.1	0.0246	0.017	70.0	ug/L	246	Standard
>	In	115	448498.8	0.6				ug/L	421413	Standard
	Sn	118	771.0	6.3	0.0332	0.004	13.1	ug/L	392	Standard
	Sb	123	593.8	28.6	0.0801	0.023	28.9	ug/L	70	Standard
	Ba	135	193155.8	1.1	58.2638	0.759	1.3	ug/L	39	Standard
	Ce	140	9477.0	1.4				ug/L	138	Standard
>	Tb	159	456372.5	0.4				ug/L	426404	Standard
	Ho	165	100.0	11.5				ug/L	7	Standard
	Tl	203	236.7	44.7	0.0206	0.010	50.3	ug/L	11	Standard
	Tl	205	526.0	42.4	0.0207	0.009	44.8	ug/L	18	Standard
	Pb	206	924.0	8.2	0.0899	0.009	10.0	ug/L	174	Standard
	Pb	207	745.0	7.6	0.0863	0.008	9.2	ug/L	146	Standard
	Pb	208	3441.8	8.5	0.0851	0.009	10.6	ug/L	687	Standard
	U	238	3990.2	0.5	0.2743	0.001	0.5	ug/L	131	Standard
>	Bi	209	247903.9	0.1				ug/L	245542	Standard
	Na	23	31212.2	5.3	2.5617	0.111	4.3	mg/L	180	Standard
	Mg	24	5449652.0	1.7	13.3364	0.439	3.3	mg/L	930	Standard

Sample ID: L1206044501

Report Date/Time: Tuesday, June 19, 2012 09:49:47

Page 1

Approved: June 19, 2012



	K	39	786.7	7.3	0.5749	0.048	8.4	mg/L	162	Standard
	Ca	43	53.3	28.6	40.8191	12.134	29.7	mg/L	2	Standard
	Fe	54	676.4	11.7	0.0510	0.021	41.8	mg/L	439	Standard
	Fe	57	34477.7	8.1	0.2161	0.017	8.1	mg/L	5846	Standard
>	Sc-1	45	321151.8	1.6				mg/L	276213	Standard
	Cl	35	24.3	28.0				ug/L	6	Standard
	Kr	83	42.8	5.3				ug/L	41	Standard
	Br	81	7902.9	1.3				ug/L	5073	Standard
	P	31	69237.9	1.6				ug/L	51446	Standard
	S	34	1152154.0	1.6				ug/L	649594	Standard
	Sr	88	216318.6	6.1				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	101.465	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	100.243	
	Rb	85		
	Y	89		
>	Rh	103	96.474	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	106.427	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	107.028	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044501

Report Date/Time: Tuesday, June 19, 2012 09:49:47

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.962
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044501

Report Date/Time: Tuesday, June 19, 2012 09:49:47

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044501PS WG400788-01

Sample Date/Time: Tuesday, June 19, 2012 09:50:29

Number of Replicates: 3

Autosampler Position: 213

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	181907.3	1.4	23247.8401	683.061	2.9	ug/L	8387	Standard
	Be	9	146171.9	1.9	47.6063	1.462	3.1	ug/L	38	Standard
	Al	27	1317628.0	0.5	91.1962	0.982	1.1	ug/L	15112	Standard
>	Sc	45	339975.8	1.4				ug/L	276213	Standard
	Ti	47	2525.5	10.5	1.6041	0.175	10.9	ug/L	124	Standard
	V	51	828857.2	0.8	54.2783	0.462	0.9	ug/L	3503	Standard
	Cr	52	618318.1	0.8	54.0772	0.473	0.9	ug/L	11028	Standard
	Cr	53	94997.7	1.3	54.2820	0.696	1.3	ug/L	333	Standard
	Mn	55	845334.6	0.3	56.3190	0.157	0.3	ug/L	3794	Standard
	Co	59	748472.3	0.9	52.3631	0.491	0.9	ug/L	200	Standard
	Ni	60	157558.4	1.0	53.1754	0.536	1.0	ug/L	111	Standard
	Cu	65	140232.3	1.0	50.9098	0.538	1.1	ug/L	137	Standard
	Zn	66	69589.1	0.7	51.9437	0.335	0.6	ug/L	360	Standard
>	Ge	72	249495.4	0.1				ug/L	236618	Standard
	As	75	64158.6	0.8	50.4407	0.378	0.8	ug/L	-269	Standard
	Se	82	6614.9	1.1	50.3245	0.557	1.1	ug/L	22	Standard
	Se-1	77	4605.7	1.3	50.0255	0.614	1.2	ug/L	91	Standard
>	Ga	71	216028.1	2.5				mg/L	202510	Standard
	Rb	85	16347.2	3.0				ug/L	10	Standard
	Y	89	245298.1	0.7				ug/L	222253	Standard
>	Rh	103	117043.4	0.9				ug/L	115393	Standard
	Mo	98	639.1	3.6	0.1231	0.006	4.6	ug/L	14	Standard
	Ag	107	368896.2	1.2	47.0849	0.327	0.7	ug/L	48	Standard
	Cd	111	166319.4	0.4	51.0581	0.517	1.0	mg/L	86	Standard
	Cd	114	454889.3	0.1	49.3059	0.345	0.7	ug/L	246	Standard
>	In	115	470570.5	0.7				ug/L	421413	Standard
	Sn	118	1546.4	0.5	0.1015	0.000	0.4	ug/L	392	Standard
	Sb	123	395537.7	0.7	51.0337	0.213	0.4	ug/L	70	Standard
	Ba	135	379153.7	0.1	109.0184	0.711	0.7	ug/L	39	Standard
	Ce	140	10085.7	0.1				ug/L	138	Standard
>	Tb	159	485254.1	0.8				ug/L	426404	Standard
	Ho	165	94.7	3.7				ug/L	7	Standard
	Tl	203	552059.2	1.5	51.7143	0.528	1.0	ug/L	11	Standard
	Tl	205	1318599.3	1.2	52.5677	0.171	0.3	ug/L	18	Standard
	Pb	206	448120.0	0.5	51.2837	0.317	0.6	ug/L	174	Standard
	Pb	207	384547.8	1.0	52.1904	0.082	0.2	ug/L	146	Standard
	Pb	208	1745805.4	0.4	51.7973	0.315	0.6	ug/L	687	Standard
	U	238	807382.5	0.8	53.0199	0.199	0.4	ug/L	131	Standard
>	Bi	209	258672.2	0.9				ug/L	245542	Standard
	Na	23	31629.7	3.7	2.4525	0.103	4.2	mg/L	180	Standard
	Mg	24	5669125.5	1.4	13.1019	0.212	1.6	mg/L	930	Standard

Sample ID: L1206044501PS WG400788-01

Report Date/Time: Tuesday, June 19, 2012 09:53:03

Page 1

Approved: June 19, 2012

	K	39	820.0	5.9	0.5639	0.053	9.4	mg/L	162	Standard
	Ca	43	46.7	60.9	33.5219	20.159	60.1	mg/L	2	Standard
	Fe	54	912.3	8.6	0.1097	0.027	24.3	mg/L	439	Standard
	Fe	57	39229.1	3.7	0.2355	0.008	3.4	mg/L	5846	Standard
>	Sc-1	45	339975.8	1.4				mg/L	276213	Standard
	Cl	35	25.7	20.0				ug/L	6	Standard
	Kr	83	44.7	2.7				ug/L	41	Standard
	Br	81	8261.4	2.7				ug/L	5073	Standard
	P	31	97621.8	1.3				ug/L	51446	Standard
	S	34	1231783.0	0.7				ug/L	649594	Standard
	Sr	88	278085.5	0.9				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		105.442	
As	75			
Se	82			
Se-1	77			
> Ga	71		106.676	
Rb	85			
Y	89			
> Rh	103		101.430	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		111.665	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		113.802	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206044501PS WG400788-01

Report Date/Time: Tuesday, June 19, 2012 09:53:03

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	105.347
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1206044501PS WG400788-01
 Report Date/Time: Tuesday, June 19, 2012 09:53:03
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206044501SDL WG400788-02

Sample Date/Time: Tuesday, June 19, 2012 09:53:45

Number of Replicates: 3

Autosampler Position: 214

Sample Description: 5

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

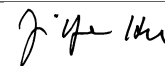
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	41956.4	2.9	5105.4350	202.162	4.0	ug/L	8387	Standard
	Be	9	183.3	114.2	0.0612	0.077	125.2	ug/L	38	Standard
	Al	27	143330.4	3.8	10.9743	0.453	4.1	ug/L	15112	Standard
>	Sc	45	297179.2	2.7				ug/L	276213	Standard
	Ti	47	485.0	7.0	0.2704	0.019	7.0	ug/L	124	Standard
	V	51	5501.9	4.0	0.1439	0.011	7.5	ug/L	3503	Standard
	Cr	52	15032.8	0.9	0.3747	0.010	2.7	ug/L	11028	Standard
	Cr	53	875.0	18.0	0.3401	0.087	25.7	ug/L	333	Standard
	Mn	55	11320.9	0.8	0.7115	0.009	1.3	ug/L	3794	Standard
	Co	59	1237.4	91.7	0.0783	0.081	104.0	ug/L	200	Standard
	Ni	60	1436.4	23.0	0.4682	0.110	23.5	ug/L	111	Standard
	Cu	65	540.0	32.6	0.1394	0.064	46.0	ug/L	137	Standard
	Zn	66	4524.3	2.0	3.1917	0.029	0.9	ug/L	360	Standard
>	Ge	72	238316.1	1.3				ug/L	236618	Standard
	As	75	-164.7	32.8	0.0663	0.045	68.0	ug/L	-269	Standard
	Se	82	33.5	25.7	0.1004	0.069	69.1	ug/L	22	Standard
	Se-1	77	98.0	13.7	0.0092	0.159	1716.7	ug/L	91	Standard
>	Ga	71	201452.2	1.0				mg/L	202510	Standard
	Rb	85	3123.7	1.5				ug/L	10	Standard
	Y	89	228378.8	2.1				ug/L	222253	Standard
>	Rh	103	113102.0	2.2				ug/L	115393	Standard
	Mo	98	229.6	4.7	0.0404	0.003	6.8	ug/L	14	Standard
	Ag	107	119.3	64.5	0.0056	0.010	185.6	ug/L	48	Standard
	Cd	111	130.8	28.7	0.0111	0.013	113.3	mg/L	86	Standard
	Cd	114	359.7	25.7	0.0130	0.011	82.9	ug/L	246	Standard
>	In	115	447121.4	2.1				ug/L	421413	Standard
	Sn	118	842.7	4.7	0.0404	0.003	6.4	ug/L	392	Standard
	Sb	123	859.3	34.7	0.1169	0.043	36.6	ug/L	70	Standard
	Ba	135	39047.3	1.0	11.8033	0.191	1.6	ug/L	39	Standard
	Ce	140	1967.5	3.4				ug/L	138	Standard
>	Tb	159	453053.3	1.2				ug/L	426404	Standard
	Ho	165	23.3	13.8				ug/L	7	Standard
	Tl	203	111.3	46.2	0.0080	0.005	60.3	ug/L	11	Standard
	Tl	205	282.0	32.3	0.0102	0.004	35.3	ug/L	18	Standard
	Pb	206	438.7	5.3	0.0307	0.003	10.0	ug/L	174	Standard
	Pb	207	334.3	11.1	0.0270	0.006	21.0	ug/L	146	Standard
	Pb	208	1593.0	7.9	0.0267	0.004	14.2	ug/L	687	Standard
	U	238	904.4	12.7	0.0614	0.008	12.5	ug/L	131	Standard
>	Bi	209	254073.2	1.5				ug/L	245542	Standard
	Na	23	7892.1	7.3	0.6857	0.053	7.8	mg/L	180	Standard
	Mg	24	1083298.4	1.2	2.8633	0.045	1.6	mg/L	930	Standard

Sample ID: L1206044501SDL WG400788-02

Report Date/Time: Tuesday, June 19, 2012 09:56:17

Page 1

Approved: June 19, 2012



	K	39	338.3	13.2	0.1669	0.043	26.0	mg/L	162	Standard
	Ca	43	11.7	24.7	9.6211	2.255	23.4	mg/L	2	Standard
	Fe	54	580.9	10.4	0.0356	0.016	44.4	mg/L	439	Standard
	Fe	57	11084.1	2.7	0.0475	0.004	8.7	mg/L	5846	Standard
>	Sc-1	45	297179.2	2.7				mg/L	276213	Standard
	Cl	35	9.3	27.0				ug/L	6	Standard
	Kr	83	35.4	18.3				ug/L	41	Standard
	Br	81	5728.6	4.8				ug/L	5073	Standard
	P	31	64726.4	2.9				ug/L	51446	Standard
	S	34	982779.8	0.7				ug/L	649594	Standard
	Sr	88	40674.6	4.2				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		100.718	
As	75			
Se	82			
Se-1	77			
> Ga	71		99.478	
Rb	85			
Y	89			
> Rh	103		98.015	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		106.100	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		106.250	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206044501SDL WG400788-02
Report Date/Time: Tuesday, June 19, 2012 09:56:17
Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.474
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044501SDL WG400788-02
 Report Date/Time: Tuesday, June 19, 2012 09:56:17
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206037603

Sample Date/Time: Tuesday, June 19, 2012 10:03:34

Number of Replicates: 3

Autosampler Position: 215

Sample Description: 100

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	41162.5	3.1	6139.6637	246.818	4.0	ug/L	8387	Standard
	Be	9	18.3	83.3	0.0015	0.007	434.6	ug/L	38	Standard
	Al	27	11239.2	4.0	0.6262	0.052	8.3	ug/L	15112	Standard
>	Sc	45	251495.2	1.1				ug/L	276213	Standard
	Ti	47	82.7	10.3	0.0002	0.007	3261.5	ug/L	124	Standard
	V	51	3044.0	6.2	0.0043	0.016	364.6	ug/L	3503	Standard
	Cr	52	9222.8	5.9	-0.0462	0.061	131.8	ug/L	11028	Standard
	Cr	53	247.5	4.6	-0.0149	0.008	52.0	ug/L	333	Standard
	Mn	55	488232.5	1.1	38.8255	0.810	2.1	ug/L	3794	Standard
	Co	59	167.0	6.6	0.0023	0.001	33.2	ug/L	200	Standard
	Ni	60	554.3	5.3	0.1849	0.013	7.2	ug/L	111	Standard
	Cu	65	275.3	5.5	0.0540	0.007	12.3	ug/L	137	Standard
	Zn	66	3452.4	0.9	2.7309	0.053	2.0	ug/L	360	Standard
>	Ge	72	208925.7	1.3				ug/L	236618	Standard
	As	75	-222.1	2.8	-0.0060	0.004	62.3	ug/L	-269	Standard
	Se	82	18.1	4.1	-0.0023	0.009	371.3	ug/L	22	Standard
	Se-1	77	77.7	17.3	-0.0996	0.185	185.4	ug/L	91	Standard
>	Ga	71	173083.1	1.3				mg/L	202510	Standard
	Rb	85	701.7	13.2				ug/L	10	Standard
	Y	89	193079.3	1.5				ug/L	222253	Standard
>	Rh	103	98656.1	0.3				ug/L	115393	Standard
	Mo	98	64.0	20.6	0.0059	0.003	52.6	ug/L	14	Standard
	Ag	107	35.7	27.7	-0.0050	0.001	28.6	ug/L	48	Standard
	Cd	111	47.8	15.1	-0.0138	0.003	18.6	mg/L	86	Standard
	Cd	114	164.3	7.1	-0.0069	0.002	22.3	ug/L	246	Standard
>	In	115	396390.2	1.1				ug/L	421413	Standard
	Sn	118	373.0	8.3	-0.0007	0.003	491.0	ug/L	392	Standard
	Sb	123	163.0	8.4	0.0246	0.002	7.9	ug/L	70	Standard
	Ba	135	131.7	8.1	0.0283	0.003	11.7	ug/L	39	Standard
	Ce	140	107.0	8.9				ug/L	138	Standard
>	Tb	159	406421.0	1.3				ug/L	426404	Standard
	Ho	165	4.7	65.5				ug/L	7	Standard
	Tl	203	17.7	21.4	-0.0008	0.000	49.3	ug/L	11	Standard
	Tl	205	42.7	35.2	0.0006	0.001	100.8	ug/L	18	Standard
	Pb	206	194.3	6.8	0.0035	0.002	46.1	ug/L	174	Standard
	Pb	207	169.0	8.3	0.0054	0.002	38.6	ug/L	146	Standard
	Pb	208	739.3	1.8	0.0021	0.000	18.6	ug/L	687	Standard
	U	238	831.4	3.7	0.0596	0.003	4.2	ug/L	131	Standard
>	Bi	209	240643.0	0.6				ug/L	245542	Standard
	Na	23	37270.8	1.6	3.9179	0.057	1.5	mg/L	180	Standard
	Mg	24	399457.5	1.0	1.2462	0.004	0.3	mg/L	930	Standard

Sample ID: L1206037603

Report Date/Time: Tuesday, June 19, 2012 10:06:07

Page 1

Approved: June 19, 2012



	K	39	305.0	17.3	0.1907	0.069	36.4	mg/L	162	Standard
	Ca	43	1.7	173.2	1.6482	2.846	172.7	mg/L	2	Standard
	Fe	54	220.1	14.8	-0.0732	0.013	18.2	mg/L	439	Standard
	Fe	57	4652.4	9.6	0.0022	0.004	191.2	mg/L	5846	Standard
>	Sc-1	45	251495.2	1.1				mg/L	276213	Standard
	Cl	35	7.0	24.7				ug/L	6	Standard
	Kr	83	36.7	7.4				ug/L	41	Standard
	Br	81	4377.3	2.9				ug/L	5073	Standard
	P	31	24377.1	3.5				ug/L	51446	Standard
	S	34	1165288.2	1.4				ug/L	649594	Standard
	Sr	88	40195.1	7.9				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	88.297	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	85.469	
	Rb	85		
	Y	89		
>	Rh	103	85.496	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	94.062	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	95.314	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206037603

Report Date/Time: Tuesday, June 19, 2012 10:06:07

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	98.005
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

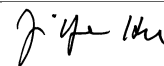
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206037603

Report Date/Time: Tuesday, June 19, 2012 10:06:07

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Tuesday, June 19, 2012 10:06:49

Number of Replicates: 3

Autosampler Position: 203

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[	Li	7	9411.3	3.0	113.5208	43.198	38.1	ug/L	8387	Standard
	Be	9	31.7	95.2	0.0057	0.011	202.3	ug/L	38	Standard
	Al	27	47328152.8	0.4	3901.8255	54.009	1.4	ug/L	15112	Standard
[>	Sc	45	286746.7	1.5				ug/L	276213	Standard
[	Ti	47	167302.6	0.8	117.2345	1.816	1.5	ug/L	124	Standard
	V	51	5508.9	6.2	0.1493	0.020	13.4	ug/L	3503	Standard
	Cr	52	11835.3	0.6	0.0910	0.012	13.5	ug/L	11028	Standard
	Cr	53	6020.4	3.3	3.4789	0.182	5.2	ug/L	333	Standard
	Mn	55	2354.9	23.1	0.0878	0.041	47.2	ug/L	3794	Standard
	Co	59	596.3	7.5	0.0326	0.003	10.2	ug/L	200	Standard
	Ni	60	1853.4	2.9	0.6253	0.022	3.5	ug/L	111	Standard
	Cu	65	718.0	2.1	0.2114	0.010	4.9	ug/L	137	Standard
	Zn	66	2179.8	2.3	1.3693	0.014	1.0	ug/L	360	Standard
[>	Ge	72	235225.2	1.7				ug/L	236618	Standard
	As	75	-210.6	41.7	0.0268	0.073	273.0	ug/L	-269	Standard
	Se	82	28.3	11.6	0.0617	0.025	41.1	ug/L	22	Standard
[	Se-1	77	357.0	2.5	3.0769	0.157	5.1	ug/L	91	Standard
[>	Ga	71	195871.7	2.1				mg/L	202510	Standard
[	Rb	85	3437.1	2.4				ug/L	10	Standard
[	Y	89	222788.1	2.1				ug/L	222253	Standard
[>	Rh	103	107003.6	1.6				ug/L	115393	Standard
[	Mo	98	432730.0	1.8	96.1376	0.893	0.9	ug/L	14	Standard
	Ag	107	149.7	75.5	0.0100	0.015	154.8	ug/L	48	Standard
	Cd	111	78.5	54.5	-0.0054	0.014	267.6	mg/L	86	Standard
	Cd	114	2464.4	5.7	0.2573	0.017	6.8	ug/L	246	Standard
[>	In	115	440750.7	1.7				ug/L	421413	Standard
	Sn	118	1435.1	8.4	0.1002	0.012	12.4	ug/L	392	Standard
	Sb	123	602.1	15.7	0.0827	0.014	16.4	ug/L	70	Standard
	Ba	135	231.3	26.6	0.0544	0.019	34.9	ug/L	39	Standard
[	Ce	140	1369.1	2.4				ug/L	138	Standard
[>	Tb	159	458045.6	0.4				ug/L	426404	Standard
[	Ho	165	9.7	47.8				ug/L	7	Standard
	Tl	203	109.7	90.8	0.0081	0.010	119.8	ug/L	11	Standard
	Tl	205	262.7	79.1	0.0097	0.009	89.1	ug/L	18	Standard
	Pb	206	348.3	19.8	0.0211	0.008	39.5	ug/L	174	Standard
	Pb	207	295.7	18.2	0.0226	0.008	33.3	ug/L	146	Standard
	Pb	208	1338.4	16.6	0.0199	0.007	34.7	ug/L	687	Standard
	U	238	56.0	140.9	0.0048	0.005	113.5	ug/L	131	Standard
[>	Bi	209	248374.1	1.4				ug/L	245542	Standard
[	Na	23	93900.1	0.6	8.6831	0.140	1.6	mg/L	180	Standard
	Mg	24	1682590.7	0.6	4.6094	0.058	1.3	mg/L	930	Standard

Sample ID: QC Std 4

Report Date/Time: Tuesday, June 19, 2012 10:09:23

Page 1

Approved: June 19, 2012



	K	39	4580.7	3.4	4.7870	0.222	4.6	mg/L	162	Standard
	Ca	43	31.7	48.2	27.2303	13.429	49.3	mg/L	2	Standard
	Fe	54	34995.7	2.8	12.1744	0.443	3.6	mg/L	439	Standard
	Fe	57	1528071.8	1.4	12.7968	0.304	2.4	mg/L	5846	Standard
>	Sc-1	45	286746.7	1.5				mg/L	276213	Standard
	Cl	35	216.3	7.1				ug/L	6	Standard
	Kr	83	43.0	5.1				ug/L	41	Standard
	Br	81	5316.8	2.8				ug/L	5073	Standard
	P	31	4851814.1	1.1				ug/L	51446	Standard
	S	34	1420128.7	1.3				ug/L	649594	Standard
	Sr	88	376.7	48.9				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	78.037		
> Sc	45			
Ti	47	117.234		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		99.411	
As	75			
Se	82			
Se-1	77			
> Ga	71		96.722	
Rb	85			
Y	89			
> Rh	103		92.730	
Mo	98	96.138		
Ag	107			
Cd	111			
Cd	114			
> In	115		104.589	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		107.421	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: QC Std 4

Report Date/Time: Tuesday, June 19, 2012 10:09:23

Page 2

Approved: June 19, 2012



	Pb	207		
	Pb	208		
	U	238		
>	Bi	209		101.153
	Na	23	69.465	
	Mg	24	92.188	
	K	39	95.740	
	Ca	43	181.535	
	Fe	54	97.396	
	Fe	57	102.374	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Al	27	
QC Std 4	Na	23	
QC Std 4	Ca	43	

Sample ID: QC Std 4

Report Date/Time: Tuesday, June 19, 2012 10:09:23

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Tuesday, June 19, 2012 10:10:05

Number of Replicates: 3

Autosampler Position: 204

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9521.3	1.8	117.5728	42.618	36.2	ug/L	8387	Standard
	Be	9	284665.7	2.9	108.9246	3.888	3.6	ug/L	38	Standard
	Al	27	48764963.7	1.4	3983.8898	90.988	2.3	ug/L	15112	Standard
>	Sc	45	289370.7	1.1				ug/L	276213	Standard
	Ti	47	169980.9	1.3	117.0370	1.817	1.6	ug/L	124	Standard
	V	51	1534242.4	1.1	104.9395	0.692	0.7	ug/L	3503	Standard
	Cr	52	1137250.8	1.4	104.6102	0.713	0.7	ug/L	11028	Standard
	Cr	53	178631.9	1.2	106.5756	1.920	1.8	ug/L	333	Standard
	Mn	55	1517789.3	1.5	105.4677	1.281	1.2	ug/L	3794	Standard
	Co	59	1400605.4	1.7	102.1426	1.469	1.4	ug/L	200	Standard
	Ni	60	287469.4	1.9	101.1618	1.898	1.9	ug/L	111	Standard
	Cu	65	264279.3	1.6	100.0655	1.330	1.3	ug/L	137	Standard
	Zn	66	145039.9	1.0	113.2790	1.188	1.0	ug/L	360	Standard
>	Ge	72	239381.5	1.6				ug/L	236618	Standard
	As	75	128138.2	1.0	104.7868	0.913	0.9	ug/L	-269	Standard
	Se	82	13292.8	1.0	105.5958	1.361	1.3	ug/L	22	Standard
	Se-1	77	9476.3	0.6	108.5857	1.510	1.4	ug/L	91	Standard
>	Ga	71	205634.5	1.3				mg/L	202510	Standard
	Rb	85	3625.4	1.0				ug/L	10	Standard
	Y	89	234993.4	1.1				ug/L	222253	Standard
>	Rh	103	109132.0	1.4				ug/L	115393	Standard
	Mo	98	436229.9	0.6	94.3185	0.709	0.8	ug/L	14	Standard
	Ag	107	692331.3	1.3	91.8283	0.791	0.9	ug/L	48	Standard
	Cd	111	330203.6	1.4	105.3512	0.451	0.4	mg/L	86	Standard
	Cd	114	911455.9	0.4	102.6810	0.674	0.7	ug/L	246	Standard
>	In	115	452892.2	0.9				ug/L	421413	Standard
	Sn	118	2848.9	3.4	0.2323	0.010	4.5	ug/L	392	Standard
	Sb	123	790634.1	0.7	105.9942	0.300	0.3	ug/L	70	Standard
	Ba	135	341507.8	0.3	102.0295	1.074	1.1	ug/L	39	Standard
	Ce	140	1480.4	2.7				ug/L	138	Standard
>	Tb	159	475431.4	0.6				ug/L	426404	Standard
	Ho	165	10.0	34.6				ug/L	7	Standard
	Tl	203	1077572.9	0.9	102.7839	0.872	0.8	ug/L	11	Standard
	Tl	205	2555443.6	1.1	103.7318	0.758	0.7	ug/L	18	Standard
	Pb	206	877726.7	0.9	102.2952	0.932	0.9	ug/L	174	Standard
	Pb	207	753819.9	0.8	104.1929	1.127	1.1	ug/L	146	Standard
	Pb	208	3407554.3	0.9	102.9590	0.842	0.8	ug/L	687	Standard
	U	238	1589548.8	0.9	106.2824	0.864	0.8	ug/L	131	Standard
>	Bi	209	254071.6	1.7				ug/L	245542	Standard
	Na	23	96419.2	1.4	8.8357	0.216	2.4	mg/L	180	Standard
	Mg	24	1702027.0	0.0	4.6202	0.050	1.1	mg/L	930	Standard

Sample ID: QC Std 5

Report Date/Time: Tuesday, June 19, 2012 10:12:38

Page 1

Approved: June 19, 2012



	K	39	4629.0	0.4	4.7926	0.071	1.5	mg/L	162	Standard
	Ca	43	18.3	31.5	15.5320	4.798	30.9	mg/L	2	Standard
	Fe	54	35384.6	0.4	12.1961	0.120	1.0	mg/L	439	Standard
	Fe	57	1599937.1	0.1	13.2771	0.127	1.0	mg/L	5846	Standard
>	Sc-1	45	289370.7	1.1				mg/L	276213	Standard
	Cl	35	211.3	15.1				ug/L	6	Standard
	Kr	83	46.9	8.4				ug/L	41	Standard
	Br	81	5541.8	2.0				ug/L	5073	Standard
	P	31	4909369.9	1.9				ug/L	51446	Standard
	S	34	1457722.7	1.6				ug/L	649594	Standard
	Sr	88	303.3	11.0				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	79.678		
> Sc	45			
Ti	47	117.037		
V	51	104.940		
Cr	52	104.610		
Cr	53			
Mn	55	105.468		
Co	59	102.143		
Ni	60	101.162		
Cu	65	100.065		
Zn	66	113.279		
> Ge	72		101.168	
As	75	104.787		
Se	82	105.596		
Se-1	77			
> Ga	71		101.543	
Rb	85			
Y	89			
> Rh	103		94.574	
Mo	98	94.318		
Ag	107	91.828		
Cd	111	105.351		
Cd	114			
> In	115		107.470	
Sn	118			
Sb	123	105.994		
Ba	135	102.029		
Ce	140			
> Tb	159		111.498	
Ho	165			
Tl	203	102.784		
Tl	205			
Pb	206	102.295		

Sample ID: QC Std 5

Report Date/Time: Tuesday, June 19, 2012 10:12:38

Page 2

Approved: June 19, 2012



	Pb	207	104.193	
	Pb	208	102.959	
	U	238	106.282	
>	Bi	209		103.474
	Na	23	70.686	
	Mg	24	92.404	
	K	39	95.853	
	Ca	43	103.546	
	Fe	54	97.569	
	Fe	57	106.217	
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

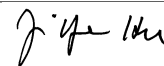
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Na	23	
QC Std 5	Ca	43	

Sample ID: QC Std 5

Report Date/Time: Tuesday, June 19, 2012 10:12:38

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, June 19, 2012 10:13:22

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9391.2	2.5	83.3372	48.233	57.9	ug/L	8387	Standard
	Be	9	134210.4	2.7	50.8867	1.723	3.4	ug/L	38	Standard
	Al	27	639693.4	4.5	51.3558	2.267	4.4	ug/L	15112	Standard
>	Sc	45	292008.9	1.0				ug/L	276213	Standard
	Ti	47	148918.6	0.7	102.7617	0.515	0.5	ug/L	124	Standard
	V	51	748292.7	1.0	51.1802	0.105	0.2	ug/L	3503	Standard
	Cr	52	558797.2	1.1	50.9993	0.028	0.1	ug/L	11028	Standard
	Cr	53	85400.8	0.4	50.9736	0.672	1.3	ug/L	333	Standard
	Mn	55	743025.9	0.1	51.7139	0.581	1.1	ug/L	3794	Standard
	Co	59	688140.4	0.8	50.2978	0.612	1.2	ug/L	200	Standard
	Ni	60	141936.4	1.0	50.0431	0.129	0.3	ug/L	111	Standard
	Cu	65	131604.8	1.3	49.9132	0.469	0.9	ug/L	137	Standard
	Zn	66	63736.1	0.1	49.6898	0.503	1.0	ug/L	360	Standard
>	Ge	72	238817.2	1.1				ug/L	236618	Standard
	As	75	60886.6	0.9	50.0134	0.579	1.2	ug/L	-269	Standard
	Se	82	6434.5	0.9	51.1484	0.781	1.5	ug/L	22	Standard
	Se-1	77	4467.0	1.9	50.7024	0.725	1.4	ug/L	91	Standard
>	Ga	71	203235.7	0.6				mg/L	202510	Standard
	Rb	85	921.7	5.5				ug/L	10	Standard
	Y	89	225808.6	0.8				ug/L	222253	Standard
>	Rh	103	113352.2	1.7				ug/L	115393	Standard
	Mo	98	436698.9	0.8	94.0520	0.590	0.6	ug/L	14	Standard
	Ag	107	357444.5	1.2	47.2228	0.585	1.2	ug/L	48	Standard
	Cd	111	162153.5	0.4	51.5208	0.132	0.3	mg/L	86	Standard
	Cd	114	445067.6	0.5	49.9314	0.516	1.0	ug/L	246	Standard
>	In	115	454651.2	0.7				ug/L	421413	Standard
	Sn	118	522864.8	0.8	50.0399	0.537	1.1	ug/L	392	Standard
	Sb	123	380808.2	0.9	50.8542	0.430	0.8	ug/L	70	Standard
	Ba	135	166683.6	1.5	49.5936	0.575	1.2	ug/L	39	Standard
	Ce	140	670.3	5.3				ug/L	138	Standard
>	Tb	159	473102.7	1.2				ug/L	426404	Standard
	Ho	165	9.3	24.7				ug/L	7	Standard
	Tl	203	527786.4	0.1	49.5899	0.705	1.4	ug/L	11	Standard
	Tl	205	1260429.6	1.1	50.3982	0.678	1.3	ug/L	18	Standard
	Pb	206	431761.7	0.8	49.5542	0.281	0.6	ug/L	174	Standard
	Pb	207	368861.7	0.5	50.2102	0.584	1.2	ug/L	146	Standard
	Pb	208	1675546.7	0.8	49.8567	0.418	0.8	ug/L	687	Standard
	U	238	763988.7	0.7	50.3239	1.046	2.1	ug/L	131	Standard
>	Bi	209	257929.8	1.4				ug/L	245542	Standard
	Na	23	64830.1	2.9	5.8802	0.193	3.3	mg/L	180	Standard
	Mg	24	1699924.5	0.0	4.5728	0.047	1.0	mg/L	930	Standard

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 10:15:56

Page 1

Approved: June 19, 2012



	K	39	4530.7	3.0	4.6432	0.174	3.8	mg/L	162	Standard
	Ca	43	8.3	69.3	7.0385	4.947	70.3	mg/L	2	Standard
	Fe	54	14580.4	3.0	4.8852	0.195	4.0	mg/L	439	Standard
	Fe	57	640947.8	3.5	5.2457	0.205	3.9	mg/L	5846	Standard
>	Sc-1	45	292008.9	1.0				mg/L	276213	Standard
	Cl	35	7.3	15.7				ug/L	6	Standard
	Kr	83	41.7	9.7				ug/L	41	Standard
	Br	81	5665.2	2.0				ug/L	5073	Standard
	P	31	71190.2	1.8				ug/L	51446	Standard
	S	34	837734.8	1.1				ug/L	649594	Standard
	Sr	88	98.3	14.7				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	102.712		
> Sc	45			
Ti	47	102.762		
V	51	102.360		
Cr	52	101.999		
Cr	53			
Mn	55	103.428		
Co	59	100.596		
Ni	60	100.086		
Cu	65	99.826		
Zn	66	99.380		
> Ge	72		100.929	
As	75	100.027		
Se	82	102.297		
Se-1	77			
> Ga	71		100.359	
Rb	85			
Y	89			
> Rh	103		98.231	
Mo	98	94.052		
Ag	107	94.446		
Cd	111	103.042		
Cd	114			
> In	115		107.887	
Sn	118	100.080		
Sb	123	101.708		
Ba	135	99.187		
Ce	140			
> Tb	159		110.952	
Ho	165			
Tl	203	99.180		
Tl	205			
Pb	206	99.108		

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 10:15:56

Page 2

Approved: June 19, 2012



	Pb	207	100.420	
	Pb	208	99.713	
	U	238	100.648	
>	Bi	209		105.045
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 10:15:56

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, June 19, 2012 10:16:38

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[	Li	7	8984.3	1.9	44.4347	32.337	72.8	ug/L	8387	Standard
	Be	9	53.3	39.0	0.0141	0.008	56.8	ug/L	38	Standard
	Al	27	7455.2	21.7	0.1842	0.135	73.4	ug/L	15112	Standard
[>	Sc	45	286858.4	0.7				ug/L	276213	Standard
[	Ti	47	106.7	3.8	0.0104	0.003	33.0	ug/L	124	Standard
	V	51	3144.0	3.9	-0.0137	0.010	74.7	ug/L	3503	Standard
	Cr	52	10099.7	3.9	-0.0654	0.045	68.1	ug/L	11028	Standard
	Cr	53	400.8	15.1	0.0615	0.039	63.2	ug/L	333	Standard
	Mn	55	1108.7	8.8	-0.0002	0.007	3545.7	ug/L	3794	Standard
	Co	59	172.3	32.5	0.0013	0.004	337.8	ug/L	200	Standard
	Ni	60	90.7	10.5	-0.0060	0.003	54.9	ug/L	111	Standard
	Cu	65	148.0	10.6	-0.0080	0.006	80.6	ug/L	137	Standard
	Zn	66	325.7	6.9	-0.1071	0.016	15.0	ug/L	360	Standard
[>	Ge	72	233363.5	0.7				ug/L	236618	Standard
	As	75	-261.5	14.1	-0.0173	0.030	174.2	ug/L	-269	Standard
	Se	82	28.4	20.0	0.0643	0.048	73.9	ug/L	22	Standard
[	Se-1	77	96.3	7.8	0.0133	0.085	637.9	ug/L	91	Standard
[>	Ga	71	200278.5	1.3				mg/L	202510	Standard
[	Rb	85	11.7	65.5				ug/L	10	Standard
[	Y	89	223679.0	0.4				ug/L	222253	Standard
[>	Rh	103	111858.7	1.0				ug/L	115393	Standard
[	Mo	98	119.5	54.0	0.0160	0.014	87.2	ug/L	14	Standard
	Ag	107	87.7	27.1	0.0013	0.003	249.5	ug/L	48	Standard
	Cd	111	112.0	12.4	0.0047	0.004	93.6	mg/L	86	Standard
	Cd	114	320.3	19.1	0.0082	0.007	83.7	ug/L	246	Standard
[>	In	115	450477.1	0.2				ug/L	421413	Standard
	Sn	118	596.7	20.9	0.0160	0.012	74.7	ug/L	392	Standard
	Sb	123	1229.1	38.4	0.1653	0.063	38.3	ug/L	70	Standard
	Ba	135	108.7	61.0	0.0160	0.020	124.3	ug/L	39	Standard
[	Ce	140	32.3	18.1				ug/L	138	Standard
[>	Tb	159	456046.4	0.7				ug/L	426404	Standard
[	Ho	165	4.3	66.6				ug/L	7	Standard
	Tl	203	78.0	51.5	0.0049	0.004	79.6	ug/L	11	Standard
	Tl	205	199.0	45.8	0.0069	0.004	54.3	ug/L	18	Standard
	Pb	206	286.7	21.2	0.0129	0.007	57.0	ug/L	174	Standard
	Pb	207	244.0	28.3	0.0144	0.010	67.7	ug/L	146	Standard
	Pb	208	1133.4	30.2	0.0127	0.011	83.2	ug/L	687	Standard
	U	238	170.3	38.1	0.0123	0.004	35.9	ug/L	131	Standard
[>	Bi	209	255277.6	0.8				ug/L	245542	Standard
[	Na	23	175.0	9.9	-0.0041	0.002	40.8	mg/L	180	Standard
	Mg	24	486.7	45.7	-0.0005	0.001	127.5	mg/L	930	Standard

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 10:19:11

Page 1

Approved: June 19, 2012



	K	39	143.3	14.1	-0.0317	0.023	72.0	mg/L	162	Standard
	Ca	43	3.3	86.6	2.8482	2.462	86.5	mg/L	2	Standard
	Fe	54	489.4	0.7	0.0107	0.000	2.6	mg/L	439	Standard
	Fe	57	5270.9	4.5	0.0019	0.002	110.3	mg/L	5846	Standard
>	Sc-1	45	286858.4	0.7				mg/L	276213	Standard
	Cl	35	7.7	27.2				ug/L	6	Standard
	Kr	83	40.7	14.8				ug/L	41	Standard
	Br	81	5525.2	2.9				ug/L	5073	Standard
	P	31	69473.2	3.0				ug/L	51446	Standard
	S	34	852704.3	2.0				ug/L	649594	Standard
	Sr	88	41.7	42.1				ug/L	65	Standard

QC Calculated Values

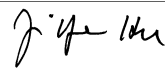
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		98.625	
As	75			
Se	82			
Se-1	77			
> Ga	71		98.898	
Rb	85			
Y	89			
> Rh	103		96.937	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		106.897	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		106.952	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 10:19:11

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.965
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

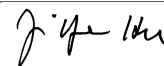
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 10:19:11

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Tuesday, June 19, 2012 10:19:55

Number of Replicates: 3

Autosampler Position: 202

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9072.7	3.1	79.0723	58.995	74.6	ug/L	8387	Standard
	Be	9	65.0	60.1	0.0188	0.015	79.2	ug/L	38	Standard
	Al	27	12880.2	91.2	0.6387	0.964	151.0	ug/L	15112	Standard
>	Sc	45	282939.3	1.1				ug/L	276213	Standard
	Ti	47	123.0	28.0	0.0226	0.024	106.9	ug/L	124	Standard
	V	51	9272.8	5.3	0.4231	0.032	7.5	ug/L	3503	Standard
	Cr	52	18748.9	2.0	0.7748	0.027	3.5	ug/L	11028	Standard
	Cr	53	1648.4	4.0	0.8355	0.047	5.6	ug/L	333	Standard
	Mn	55	8562.1	4.0	0.5370	0.023	4.2	ug/L	3794	Standard
	Co	59	5753.1	3.9	0.4227	0.016	3.7	ug/L	200	Standard
	Ni	60	4571.7	0.8	1.6272	0.005	0.3	ug/L	111	Standard
	Cu	65	2235.8	1.6	0.8114	0.014	1.8	ug/L	137	Standard
	Zn	66	9032.4	0.1	6.9574	0.048	0.7	ug/L	360	Standard
>	Ge	72	231241.6	0.5				ug/L	236618	Standard
	As	75	224.8	12.5	0.3915	0.023	6.0	ug/L	-269	Standard
	Se	82	75.9	2.3	0.4578	0.018	3.9	ug/L	22	Standard
	Se-1	77	130.3	7.9	0.4315	0.124	28.7	ug/L	91	Standard
>	Ga	71	201607.7	1.6				mg/L	202510	Standard
	Rb	85	16.7	45.8				ug/L	10	Standard
	Y	89	221161.0	1.6				ug/L	222253	Standard
>	Rh	103	111670.7	1.0				ug/L	115393	Standard
	Mo	98	504.4	160.0	0.1010	0.178	175.8	ug/L	14	Standard
	Ag	107	3368.7	29.1	0.4427	0.133	30.1	ug/L	48	Standard
	Cd	111	1102.2	40.8	0.3255	0.147	45.2	mg/L	86	Standard
	Cd	114	2937.7	37.8	0.3077	0.128	41.6	ug/L	246	Standard
>	In	115	446888.8	1.1				ug/L	421413	Standard
	Sn	118	806.4	51.7	0.0370	0.041	110.6	ug/L	392	Standard
	Sb	123	3765.1	16.1	0.5114	0.084	16.5	ug/L	70	Standard
	Ba	135	2629.2	11.0	0.7796	0.088	11.3	ug/L	39	Standard
	Ce	140	40.0	33.6				ug/L	138	Standard
>	Tb	159	455406.4	1.3				ug/L	426404	Standard
	Ho	165	6.0	66.7				ug/L	7	Standard
	Tl	203	1109.0	50.3	0.1031	0.053	51.8	ug/L	11	Standard
	Tl	205	2730.3	43.6	0.1095	0.049	44.3	ug/L	18	Standard
	Pb	206	2084.5	17.0	0.2222	0.042	18.8	ug/L	174	Standard
	Pb	207	1767.4	16.6	0.2248	0.041	18.2	ug/L	146	Standard
	Pb	208	8048.5	14.7	0.2214	0.036	16.3	ug/L	687	Standard
	U	238	6144.6	4.7	0.4111	0.020	4.9	ug/L	131	Standard
>	Bi	209	254470.5	0.6				ug/L	245542	Standard
	Na	23	250.0	45.2	0.0031	0.010	337.4	mg/L	180	Standard
	Mg	24	775.0	110.1	0.0003	0.002	717.8	mg/L	930	Standard

Sample ID: QC Std 8

Report Date/Time: Tuesday, June 19, 2012 10:22:28

Page 1

Approved: June 19, 2012

	K	39	128.3	25.9	-0.0460	0.038	82.0	mg/L	162	Standard
	Ca	43	1.7	173.2	1.4541	2.510	172.6	mg/L	2	Standard
	Fe	54	464.6	2.5	0.0043	0.005	114.9	mg/L	439	Standard
	Fe	57	5049.2	10.9	0.0006	0.004	721.2	mg/L	5846	Standard
>	Sc-1	45	282939.3	1.1				mg/L	276213	Standard
	Cl	35	7.3	28.4				ug/L	6	Standard
	Kr	83	37.0	9.5				ug/L	41	Standard
	Br	81	5642.7	3.1				ug/L	5073	Standard
	P	31	69121.5	2.6				ug/L	51446	Standard
	S	34	850918.6	1.2				ug/L	649594	Standard
	Sr	88	46.7	32.7				ug/L	65	Standard

QC Calculated Values

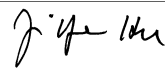
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51	105.764	
	Cr	52	96.850	
	Cr	53		
	Mn	55	107.393	
	Co	59	105.671	
	Ni	60	101.698	
	Cu	65	101.419	
	Zn	66	111.318	
>	Ge	72		97.728
	As	75	97.873	
	Se	82	114.448	
	Se-1	77		
>	Ga	71		99.555
	Rb	85		
	Y	89		
>	Rh	103		96.774
	Mo	98		
	Ag	107	110.676	
	Cd	111	135.637	
	Cd	114		
>	In	115		106.045
	Sn	118		
	Sb	123	127.862	
	Ba	135	103.945	
	Ce	140		
>	Tb	159		106.802
	Ho	165		
	Tl	203	128.882	
	Tl	205		
	Pb	206		

Sample ID: QC Std 8

Report Date/Time: Tuesday, June 19, 2012 10:22:28

Page 2

Approved: June 19, 2012



	Pb	207		
	Pb	208	110.707	
	U	238	102.777	
>	Bi	209		103.636
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Cd	111	

Sample ID: QC Std 8

Report Date/Time: Tuesday, June 19, 2012 10:22:28

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: PBW 78 WG401006-02

Sample Date/Time: Tuesday, June 19, 2012 10:26:16

Number of Replicates: 3

Autosampler Position: 301

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8954.3	2.6	67.7203	34.131	50.4	ug/L	8387	Standard
	Be	9	18.3	41.7	0.0007	0.003	420.5	ug/L	38	Standard
	Al	27	14413.5	2.3	0.7806	0.028	3.5	ug/L	15112	Standard
>	Sc	45	281326.1	0.3				ug/L	276213	Standard
	Ti	47	91.0	5.8	-0.0005	0.003	664.3	ug/L	124	Standard
	V	51	3127.0	3.6	-0.0140	0.005	34.7	ug/L	3503	Standard
	Cr	52	9919.9	2.5	-0.0784	0.010	13.3	ug/L	11028	Standard
	Cr	53	330.0	4.6	0.0188	0.008	42.4	ug/L	333	Standard
	Mn	55	21278.6	1.9	1.4456	0.021	1.5	ug/L	3794	Standard
	Co	59	111.3	3.6	-0.0033	0.000	11.2	ug/L	200	Standard
	Ni	60	224.3	6.7	0.0426	0.004	9.7	ug/L	111	Standard
	Cu	65	202.0	4.9	0.0134	0.005	38.7	ug/L	137	Standard
	Zn	66	4857.8	2.5	3.5533	0.037	1.1	ug/L	360	Standard
>	Ge	72	232284.3	1.7				ug/L	236618	Standard
	As	75	-278.1	4.6	-0.0323	0.010	30.3	ug/L	-269	Standard
	Se	82	21.3	23.4	0.0075	0.042	557.7	ug/L	22	Standard
	Se-1	77	98.3	3.1	0.0431	0.052	121.7	ug/L	91	Standard
>	Ga	71	198760.7	2.5				mg/L	202510	Standard
	Rb	85	30.0	33.3				ug/L	10	Standard
	Y	89	219420.8	0.8				ug/L	222253	Standard
>	Rh	103	109987.8	1.7				ug/L	115393	Standard
	Mo	98	109.6	3.7	0.0146	0.000	3.1	ug/L	14	Standard
	Ag	107	39.7	18.9	-0.0050	0.001	22.4	ug/L	48	Standard
	Cd	111	92.7	14.1	-0.0007	0.004	578.1	mg/L	86	Standard
	Cd	114	273.7	1.7	0.0038	0.000	10.9	ug/L	246	Standard
>	In	115	437784.2	2.1				ug/L	421413	Standard
	Sn	118	1030.0	2.2	0.0609	0.004	7.0	ug/L	392	Standard
	Sb	123	245.9	6.3	0.0338	0.003	7.6	ug/L	70	Standard
	Ba	135	52.7	15.9	-0.0003	0.003	826.5	ug/L	39	Standard
	Ce	140	56.7	13.2				ug/L	138	Standard
>	Tb	159	444723.4	0.6				ug/L	426404	Standard
	Ho	165	5.0	20.0				ug/L	7	Standard
	Tl	203	9.7	46.6	-0.0016	0.000	27.3	ug/L	11	Standard
	Tl	205	22.0	16.4	-0.0003	0.000	49.4	ug/L	18	Standard
	Pb	206	199.0	11.0	0.0030	0.003	90.8	ug/L	174	Standard
	Pb	207	165.7	12.8	0.0039	0.003	71.4	ug/L	146	Standard
	Pb	208	792.7	2.0	0.0027	0.000	14.3	ug/L	687	Standard
	U	238	6.0	60.1	0.0013	0.000	18.3	ug/L	131	Standard
>	Bi	209	251412.2	1.1				ug/L	245542	Standard
	Na	23	250.0	15.1	0.0033	0.004	107.6	mg/L	180	Standard
	Mg	24	470.0	11.5	-0.0005	0.000	29.5	mg/L	930	Standard

Sample ID: PBW 78 WG401006-02

Report Date/Time: Tuesday, June 19, 2012 10:28:49

Page 1

Approved: June 19, 2012

	K	39	171.7	12.1	0.0026	0.023	888.6	mg/L	162	Standard
	Ca	43	0.0		0.0050			mg/L	2	Standard
	Fe	54	433.4	14.5	-0.0060	0.022	367.1	mg/L	439	Standard
	Fe	57	4882.5	5.3	-0.0006	0.002	396.1	mg/L	5846	Standard
>	Sc-1	45	281326.1	0.3				mg/L	276213	Standard
	Cl	35	5.3	57.3				ug/L	6	Standard
	Kr	83	39.7	9.2				ug/L	41	Standard
	Br	81	5550.2	0.2				ug/L	5073	Standard
	P	31	67177.8	1.6				ug/L	51446	Standard
	S	34	838454.9	1.2				ug/L	649594	Standard
	Sr	88	50.0	36.1				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	98.169	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	98.149	
	Rb	85		
	Y	89		
>	Rh	103	95.316	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	103.885	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	104.296	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: PBW 78 WG401006-02

Report Date/Time: Tuesday, June 19, 2012 10:28:49

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.390
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: PBW 78 WG401006-02
 Report Date/Time: Tuesday, June 19, 2012 10:28:49
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: F BLANK WG400950-01

Sample Date/Time: Tuesday, June 19, 2012 10:29:31

Number of Replicates: 3

Autosampler Position: 302

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9184.5	4.0	81.5553	64.468	79.0	ug/L	8387	Standard
	Be	9	206.7	140.0	0.0723	0.110	151.8	ug/L	38	Standard
	Al	27	12173.3	16.9	0.5743	0.152	26.5	ug/L	15112	Standard
>	Sc	45	285923.1	1.8				ug/L	276213	Standard
	Ti	47	308.7	119.9	0.1538	0.263	170.8	ug/L	124	Standard
	V	51	3175.9	2.5	-0.0110	0.006	58.8	ug/L	3503	Standard
	Cr	52	9978.6	0.8	-0.0747	0.017	22.3	ug/L	11028	Standard
	Cr	53	466.7	56.0	0.1026	0.161	157.0	ug/L	333	Standard
	Mn	55	13767.9	1.0	0.9052	0.006	0.6	ug/L	3794	Standard
	Co	59	1099.1	159.4	0.0709	0.132	185.6	ug/L	200	Standard
	Ni	60	360.7	94.2	0.0919	0.123	134.1	ug/L	111	Standard
	Cu	65	332.7	79.0	0.0641	0.103	159.9	ug/L	137	Standard
	Zn	66	4289.9	2.6	3.0878	0.096	3.1	ug/L	360	Standard
>	Ge	72	232788.8	0.9				ug/L	236618	Standard
	As	75	-232.0	30.5	0.0068	0.060	879.4	ug/L	-269	Standard
	Se	82	21.3	51.4	0.0065	0.089	1367.9	ug/L	22	Standard
	Se-1	77	102.0	2.6	0.0839	0.036	43.2	ug/L	91	Standard
>	Ga	71	199643.7	1.8				mg/L	202510	Standard
	Rb	85	28.3	88.8				ug/L	10	Standard
	Y	89	222838.4	0.7				ug/L	222253	Standard
>	Rh	103	111165.3	1.0				ug/L	115393	Standard
	Mo	98	185.9	56.9	0.0312	0.024	77.1	ug/L	14	Standard
	Ag	107	86.3	105.4	0.0013	0.013	930.5	ug/L	48	Standard
	Cd	111	112.9	26.4	0.0055	0.010	186.7	mg/L	86	Standard
	Cd	114	330.5	34.8	0.0099	0.014	138.6	ug/L	246	Standard
>	In	115	445132.9	1.7				ug/L	421413	Standard
	Sn	118	875.7	8.4	0.0441	0.008	18.3	ug/L	392	Standard
	Sb	123	197.4	38.5	0.0267	0.011	40.5	ug/L	70	Standard
	Ba	135	59.3	52.2	0.0015	0.010	661.3	ug/L	39	Standard
	Ce	140	47.3	18.2				ug/L	138	Standard
>	Tb	159	448964.4	1.0				ug/L	426404	Standard
	Ho	165	7.0	37.8				ug/L	7	Standard
	Tl	203	58.7	143.7	0.0030	0.008	265.0	ug/L	11	Standard
	Tl	205	157.7	146.3	0.0052	0.009	179.8	ug/L	18	Standard
	Pb	206	250.0	29.6	0.0087	0.009	100.6	ug/L	174	Standard
	Pb	207	211.0	38.2	0.0099	0.011	113.6	ug/L	146	Standard
	Pb	208	957.7	26.6	0.0075	0.008	105.0	ug/L	687	Standard
	U	238	52.0	156.6	0.0044	0.005	123.8	ug/L	131	Standard
>	Bi	209	254435.3	0.7				ug/L	245542	Standard
	Na	23	240.0	16.7	0.0019	0.003	178.2	mg/L	180	Standard
	Mg	24	663.4	59.8	0.0000	0.001559485.2		mg/L	930	Standard

Sample ID: F BLANK WG400950-01

Report Date/Time: Tuesday, June 19, 2012 10:32:05

Page 1

Approved: June 19, 2012



	K	39	178.3	14.4	0.0067	0.026	394.0	mg/L	162	Standard
	Ca	43	1.7	173.2	1.4421	2.489	172.6	mg/L	2	Standard
	Fe	54	469.9	2.7	0.0045	0.006	137.4	mg/L	439	Standard
	Fe	57	5110.9	2.4	0.0007	0.002	253.9	mg/L	5846	Standard
>	Sc-1	45	285923.1	1.8				mg/L	276213	Standard
	Cl	35	4.7	44.6				ug/L	6	Standard
	Kr	83	39.7	7.2				ug/L	41	Standard
	Br	81	5456.0	1.3				ug/L	5073	Standard
	P	31	67544.4	0.5				ug/L	51446	Standard
	S	34	835230.4	0.3				ug/L	649594	Standard
	Sr	88	61.7	47.5				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	98.382	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	98.585	
	Rb	85		
	Y	89		
>	Rh	103	96.336	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	105.629	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	105.291	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: F BLANK WG400950-01

Report Date/Time: Tuesday, June 19, 2012 10:32:05

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.622
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: F BLANK WG400950-01
 Report Date/Time: Tuesday, June 19, 2012 10:32:05
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: LCSW 78 WG401006-03

Sample Date/Time: Tuesday, June 19, 2012 10:32:47

Number of Replicates: 3

Autosampler Position: 303

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	10123.4	4.1	107.3138	69.040	64.3	ug/L	8387	Standard
	Be	9	72936.8	0.9	26.0722	0.892	3.4	ug/L	38	Standard
	Al	27	375071.3	1.5	28.1964	0.619	2.2	ug/L	15112	Standard
>	Sc	45	309815.1	2.5				ug/L	276213	Standard
	Ti	47	124.3	14.0	0.0161	0.011	69.6	ug/L	124	Standard
	V	51	423430.7	2.0	27.2600	0.478	1.8	ug/L	3503	Standard
	Cr	52	325173.5	1.6	27.5839	0.332	1.2	ug/L	11028	Standard
	Cr	53	49424.7	2.6	27.7934	0.688	2.5	ug/L	333	Standard
	Mn	55	426064.6	1.1	27.9861	0.240	0.9	ug/L	3794	Standard
	Co	59	393236.8	0.8	27.1571	0.236	0.9	ug/L	200	Standard
	Ni	60	80648.1	1.9	26.8535	0.414	1.5	ug/L	111	Standard
	Cu	65	75570.4	1.7	27.0567	0.445	1.6	ug/L	137	Standard
	Zn	66	36251.0	2.0	26.5367	0.486	1.8	ug/L	360	Standard
>	Ge	72	252697.9	0.6				ug/L	236618	Standard
	As	75	32652.9	1.2	25.4460	0.194	0.8	ug/L	-269	Standard
	Se	82	3334.3	1.0	24.9605	0.089	0.4	ug/L	22	Standard
	Se-1	77	2394.2	2.1	25.1242	0.452	1.8	ug/L	91	Standard
>	Ga	71	219885.8	0.9				mg/L	202510	Standard
	Rb	85	36.7	28.4				ug/L	10	Standard
	Y	89	241707.7	0.6				ug/L	222253	Standard
>	Rh	103	121210.6	1.3				ug/L	115393	Standard
	Mo	98	92.6	6.9	0.0088	0.001	12.7	ug/L	14	Standard
	Ag	107	193056.4	1.7	23.9215	0.633	2.6	ug/L	48	Standard
	Cd	111	89921.9	1.6	26.7867	0.627	2.3	mg/L	86	Standard
	Cd	114	240829.4	1.2	25.3295	0.435	1.7	ug/L	246	Standard
>	In	115	484773.3	2.1				ug/L	421413	Standard
	Sn	118	881.7	4.3	0.0375	0.002	5.9	ug/L	392	Standard
	Sb	123	209693.7	1.2	26.2669	0.361	1.4	ug/L	70	Standard
	Ba	135	92575.0	2.1	25.8306	0.645	2.5	ug/L	39	Standard
	Ce	140	97.7	6.6				ug/L	138	Standard
>	Tb	159	483634.0	2.7				ug/L	426404	Standard
	Ho	165	5.0	91.7				ug/L	7	Standard
	Tl	203	293432.2	2.0	26.1501	0.544	2.1	ug/L	11	Standard
	Tl	205	704954.3	1.3	26.7388	0.500	1.9	ug/L	18	Standard
	Pb	206	241236.5	1.4	26.2555	0.483	1.8	ug/L	174	Standard
	Pb	207	207657.2	1.6	26.8045	0.533	2.0	ug/L	146	Standard
	Pb	208	942826.6	1.4	26.6028	0.482	1.8	ug/L	687	Standard
	U	238	418655.8	1.3	26.1559	0.329	1.3	ug/L	131	Standard
>	Bi	209	271910.8	1.4				ug/L	245542	Standard
	Na	23	245.0	4.1	0.0007	0.001	164.1	mg/L	180	Standard
	Mg	24	515.0	5.4	-0.0005	0.000	9.6	mg/L	930	Standard

Sample ID: LCSW 78 WG401006-03

Report Date/Time: Tuesday, June 19, 2012 10:35:21

Page 1

Approved: June 19, 2012

	K	39	128.3	8.1	-0.0584	0.009	15.9	mg/L	162	Standard
	Ca	43	0.0		0.0050			mg/L	2	Standard
	Fe	54	661.8	5.3	0.0541	0.008	14.7	mg/L	439	Standard
	Fe	57	6086.2	1.9	0.0050	0.000	6.2	mg/L	5846	Standard
>	Sc-1	45	309815.1	2.5				mg/L	276213	Standard
	Cl	35	7.3	47.9				ug/L	6	Standard
	Kr	83	38.9	11.0				ug/L	41	Standard
	Br	81	6824.0	1.4				ug/L	5073	Standard
	P	31	100587.0	2.1				ug/L	51446	Standard
	S	34	878675.6	0.8				ug/L	649594	Standard
	Sr	88	198.3	11.9				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	106.796	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	108.580	
	Rb	85		
	Y	89		
>	Rh	103	105.041	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	115.035	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	113.422	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: LCSW 78 WG401006-03

Report Date/Time: Tuesday, June 19, 2012 10:35:21

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	110.739
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: LCSW 78 WG401006-03
 Report Date/Time: Tuesday, June 19, 2012 10:35:21
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206054201 WG401006-01

Sample Date/Time: Tuesday, June 19, 2012 10:36:03

Number of Replicates: 3

Autosampler Position: 304

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	27788.8	2.8	2592.4046	65.249	2.5	ug/L	8387	Standard
	Be	9	141.7	94.8	0.0423	0.046	109.1	ug/L	38	Standard
	Al	27	87551.4	12.3	6.0205	0.746	12.4	ug/L	15112	Standard
>	Sc	45	320651.1	1.2				ug/L	276213	Standard
	Ti	47	935.7	14.8	0.5768	0.094	16.2	ug/L	124	Standard
	V	51	7185.2	12.9	0.2556	0.061	24.0	ug/L	3503	Standard
	Cr	52	16583.7	3.2	0.5063	0.043	8.6	ug/L	11028	Standard
	Cr	53	6016.2	19.8	3.3939	0.691	20.4	ug/L	333	Standard
	Mn	55	698151.3	0.7	48.2782	0.606	1.3	ug/L	3794	Standard
	Co	59	1750.1	36.5	0.1154	0.046	39.9	ug/L	200	Standard
	Ni	60	4301.6	5.7	1.4694	0.083	5.6	ug/L	111	Standard
	Cu	65	1436.4	9.7	0.4764	0.051	10.7	ug/L	137	Standard
	Zn	66	3418.7	3.8	2.2992	0.094	4.1	ug/L	360	Standard
>	Ge	72	240330.1	0.7				ug/L	236618	Standard
	As	75	221.0	37.0	0.3811	0.066	17.3	ug/L	-269	Standard
	Se	82	139.8	7.1	0.9404	0.072	7.6	ug/L	22	Standard
	Se-1	77	339.0	5.7	2.7782	0.213	7.7	ug/L	91	Standard
>	Ga	71	205139.4	0.6				mg/L	202510	Standard
	Rb	85	3920.5	4.0				ug/L	10	Standard
	Y	89	226306.1	1.4				ug/L	222253	Standard
>	Rh	103	111571.3	1.3				ug/L	115393	Standard
	Mo	98	1137.2	3.5	0.2320	0.009	4.0	ug/L	14	Standard
	Ag	107	122.7	40.5	0.0056	0.007	117.1	ug/L	48	Standard
	Cd	111	167.9	5.4	0.0215	0.003	13.8	mg/L	86	Standard
	Cd	114	471.1	6.7	0.0242	0.004	15.7	ug/L	246	Standard
>	In	115	460450.0	0.6				ug/L	421413	Standard
	Sn	118	655.7	7.7	0.0204	0.005	24.8	ug/L	392	Standard
	Sb	123	386.9	19.7	0.0507	0.010	19.5	ug/L	70	Standard
	Ba	135	10068.0	1.9	2.9424	0.067	2.3	ug/L	39	Standard
	Ce	140	427.0	15.1				ug/L	138	Standard
>	Tb	159	472223.0	1.5				ug/L	426404	Standard
	Ho	165	11.3	31.0				ug/L	7	Standard
	Tl	203	244.7	21.1	0.0208	0.005	23.1	ug/L	11	Standard
	Tl	205	628.7	14.4	0.0243	0.004	14.5	ug/L	18	Standard
	Pb	206	550.0	7.3	0.0437	0.005	10.4	ug/L	174	Standard
	Pb	207	444.7	4.4	0.0423	0.002	5.6	ug/L	146	Standard
	Pb	208	2065.4	1.4	0.0410	0.001	1.3	ug/L	687	Standard
	U	238	1058.1	89.5	0.0718	0.063	88.4	ug/L	131	Standard
>	Bi	209	253812.9	0.5				ug/L	245542	Standard
	Na	23	90258.1	2.0	7.4596	0.096	1.3	mg/L	180	Standard
	Mg	24	3182386.9	1.7	7.7985	0.232	3.0	mg/L	930	Standard

Sample ID: L1206054201 WG401006-01

Report Date/Time: Tuesday, June 19, 2012 10:38:36

Page 1

Approved: June 19, 2012



	K	39	598.3	9.2	0.3933	0.050	12.6	mg/L	162	Standard
	Ca	43	40.0	25.0	30.5979	7.521	24.6	mg/L	2	Standard
	Fe	54	524.4	12.2	0.0038	0.022	591.8	mg/L	439	Standard
	Fe	57	25436.4	5.7	0.1486	0.009	5.7	mg/L	5846	Standard
>	Sc-1	45	320651.1	1.2				mg/L	276213	Standard
	Cl	35	112.3	12.8				ug/L	6	Standard
	Kr	83	40.4	7.1				ug/L	41	Standard
	Br	81	27090.9	5.1				ug/L	5073	Standard
	P	31	86949.0	3.9				ug/L	51446	Standard
	S	34	1451759.4	1.3				ug/L	649594	Standard
	Sr	88	140564.2	2.3				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		101.569	
As	75			
Se	82			
Se-1	77			
> Ga	71		101.299	
Rb	85			
Y	89			
> Rh	103		96.688	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		109.263	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		110.745	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206054201 WG401006-01

Report Date/Time: Tuesday, June 19, 2012 10:38:36

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.368
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206054201 WG401006-01

Report Date/Time: Tuesday, June 19, 2012 10:38:36

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206054201S WG401006-04

Sample Date/Time: Tuesday, June 19, 2012 10:39:18

Number of Replicates: 3

Autosampler Position: 305

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

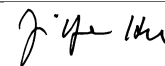
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	26877.2	2.6	2490.7304	85.927	3.4	ug/L	8387	Standard
	Be	9	70694.5	0.3	24.5871	0.347	1.4	ug/L	38	Standard
	Al	27	386769.5	2.4	28.3037	1.022	3.6	ug/L	15112	Standard
>	Sc	45	318276.8	1.1				ug/L	276213	Standard
	Ti	47	844.4	8.0	0.5176	0.041	7.8	ug/L	124	Standard
	V	51	393171.2	0.5	26.7783	0.611	2.3	ug/L	3503	Standard
	Cr	52	297937.5	0.3	26.7090	0.526	2.0	ug/L	11028	Standard
	Cr	53	50639.5	0.9	30.1463	0.744	2.5	ug/L	333	Standard
	Mn	55	1027465.8	0.1	71.5296	1.451	2.0	ug/L	3794	Standard
	Co	59	350681.3	0.7	25.6249	0.694	2.7	ug/L	200	Standard
	Ni	60	75552.2	0.9	26.6147	0.383	1.4	ug/L	111	Standard
	Cu	65	66885.3	0.8	25.3303	0.347	1.4	ug/L	137	Standard
	Zn	66	36205.9	1.8	28.0566	0.193	0.7	ug/L	360	Standard
>	Ge	72	238904.0	2.1				ug/L	236618	Standard
	As	75	31694.7	1.5	26.1227	0.178	0.7	ug/L	-269	Standard
	Se	82	3371.3	1.4	26.7096	0.197	0.7	ug/L	22	Standard
	Se-1	77	2553.5	1.8	28.4967	0.725	2.5	ug/L	91	Standard
>	Ga	71	202369.6	2.1				mg/L	202510	Standard
	Rb	85	3803.8	4.3				ug/L	10	Standard
	Y	89	226526.1	1.6				ug/L	222253	Standard
>	Rh	103	110462.9	1.7				ug/L	115393	Standard
	Mo	98	1107.0	1.2	0.2257	0.003	1.3	ug/L	14	Standard
	Ag	107	169501.0	1.6	22.1229	0.162	0.7	ug/L	48	Standard
	Cd	111	83120.1	1.1	26.0832	0.081	0.3	mg/L	86	Standard
	Cd	114	227905.5	1.5	25.2522	0.209	0.8	ug/L	246	Standard
>	In	115	460068.9	1.2				ug/L	421413	Standard
	Sn	118	695.0	2.5	0.0241	0.001	3.7	ug/L	392	Standard
	Sb	123	193936.7	0.6	25.5957	0.330	1.3	ug/L	70	Standard
	Ba	135	94409.2	0.2	27.7549	0.373	1.3	ug/L	39	Standard
	Ce	140	642.0	41.2				ug/L	138	Standard
>	Tb	159	469312.4	0.7				ug/L	426404	Standard
	Ho	165	21.7	39.8				ug/L	7	Standard
	Tl	203	269729.8	0.9	25.5084	0.379	1.5	ug/L	11	Standard
	Tl	205	647794.4	0.8	26.0733	0.440	1.7	ug/L	18	Standard
	Pb	206	219405.2	0.6	25.3396	0.421	1.7	ug/L	174	Standard
	Pb	207	187292.9	1.1	25.6520	0.258	1.0	ug/L	146	Standard
	Pb	208	852451.7	0.4	25.5226	0.316	1.2	ug/L	687	Standard
	U	238	381882.6	1.0	25.3199	0.506	2.0	ug/L	131	Standard
>	Bi	209	256242.9	1.3				ug/L	245542	Standard
	Na	23	90719.1	0.7	7.5548	0.099	1.3	mg/L	180	Standard
	Mg	24	3037201.5	1.4	7.4963	0.055	0.7	mg/L	930	Standard

Sample ID: L1206054201S WG401006-04

Report Date/Time: Tuesday, June 19, 2012 10:41:51

Page 1

Approved: June 19, 2012



	K	39	533.3	10.7	0.3339	0.051	15.2	mg/L	162	Standard
	Ca	43	35.0	51.5	26.9784	13.805	51.2	mg/L	2	Standard
	Fe	54	502.8	15.7	-0.0021	0.024	1159.2	mg/L	439	Standard
	Fe	57	23050.9	2.7	0.1321	0.005	3.5	mg/L	5846	Standard
>	Sc-1	45	318276.8	1.1				mg/L	276213	Standard
	Cl	35	127.0	5.2				ug/L	6	Standard
	Kr	83	44.8	15.5				ug/L	41	Standard
	Br	81	27116.7	1.5				ug/L	5073	Standard
	P	31	81673.7	1.2				ug/L	51446	Standard
	S	34	1428690.1	0.9				ug/L	649594	Standard
	Sr	88	130093.6	4.8				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	100.966	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	99.931	
	Rb	85		
	Y	89		
>	Rh	103	95.727	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	109.173	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	110.063	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206054201S WG401006-04

Report Date/Time: Tuesday, June 19, 2012 10:41:51

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	104.358
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206054201S WG401006-04
 Report Date/Time: Tuesday, June 19, 2012 10:41:51
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206054201SD WG401006-05

Sample Date/Time: Tuesday, June 19, 2012 10:42:33

Number of Replicates: 3

Autosampler Position: 306

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	26663.5	2.5	2508.2160	86.723	3.5	ug/L	8387	Standard
	Be	9	70252.5	2.2	24.7353	0.306	1.2	ug/L	38	Standard
	Al	27	404148.9	4.3	29.9786	1.716	5.7	ug/L	15112	Standard
>	Sc	45	314391.3	2.5				ug/L	276213	Standard
	Ti	47	895.0	21.3	0.5704	0.134	23.5	ug/L	124	Standard
	V	51	385066.1	0.7	26.9752	0.215	0.8	ug/L	3503	Standard
	Cr	52	291403.9	0.1	26.8748	0.074	0.3	ug/L	11028	Standard
	Cr	53	52073.7	5.9	31.8946	1.910	6.0	ug/L	333	Standard
	Mn	55	1016445.5	0.4	72.7811	0.227	0.3	ug/L	3794	Standard
	Co	59	340372.7	1.2	25.5787	0.324	1.3	ug/L	200	Standard
	Ni	60	73292.9	1.1	26.5573	0.279	1.0	ug/L	111	Standard
	Cu	65	65179.9	0.7	25.3910	0.224	0.9	ug/L	137	Standard
	Zn	66	35004.1	0.8	27.9034	0.259	0.9	ug/L	360	Standard
>	Ge	72	232215.6	0.2				ug/L	236618	Standard
	As	75	31035.5	1.4	26.3121	0.344	1.3	ug/L	-269	Standard
	Se	82	3325.5	1.0	27.1058	0.288	1.1	ug/L	22	Standard
	Se-1	77	2620.9	1.3	30.1466	0.433	1.4	ug/L	91	Standard
>	Ga	71	196796.8	2.0				mg/L	202510	Standard
	Rb	85	3912.2	3.6				ug/L	10	Standard
	Y	89	223114.1	0.3				ug/L	222253	Standard
>	Rh	103	108115.0	0.6				ug/L	115393	Standard
	Mo	98	1077.3	4.4	0.2239	0.012	5.2	ug/L	14	Standard
	Ag	107	163640.3	0.6	21.7774	0.184	0.8	ug/L	48	Standard
	Cd	111	81195.4	1.1	25.9776	0.127	0.5	mg/L	86	Standard
	Cd	114	222471.3	0.8	25.1330	0.076	0.3	ug/L	246	Standard
>	In	115	451227.3	0.7				ug/L	421413	Standard
	Sn	118	710.7	2.9	0.0270	0.002	8.1	ug/L	392	Standard
	Sb	123	192984.7	0.7	25.9677	0.274	1.1	ug/L	70	Standard
	Ba	135	92988.8	0.9	27.8709	0.308	1.1	ug/L	39	Standard
	Ce	140	457.0	14.2				ug/L	138	Standard
>	Tb	159	466095.7	1.6				ug/L	426404	Standard
	Ho	165	11.7	47.2				ug/L	7	Standard
	Tl	203	262459.0	1.5	25.4555	0.345	1.4	ug/L	11	Standard
	Tl	205	633156.8	0.6	26.1353	0.088	0.3	ug/L	18	Standard
	Pb	206	213976.4	0.8	25.3440	0.168	0.7	ug/L	174	Standard
	Pb	207	182537.7	0.9	25.6414	0.183	0.7	ug/L	146	Standard
	Pb	208	834141.9	0.9	25.6133	0.182	0.7	ug/L	687	Standard
	U	238	378185.3	0.3	25.7152	0.158	0.6	ug/L	131	Standard
>	Bi	209	249824.8	0.4				ug/L	245542	Standard
	Na	23	90145.7	0.5	7.6023	0.184	2.4	mg/L	180	Standard
	Mg	24	2991266.8	1.6	7.4761	0.141	1.9	mg/L	930	Standard

Sample ID: L1206054201SD WG401006-05

Report Date/Time: Tuesday, June 19, 2012 10:45:05

Page 1

Approved: June 19, 2012

	K	39	526.7	8.8	0.3337	0.036	10.9	mg/L	162	Standard
	Ca	43	33.3	17.3	25.9749	4.030	15.5	mg/L	2	Standard
	Fe	54	481.9	9.4	-0.0069	0.011	164.6	mg/L	439	Standard
	Fe	57	21660.5	5.3	0.1236	0.007	5.6	mg/L	5846	Standard
>	Sc-1	45	314391.3	2.5				mg/L	276213	Standard
	Cl	35	120.7	7.9				ug/L	6	Standard
	Kr	83	40.1	4.3				ug/L	41	Standard
	Br	81	23993.2	1.4				ug/L	5073	Standard
	P	31	79689.1	2.5				ug/L	51446	Standard
	S	34	1414991.0	1.5				ug/L	649594	Standard
	Sr	88	124464.4	3.0				ug/L	65	Standard

QC Calculated Values

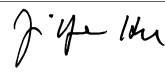
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		98.140	
As	75			
Se	82			
Se-1	77			
> Ga	71		97.179	
Rb	85			
Y	89			
> Rh	103		93.693	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		107.075	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		109.309	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206054201SD WG401006-05

Report Date/Time: Tuesday, June 19, 2012 10:45:05

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.744
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206054201SD WG401006-05
 Report Date/Time: Tuesday, June 19, 2012 10:45:05
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206050302

Sample Date/Time: Tuesday, June 19, 2012 10:45:47

Number of Replicates: 3

Autosampler Position: 307

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

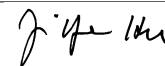
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	15257.7	2.4	812.8448	90.962	11.2	ug/L	8387	Standard
	Be	9	106.7	23.6	0.0309	0.010	32.4	ug/L	38	Standard
	Al	27	2099007.6	1.8	155.7232	6.904	4.4	ug/L	15112	Standard
>	Sc	45	318064.8	3.5				ug/L	276213	Standard
	Ti	47	8756.5	2.5	5.9542	0.139	2.3	ug/L	124	Standard
	V	51	24258.2	2.5	1.4245	0.038	2.7	ug/L	3503	Standard
	Cr	52	23947.3	2.9	1.1917	0.059	4.9	ug/L	11028	Standard
	Cr	53	2648.6	4.0	1.3950	0.060	4.3	ug/L	333	Standard
	Mn	55	304381.9	1.8	21.0418	0.335	1.6	ug/L	3794	Standard
	Co	59	2279.2	1.3	0.1542	0.002	1.1	ug/L	200	Standard
	Ni	60	2306.8	1.5	0.7716	0.012	1.5	ug/L	111	Standard
	Cu	65	36730.1	1.8	13.8209	0.210	1.5	ug/L	137	Standard
	Zn	66	34236.3	1.1	26.3992	0.226	0.9	ug/L	360	Standard
>	Ge	72	239879.3	0.3				ug/L	236618	Standard
	As	75	2372.9	1.4	2.1341	0.021	1.0	ug/L	-269	Standard
	Se	82	64.6	7.7	0.3454	0.038	11.1	ug/L	22	Standard
	Se-1	77	141.7	12.8	0.5064	0.214	42.3	ug/L	91	Standard
>	Ga	71	207401.6	0.7				mg/L	202510	Standard
	Rb	85	14011.5	5.8				ug/L	10	Standard
	Y	89	235083.6	2.1				ug/L	222253	Standard
>	Rh	103	112898.1	0.1				ug/L	115393	Standard
	Mo	98	3013.0	0.7	0.6203	0.004	0.7	ug/L	14	Standard
	Ag	107	408.3	5.5	0.0420	0.003	6.9	ug/L	48	Standard
	Cd	111	267.8	9.0	0.0514	0.007	14.6	mg/L	86	Standard
	Cd	114	745.2	4.1	0.0532	0.003	6.1	ug/L	246	Standard
>	In	115	468170.0	0.1				ug/L	421413	Standard
	Sn	118	4017.5	2.2	0.3321	0.008	2.5	ug/L	392	Standard
	Sb	123	2294.3	2.0	0.2972	0.006	1.9	ug/L	70	Standard
	Ba	135	27691.6	0.5	7.9874	0.040	0.5	ug/L	39	Standard
	Ce	140	43022.0	1.5				ug/L	138	Standard
>	Tb	159	476273.3	1.3				ug/L	426404	Standard
	Ho	165	500.7	10.1				ug/L	7	Standard
	Tl	203	137.7	36.8	0.0102	0.005	46.4	ug/L	11	Standard
	Tl	205	325.3	18.9	0.0117	0.002	21.1	ug/L	18	Standard
	Pb	206	97033.1	1.3	10.9982	0.106	1.0	ug/L	174	Standard
	Pb	207	81492.9	1.4	10.9554	0.131	1.2	ug/L	146	Standard
	Pb	208	373361.3	1.4	10.9703	0.128	1.2	ug/L	687	Standard
	U	238	1242.1	2.8	0.0818	0.003	3.1	ug/L	131	Standard
>	Bi	209	260782.8	0.3				ug/L	245542	Standard
	Na	23	90061.9	0.4	7.5099	0.241	3.2	mg/L	180	Standard
	Mg	24	297986.9	1.0	0.7351	0.031	4.2	mg/L	930	Standard

Sample ID: L1206050302

Report Date/Time: Tuesday, June 19, 2012 10:48:21

Page 1

Approved: June 19, 2012



	K	39	1700.1	3.4	1.4786	0.104	7.0	mg/L	162	Standard
	Ca	43	15.0	57.7	11.7295	6.939	59.2	mg/L	2	Standard
	Fe	54	1165.2	5.1	0.2085	0.011	5.3	mg/L	439	Standard
	Fe	57	35712.1	5.1	0.2284	0.020	8.6	mg/L	5846	Standard
>	Sc-1	45	318064.8	3.5				mg/L	276213	Standard
	Cl	35	10.0	36.1				ug/L	6	Standard
	Kr	83	36.8	4.7				ug/L	41	Standard
	Br	81	7506.0	2.1				ug/L	5073	Standard
	P	31	406936.9	1.1				ug/L	51446	Standard
	S	34	1237246.6	1.1				ug/L	649594	Standard
	Sr	88	69594.6	4.1				ug/L	65	Standard

QC Calculated Values

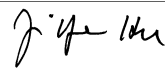
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		101.378	
As	75			
Se	82			
Se-1	77			
> Ga	71		102.416	
Rb	85			
Y	89			
> Rh	103		97.838	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		111.095	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		111.695	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206050302

Report Date/Time: Tuesday, June 19, 2012 10:48:21

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	106.207
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206050302

Report Date/Time: Tuesday, June 19, 2012 10:48:21

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206050302PS WG401027-01

Sample Date/Time: Tuesday, June 19, 2012 10:49:02

Number of Replicates: 3

Autosampler Position: 308

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	15766.5	3.1	747.7164	94.955	12.7	ug/L	8387	Standard
	Be	9	146915.8	2.5	48.0635	2.013	4.2	ug/L	38	Standard
	Al	27	2648980.2	2.2	184.6240	6.975	3.8	ug/L	15112	Standard
>	Sc	45	338527.5	1.8				ug/L	276213	Standard
	Ti	47	8915.6	1.2	5.6646	0.067	1.2	ug/L	124	Standard
	V	51	843509.0	0.2	53.7118	0.671	1.2	ug/L	3503	Standard
	Cr	52	629431.2	0.8	53.5224	0.966	1.8	ug/L	11028	Standard
	Cr	53	94204.5	0.6	52.3374	0.688	1.3	ug/L	333	Standard
	Mn	55	1124755.9	2.1	72.9010	2.269	3.1	ug/L	3794	Standard
	Co	59	748506.2	0.9	50.9233	0.963	1.9	ug/L	200	Standard
	Ni	60	155965.3	0.8	51.1815	0.325	0.6	ug/L	111	Standard
	Cu	65	179453.5	0.6	63.3668	0.756	1.2	ug/L	137	Standard
	Zn	66	100436.5	1.0	73.0486	0.944	1.3	ug/L	360	Standard
>	Ge	72	256593.3	1.0				ug/L	236618	Standard
	As	75	67193.6	1.1	51.3692	1.052	2.0	ug/L	-269	Standard
	Se	82	6570.0	1.5	48.6029	1.214	2.5	ug/L	22	Standard
	Se-1	77	4621.7	1.9	48.7934	1.453	3.0	ug/L	91	Standard
>	Ga	71	228572.9	0.4				mg/L	202510	Standard
	Rb	85	14675.4	2.2				ug/L	10	Standard
	Y	89	254072.7	1.1				ug/L	222253	Standard
>	Rh	103	120398.9	2.0				ug/L	115393	Standard
	Mo	98	3395.3	1.0	0.6614	0.008	1.1	ug/L	14	Standard
	Ag	107	374564.0	0.5	45.4227	0.278	0.6	ug/L	48	Standard
	Cd	111	175310.0	0.7	51.1294	0.360	0.7	mg/L	86	Standard
	Cd	114	469989.7	1.3	48.3985	0.712	1.5	ug/L	246	Standard
>	In	115	495294.9	0.2				ug/L	421413	Standard
	Sn	118	4810.8	1.0	0.3813	0.005	1.3	ug/L	392	Standard
	Sb	123	419737.4	1.8	51.4535	0.998	1.9	ug/L	70	Standard
	Ba	135	208457.9	0.7	56.9370	0.481	0.8	ug/L	39	Standard
	Ce	140	43825.3	0.7				ug/L	138	Standard
>	Tb	159	503761.4	0.4				ug/L	426404	Standard
	Ho	165	534.7	5.6				ug/L	7	Standard
	Tl	203	565494.1	0.6	50.3437	0.528	1.0	ug/L	11	Standard
	Tl	205	1353560.7	0.3	51.2827	0.344	0.7	ug/L	18	Standard
	Pb	206	562384.4	0.4	61.1670	0.541	0.9	ug/L	174	Standard
	Pb	207	483101.4	0.6	62.3150	0.621	1.0	ug/L	146	Standard
	Pb	208	2183225.2	0.6	61.5607	0.492	0.8	ug/L	687	Standard
	U	238	833898.0	1.4	52.0423	0.875	1.7	ug/L	131	Standard
>	Bi	209	272195.3	0.6				ug/L	245542	Standard
	Na	23	92769.8	1.2	7.2645	0.212	2.9	mg/L	180	Standard
	Mg	24	302607.1	0.7	0.7007	0.014	2.0	mg/L	930	Standard

Sample ID: L1206050302PS WG401027-01

Report Date/Time: Tuesday, June 19, 2012 10:51:35

Page 1

Approved: June 19, 2012

	K	39	1576.7	3.7	1.2627	0.055	4.4	mg/L	162	Standard
	Ca	43	16.7	45.8	12.0350	5.377	44.7	mg/L	2	Standard
	Fe	54	1220.3	9.3	0.2031	0.041	20.0	mg/L	439	Standard
	Fe	57	39702.0	2.9	0.2401	0.003	1.3	mg/L	5846	Standard
>	Sc-1	45	338527.5	1.8				mg/L	276213	Standard
	Cl	35	9.3	32.7				ug/L	6	Standard
	Kr	83	44.1	14.5				ug/L	41	Standard
	Br	81	7757.8	1.1				ug/L	5073	Standard
	P	31	425157.8	0.8				ug/L	51446	Standard
	S	34	1242171.6	0.4				ug/L	649594	Standard
	Sr	88	83539.8	2.8				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		108.442	
As	75			
Se	82			
Se-1	77			
> Ga	71		112.870	
Rb	85			
Y	89			
> Rh	103		104.338	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		117.532	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		118.142	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206050302PS WG401027-01

Report Date/Time: Tuesday, June 19, 2012 10:51:35

Page 2

Approved: June 19, 2012

	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	110.855
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206050302PS WG401027-01
 Report Date/Time: Tuesday, June 19, 2012 10:51:35
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206050302SDL WG401027-02

Sample Date/Time: Tuesday, June 19, 2012 10:52:16

Number of Replicates: 3

Autosampler Position: 309

Sample Description: 5

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	10375.2	0.8	258.0748	15.183	5.9	ug/L	8387	Standard
	Be	9	50.0	20.0	0.0127	0.004	30.9	ug/L	38	Standard
	Al	27	471870.5	0.8	38.2320	0.278	0.7	ug/L	15112	Standard
>	Sc	45	288535.1	1.5				ug/L	276213	Standard
	Ti	47	1625.1	1.8	1.0812	0.017	1.6	ug/L	124	Standard
	V	51	7034.1	1.1	0.2589	0.004	1.4	ug/L	3503	Standard
	Cr	52	12938.2	1.4	0.2027	0.017	8.2	ug/L	11028	Standard
	Cr	53	785.0	4.4	0.2960	0.021	6.9	ug/L	333	Standard
	Mn	55	60163.5	0.8	4.2048	0.059	1.4	ug/L	3794	Standard
	Co	59	549.0	7.7	0.0293	0.003	10.0	ug/L	200	Standard
	Ni	60	1324.1	5.0	0.4384	0.021	4.8	ug/L	111	Standard
	Cu	65	6886.6	0.8	2.6062	0.034	1.3	ug/L	137	Standard
	Zn	66	11848.6	1.2	9.1378	0.156	1.7	ug/L	360	Standard
>	Ge	72	233775.0	0.6				ug/L	236618	Standard
	As	75	222.4	2.6	0.3875	0.006	1.5	ug/L	-269	Standard
	Se	82	33.0	12.6	0.1016	0.035	34.3	ug/L	22	Standard
	Se-1	77	110.3	11.0	0.1780	0.151	85.0	ug/L	91	Standard
>	Ga	71	199949.1	0.9				mg/L	202510	Standard
	Rb	85	2718.6	4.6				ug/L	10	Standard
	Y	89	220670.5	1.2				ug/L	222253	Standard
>	Rh	103	110399.1	1.0				ug/L	115393	Standard
	Mo	98	797.4	3.0	0.1612	0.005	3.2	ug/L	14	Standard
	Ag	107	146.7	32.5	0.0088	0.006	68.7	ug/L	48	Standard
	Cd	111	148.1	21.7	0.0156	0.010	61.9	mg/L	86	Standard
	Cd	114	417.3	13.4	0.0186	0.006	33.1	ug/L	246	Standard
>	In	115	456479.8	1.3				ug/L	421413	Standard
	Sn	118	1828.4	1.6	0.1328	0.002	1.7	ug/L	392	Standard
	Sb	123	1206.9	24.6	0.1605	0.041	25.8	ug/L	70	Standard
	Ba	135	5091.2	1.2	1.4928	0.027	1.8	ug/L	39	Standard
	Ce	140	7834.0	1.4				ug/L	138	Standard
>	Tb	159	466540.5	1.7				ug/L	426404	Standard
	Ho	165	92.7	11.4				ug/L	7	Standard
	Tl	203	79.7	42.3	0.0048	0.003	64.3	ug/L	11	Standard
	Tl	205	198.0	30.4	0.0067	0.002	35.9	ug/L	18	Standard
	Pb	206	18128.8	1.1	2.0413	0.006	0.3	ug/L	174	Standard
	Pb	207	15306.1	1.2	2.0452	0.033	1.6	ug/L	146	Standard
	Pb	208	69777.4	0.8	2.0359	0.012	0.6	ug/L	687	Standard
	U	238	340.0	13.0	0.0231	0.003	13.0	ug/L	131	Standard
>	Bi	209	260396.3	0.8				ug/L	245542	Standard
	Na	23	35772.2	4.4	3.2757	0.183	5.6	mg/L	180	Standard
	Mg	24	56946.8	0.2	0.1533	0.002	1.4	mg/L	930	Standard

Sample ID: L1206050302SDL WG401027-02

Report Date/Time: Tuesday, June 19, 2012 10:54:49

Page 1

Approved: June 19, 2012

	K	39	470.0	3.8	0.3199	0.024	7.4	mg/L	162	Standard
	Ca	43	0.0		0.0050			mg/L	2	Standard
	Fe	54	576.7	4.8	0.0404	0.011	28.0	mg/L	439	Standard
	Fe	57	9779.8	4.1	0.0393	0.002	5.5	mg/L	5846	Standard
>	Sc-1	45	288535.1	1.5				mg/L	276213	Standard
	Cl	35	5.0	60.0				ug/L	6	Standard
	Kr	83	38.7	14.5				ug/L	41	Standard
	Br	81	5809.4	4.6				ug/L	5073	Standard
	P	31	124966.7	2.0				ug/L	51446	Standard
	S	34	914013.4	1.7				ug/L	649594	Standard
	Sr	88	11961.4	4.1				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	98.799	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	98.736	
	Rb	85		
	Y	89		
>	Rh	103	95.672	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	108.321	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	109.413	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206050302SDL WG401027-02
Report Date/Time: Tuesday, June 19, 2012 10:54:49
Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	106.049
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206050302SDL WG401027-02
 Report Date/Time: Tuesday, June 19, 2012 10:54:49
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, June 19, 2012 10:55:33

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9017.7	2.8	33.4366	21.490	64.3	ug/L	8387	Standard
	Be	9	134087.4	1.1	51.1773	1.006	2.0	ug/L	38	Standard
	Al	27	608850.6	0.4	49.1937	0.802	1.6	ug/L	15112	Standard
>	Sc	45	290084.4	1.6				ug/L	276213	Standard
	Ti	47	145786.7	0.5	102.3351	2.295	2.2	ug/L	124	Standard
	V	51	735835.6	0.6	51.1971	1.130	2.2	ug/L	3503	Standard
	Cr	52	552235.6	0.9	51.2791	1.383	2.7	ug/L	11028	Standard
	Cr	53	83942.8	2.2	50.9524	0.804	1.6	ug/L	333	Standard
	Mn	55	731041.1	1.0	51.7570	1.363	2.6	ug/L	3794	Standard
	Co	59	669210.5	0.6	49.7561	1.141	2.3	ug/L	200	Standard
	Ni	60	138014.1	0.1	49.4980	0.940	1.9	ug/L	111	Standard
	Cu	65	127769.8	1.1	49.2977	1.397	2.8	ug/L	137	Standard
	Zn	66	62536.5	1.1	49.5881	0.924	1.9	ug/L	360	Standard
>	Ge	72	234823.1	1.8				ug/L	236618	Standard
	As	75	60104.7	0.8	50.2183	1.017	2.0	ug/L	-269	Standard
	Se	82	6314.4	0.4	51.0512	0.761	1.5	ug/L	22	Standard
	Se-1	77	4470.7	0.1	51.6396	0.943	1.8	ug/L	91	Standard
>	Ga	71	196803.4	1.3				mg/L	202510	Standard
	Rb	85	885.0	4.5				ug/L	10	Standard
	Y	89	218413.0	0.6				ug/L	222253	Standard
>	Rh	103	108297.7	0.7				ug/L	115393	Standard
	Mo	98	424336.1	0.6	91.8778	0.970	1.1	ug/L	14	Standard
	Ag	107	348547.1	1.6	46.2941	0.950	2.1	ug/L	48	Standard
	Cd	111	158651.9	1.3	50.6773	0.805	1.6	mg/L	86	Standard
	Cd	114	442990.6	0.7	49.9619	0.503	1.0	ug/L	246	Standard
>	In	115	452246.7	0.6				ug/L	421413	Standard
	Sn	118	518873.8	1.2	49.9229	0.797	1.6	ug/L	392	Standard
	Sb	123	375067.7	0.9	50.3563	0.747	1.5	ug/L	70	Standard
	Ba	135	165351.4	1.1	49.4593	0.440	0.9	ug/L	39	Standard
	Ce	140	683.3	2.4				ug/L	138	Standard
>	Tb	159	469652.9	1.0				ug/L	426404	Standard
	Ho	165	10.3	44.7				ug/L	7	Standard
	Tl	203	524964.0	0.5	50.1152	0.067	0.1	ug/L	11	Standard
	Tl	205	1254720.2	0.2	50.9771	0.260	0.5	ug/L	18	Standard
	Pb	206	428525.8	0.0	49.9758	0.248	0.5	ug/L	174	Standard
	Pb	207	366987.7	0.6	50.7576	0.244	0.5	ug/L	146	Standard
	Pb	208	1670898.9	0.3	50.5190	0.169	0.3	ug/L	687	Standard
	U	238	761140.6	0.9	50.9361	0.284	0.6	ug/L	131	Standard
>	Bi	209	253829.6	0.5				ug/L	245542	Standard
	Na	23	65285.4	1.0	5.9607	0.041	0.7	mg/L	180	Standard
	Mg	24	1719235.1	0.9	4.6554	0.030	0.6	mg/L	930	Standard

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 10:58:05

Page 1

Approved: June 19, 2012

	K	39	4564.0	4.1	4.7095	0.164	3.5	mg/L	162	Standard
	Ca	43	13.3	43.3	11.2333	4.668	41.6	mg/L	2	Standard
	Fe	54	15038.9	1.4	5.0775	0.047	0.9	mg/L	439	Standard
	Fe	57	659349.5	0.5	5.4340	0.111	2.0	mg/L	5846	Standard
>	Sc-1	45	290084.4	1.6				mg/L	276213	Standard
	Cl	35	6.0					ug/L	6	Standard
	Kr	83	41.2	14.5				ug/L	41	Standard
	Br	81	5661.1	2.4				ug/L	5073	Standard
	P	31	77197.0	0.8				ug/L	51446	Standard
	S	34	904426.7	1.8				ug/L	649594	Standard
	Sr	88	120.0	7.2				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	98.387		
> Sc	45			
Ti	47	102.335		
V	51	102.394		
Cr	52	102.558		
Cr	53			
Mn	55	103.514		
Co	59	99.512		
Ni	60	98.996		
Cu	65	98.595		
Zn	66	99.176		
> Ge	72		99.241	
As	75	100.437		
Se	82	102.102		
Se-1	77			
> Ga	71		97.182	
Rb	85			
Y	89			
> Rh	103		93.851	
Mo	98	91.878		
Ag	107	92.588		
Cd	111	101.355		
Cd	114			
> In	115		107.317	
Sn	118	99.846		
Sb	123	100.713		
Ba	135	98.919		
Ce	140			
> Tb	159		110.143	
Ho	165			
Tl	203	100.230		
Tl	205			
Pb	206	99.952		

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 10:58:05

Page 2

Approved: June 19, 2012



	Pb	207	101.515	
	Pb	208	101.038	
	U	238	101.872	
>	Bi	209		103.375
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 10:58:05

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, June 19, 2012 10:58:48

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8809.2	1.0	19.2075	16.365	85.2	ug/L	8387	Standard
	Be	9	285.0	67.2	0.1028	0.073	70.6	ug/L	38	Standard
	Al	27	10038.6	34.5	0.3952	0.274	69.4	ug/L	15112	Standard
>	Sc	45	286293.5	1.9				ug/L	276213	Standard
	Ti	47	187.0	27.5	0.0713	0.036	50.7	ug/L	124	Standard
	V	51	3810.1	29.3	0.0421	0.080	190.8	ug/L	3503	Standard
	Cr	52	10990.3	7.8	0.0548	0.076	139.1	ug/L	11028	Standard
	Cr	53	522.5	13.3	0.1466	0.041	27.7	ug/L	333	Standard
	Mn	55	3966.3	61.5	0.2117	0.178	84.0	ug/L	3794	Standard
	Co	59	1206.1	70.1	0.0811	0.065	79.9	ug/L	200	Standard
	Ni	60	305.3	58.3	0.0747	0.065	87.6	ug/L	111	Standard
	Cu	65	340.7	48.7	0.0708	0.066	92.7	ug/L	137	Standard
	Zn	66	414.0	20.6	-0.0252	0.067	265.5	ug/L	360	Standard
>	Ge	72	225624.1	1.6				ug/L	236618	Standard
	As	75	-208.3	32.3	0.0208	0.061	292.4	ug/L	-269	Standard
	Se	82	27.3	21.6	0.0628	0.048	76.8	ug/L	22	Standard
	Se-1	77	93.3	5.5	0.0158	0.059	371.6	ug/L	91	Standard
>	Ga	71	191299.0	2.8				mg/L	202510	Standard
	Rb	85	28.3	20.4				ug/L	10	Standard
	Y	89	211643.3	2.0				ug/L	222253	Standard
>	Rh	103	106826.7	1.5				ug/L	115393	Standard
	Mo	98	148.7	12.2	0.0233	0.004	18.2	ug/L	14	Standard
	Ag	107	175.7	40.5	0.0136	0.010	71.4	ug/L	48	Standard
	Cd	111	143.3	7.7	0.0159	0.004	22.1	mg/L	86	Standard
	Cd	114	414.3	19.4	0.0201	0.009	46.1	ug/L	246	Standard
>	In	115	438970.8	0.6				ug/L	421413	Standard
	Sn	118	623.7	4.5	0.0202	0.003	15.1	ug/L	392	Standard
	Sb	123	1001.4	28.3	0.1383	0.040	28.9	ug/L	70	Standard
	Ba	135	151.7	21.7	0.0301	0.010	34.5	ug/L	39	Standard
	Ce	140	43.7	5.8				ug/L	138	Standard
>	Tb	159	450660.9	2.3				ug/L	426404	Standard
	Ho	165	4.7	44.6				ug/L	7	Standard
	Tl	203	240.0	49.6	0.0204	0.011	55.3	ug/L	11	Standard
	Tl	205	706.7	62.4	0.0275	0.018	64.2	ug/L	18	Standard
	Pb	206	583.0	55.7	0.0475	0.037	78.2	ug/L	174	Standard
	Pb	207	556.3	66.3	0.0576	0.050	87.1	ug/L	146	Standard
	Pb	208	2631.1	69.0	0.0580	0.054	93.0	ug/L	687	Standard
	U	238	1697.5	73.9	0.1145	0.084	73.2	ug/L	131	Standard
>	Bi	209	253158.6	1.0				ug/L	245542	Standard
	Na	23	825.0	72.1	0.0555	0.054	97.6	mg/L	180	Standard
	Mg	24	8488.4	80.6	0.0212	0.019	87.2	mg/L	930	Standard

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 11:01:22

Page 1

Approved: June 19, 2012



	K	39	148.3	9.7	-0.0258	0.019	73.4	mg/L	162	Standard
	Ca	43	1.7	173.2	1.4652	2.529	172.6	mg/L	2	Standard
	Fe	54	543.6	9.7	0.0305	0.022	73.3	mg/L	439	Standard
	Fe	57	5689.4	6.7	0.0055	0.003	47.4	mg/L	5846	Standard
>	Sc-1	45	286293.5	1.9				mg/L	276213	Standard
	Cl	35	8.0	25.0				ug/L	6	Standard
	Kr	83	39.1	8.4				ug/L	41	Standard
	Br	81	5784.4	1.3				ug/L	5073	Standard
	P	31	75569.7	0.8				ug/L	51446	Standard
	S	34	900915.4	1.8				ug/L	649594	Standard
	Sr	88	431.7	80.6				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		95.354	
As	75			
Se	82			
Se-1	77			
> Ga	71		94.464	
Rb	85			
Y	89			
> Rh	103		92.576	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		104.166	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		105.689	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 11:01:22

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.102
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 11:01:22

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044503

Sample Date/Time: Tuesday, June 19, 2012 11:09:07

Number of Replicates: 3

Autosampler Position: 216

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	199148.8	1.7	28550.2633	700.992	2.5	ug/L	8387	Standard
	Be	9	46.7	6.2	0.0104	0.001	13.4	ug/L	38	Standard
	Al	27	637179.9	2.3	48.7552	1.231	2.5	ug/L	15112	Standard
>	Sc	45	306342.8	3.1				ug/L	276213	Standard
	Ti	47	2714.2	9.3	1.9112	0.216	11.3	ug/L	124	Standard
	V	51	8934.9	3.7	0.4116	0.016	3.9	ug/L	3503	Standard
	Cr	52	23276.5	1.8	1.2546	0.005	0.4	ug/L	11028	Standard
	Cr	53	2696.1	3.4	1.5162	0.031	2.0	ug/L	333	Standard
	Mn	55	12953.5	0.8	0.8719	0.023	2.6	ug/L	3794	Standard
	Co	59	1389.4	1.2	0.0954	0.003	2.7	ug/L	200	Standard
	Ni	60	5435.3	1.6	1.9815	0.040	2.0	ug/L	111	Standard
	Cu	65	1316.7	0.6	0.4612	0.006	1.4	ug/L	137	Standard
	Zn	66	3349.0	0.4	2.4021	0.053	2.2	ug/L	360	Standard
>	Ge	72	226740.3	1.6				ug/L	236618	Standard
	As	75	-171.1	21.3	0.0541	0.032	59.8	ug/L	-269	Standard
	Se	82	54.5	13.0	0.2902	0.055	18.9	ug/L	22	Standard
	Se-1	77	153.7	7.3	0.7487	0.155	20.7	ug/L	91	Standard
>	Ga	71	193994.1	0.9				mg/L	202510	Standard
	Rb	85	17727.0	2.3				ug/L	10	Standard
	Y	89	218634.8	1.8				ug/L	222253	Standard
>	Rh	103	105290.6	1.2				ug/L	115393	Standard
	Mo	98	436.8	8.8	0.0868	0.009	10.6	ug/L	14	Standard
	Ag	107	49.7	22.6	-0.0037	0.002	41.0	ug/L	48	Standard
	Cd	111	98.6	3.0	0.0009	0.001	111.9	mg/L	86	Standard
	Cd	114	275.8	1.4	0.0037	0.001	18.9	ug/L	246	Standard
>	In	115	442634.5	1.3				ug/L	421413	Standard
	Sn	118	926.7	3.5	0.0495	0.003	6.2	ug/L	392	Standard
	Sb	123	332.5	9.2	0.0453	0.004	8.1	ug/L	70	Standard
	Ba	135	85955.8	1.5	26.2635	0.458	1.7	ug/L	39	Standard
	Ce	140	6338.0	1.6				ug/L	138	Standard
>	Tb	159	454317.9	1.8				ug/L	426404	Standard
	Ho	165	130.7	4.2				ug/L	7	Standard
	Tl	203	66.3	3.8	0.0040	0.000	5.5	ug/L	11	Standard
	Tl	205	171.0	6.7	0.0060	0.000	7.7	ug/L	18	Standard
	Pb	206	592.0	2.2	0.0507	0.002	3.2	ug/L	174	Standard
	Pb	207	466.3	2.3	0.0472	0.002	3.7	ug/L	146	Standard
	Pb	208	2215.4	1.4	0.0475	0.002	3.3	ug/L	687	Standard
	U	238	2932.0	3.2	0.2029	0.006	2.7	ug/L	131	Standard
>	Bi	209	246529.9	0.9				ug/L	245542	Standard
	Na	23	51482.3	2.4	4.4466	0.080	1.8	mg/L	180	Standard
	Mg	24	5061230.4	2.3	12.9846	0.331	2.6	mg/L	930	Standard

Sample ID: L1206044503

Report Date/Time: Tuesday, June 19, 2012 11:11:41

Page 1

Approved: June 19, 2012

	K	39	715.0	8.4	0.5407	0.080	14.8	mg/L	162	Standard
	Ca	43	56.7	27.0	45.6454	13.355	29.3	mg/L	2	Standard
	Fe	54	648.5	7.9	0.0520	0.010	19.6	mg/L	439	Standard
	Fe	57	36552.4	3.9	0.2450	0.005	2.0	mg/L	5846	Standard
>	Sc-1	45	306342.8	3.1				mg/L	276213	Standard
	Cl	35	27.0	14.8				ug/L	6	Standard
	Kr	83	40.8	9.4				ug/L	41	Standard
	Br	81	7768.7	1.6				ug/L	5073	Standard
	P	31	83136.8	3.3				ug/L	51446	Standard
	S	34	1453390.0	1.3				ug/L	649594	Standard
	Sr	88	131414.2	1.3				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	95.825	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	95.795	
	Rb	85		
	Y	89		
>	Rh	103	91.245	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	105.036	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	106.546	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044503

Report Date/Time: Tuesday, June 19, 2012 11:11:41

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.402
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044503

Report Date/Time: Tuesday, June 19, 2012 11:11:41

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044504

Sample Date/Time: Tuesday, June 19, 2012 11:12:23

Number of Replicates: 3

Autosampler Position: 217

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

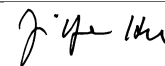
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	190559.2	1.0	26679.8831	455.233	1.7	ug/L	8387	Standard
	Be	9	65.0	74.2	0.0164	0.017	102.1	ug/L	38	Standard
	Al	27	105481.2	3.6	7.5477	0.296	3.9	ug/L	15112	Standard
>	Sc	45	312559.5	1.0				ug/L	276213	Standard
	Ti	47	913.4	4.1	0.5863	0.029	4.9	ug/L	124	Standard
	V	51	7382.0	11.1	0.2893	0.063	21.6	ug/L	3503	Standard
	Cr	52	21983.6	3.4	1.0863	0.084	7.7	ug/L	11028	Standard
	Cr	53	1830.9	1.3	0.9485	0.030	3.1	ug/L	333	Standard
	Mn	55	4587.0	21.1	0.2513	0.073	29.0	ug/L	3794	Standard
	Co	59	1411.4	15.4	0.0950	0.017	18.4	ug/L	200	Standard
	Ni	60	5384.0	0.4	1.9233	0.026	1.3	ug/L	111	Standard
	Cu	65	892.0	4.1	0.2844	0.018	6.5	ug/L	137	Standard
	Zn	66	2254.5	2.9	1.4600	0.055	3.8	ug/L	360	Standard
>	Ge	72	231248.5	1.3				ug/L	236618	Standard
	As	75	-204.0	22.7	0.0295	0.037	125.5	ug/L	-269	Standard
	Se	82	54.2	17.3	0.2798	0.083	29.5	ug/L	22	Standard
	Se-1	77	118.7	22.3	0.2904	0.309	106.3	ug/L	91	Standard
>	Ga	71	198311.1	0.7				mg/L	202510	Standard
	Rb	85	15821.6	0.3				ug/L	10	Standard
	Y	89	221791.6	0.8				ug/L	222253	Standard
>	Rh	103	106142.5	0.6				ug/L	115393	Standard
	Mo	98	372.0	4.6	0.0712	0.003	3.8	ug/L	14	Standard
	Ag	107	52.7	61.4	-0.0034	0.004	123.4	ug/L	48	Standard
	Cd	111	102.4	15.3	0.0017	0.005	270.9	mg/L	86	Standard
	Cd	114	307.6	9.5	0.0069	0.003	41.5	ug/L	246	Standard
>	In	115	448739.9	1.3				ug/L	421413	Standard
	Sn	118	563.0	9.5	0.0130	0.004	34.3	ug/L	392	Standard
	Sb	123	314.0	5.3	0.0421	0.002	4.1	ug/L	70	Standard
	Ba	135	84122.2	0.5	25.3538	0.358	1.4	ug/L	39	Standard
	Ce	140	333.7	4.9				ug/L	138	Standard
>	Tb	159	461007.6	0.8				ug/L	426404	Standard
	Ho	165	55.7	18.3				ug/L	7	Standard
	Tl	203	216.7	145.2	0.0181	0.030	165.4	ug/L	11	Standard
	Tl	205	683.4	148.9	0.0266	0.041	155.2	ug/L	18	Standard
	Pb	206	522.7	94.5	0.0407	0.057	141.0	ug/L	174	Standard
	Pb	207	447.3	95.2	0.0428	0.059	137.1	ug/L	146	Standard
	Pb	208	2074.1	95.5	0.0414	0.060	144.1	ug/L	687	Standard
	U	238	3099.3	13.9	0.2097	0.028	13.1	ug/L	131	Standard
>	Bi	209	252079.4	0.7				ug/L	245542	Standard
	Na	23	51781.7	1.6	4.3825	0.086	2.0	mg/L	180	Standard
	Mg	24	4939500.6	1.1	12.4159	0.073	0.6	mg/L	930	Standard

Sample ID: L1206044504

Report Date/Time: Tuesday, June 19, 2012 11:14:56

Page 1

Approved: June 19, 2012



	K	39	765.0	4.5	0.5748	0.042	7.3	mg/L	162	Standard
	Ca	43	40.0	45.1	31.4311	14.320	45.6	mg/L	2	Standard
	Fe	54	497.3	17.0	-0.0010	0.026	2661.9	mg/L	439	Standard
	Fe	57	30133.3	1.6	0.1899	0.005	2.9	mg/L	5846	Standard
>	Sc-1	45	312559.5	1.0				mg/L	276213	Standard
	Cl	35	13.7	27.7				ug/L	6	Standard
	Kr	83	40.6	6.8				ug/L	41	Standard
	Br	81	8089.7	2.2				ug/L	5073	Standard
	P	31	77573.1	0.7				ug/L	51446	Standard
	S	34	1457677.7	0.8				ug/L	649594	Standard
	Sr	88	127279.3	3.0				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	97.731	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	97.927	
	Rb	85		
	Y	89		
>	Rh	103	91.983	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	106.484	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	108.115	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044504

Report Date/Time: Tuesday, June 19, 2012 11:14:56

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.662
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044504

Report Date/Time: Tuesday, June 19, 2012 11:14:56

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044508

Sample Date/Time: Tuesday, June 19, 2012 11:15:38

Number of Replicates: 3

Autosampler Position: 218

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

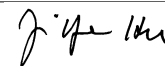
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[	Li	7	183288.7	0.7	25927.5495	534.563	2.1	ug/L	8387	Standard
	Be	9	61.7	52.8	0.0157	0.012	76.4	ug/L	38	Standard
	Al	27	1033556.0	1.6	78.6764	2.311	2.9	ug/L	15112	Standard
>	Sc	45	308939.9	1.4				ug/L	276213	Standard
[	Ti	47	3094.7	8.8	2.1597	0.180	8.3	ug/L	124	Standard
	V	51	8476.5	1.0	0.3718	0.010	2.6	ug/L	3503	Standard
	Cr	52	16505.3	0.8	0.5728	0.024	4.2	ug/L	11028	Standard
	Cr	53	1230.1	6.2	0.5829	0.045	7.7	ug/L	333	Standard
	Mn	55	11135.1	1.9	0.7292	0.021	2.8	ug/L	3794	Standard
	Co	59	1438.1	3.3	0.0979	0.003	3.4	ug/L	200	Standard
	Ni	60	5485.0	5.1	1.9771	0.102	5.2	ug/L	111	Standard
	Cu	65	1314.4	1.8	0.4544	0.009	2.1	ug/L	137	Standard
	Zn	66	3018.6	0.8	2.1007	0.037	1.7	ug/L	360	Standard
>	Ge	72	229286.9	0.7				ug/L	236618	Standard
	As	75	-199.0	14.8	0.0320	0.026	82.1	ug/L	-269	Standard
	Se	82	53.8	13.1	0.2788	0.055	19.9	ug/L	22	Standard
	Se-1	77	134.0	4.2	0.4892	0.071	14.4	ug/L	91	Standard
>	Ga	71	196237.7	0.7				mg/L	202510	Standard
	Rb	85	10842.2	1.7				ug/L	10	Standard
	Y	89	225142.4	1.7				ug/L	222253	Standard
>	Rh	103	106846.4	0.9				ug/L	115393	Standard
[	Mo	98	208.9	6.3	0.0354	0.003	7.2	ug/L	14	Standard
	Ag	107	62.0	49.7	-0.0022	0.004	190.6	ug/L	48	Standard
	Cd	111	117.5	5.1	0.0064	0.002	37.0	mg/L	86	Standard
	Cd	114	315.9	14.4	0.0077	0.005	69.7	ug/L	246	Standard
>	In	115	451290.8	2.0				ug/L	421413	Standard
	Sn	118	698.7	5.5	0.0258	0.005	18.6	ug/L	392	Standard
	Sb	123	154.2	20.3	0.0204	0.004	21.3	ug/L	70	Standard
	Ba	135	65114.3	0.5	19.5130	0.394	2.0	ug/L	39	Standard
[	Ce	140	6694.1	1.8				ug/L	138	Standard
>	Tb	159	458971.6	0.2				ug/L	426404	Standard
[	Ho	165	206.3	4.9				ug/L	7	Standard
	Tl	203	60.7	21.4	0.0033	0.001	37.1	ug/L	11	Standard
	Tl	205	158.7	26.4	0.0054	0.002	32.0	ug/L	18	Standard
	Pb	206	1622.8	1.0	0.1722	0.001	0.8	ug/L	174	Standard
	Pb	207	1308.1	1.6	0.1650	0.003	1.7	ug/L	146	Standard
	Pb	208	6048.5	0.7	0.1647	0.001	0.6	ug/L	687	Standard
	U	238	2755.6	0.7	0.1886	0.000	0.1	ug/L	131	Standard
>	Bi	209	249426.0	0.8				ug/L	245542	Standard
[	Na	23	34470.9	3.2	2.9455	0.119	4.0	mg/L	180	Standard
	Mg	24	4798877.9	2.8	12.2084	0.515	4.2	mg/L	930	Standard

Sample ID: L1206044508

Report Date/Time: Tuesday, June 19, 2012 11:18:11

Page 1

Approved: June 19, 2012



	K	39	558.3	2.7	0.3753	0.019	5.0	mg/L	162	Standard
	Ca	43	58.3	55.8	46.1739	25.589	55.4	mg/L	2	Standard
	Fe	54	668.7	5.4	0.0572	0.014	24.9	mg/L	439	Standard
	Fe	57	39705.4	6.3	0.2672	0.019	7.1	mg/L	5846	Standard
>	Sc-1	45	308939.9	1.4				mg/L	276213	Standard
	Cl	35	15.0	11.5				ug/L	6	Standard
	Kr	83	39.7	11.6				ug/L	41	Standard
	Br	81	7545.2	1.6				ug/L	5073	Standard
	P	31	76406.4	1.8				ug/L	51446	Standard
	S	34	1336566.3	0.5				ug/L	649594	Standard
	Sr	88	119390.4	2.5				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	96.902	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	96.903	
	Rb	85		
	Y	89		
>	Rh	103	92.593	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	107.090	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	107.638	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044508

Report Date/Time: Tuesday, June 19, 2012 11:18:11

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.582
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

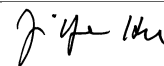
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044508

Report Date/Time: Tuesday, June 19, 2012 11:18:11

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044509

Sample Date/Time: Tuesday, June 19, 2012 11:18:53

Number of Replicates: 3

Autosampler Position: 219

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9386.2	2.4	95.0831	40.844	43.0	ug/L	8387	Standard
	Be	9	21.7	13.3	0.0018	0.001	61.1	ug/L	38	Standard
	Al	27	111750.6	0.9	8.6939	0.065	0.7	ug/L	15112	Standard
>	Sc	45	289521.7	0.4				ug/L	276213	Standard
	Ti	47	394.0	4.0	0.2133	0.012	5.7	ug/L	124	Standard
	V	51	4816.4	3.8	0.1036	0.009	8.5	ug/L	3503	Standard
	Cr	52	14938.0	0.9	0.3948	0.005	1.4	ug/L	11028	Standard
	Cr	53	1563.4	6.5	0.7733	0.055	7.1	ug/L	333	Standard
	Mn	55	4447.3	1.1	0.2378	0.001	0.6	ug/L	3794	Standard
	Co	59	235.3	3.1	0.0060	0.001	10.9	ug/L	200	Standard
	Ni	60	385.3	2.6	0.1004	0.005	5.4	ug/L	111	Standard
	Cu	65	687.3	3.6	0.2015	0.012	5.9	ug/L	137	Standard
	Zn	66	2424.2	2.0	1.5788	0.035	2.2	ug/L	360	Standard
>	Ge	72	233461.4	1.2				ug/L	236618	Standard
	As	75	-278.9	8.2	-0.0319	0.021	64.6	ug/L	-269	Standard
	Se	82	18.8	18.0	-0.0146	0.026	177.2	ug/L	22	Standard
	Se-1	77	137.3	4.7	0.4998	0.078	15.7	ug/L	91	Standard
>	Ga	71	202171.7	1.2				mg/L	202510	Standard
	Rb	85	198.3	8.1				ug/L	10	Standard
	Y	89	219326.1	1.0				ug/L	222253	Standard
>	Rh	103	111476.6	1.3				ug/L	115393	Standard
	Mo	98	63.4	5.4	0.0037	0.001	16.6	ug/L	14	Standard
	Ag	107	49.7	9.5	-0.0039	0.001	13.9	ug/L	48	Standard
	Cd	111	107.2	5.1	0.0028	0.002	53.7	mg/L	86	Standard
	Cd	114	268.5	2.7	0.0021	0.000	21.5	ug/L	246	Standard
>	In	115	454290.0	1.3				ug/L	421413	Standard
	Sn	118	614.7	2.7	0.0173	0.002	13.6	ug/L	392	Standard
	Sb	123	110.0	7.9	0.0144	0.001	8.3	ug/L	70	Standard
	Ba	135	385.3	4.6	0.0982	0.007	6.9	ug/L	39	Standard
	Ce	140	302.0	2.9				ug/L	138	Standard
>	Tb	159	460621.2	0.9				ug/L	426404	Standard
	Ho	165	7.0	37.8				ug/L	7	Standard
	Tl	203	29.7	17.0	0.0002	0.001	229.6	ug/L	11	Standard
	Tl	205	59.3	8.6	0.0012	0.000	15.4	ug/L	18	Standard
	Pb	206	223.3	6.9	0.0052	0.002	41.3	ug/L	174	Standard
	Pb	207	196.0	3.1	0.0074	0.001	16.5	ug/L	146	Standard
	Pb	208	884.7	2.9	0.0048	0.001	23.9	ug/L	687	Standard
	U	238	11.3	44.4	0.0017	0.000	19.5	ug/L	131	Standard
>	Bi	209	258401.5	1.6				ug/L	245542	Standard
	Na	23	591.7	7.9	0.0339	0.004	12.2	mg/L	180	Standard
	Mg	24	5782.8	4.6	0.0139	0.001	4.8	mg/L	930	Standard

Sample ID: L1206044509

Report Date/Time: Tuesday, June 19, 2012 11:21:25

Page 1

Approved: June 19, 2012



	K	39	123.3	36.6	-0.0547	0.048	88.4	mg/L	162	Standard
	Ca	43	1.7	173.2	1.4233	2.457	172.6	mg/L	2	Standard
	Fe	54	555.6	14.4	0.0322	0.027	85.2	mg/L	439	Standard
	Fe	57	8744.2	2.5	0.0304	0.002	6.3	mg/L	5846	Standard
>	Sc-1	45	289521.7	0.4				mg/L	276213	Standard
	Cl	35	16.7	6.9				ug/L	6	Standard
	Kr	83	38.0	10.7				ug/L	41	Standard
	Br	81	5780.3	3.5				ug/L	5073	Standard
	P	31	74774.1	0.7				ug/L	51446	Standard
	S	34	1047124.9	1.2				ug/L	649594	Standard
	Sr	88	361.7	18.0				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	98.666	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	99.833	
	Rb	85		
	Y	89		
>	Rh	103	96.606	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	107.802	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	108.025	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044509

Report Date/Time: Tuesday, June 19, 2012 11:21:25

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	105.237
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044509

Report Date/Time: Tuesday, June 19, 2012 11:21:25

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044510

Sample Date/Time: Tuesday, June 19, 2012 11:22:07

Number of Replicates: 3

Autosampler Position: 220

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

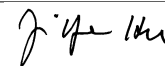
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9509.7	2.6	109.8265	58.017	52.8	ug/L	8387	Standard
	Be	9	23.3	12.4	0.0024	0.001	41.7	ug/L	38	Standard
	Al	27	22022.7	2.4	1.3619	0.067	4.9	ug/L	15112	Standard
>	Sc	45	290579.4	2.5				ug/L	276213	Standard
	Ti	47	131.3	12.6	0.0288	0.011	39.4	ug/L	124	Standard
	V	51	4423.9	2.1	0.0798	0.007	9.0	ug/L	3503	Standard
	Cr	52	13437.3	0.5	0.2672	0.023	8.7	ug/L	11028	Standard
	Cr	53	543.3	5.6	0.1524	0.015	9.7	ug/L	333	Standard
	Mn	55	3636.8	1.3	0.1831	0.007	3.9	ug/L	3794	Standard
	Co	59	162.7	5.0	0.0007	0.001	111.0	ug/L	200	Standard
	Ni	60	187.3	4.5	0.0297	0.003	10.5	ug/L	111	Standard
	Cu	65	536.0	1.0	0.1452	0.001	0.8	ug/L	137	Standard
	Zn	66	2210.8	3.7	1.4281	0.043	3.0	ug/L	360	Standard
>	Ge	72	230728.8	1.5				ug/L	236618	Standard
	As	75	-251.2	3.4	-0.0111	0.009	76.7	ug/L	-269	Standard
	Se	82	23.2	13.0	0.0238	0.022	92.0	ug/L	22	Standard
	Se-1	77	105.7	22.9	0.1415	0.306	216.3	ug/L	91	Standard
>	Ga	71	195783.7	1.7				mg/L	202510	Standard
	Rb	85	23.3	86.6				ug/L	10	Standard
	Y	89	217376.7	1.1				ug/L	222253	Standard
>	Rh	103	109396.2	1.5				ug/L	115393	Standard
	Mo	98	127.6	17.4	0.0177	0.005	25.4	ug/L	14	Standard
	Ag	107	47.0	9.8	-0.0042	0.001	15.8	ug/L	48	Standard
	Cd	111	105.7	5.9	0.0026	0.002	80.8	mg/L	86	Standard
	Cd	114	278.7	3.7	0.0034	0.001	41.3	ug/L	246	Standard
>	In	115	451934.7	1.4				ug/L	421413	Standard
	Sn	118	646.7	4.5	0.0207	0.002	10.7	ug/L	392	Standard
	Sb	123	58.2	24.0	0.0075	0.002	24.8	ug/L	70	Standard
	Ba	135	125.7	2.4	0.0210	0.001	6.1	ug/L	39	Standard
	Ce	140	90.0	9.1				ug/L	138	Standard
>	Tb	159	457700.8	1.0				ug/L	426404	Standard
	Ho	165	4.7	32.7				ug/L	7	Standard
	Tl	203	19.7	10.6	-0.0007	0.000	29.6	ug/L	11	Standard
	Tl	205	31.7	17.4	0.0001	0.000	257.1	ug/L	18	Standard
	Pb	206	252.0	5.5	0.0086	0.001	16.6	ug/L	174	Standard
	Pb	207	197.7	4.3	0.0078	0.001	16.2	ug/L	146	Standard
	Pb	208	950.3	3.6	0.0069	0.001	16.5	ug/L	687	Standard
	U	238	15.3	7.5	0.0019	0.000	4.0	ug/L	131	Standard
>	Bi	209	257296.0	0.8				ug/L	245542	Standard
	Na	23	461.7	23.4	0.0219	0.010	47.0	mg/L	180	Standard
	Mg	24	1848.5	39.1	0.0032	0.002	62.7	mg/L	930	Standard

Sample ID: L1206044510

Report Date/Time: Tuesday, June 19, 2012 11:24:40

Page 1

Approved: June 19, 2012



	K	39	146.7	8.6	-0.0300	0.016	54.5	mg/L	162	Standard
	Ca	43	0.0		0.0050			mg/L	2	Standard
	Fe	54	515.9	9.7	0.0180	0.020	111.6	mg/L	439	Standard
	Fe	57	5812.8	1.4	0.0058	0.001	25.2	mg/L	5846	Standard
>	Sc-1	45	290579.4	2.5				mg/L	276213	Standard
	Cl	35	7.7	7.5				ug/L	6	Standard
	Kr	83	35.8	2.8				ug/L	41	Standard
	Br	81	5736.9	0.4				ug/L	5073	Standard
	P	31	74912.3	2.0				ug/L	51446	Standard
	S	34	1046923.6	1.1				ug/L	649594	Standard
	Sr	88	206.7	16.5				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		97.511	
As	75			
Se	82			
Se-1	77			
> Ga	71		96.679	
Rb	85			
Y	89			
> Rh	103		94.803	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		107.243	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		107.340	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206044510

Report Date/Time: Tuesday, June 19, 2012 11:24:40

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	104.787
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044510

Report Date/Time: Tuesday, June 19, 2012 11:24:40

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044511

Sample Date/Time: Tuesday, June 19, 2012 11:25:22

Number of Replicates: 3

Autosampler Position: 221

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	212106.0	0.3	29280.9160	174.610	0.6	ug/L	8387	Standard
	Be	9	88.3	50.7	0.0241	0.015	63.3	ug/L	38	Standard
	Al	27	2258964.2	1.2	167.3010	2.570	1.5	ug/L	15112	Standard
>	Sc	45	318387.3	0.8				ug/L	276213	Standard
	Ti	47	6900.6	2.6	4.9219	0.063	1.3	ug/L	124	Standard
	V	51	12923.3	1.1	0.6948	0.021	3.1	ug/L	3503	Standard
	Cr	52	21305.0	1.9	1.0490	0.061	5.8	ug/L	11028	Standard
	Cr	53	1484.2	5.7	0.7461	0.048	6.4	ug/L	333	Standard
	Mn	55	27626.5	0.8	1.9365	0.020	1.0	ug/L	3794	Standard
	Co	59	2497.9	11.2	0.1793	0.019	10.4	ug/L	200	Standard
	Ni	60	6077.9	1.3	2.2061	0.004	0.2	ug/L	111	Standard
	Cu	65	2154.5	4.1	0.7907	0.024	3.0	ug/L	137	Standard
	Zn	66	3392.0	2.5	2.4197	0.043	1.8	ug/L	360	Standard
>	Ge	72	228144.0	1.4				ug/L	236618	Standard
	As	75	-125.0	32.3	0.0942	0.036	38.0	ug/L	-269	Standard
	Se	82	57.7	9.8	0.3135	0.040	12.8	ug/L	22	Standard
	Se-1	77	136.0	5.6	0.5209	0.072	13.8	ug/L	91	Standard
>	Ga	71	194799.7	2.3				mg/L	202510	Standard
	Rb	85	16310.4	2.4				ug/L	10	Standard
	Y	89	218797.1	1.8				ug/L	222253	Standard
>	Rh	103	105955.9	1.0				ug/L	115393	Standard
	Mo	98	210.1	8.4	0.0362	0.004	11.4	ug/L	14	Standard
	Ag	107	75.0	48.6	-0.0003	0.005	1430.1	ug/L	48	Standard
	Cd	111	120.8	6.2	0.0078	0.002	30.9	mg/L	86	Standard
	Cd	114	302.6	17.7	0.0065	0.006	93.8	ug/L	246	Standard
>	In	115	446625.0	1.2				ug/L	421413	Standard
	Sn	118	1096.0	5.1	0.0652	0.005	7.1	ug/L	392	Standard
	Sb	123	128.9	15.7	0.0172	0.003	15.3	ug/L	70	Standard
	Ba	135	75217.6	0.6	22.7750	0.285	1.3	ug/L	39	Standard
	Ce	140	24002.7	0.8				ug/L	138	Standard
>	Tb	159	459955.0	0.9				ug/L	426404	Standard
	Ho	165	261.3	4.4				ug/L	7	Standard
	Tl	203	73.0	39.5	0.0046	0.003	62.1	ug/L	11	Standard
	Tl	205	179.0	37.3	0.0063	0.003	44.6	ug/L	18	Standard
	Pb	206	1768.4	3.8	0.1907	0.009	4.5	ug/L	174	Standard
	Pb	207	1458.1	2.5	0.1872	0.006	3.0	ug/L	146	Standard
	Pb	208	6670.9	2.5	0.1850	0.006	3.0	ug/L	687	Standard
	U	238	2778.9	3.7	0.1912	0.008	4.0	ug/L	131	Standard
>	Bi	209	248045.2	0.2				ug/L	245542	Standard
	Na	23	36617.5	1.9	3.0357	0.033	1.1	mg/L	180	Standard
	Mg	24	5155346.2	1.0	12.7225	0.235	1.8	mg/L	930	Standard

Sample ID: L1206044511

Report Date/Time: Tuesday, June 19, 2012 11:27:54

Page 1

Approved: June 19, 2012



	K	39	613.3	12.7	0.4121	0.074	17.9	mg/L	162	Standard
	Ca	43	80.0	16.5	61.5954	9.647	15.7	mg/L	2	Standard
	Fe	54	1080.2	13.9	0.1811	0.047	26.1	mg/L	439	Standard
	Fe	57	57718.1	2.3	0.3944	0.013	3.4	mg/L	5846	Standard
>	Sc-1	45	318387.3	0.8				mg/L	276213	Standard
	Cl	35	11.0	15.7				ug/L	6	Standard
	Kr	83	37.2	2.3				ug/L	41	Standard
	Br	81	7721.1	3.0				ug/L	5073	Standard
	P	31	78554.8	1.6				ug/L	51446	Standard
	S	34	1326656.1	0.5				ug/L	649594	Standard
	Sr	88	131292.2	4.6				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	96.419	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	96.193	
	Rb	85		
	Y	89		
>	Rh	103	91.822	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	105.983	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	107.868	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044511

Report Date/Time: Tuesday, June 19, 2012 11:27:54

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.019
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

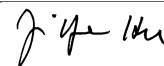
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044511

Report Date/Time: Tuesday, June 19, 2012 11:27:54

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044512

Sample Date/Time: Tuesday, June 19, 2012 11:28:35

Number of Replicates: 3

Autosampler Position: 222

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[	Li	7	178878.2	1.3	24945.9931	526.404	2.1	ug/L	8387	Standard
	Be	9	36.7	43.8	0.0065	0.006	88.9	ug/L	38	Standard
	Al	27	77281.6	0.9	5.4115	0.016	0.3	ug/L	15112	Standard
[>	Sc	45	312710.8	0.7				ug/L	276213	Standard
[	Ti	47	854.0	2.3	0.5500	0.011	2.1	ug/L	124	Standard
	V	51	6578.0	0.6	0.2366	0.003	1.4	ug/L	3503	Standard
	Cr	52	16141.9	2.2	0.5396	0.031	5.7	ug/L	11028	Standard
	Cr	53	1335.9	3.5	0.6503	0.033	5.0	ug/L	333	Standard
	Mn	55	6268.0	1.2	0.3764	0.006	1.7	ug/L	3794	Standard
	Co	59	1363.1	4.8	0.0923	0.005	4.9	ug/L	200	Standard
	Ni	60	5416.0	1.1	1.9544	0.021	1.1	ug/L	111	Standard
	Cu	65	1056.0	5.4	0.3528	0.024	6.7	ug/L	137	Standard
	Zn	66	2581.9	1.7	1.7462	0.036	2.1	ug/L	360	Standard
[>	Ge	72	228971.2	0.5				ug/L	236618	Standard
	As	75	-201.6	12.9	0.0296	0.021	72.2	ug/L	-269	Standard
	Se	82	60.9	11.3	0.3389	0.059	17.4	ug/L	22	Standard
[	Se-1	77	142.0	10.4	0.5877	0.172	29.2	ug/L	91	Standard
[>	Ga	71	195157.2	0.5				mg/L	202510	Standard
	Rb	85	10760.5	3.4				ug/L	10	Standard
[	Y	89	215385.1	0.5				ug/L	222253	Standard
[>	Rh	103	106066.7	1.6				ug/L	115393	Standard
[	Mo	98	176.3	5.4	0.0281	0.002	6.7	ug/L	14	Standard
	Ag	107	40.0	9.0	-0.0051	0.000	8.8	ug/L	48	Standard
	Cd	111	101.9	3.0	0.0012	0.001	104.1	mg/L	86	Standard
	Cd	114	290.4	2.8	0.0046	0.001	14.7	ug/L	246	Standard
[>	In	115	454260.6	0.8				ug/L	421413	Standard
	Sn	118	667.0	4.1	0.0223	0.003	12.7	ug/L	392	Standard
	Sb	123	328.9	1.1	0.0436	0.001	1.5	ug/L	70	Standard
	Ba	135	72935.1	0.6	21.7111	0.231	1.1	ug/L	39	Standard
[	Ce	140	341.0	1.6				ug/L	138	Standard
[>	Tb	159	464591.0	0.9				ug/L	426404	Standard
[	Ho	165	25.7	25.0				ug/L	7	Standard
	Tl	203	54.3	2.8	0.0027	0.000	6.2	ug/L	11	Standard
	Tl	205	139.0	11.6	0.0045	0.001	14.6	ug/L	18	Standard
	Pb	206	367.0	4.6	0.0227	0.002	9.6	ug/L	174	Standard
	Pb	207	315.7	3.2	0.0247	0.001	6.0	ug/L	146	Standard
	Pb	208	1396.0	1.8	0.0210	0.001	4.5	ug/L	687	Standard
	U	238	2679.2	1.7	0.1813	0.002	1.3	ug/L	131	Standard
[>	Bi	209	252236.3	0.4				ug/L	245542	Standard
[	Na	23	36544.0	2.8	3.0851	0.081	2.6	mg/L	180	Standard
	Mg	24	4971747.0	0.8	12.4907	0.022	0.2	mg/L	930	Standard

Sample ID: L1206044512

Report Date/Time: Tuesday, June 19, 2012 11:31:08

Page 1

Approved: June 19, 2012



	K	39	593.3	6.4	0.4031	0.034	8.5	mg/L	162	Standard
	Ca	43	38.3	32.8	30.0366	9.683	32.2	mg/L	2	Standard
	Fe	54	512.2	4.4	0.0039	0.008	214.7	mg/L	439	Standard
	Fe	57	32289.4	3.0	0.2063	0.007	3.2	mg/L	5846	Standard
>	Sc-1	45	312710.8	0.7				mg/L	276213	Standard
	Cl	35	20.7	26.6				ug/L	6	Standard
	Kr	83	38.0	5.3				ug/L	41	Standard
	Br	81	7894.6	0.9				ug/L	5073	Standard
	P	31	75750.6	0.3				ug/L	51446	Standard
	S	34	1341830.1	1.1				ug/L	649594	Standard
	Sr	88	125084.4	2.4				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	96.768	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	96.369	
	Rb	85		
	Y	89		
>	Rh	103	91.918	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	107.795	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	108.956	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044512

Report Date/Time: Tuesday, June 19, 2012 11:31:08

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.726
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044512

Report Date/Time: Tuesday, June 19, 2012 11:31:08

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044701

Sample Date/Time: Tuesday, June 19, 2012 11:31:49

Number of Replicates: 3

Autosampler Position: 223

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

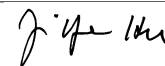
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	169792.9	1.8	26943.8081	810.627	3.0	ug/L	8387	Standard
	Be	9	23.3	61.9	0.0028	0.006	200.8	ug/L	38	Standard
	Al	27	69368.5	2.9	5.5123	0.168	3.1	ug/L	15112	Standard
>	Sc	45	276002.5	2.8				ug/L	276213	Standard
	Ti	47	1097.0	25.4	0.8353	0.239	28.6	ug/L	124	Standard
	V	51	40069.2	4.2	3.0303	0.113	3.7	ug/L	3503	Standard
	Cr	52	26859.5	0.5	1.9387	0.042	2.1	ug/L	11028	Standard
	Cr	53	84334.9	1.0	59.7357	0.496	0.8	ug/L	333	Standard
	Mn	55	574172.5	1.6	47.4010	1.357	2.9	ug/L	3794	Standard
	Co	59	11874.3	1.7	1.0180	0.006	0.6	ug/L	200	Standard
	Ni	60	5358.3	1.5	2.2038	0.006	0.3	ug/L	111	Standard
	Cu	65	3679.8	9.4	1.5934	0.175	11.0	ug/L	137	Standard
	Zn	66	3388.4	3.3	2.7884	0.127	4.6	ug/L	360	Standard
>	Ge	72	201339.4	1.2				ug/L	236618	Standard
	As	75	4009.2	22.3	4.0855	0.822	20.1	ug/L	-269	Standard
	Se	82	2434.3	7.0	22.8492	1.362	6.0	ug/L	22	Standard
	Se-1	77	6020.2	2.1	81.7352	1.843	2.3	ug/L	91	Standard
>	Ga	71	170812.4	0.4				mg/L	202510	Standard
	Rb	85	98024.4	0.6				ug/L	10	Standard
	Y	89	196802.0	2.4				ug/L	222253	Standard
>	Rh	103	88744.1	0.8				ug/L	115393	Standard
	Mo	98	6641.3	0.5	1.6625	0.040	2.4	ug/L	14	Standard
	Ag	107	43.0	19.0	-0.0038	0.001	31.4	ug/L	48	Standard
	Cd	111	85.4	10.7	0.0004	0.003	654.9	mg/L	86	Standard
	Cd	114	281.1	5.6	0.0088	0.002	17.8	ug/L	246	Standard
>	In	115	388999.9	1.9				ug/L	421413	Standard
	Sn	118	1313.4	4.1	0.1054	0.006	6.1	ug/L	392	Standard
	Sb	123	1133.4	4.0	0.1766	0.005	2.8	ug/L	70	Standard
	Ba	135	42463.4	0.3	14.7582	0.248	1.7	ug/L	39	Standard
	Ce	140	802.4	3.1				ug/L	138	Standard
>	Tb	159	420942.0	2.0				ug/L	426404	Standard
	Ho	165	36.0	12.1				ug/L	7	Standard
	Tl	203	24.7	11.7	0.0005	0.000	83.6	ug/L	11	Standard
	Tl	205	61.0	15.6	0.0020	0.001	25.4	ug/L	18	Standard
	Pb	206	333.7	6.7	0.0296	0.003	10.7	ug/L	174	Standard
	Pb	207	269.0	6.4	0.0287	0.003	11.9	ug/L	146	Standard
	Pb	208	1263.4	1.5	0.0277	0.000	0.8	ug/L	687	Standard
	U	238	807.4	7.2	0.0704	0.005	7.0	ug/L	131	Standard
>	Bi	209	197269.3	1.2				ug/L	245542	Standard
	Na	23	892485.4	0.4	85.9578	2.550	3.0	mg/L	180	Standard
	Mg	24	28359455.5	1.7	80.7719	2.351	2.9	mg/L	930	Standard

Sample ID: L1206044701

Report Date/Time: Tuesday, June 19, 2012 11:34:22

Page 1

Approved: June 19, 2012



	K	39	22057.7	2.0	24.7021	0.820	3.3	mg/L	162	Standard
	Ca	43	55.0	24.1	49.1251	13.252	27.0	mg/L	2	Standard
	Fe	54	423.5	4.7	-0.0066	0.004	62.1	mg/L	439	Standard
	Fe	57	13451.0	3.9	0.0752	0.008	10.4	mg/L	5846	Standard
>	Sc-1	45	276002.5	2.8				mg/L	276213	Standard
	Cl	35	2692.6	1.2				ug/L	6	Standard
	Kr	83	798.7	42.5				ug/L	41	Standard
	Br	81	484463.8	0.9				ug/L	5073	Standard
	P	31	73590.8	2.1				ug/L	51446	Standard
	S	34	4878431.0	0.5				ug/L	649594	Standard
	Sr	88	625469.9	2.3				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		85.091	
As	75			
Se	82			
Se-1	77			
> Ga	71		84.348	
Rb	85			
Y	89			
> Rh	103		76.906	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		92.308	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		98.719	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206044701

Report Date/Time: Tuesday, June 19, 2012 11:34:22

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	80.340
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

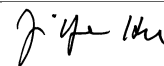
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044701

Report Date/Time: Tuesday, June 19, 2012 11:34:22

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, June 19, 2012 11:35:06

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

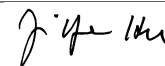
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8830.9	5.1	74.9189	68.477	91.4	ug/L	8387	Standard
	Be	9	126521.2	1.9	50.7259	0.297	0.6	ug/L	38	Standard
	Al	27	616629.2	2.1	52.3632	0.417	0.8	ug/L	15112	Standard
>	Sc	45	276089.7	1.4				ug/L	276213	Standard
	Ti	47	137620.2	0.5	102.5590	0.462	0.5	ug/L	124	Standard
	V	51	706603.2	1.0	52.1982	0.211	0.4	ug/L	3503	Standard
	Cr	52	531457.4	0.7	52.4117	0.122	0.2	ug/L	11028	Standard
	Cr	53	79565.9	1.7	51.2845	0.662	1.3	ug/L	333	Standard
	Mn	55	703114.8	1.2	52.8476	0.516	1.0	ug/L	3794	Standard
	Co	59	624645.2	0.6	49.3062	0.367	0.7	ug/L	200	Standard
	Ni	60	129504.5	1.3	49.3107	0.506	1.0	ug/L	111	Standard
	Cu	65	121687.0	0.6	49.8426	0.098	0.2	ug/L	137	Standard
	Zn	66	58789.2	0.1	49.4957	0.371	0.7	ug/L	360	Standard
>	Ge	72	221129.7	0.6				ug/L	236618	Standard
	As	75	57096.0	0.3	50.6476	0.461	0.9	ug/L	-269	Standard
	Se	82	5969.5	0.3	51.2456	0.473	0.9	ug/L	22	Standard
	Se-1	77	4189.9	3.4	51.3864	2.133	4.2	ug/L	91	Standard
>	Ga	71	188448.3	1.8				mg/L	202510	Standard
	Rb	85	855.0	5.6				ug/L	10	Standard
	Y	89	210940.0	1.3				ug/L	222253	Standard
>	Rh	103	104559.9	0.6				ug/L	115393	Standard
	Mo	98	408135.5	0.1	92.4950	0.424	0.5	ug/L	14	Standard
	Ag	107	332188.8	0.5	46.1791	0.214	0.5	ug/L	48	Standard
	Cd	111	147591.8	1.8	49.3419	0.716	1.5	mg/L	86	Standard
	Cd	114	419222.3	1.1	49.4893	0.681	1.4	ug/L	246	Standard
>	In	115	432068.3	0.5				ug/L	421413	Standard
	Sn	118	486114.0	0.1	48.9530	0.315	0.6	ug/L	392	Standard
	Sb	123	345570.7	0.5	48.5600	0.175	0.4	ug/L	70	Standard
	Ba	135	157699.9	1.6	49.3720	0.574	1.2	ug/L	39	Standard
	Ce	140	622.0	1.9				ug/L	138	Standard
>	Tb	159	443495.7	1.5				ug/L	426404	Standard
	Ho	165	10.3	22.3				ug/L	7	Standard
	Tl	203	512516.5	0.5	49.9448	0.412	0.8	ug/L	11	Standard
	Tl	205	1223353.0	0.3	50.7362	0.404	0.8	ug/L	18	Standard
	Pb	206	416986.4	0.9	49.6388	0.112	0.2	ug/L	174	Standard
	Pb	207	358719.8	0.3	50.6459	0.344	0.7	ug/L	146	Standard
	Pb	208	1624460.6	0.6	50.1351	0.200	0.4	ug/L	687	Standard
	U	238	727193.0	1.3	49.6741	0.263	0.5	ug/L	131	Standard
>	Bi	209	248667.1	1.0				ug/L	245542	Standard
	Na	23	61551.5	3.3	5.9031	0.118	2.0	mg/L	180	Standard
	Mg	24	1710355.5	1.0	4.8660	0.021	0.4	mg/L	930	Standard

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 11:37:40

Page 1

Approved: June 19, 2012



	K	39	4744.1	3.6	5.1605	0.132	2.6	mg/L	162	Standard
	Ca	43	16.7	45.8	14.7854	6.634	44.9	mg/L	2	Standard
	Fe	54	15648.6	1.6	5.5659	0.015	0.3	mg/L	439	Standard
	Fe	57	594628.0	1.2	5.1468	0.130	2.5	mg/L	5846	Standard
>	Sc-1	45	276089.7	1.4				mg/L	276213	Standard
	Cl	35	10.3	64.4				ug/L	6	Standard
	Kr	83	41.1	4.8				ug/L	41	Standard
	Br	81	8729.2	16.1				ug/L	5073	Standard
	P	31	69503.3	2.1				ug/L	51446	Standard
	S	34	870466.3	2.1				ug/L	649594	Standard
	Sr	88	243.3	70.0				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	104.726		
> Sc	45			
Ti	47	102.559		
V	51	104.396		
Cr	52	104.823		
Cr	53			
Mn	55	105.695		
Co	59	98.612		
Ni	60	98.621		
Cu	65	99.685		
Zn	66	98.991		
> Ge	72		93.454	
As	75	101.295		
Se	82	102.491		
Se-1	77			
> Ga	71		93.056	
Rb	85			
Y	89			
> Rh	103		90.612	
Mo	98	92.495		
Ag	107	92.358		
Cd	111	98.684		
Cd	114			
> In	115		102.528	
Sn	118	97.906		
Sb	123	97.120		
Ba	135	98.744		
Ce	140			
> Tb	159		104.008	
Ho	165			
Tl	203	99.890		
Tl	205			
Pb	206	99.278		

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 11:37:40

Page 2

Approved: June 19, 2012



	Pb	207	101.292	
	Pb	208	100.270	
	U	238	99.348	
>	Bi	209		101.273
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

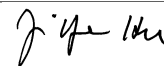
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 11:37:40

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, June 19, 2012 11:38:22

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

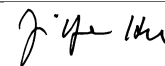
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8702.5	3.5	94.3073	16.459	17.5	ug/L	8387	Standard
	Be	9	41.7	30.2	0.0108	0.006	54.0	ug/L	38	Standard
	Al	27	5319.3	4.6	0.0385	0.037	96.5	ug/L	15112	Standard
>	Sc	45	268567.9	3.5				ug/L	276213	Standard
	Ti	47	117.3	2.7	0.0232	0.002	10.2	ug/L	124	Standard
	V	51	3440.8	1.3	0.0226	0.005	21.0	ug/L	3503	Standard
	Cr	52	10339.5	2.6	0.0206	0.045	217.9	ug/L	11028	Standard
	Cr	53	908.4	15.7	0.4090	0.103	25.2	ug/L	333	Standard
	Mn	55	1153.7	8.3	0.0083	0.009	106.1	ug/L	3794	Standard
	Co	59	137.3	35.2	-0.0007	0.004	612.3	ug/L	200	Standard
	Ni	60	82.3	3.9	-0.0071	0.002	25.0	ug/L	111	Standard
	Cu	65	196.3	11.9	0.0157	0.011	70.7	ug/L	137	Standard
	Zn	66	352.7	3.0	-0.0671	0.013	20.0	ug/L	360	Standard
>	Ge	72	219366.2	1.7				ug/L	236618	Standard
	As	75	-209.3	4.8	0.0153	0.008	51.3	ug/L	-269	Standard
	Se	82	30.2	9.9	0.0949	0.023	23.8	ug/L	22	Standard
	Se-1	77	105.3	7.3	0.1994	0.076	38.1	ug/L	91	Standard
>	Ga	71	187864.6	2.3				mg/L	202510	Standard
	Rb	85	13.3	21.7				ug/L	10	Standard
	Y	89	209012.0	1.7				ug/L	222253	Standard
>	Rh	103	104940.9	2.2				ug/L	115393	Standard
	Mo	98	96.9	55.8	0.0123	0.013	103.8	ug/L	14	Standard
	Ag	107	68.0	29.0	-0.0009	0.003	326.7	ug/L	48	Standard
	Cd	111	101.4	5.3	0.0029	0.003	85.4	mg/L	86	Standard
	Cd	114	269.4	9.6	0.0040	0.004	93.5	ug/L	246	Standard
>	In	115	429300.7	1.9				ug/L	421413	Standard
	Sn	118	582.3	22.8	0.0176	0.015	83.9	ug/L	392	Standard
	Sb	123	804.8	41.2	0.1141	0.049	43.3	ug/L	70	Standard
	Ba	135	105.3	70.3	0.0169	0.024	143.7	ug/L	39	Standard
	Ce	140	32.0	20.5				ug/L	138	Standard
>	Tb	159	436421.0	2.9				ug/L	426404	Standard
	Ho	165	2.3	49.5				ug/L	7	Standard
	Tl	203	71.7	52.4	0.0044	0.004	85.9	ug/L	11	Standard
	Tl	205	161.3	53.5	0.0055	0.004	67.1	ug/L	18	Standard
	Pb	206	252.7	35.1	0.0095	0.011	116.2	ug/L	174	Standard
	Pb	207	233.0	23.6	0.0135	0.008	60.8	ug/L	146	Standard
	Pb	208	1020.3	31.8	0.0099	0.010	106.3	ug/L	687	Standard
	U	238	116.3	66.3	0.0089	0.005	60.8	ug/L	131	Standard
>	Bi	209	250881.0	1.6				ug/L	245542	Standard
	Na	23	768.4	38.7	0.0564	0.033	58.1	mg/L	180	Standard
	Mg	24	1365.1	41.6	0.0022	0.002	82.6	mg/L	930	Standard

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 11:40:55

Page 1

Approved: June 19, 2012



	K	39	168.3	3.4	0.0078	0.007	83.3	mg/L	162	Standard
	Ca	43	1.7	173.2	1.5915	2.748	172.7	mg/L	2	Standard
	Fe	54	455.5	17.9	0.0096	0.029	296.9	mg/L	439	Standard
	Fe	57	5344.3	5.9	0.0057	0.004	78.6	mg/L	5846	Standard
>	Sc-1	45	268567.9	3.5				mg/L	276213	Standard
	Cl	35	9.3	24.7				ug/L	6	Standard
	Kr	83	38.7	11.9				ug/L	41	Standard
	Br	81	6193.8	0.7				ug/L	5073	Standard
	P	31	70019.0	2.2				ug/L	51446	Standard
	S	34	875822.3	1.1				ug/L	649594	Standard
	Sr	88	70.0	37.8				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	92.709	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	92.768	
	Rb	85		
	Y	89		
>	Rh	103	90.942	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	101.872	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	102.349	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 11:40:55

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.174
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

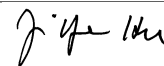
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 11:40:55

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044702

Sample Date/Time: Tuesday, June 19, 2012 11:41:40

Number of Replicates: 3

Autosampler Position: 224

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	161075.0	0.3	25937.0917	496.949	1.9	ug/L	8387	Standard
	Be	9	43.3	63.5	0.0112	0.011	101.8	ug/L	38	Standard
	Al	27	307038.3	0.9	26.3193	0.656	2.5	ug/L	15112	Standard
>	Sc	45	271420.1	2.0				ug/L	276213	Standard
	Ti	47	1490.4	7.3	1.1598	0.080	6.9	ug/L	124	Standard
	V	51	38831.8	3.8	2.9425	0.146	4.9	ug/L	3503	Standard
	Cr	52	25651.7	2.7	1.8153	0.055	3.0	ug/L	11028	Standard
	Cr	53	81227.4	4.2	57.7535	2.804	4.9	ug/L	333	Standard
	Mn	55	605427.2	1.1	50.1629	0.575	1.1	ug/L	3794	Standard
	Co	59	6226.6	1.2	0.5304	0.011	2.0	ug/L	200	Standard
	Ni	60	5433.6	2.0	2.2439	0.040	1.8	ug/L	111	Standard
	Cu	65	3686.5	7.4	1.6008	0.113	7.1	ug/L	137	Standard
	Zn	66	3593.1	1.7	2.9908	0.036	1.2	ug/L	360	Standard
>	Ge	72	200587.1	0.8				ug/L	236618	Standard
	As	75	6375.6	6.6	6.4136	0.453	7.1	ug/L	-269	Standard
	Se	82	3833.7	2.0	36.2356	1.020	2.8	ug/L	22	Standard
	Se-1	77	5276.9	8.2	71.7517	5.575	7.8	ug/L	91	Standard
>	Ga	71	171448.0	1.2				mg/L	202510	Standard
	Rb	85	97719.1	0.2				ug/L	10	Standard
	Y	89	193827.1	1.4				ug/L	222253	Standard
>	Rh	103	89109.3	1.4				ug/L	115393	Standard
	Mo	98	2920.0	1.8	0.7374	0.014	1.8	ug/L	14	Standard
	Ag	107	46.7	15.1	-0.0031	0.001	33.9	ug/L	48	Standard
	Cd	111	97.6	18.0	0.0057	0.007	121.6	mg/L	86	Standard
	Cd	114	283.1	1.3	0.0097	0.001	7.7	ug/L	246	Standard
>	In	115	382628.5	0.7				ug/L	421413	Standard
	Sn	118	568.0	2.8	0.0230	0.002	8.6	ug/L	392	Standard
	Sb	123	1046.9	4.6	0.1658	0.008	4.9	ug/L	70	Standard
	Ba	135	43857.7	0.6	15.4943	0.080	0.5	ug/L	39	Standard
	Ce	140	2634.6	2.6				ug/L	138	Standard
>	Tb	159	411448.5	0.6				ug/L	426404	Standard
	Ho	165	51.3	9.6				ug/L	7	Standard
	Tl	203	64.7	7.8	0.0054	0.001	10.4	ug/L	11	Standard
	Tl	205	143.7	18.7	0.0063	0.001	23.0	ug/L	18	Standard
	Pb	206	428.7	4.5	0.0439	0.003	7.5	ug/L	174	Standard
	Pb	207	350.3	4.8	0.0431	0.003	8.0	ug/L	146	Standard
	Pb	208	1635.0	2.8	0.0421	0.002	5.3	ug/L	687	Standard
	U	238	807.4	2.9	0.0704	0.003	3.6	ug/L	131	Standard
>	Bi	209	197413.8	0.8				ug/L	245542	Standard
	Na	23	871743.7	1.1	85.3458	1.424	1.7	mg/L	180	Standard
	Mg	24	27976936.1	1.5	80.9967	0.545	0.7	mg/L	930	Standard

Sample ID: L1206044702

Report Date/Time: Tuesday, June 19, 2012 11:44:13

Page 1

Approved: June 19, 2012

	K	39	21568.7	5.6	24.5383	0.936	3.8	mg/L	162	Standard
	Ca	43	55.0	50.6	50.0521	25.917	51.8	mg/L	2	Standard
	Fe	54	521.7	9.1	0.0324	0.014	44.5	mg/L	439	Standard
	Fe	57	17319.9	2.8	0.1113	0.003	2.5	mg/L	5846	Standard
>	Sc-1	45	271420.1	2.0				mg/L	276213	Standard
	Cl	35	2707.9	2.4				ug/L	6	Standard
	Kr	83	1107.6	14.3				ug/L	41	Standard
	Br	81	746426.8	1.3				ug/L	5073	Standard
	P	31	73712.2	1.9				ug/L	51446	Standard
	S	34	4785047.6	1.5				ug/L	649594	Standard
	Sr	88	680510.6	4.5				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	84.773	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	84.662	
	Rb	85		
	Y	89		
>	Rh	103	77.222	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	90.796	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	96.493	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044702

Report Date/Time: Tuesday, June 19, 2012 11:44:13

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	80.399
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

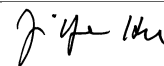
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044702

Report Date/Time: Tuesday, June 19, 2012 11:44:13

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044703

Sample Date/Time: Tuesday, June 19, 2012 11:44:56

Number of Replicates: 3

Autosampler Position: 225

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

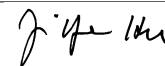
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	159365.4	0.8	25305.8652	492.727	1.9	ug/L	8387	Standard
	Be	9	35.0	14.3	0.0076	0.002	23.7	ug/L	38	Standard
	Al	27	97979.1	1.4	7.9967	0.125	1.6	ug/L	15112	Standard
>	Sc	45	274904.2	2.5				ug/L	276213	Standard
	Ti	47	1429.4	4.8	1.1129	0.056	5.0	ug/L	124	Standard
	V	51	37060.7	7.1	2.8037	0.203	7.2	ug/L	3503	Standard
	Cr	52	24806.3	1.2	1.7286	0.043	2.5	ug/L	11028	Standard
	Cr	53	77717.2	1.1	55.3780	1.028	1.9	ug/L	333	Standard
	Mn	55	605214.4	1.9	50.2702	1.216	2.4	ug/L	3794	Standard
	Co	59	12698.0	1.2	1.0963	0.018	1.7	ug/L	200	Standard
	Ni	60	5424.6	1.6	2.2455	0.018	0.8	ug/L	111	Standard
	Cu	65	3782.1	3.2	1.6487	0.058	3.5	ug/L	137	Standard
	Zn	66	3488.7	1.8	2.9012	0.050	1.7	ug/L	360	Standard
>	Ge	72	200104.1	0.8				ug/L	236618	Standard
	As	75	5236.0	4.4	5.3139	0.233	4.4	ug/L	-269	Standard
	Se	82	3398.0	1.6	32.1737	0.617	1.9	ug/L	22	Standard
	Se-1	77	5583.0	1.4	76.1955	1.642	2.2	ug/L	91	Standard
>	Ga	71	171269.2	0.3				mg/L	202510	Standard
	Rb	85	96915.6	0.4				ug/L	10	Standard
	Y	89	191845.3	0.4				ug/L	222253	Standard
>	Rh	103	89820.5	0.7				ug/L	115393	Standard
	Mo	98	2861.7	1.0	0.7364	0.017	2.3	ug/L	14	Standard
	Ag	107	43.0	7.0	-0.0036	0.000	11.6	ug/L	48	Standard
	Cd	111	90.1	21.3	0.0035	0.008	226.6	mg/L	86	Standard
	Cd	114	289.8	2.2	0.0113	0.001	7.5	ug/L	246	Standard
>	In	115	375560.1	1.3				ug/L	421413	Standard
	Sn	118	428.3	1.6	0.0080	0.001	16.7	ug/L	392	Standard
	Sb	123	1061.0	0.6	0.1712	0.001	0.8	ug/L	70	Standard
	Ba	135	42099.4	0.6	15.1548	0.280	1.8	ug/L	39	Standard
	Ce	140	914.0	3.6				ug/L	138	Standard
>	Tb	159	410066.5	1.5				ug/L	426404	Standard
	Ho	165	34.3	11.0				ug/L	7	Standard
	Tl	203	39.3	32.0	0.0023	0.002	67.9	ug/L	11	Standard
	Tl	205	96.7	12.9	0.0039	0.001	16.9	ug/L	18	Standard
	Pb	206	325.7	5.2	0.0284	0.003	9.3	ug/L	174	Standard
	Pb	207	245.7	3.2	0.0244	0.001	5.7	ug/L	146	Standard
	Pb	208	1198.4	2.3	0.0251	0.001	4.7	ug/L	687	Standard
	U	238	755.7	3.6	0.0659	0.002	3.4	ug/L	131	Standard
>	Bi	209	197537.0	0.3				ug/L	245542	Standard
	Na	23	871077.3	0.7	84.2102	1.560	1.9	mg/L	180	Standard
	Mg	24	27748044.0	1.3	79.3259	0.954	1.2	mg/L	930	Standard

Sample ID: L1206044703

Report Date/Time: Tuesday, June 19, 2012 11:47:28

Page 1

Approved: June 19, 2012



	K	39	21643.8	1.9	24.3253	0.454	1.9	mg/L	162	Standard
	Ca	43	40.0	54.5	35.7981	19.663	54.9	mg/L	2	Standard
	Fe	54	451.9	13.5	0.0048	0.025	524.5	mg/L	439	Standard
	Fe	57	15144.3	7.0	0.0903	0.008	9.0	mg/L	5846	Standard
>	Sc-1	45	274904.2	2.5				mg/L	276213	Standard
	Cl	35	2745.6	0.8				ug/L	6	Standard
	Kr	83	1213.2	7.3				ug/L	41	Standard
	Br	81	670354.7	1.8				ug/L	5073	Standard
	P	31	67700.1	1.6				ug/L	51446	Standard
	S	34	4708103.2	1.6				ug/L	649594	Standard
	Sr	88	641819.6	7.1				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	84.568	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	84.573	
	Rb	85		
	Y	89		
>	Rh	103	77.839	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	89.119	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	96.169	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044703

Report Date/Time: Tuesday, June 19, 2012 11:47:28

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	80.449
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044703

Report Date/Time: Tuesday, June 19, 2012 11:47:28

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044801

Sample Date/Time: Tuesday, June 19, 2012 11:48:10

Number of Replicates: 3

Autosampler Position: 226

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	180278.0	1.3	27802.7107	62.418	0.2	ug/L	8387	Standard
	Be	9	70.0	99.2	0.0205	0.026	129.0	ug/L	38	Standard
	Al	27	79598.6	1.2	6.1894	0.159	2.6	ug/L	15112	Standard
>	Sc	45	284302.9	1.4				ug/L	276213	Standard
	Ti	47	1532.7	2.3	1.1831	0.011	0.9	ug/L	124	Standard
	V	51	37127.2	2.1	2.7738	0.040	1.4	ug/L	3503	Standard
	Cr	52	25428.7	0.9	1.7650	0.062	3.5	ug/L	11028	Standard
	Cr	53	79064.1	0.2	55.6771	0.689	1.2	ug/L	333	Standard
	Mn	55	467493.9	0.8	38.3539	0.275	0.7	ug/L	3794	Standard
	Co	59	14057.5	0.5	1.2006	0.018	1.5	ug/L	200	Standard
	Ni	60	6217.9	2.4	2.5487	0.041	1.6	ug/L	111	Standard
	Cu	65	3935.8	4.1	1.6968	0.047	2.8	ug/L	137	Standard
	Zn	66	3701.8	1.4	3.0601	0.010	0.3	ug/L	360	Standard
>	Ge	72	202486.6	1.4				ug/L	236618	Standard
	As	75	4010.0	8.7	4.0736	0.380	9.3	ug/L	-269	Standard
	Se	82	3026.9	1.4	28.3086	0.811	2.9	ug/L	22	Standard
	Se-1	77	5752.1	0.9	77.5972	0.753	1.0	ug/L	91	Standard
>	Ga	71	171528.9	1.2				mg/L	202510	Standard
	Rb	85	104912.1	2.7				ug/L	10	Standard
	Y	89	196781.5	1.7				ug/L	222253	Standard
>	Rh	103	91053.6	2.5				ug/L	115393	Standard
	Mo	98	3016.9	1.1	0.7673	0.015	2.0	ug/L	14	Standard
	Ag	107	62.7	42.8	-0.0005	0.004	840.9	ug/L	48	Standard
	Cd	111	91.4	18.1	0.0035	0.007	186.9	mg/L	86	Standard
	Cd	114	280.7	9.0	0.0096	0.004	37.8	ug/L	246	Standard
>	In	115	380161.1	0.9				ug/L	421413	Standard
	Sn	118	458.7	9.1	0.0109	0.005	42.8	ug/L	392	Standard
	Sb	123	1057.8	2.0	0.1686	0.005	2.9	ug/L	70	Standard
	Ba	135	40972.7	1.1	14.5676	0.026	0.2	ug/L	39	Standard
	Ce	140	784.0	1.8				ug/L	138	Standard
>	Tb	159	407484.0	0.8				ug/L	426404	Standard
	Ho	165	30.7	13.2				ug/L	7	Standard
	Tl	203	41.3	45.8	0.0026	0.002	95.3	ug/L	11	Standard
	Tl	205	83.7	44.9	0.0032	0.002	63.9	ug/L	18	Standard
	Pb	206	308.0	2.3	0.0261	0.002	6.3	ug/L	174	Standard
	Pb	207	246.0	12.4	0.0249	0.006	24.5	ug/L	146	Standard
	Pb	208	1153.7	4.9	0.0237	0.003	12.2	ug/L	687	Standard
	U	238	797.7	4.5	0.0700	0.004	6.0	ug/L	131	Standard
>	Bi	209	196201.4	1.7				ug/L	245542	Standard
	Na	23	923722.4	0.8	86.3338	1.509	1.7	mg/L	180	Standard
	Mg	24	30104011.1	1.2	83.2164	1.968	2.4	mg/L	930	Standard

Sample ID: L1206044801

Report Date/Time: Tuesday, June 19, 2012 11:50:44

Page 1

Approved: June 19, 2012

	K	39	23563.3	2.1	25.6168	0.739	2.9	mg/L	162	Standard
	Ca	43	61.7	12.4	53.1654	5.830	11.0	mg/L	2	Standard
	Fe	54	493.7	8.6	0.0139	0.016	114.2	mg/L	439	Standard
	Fe	57	15221.0	8.4	0.0867	0.012	13.4	mg/L	5846	Standard
>	Sc-1	45	284302.9	1.4				mg/L	276213	Standard
	Cl	35	3014.3	1.2				ug/L	6	Standard
	Kr	83	1527.2	10.3				ug/L	41	Standard
	Br	81	645638.6	0.7				ug/L	5073	Standard
	P	31	67278.2	0.5				ug/L	51446	Standard
	S	34	4980090.0	1.2				ug/L	649594	Standard
	Sr	88	666189.7	7.6				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	85.575	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	84.702	
	Rb	85		
	Y	89		
>	Rh	103	78.907	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	90.211	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	95.563	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044801

Report Date/Time: Tuesday, June 19, 2012 11:50:44

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	79.905
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044801

Report Date/Time: Tuesday, June 19, 2012 11:50:44

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044802

Sample Date/Time: Tuesday, June 19, 2012 11:51:26

Number of Replicates: 3

Autosampler Position: 227

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

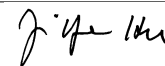
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	178984.4	1.3	28093.2127	364.146	1.3	ug/L	8387	Standard
	Be	9	40.0	33.1	0.0094	0.005	57.5	ug/L	38	Standard
	Al	27	222821.6	1.2	18.4174	0.313	1.7	ug/L	15112	Standard
>	Sc	45	279492.8	1.2				ug/L	276213	Standard
	Ti	47	1755.8	4.0	1.3662	0.075	5.5	ug/L	124	Standard
	V	51	36952.0	7.5	2.7621	0.240	8.7	ug/L	3503	Standard
	Cr	52	25111.8	0.5	1.7313	0.028	1.6	ug/L	11028	Standard
	Cr	53	78190.5	2.0	55.1009	1.911	3.5	ug/L	333	Standard
	Mn	55	587141.1	0.3	48.2186	0.639	1.3	ug/L	3794	Standard
	Co	59	13774.3	0.9	1.1769	0.027	2.3	ug/L	200	Standard
	Ni	60	6035.2	1.7	2.4748	0.077	3.1	ug/L	111	Standard
	Cu	65	4097.9	3.4	1.7717	0.089	5.0	ug/L	137	Standard
	Zn	66	5240.2	0.1	4.4884	0.075	1.7	ug/L	360	Standard
>	Ge	72	202381.5	1.5				ug/L	236618	Standard
	As	75	4136.5	7.1	4.1930	0.234	5.6	ug/L	-269	Standard
	Se	82	3136.7	1.2	29.3532	0.562	1.9	ug/L	22	Standard
	Se-1	77	5712.4	0.7	77.1043	1.580	2.0	ug/L	91	Standard
>	Ga	71	172254.0	2.5				mg/L	202510	Standard
	Rb	85	105470.8	0.9				ug/L	10	Standard
	Y	89	197093.8	1.2				ug/L	222253	Standard
>	Rh	103	89302.4	0.8				ug/L	115393	Standard
	Mo	98	2977.6	2.3	0.7666	0.016	2.0	ug/L	14	Standard
	Ag	107	39.7	13.9	-0.0041	0.001	23.1	ug/L	48	Standard
	Cd	111	88.5	3.8	0.0028	0.002	55.4	mg/L	86	Standard
	Cd	114	278.1	6.3	0.0097	0.003	28.0	ug/L	246	Standard
>	In	115	375528.4	1.0				ug/L	421413	Standard
	Sn	118	556.0	10.4	0.0228	0.006	27.2	ug/L	392	Standard
	Sb	123	1021.0	1.6	0.1648	0.004	2.2	ug/L	70	Standard
	Ba	135	40812.2	1.5	14.6901	0.196	1.3	ug/L	39	Standard
	Ce	140	2661.6	1.9				ug/L	138	Standard
>	Tb	159	407425.1	0.9				ug/L	426404	Standard
	Ho	165	59.0	10.6				ug/L	7	Standard
	Tl	203	26.7	17.7	0.0007	0.001	80.2	ug/L	11	Standard
	Tl	205	69.3	3.6	0.0025	0.000	5.3	ug/L	18	Standard
	Pb	206	357.7	6.0	0.0336	0.004	10.8	ug/L	174	Standard
	Pb	207	308.0	6.0	0.0360	0.004	10.5	ug/L	146	Standard
	Pb	208	1390.4	2.5	0.0330	0.002	5.4	ug/L	687	Standard
	U	238	762.4	3.6	0.0670	0.003	4.2	ug/L	131	Standard
>	Bi	209	195979.4	0.8				ug/L	245542	Standard
	Na	23	927973.7	0.6	88.2166	0.747	0.8	mg/L	180	Standard
	Mg	24	30041499.7	0.6	84.4605	0.685	0.8	mg/L	930	Standard

Sample ID: L1206044802

Report Date/Time: Tuesday, June 19, 2012 11:53:59

Page 1

Approved: June 19, 2012



	K	39	23595.0	1.6	26.0944	0.586	2.2	mg/L	162	Standard
	Ca	43	66.7	17.3	58.5998	10.815	18.5	mg/L	2	Standard
	Fe	54	497.2	15.2	0.0180	0.026	145.9	mg/L	439	Standard
	Fe	57	17181.4	6.8	0.1056	0.008	7.8	mg/L	5846	Standard
>	Sc-1	45	279492.8	1.2				mg/L	276213	Standard
	Cl	35	2986.3	0.4				ug/L	6	Standard
	Kr	83	1637.4	6.7				ug/L	41	Standard
	Br	81	659940.9	1.0				ug/L	5073	Standard
	P	31	68826.8	1.9				ug/L	51446	Standard
	S	34	5011422.5	1.1				ug/L	649594	Standard
	Sr	88	733729.4	0.5				ug/L	65	Standard

QC Calculated Values

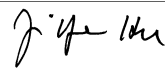
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	85.531	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	85.060	
	Rb	85		
	Y	89		
>	Rh	103	77.390	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	89.112	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	95.549	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206044802

Report Date/Time: Tuesday, June 19, 2012 11:53:59

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	79.815
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044802

Report Date/Time: Tuesday, June 19, 2012 11:53:59

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206044803

Sample Date/Time: Tuesday, June 19, 2012 11:54:41

Number of Replicates: 3

Autosampler Position: 228

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[	Li	7	168972.1	1.3	26158.6606	549.549	2.1	ug/L	8387	Standard
	Be	9	41.7	30.2	0.0098	0.005	48.9	ug/L	38	Standard
	Al	27	125415.3	1.3	10.0692	0.219	2.2	ug/L	15112	Standard
[>	Sc	45	282395.8	0.8				ug/L	276213	Standard
[	Ti	47	1498.7	6.2	1.1557	0.085	7.4	ug/L	124	Standard
	V	51	35601.0	3.5	2.6500	0.110	4.2	ug/L	3503	Standard
	Cr	52	25548.2	1.4	1.7773	0.055	3.1	ug/L	11028	Standard
	Cr	53	75881.2	0.6	53.4172	0.778	1.5	ug/L	333	Standard
	Mn	55	511196.7	1.6	41.9417	0.957	2.3	ug/L	3794	Standard
	Co	59	12650.3	1.9	1.0790	0.027	2.5	ug/L	200	Standard
	Ni	60	6012.5	0.8	2.4630	0.024	1.0	ug/L	111	Standard
	Cu	65	3975.2	2.8	1.7149	0.063	3.7	ug/L	137	Standard
	Zn	66	4056.2	0.7	3.3880	0.048	1.4	ug/L	360	Standard
[>	Ge	72	202520.2	0.8				ug/L	236618	Standard
	As	75	4446.8	9.7	4.4927	0.436	9.7	ug/L	-269	Standard
	Se	82	3213.4	3.1	30.0559	1.174	3.9	ug/L	22	Standard
[	Se-1	77	5426.0	1.8	73.1237	1.801	2.5	ug/L	91	Standard
[>	Ga	71	172459.8	2.9				mg/L	202510	Standard
	Rb	85	101468.9	3.3				ug/L	10	Standard
[	Y	89	200498.0	1.2				ug/L	222253	Standard
[>	Rh	103	91578.3	1.2				ug/L	115393	Standard
[	Mo	98	3140.4	1.1	0.8059	0.011	1.4	ug/L	14	Standard
	Ag	107	33.3	6.2	-0.0051	0.000	7.1	ug/L	48	Standard
	Cd	111	91.4	19.7	0.0038	0.007	187.8	mg/L	86	Standard
	Cd	114	248.9	5.4	0.0056	0.002	28.5	ug/L	246	Standard
[>	In	115	376983.8	1.4				ug/L	421413	Standard
	Sn	118	488.7	6.1	0.0148	0.003	18.9	ug/L	392	Standard
	Sb	123	963.0	3.0	0.1548	0.003	1.9	ug/L	70	Standard
	Ba	135	40994.7	0.9	14.6993	0.076	0.5	ug/L	39	Standard
[	Ce	140	1221.0	1.2				ug/L	138	Standard
[>	Tb	159	408121.3	1.1				ug/L	426404	Standard
[	Ho	165	33.0	18.4				ug/L	7	Standard
	Tl	203	32.7	9.8	0.0014	0.000	27.0	ug/L	11	Standard
	Tl	205	70.0	23.5	0.0025	0.001	36.2	ug/L	18	Standard
	Pb	206	340.7	3.2	0.0306	0.002	6.6	ug/L	174	Standard
	Pb	207	277.7	12.1	0.0301	0.006	18.8	ug/L	146	Standard
	Pb	208	1314.0	2.2	0.0296	0.001	3.4	ug/L	687	Standard
	U	238	768.7	3.1	0.0670	0.001	2.2	ug/L	131	Standard
[>	Bi	209	197617.5	1.3				ug/L	245542	Standard
[	Na	23	892401.1	0.7	83.9573	0.121	0.1	mg/L	180	Standard
	Mg	24	28630110.2	0.9	79.6601	0.296	0.4	mg/L	930	Standard

Sample ID: L1206044803

Report Date/Time: Tuesday, June 19, 2012 11:57:14

Page 1

Approved: June 19, 2012

	K	39	22368.2	1.0	24.4708	0.436	1.8	mg/L	162	Standard
	Ca	43	58.3	26.2	50.7430	13.609	26.8	mg/L	2	Standard
	Fe	54	470.7	4.6	0.0068	0.008	121.1	mg/L	439	Standard
	Fe	57	16590.8	4.4	0.0991	0.006	5.8	mg/L	5846	Standard
>	Sc-1	45	282395.8	0.8				mg/L	276213	Standard
	Cl	35	2834.6	2.4				ug/L	6	Standard
	Kr	83	1430.5	5.7				ug/L	41	Standard
	Br	81	660998.7	1.6				ug/L	5073	Standard
	P	31	68065.1	1.5				ug/L	51446	Standard
	S	34	4862652.4	2.1				ug/L	649594	Standard
	Sr	88	697321.3	3.5				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		85.590	
As	75			
Se	82			
Se-1	77			
> Ga	71		85.161	
Rb	85			
Y	89			
> Rh	103		79.362	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		89.457	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		95.712	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206044803

Report Date/Time: Tuesday, June 19, 2012 11:57:14

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	80.482
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

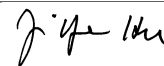
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206044803

Report Date/Time: Tuesday, June 19, 2012 11:57:14

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, June 19, 2012 11:57:58

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9432.9	5.5	113.9412	95.270	83.6	ug/L	8387	Standard
	Be	9	130326.6	1.8	50.1937	0.618	1.2	ug/L	38	Standard
	Al	27	656727.0	1.2	53.5835	0.197	0.4	ug/L	15112	Standard
>	Sc	45	287417.4	1.1				ug/L	276213	Standard
	Ti	47	143957.5	2.0	101.9820	1.962	1.9	ug/L	124	Standard
	V	51	748261.6	1.1	52.5501	0.768	1.5	ug/L	3503	Standard
	Cr	52	565167.7	1.0	52.9971	0.776	1.5	ug/L	11028	Standard
	Cr	53	85177.9	1.0	52.1960	0.582	1.1	ug/L	333	Standard
	Mn	55	737711.4	0.5	52.7126	0.698	1.3	ug/L	3794	Standard
	Co	59	669087.5	1.7	50.2036	0.645	1.3	ug/L	200	Standard
	Ni	60	138668.7	0.5	50.1945	0.400	0.8	ug/L	111	Standard
	Cu	65	128910.4	1.1	50.1928	0.296	0.6	ug/L	137	Standard
	Zn	66	61337.6	0.6	49.0864	0.249	0.5	ug/L	360	Standard
>	Ge	72	232625.3	1.1				ug/L	236618	Standard
	As	75	58839.0	0.3	49.6204	0.536	1.1	ug/L	-269	Standard
	Se	82	6250.7	1.1	51.0061	0.514	1.0	ug/L	22	Standard
	Se-1	77	4360.0	0.6	50.8138	0.793	1.6	ug/L	91	Standard
>	Ga	71	191684.9	0.6				mg/L	202510	Standard
	Rb	85	1075.0	7.9				ug/L	10	Standard
	Y	89	222786.6	2.5				ug/L	222253	Standard
>	Rh	103	110313.1	0.7				ug/L	115393	Standard
	Mo	98	424122.5	0.6	94.1619	0.592	0.6	ug/L	14	Standard
	Ag	107	351168.7	0.5	47.8259	0.509	1.1	ug/L	48	Standard
	Cd	111	148813.3	0.7	48.7385	0.049	0.1	mg/L	86	Standard
	Cd	114	429372.2	0.1	49.6559	0.378	0.8	ug/L	246	Standard
>	In	115	441046.2	0.7				ug/L	421413	Standard
	Sn	118	498334.7	0.5	49.1616	0.141	0.3	ug/L	392	Standard
	Sb	123	348885.0	0.5	48.0288	0.371	0.8	ug/L	70	Standard
	Ba	135	162090.4	0.5	49.7179	0.565	1.1	ug/L	39	Standard
	Ce	140	671.0	4.4				ug/L	138	Standard
>	Tb	159	458357.9	1.4				ug/L	426404	Standard
	Ho	165	8.0	12.5				ug/L	7	Standard
	Tl	203	523941.5	1.4	49.1371	0.564	1.1	ug/L	11	Standard
	Tl	205	1254348.3	1.5	50.0641	0.595	1.2	ug/L	18	Standard
	Pb	206	427521.1	1.5	48.9809	0.707	1.4	ug/L	174	Standard
	Pb	207	367790.2	0.8	49.9739	0.409	0.8	ug/L	146	Standard
	Pb	208	1668365.0	1.1	49.5543	0.477	1.0	ug/L	687	Standard
	U	238	739741.7	0.7	48.6360	0.590	1.2	ug/L	131	Standard
>	Bi	209	258388.2	1.4				ug/L	245542	Standard
	Na	23	64102.0	2.4	5.9079	0.203	3.4	mg/L	180	Standard
	Mg	24	1788989.4	1.1	4.8897	0.100	2.1	mg/L	930	Standard

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 12:00:31

Page 1

Approved: June 19, 2012



	K	39	5257.6	1.9	5.5068	0.097	1.8	mg/L	162	Standard
	Ca	43	15.0	33.3	12.8058	4.226	33.0	mg/L	2	Standard
	Fe	54	16863.7	2.9	5.7686	0.217	3.8	mg/L	439	Standard
	Fe	57	629809.3	3.7	5.2378	0.250	4.8	mg/L	5846	Standard
>	Sc-1	45	287417.4	1.1				mg/L	276213	Standard
	Cl	35	26.3	31.8				ug/L	6	Standard
	Kr	83	52.0	9.0				ug/L	41	Standard
	Br	81	12968.1	10.6				ug/L	5073	Standard
	P	31	69433.7	0.8				ug/L	51446	Standard
	S	34	862427.1	3.2				ug/L	649594	Standard
	Sr	88	2020.2	71.2				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	107.167		
> Sc	45			
Ti	47	101.982		
V	51	105.100		
Cr	52	105.994		
Cr	53			
Mn	55	105.425		
Co	59	100.407		
Ni	60	100.389		
Cu	65	100.386		
Zn	66	98.173		
> Ge	72		98.313	
As	75	99.241		
Se	82	102.012		
Se-1	77			
> Ga	71		94.655	
Rb	85			
Y	89			
> Rh	103		95.598	
Mo	98	94.162		
Ag	107	95.652		
Cd	111	97.477		
Cd	114			
> In	115		104.659	
Sn	118	98.323		
Sb	123	96.058		
Ba	135	99.436		
Ce	140			
> Tb	159		107.494	
Ho	165			
Tl	203	98.274		
Tl	205			
Pb	206	97.962		

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 12:00:31

Page 2

Approved: June 19, 2012



	Pb	207	99.948	
	Pb	208	99.109	
	U	238	97.272	
>	Bi	209		105.232
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 12:00:31

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, June 19, 2012 12:01:13

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	8577.4	7.9	20.0168	91.929	459.3	ug/L	8387	Standard
	Be	9	31.7	39.7	0.0061	0.005	80.9	ug/L	38	Standard
	Al	27	5726.1	8.2	0.0561	0.045	79.8	ug/L	15112	Standard
>	Sc	45	278386.2	1.5				ug/L	276213	Standard
	Ti	47	202.7	15.9	0.0848	0.027	31.6	ug/L	124	Standard
	V	51	3915.0	4.5	0.0527	0.015	29.0	ug/L	3503	Standard
	Cr	52	10886.6	0.7	0.0553	0.014	25.0	ug/L	11028	Standard
	Cr	53	1781.8	12.3	0.9580	0.163	17.0	ug/L	333	Standard
	Mn	55	1305.7	13.8	0.0180	0.014	78.7	ug/L	3794	Standard
	Co	59	185.7	35.3	0.0029	0.005	183.7	ug/L	200	Standard
	Ni	60	137.3	11.6	0.0131	0.007	52.2	ug/L	111	Standard
	Cu	65	350.0	7.6	0.0767	0.014	17.8	ug/L	137	Standard
	Zn	66	399.3	3.7	-0.0334	0.019	56.7	ug/L	360	Standard
>	Ge	72	223503.8	2.0				ug/L	236618	Standard
	As	75	-185.4	14.6	0.0399	0.020	51.2	ug/L	-269	Standard
	Se	82	50.8	17.0	0.2656	0.077	29.1	ug/L	22	Standard
	Se-1	77	126.7	9.2	0.4405	0.148	33.6	ug/L	91	Standard
>	Ga	71	191361.1	1.9				mg/L	202510	Standard
	Rb	85	53.3	109.9				ug/L	10	Standard
	Y	89	212826.0	0.9				ug/L	222253	Standard
>	Rh	103	107731.3	0.5				ug/L	115393	Standard
	Mo	98	185.5	44.8	0.0328	0.019	58.5	ug/L	14	Standard
	Ag	107	147.7	66.9	0.0104	0.014	134.4	ug/L	48	Standard
	Cd	111	115.9	22.7	0.0081	0.009	110.8	mg/L	86	Standard
	Cd	114	353.2	29.4	0.0143	0.013	87.7	ug/L	246	Standard
>	In	115	425383.5	0.7				ug/L	421413	Standard
	Sn	118	615.3	16.2	0.0213	0.010	46.0	ug/L	392	Standard
	Sb	123	873.2	36.0	0.1241	0.044	35.5	ug/L	70	Standard
	Ba	135	133.3	48.9	0.0257	0.021	80.4	ug/L	39	Standard
	Ce	140	30.3	25.6				ug/L	138	Standard
>	Tb	159	437873.0	0.8				ug/L	426404	Standard
	Ho	165	2.7	21.7				ug/L	7	Standard
	Tl	203	136.7	56.1	0.0106	0.007	69.8	ug/L	11	Standard
	Tl	205	310.3	53.3	0.0115	0.007	58.9	ug/L	18	Standard
	Pb	206	310.3	25.2	0.0159	0.009	59.1	ug/L	174	Standard
	Pb	207	257.7	27.4	0.0166	0.010	61.1	ug/L	146	Standard
	Pb	208	1162.4	28.0	0.0139	0.010	73.5	ug/L	687	Standard
	U	238	159.3	54.4	0.0117	0.006	50.8	ug/L	131	Standard
>	Bi	209	252978.6	1.1				ug/L	245542	Standard
	Na	23	1825.1	39.3	0.1540	0.068	44.4	mg/L	180	Standard
	Mg	24	2145.3	122.8	0.0042	0.007	174.5	mg/L	930	Standard

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 12:03:46

Page 1

Approved: June 19, 2012



	K	39	156.7	29.7	-0.0123	0.051	412.7	mg/L	162	Standard
	Ca	43	1.7	173.2	1.4668	2.532	172.6	mg/L	2	Standard
	Fe	54	535.0	2.2	0.0326	0.005	16.8	mg/L	439	Standard
	Fe	57	6001.2	6.8	0.0096	0.004	41.6	mg/L	5846	Standard
>	Sc-1	45	278386.2	1.5				mg/L	276213	Standard
	Cl	35	10.3	24.4				ug/L	6	Standard
	Kr	83	36.9	6.0				ug/L	41	Standard
	Br	81	7882.0	1.6				ug/L	5073	Standard
	P	31	67598.0	1.4				ug/L	51446	Standard
	S	34	830871.1	0.3				ug/L	649594	Standard
	Sr	88	113.3	67.5				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		94.458	
As	75			
Se	82			
Se-1	77			
> Ga	71		94.495	
Rb	85			
Y	89			
> Rh	103		93.360	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		100.942	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		102.690	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 12:03:46

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	103.028
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

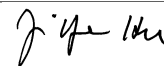
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 12:03:46

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: PBW 43 WG401015-02

Sample Date/Time: Tuesday, June 19, 2012 13:47:45

Number of Replicates: 3

Autosampler Position: 310

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	19382.4	4.5	801.2161	44.507	5.6	ug/L	8387	Standard
	Be	9	28.3	53.9	0.0013	0.004	337.1	ug/L	38	Standard
	Al	27	203793.2	1.2	11.4478	0.317	2.8	ug/L	15112	Standard
>	Sc	45	405736.3	2.5				ug/L	276213	Standard
	Ti	47	268.3	5.3	0.0957	0.013	13.1	ug/L	124	Standard
	V	51	258513.9	7.2	15.1515	0.961	6.3	ug/L	3503	Standard
	Cr	52	65113.3	2.7	4.2293	0.277	6.5	ug/L	11028	Standard
	Cr	53	625889.9	5.7	325.0695	26.687	8.2	ug/L	333	Standard
	Mn	55	6827.5	1.8	0.3331	0.006	1.9	ug/L	3794	Standard
	Co	59	148.7	3.3	-0.0022	0.000	8.3	ug/L	200	Standard
	Ni	60	860.0	8.3	0.2240	0.017	7.5	ug/L	111	Standard
	Cu	65	679.7	2.3	0.1582	0.008	5.2	ug/L	137	Standard
	Zn	66	3029.6	6.5	1.6913	0.080	4.7	ug/L	360	Standard
>	Ge	72	275645.9	2.6				ug/L	236618	Standard
	As	75	782.9	75.2	0.7512	0.400	53.3	ug/L	-269	Standard
	Se	82	124.7	30.4	0.6980	0.283	40.5	ug/L	22	Standard
	Se-1	77	24026.0	0.8	240.5546	8.087	3.4	ug/L	91	Standard
>	Ga	71	237667.1	2.7				mg/L	202510	Standard
	Rb	85	96.7	18.2				ug/L	10	Standard
	Y	89	239928.8	2.4				ug/L	222253	Standard
>	Rh	103	118819.9	2.6				ug/L	115393	Standard
	Mo	98	172.0	5.3	0.0202	0.001	6.5	ug/L	14	Standard
	Ag	107	112.0	17.0	0.0016	0.002	135.8	ug/L	48	Standard
	Cd	111	132.3	7.4	0.0029	0.002	70.9	mg/L	86	Standard
	Cd	114	425.6	3.9	0.0108	0.002	18.3	ug/L	246	Standard
>	In	115	559430.7	1.4				ug/L	421413	Standard
	Sn	118	3682.1	0.5	0.2450	0.003	1.2	ug/L	392	Standard
	Sb	123	1336.0	47.1	0.1452	0.070	48.2	ug/L	70	Standard
	Ba	135	371.0	4.1	0.0731	0.003	3.6	ug/L	39	Standard
	Ce	140	213.0	10.6				ug/L	138	Standard
>	Tb	159	603826.2	0.9				ug/L	426404	Standard
	Ho	165	7.0	42.9				ug/L	7	Standard
	Tl	203	5.7	10.2	-0.0021	0.000	2.8	ug/L	11	Standard
	Tl	205	17.7	19.9	-0.0006	0.000	24.6	ug/L	18	Standard
	Pb	206	369.0	3.8	0.0163	0.003	15.7	ug/L	174	Standard
	Pb	207	323.3	5.8	0.0188	0.001	5.7	ug/L	146	Standard
	Pb	208	1439.4	2.3	0.0156	0.000	2.2	ug/L	687	Standard
	U	238	3.3	62.4	0.0011	0.000	10.5	ug/L	131	Standard
>	Bi	209	298303.5	3.2				ug/L	245542	Standard
	Na	23	6571.5	20.4	0.4117	0.099	24.1	mg/L	180	Standard
	Mg	24	23641.8	1.7	0.0440	0.001	2.1	mg/L	930	Standard

Sample ID: PBW 43 WG401015-02

Report Date/Time: Tuesday, June 19, 2012 13:50:18

Page 1

Approved: June 19, 2012



	K	39	300.0	16.1	0.0427	0.035	82.9	mg/L	162	Standard
	Ca	43	3.3	86.6	2.0272	1.753	86.5	mg/L	2	Standard
	Fe	54	819.2	7.0	0.0422	0.009	21.9	mg/L	439	Standard
	Fe	57	1943.5	13.8	-0.0308	0.001	4.5	mg/L	5846	Standard
>	Sc-1	45	405736.3	2.5				mg/L	276213	Standard
	Cl	35	17312.9	2.1				ug/L	6	Standard
	Kr	83	91.2	8.0				ug/L	41	Standard
	Br	81	25841.7	18.9				ug/L	5073	Standard
	P	31	140919.9	1.5				ug/L	51446	Standard
	S	34	1255340.2	1.0				ug/L	649594	Standard
	Sr	88	451.7	8.5				ug/L	65	Standard

QC Calculated Values

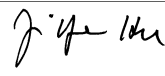
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	116.494	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	117.361	
	Rb	85		
	Y	89		
>	Rh	103	102.970	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	132.751	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	141.609	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: PBW 43 WG401015-02

Report Date/Time: Tuesday, June 19, 2012 13:50:18

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	121.488
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Cr 53 Upper, S, EEE	Cr	53	
Se-1 77 Upper, S, EEE	Se-1	77	
In 115 Int Std for sample	In	115	Rerun sample
Tb 159 Int Std for sample	Tb	159	Rerun sample
Bi 209 Int Std for sample	Bi	209	Rerun sample

Sample ID: PBW 43 WG401015-02

Report Date/Time: Tuesday, June 19, 2012 13:50:18

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: PBW 43 WG401015-02

Sample Date/Time: Tuesday, June 19, 2012 14:34:53

Number of Replicates: 3

Autosampler Position: 310

Sample Description: 10

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

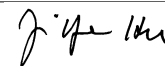
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[	Li	7	10483.6	1.7	205.1883	23.500	11.5	ug/L	8387	Standard
	Be	9	10.0	50.0	-0.0028	0.002	69.1	ug/L	38	Standard
	Al	27	26683.5	2.5	1.6645	0.072	4.3	ug/L	15112	Standard
[>	Sc	45	301224.9	3.0				ug/L	276213	Standard
[	Ti	47	123.0	10.0	0.0243	0.009	37.6	ug/L	124	Standard
	V	51	28805.5	1.0	1.8475	0.047	2.5	ug/L	3503	Standard
	Cr	52	15926.7	0.9	0.5321	0.022	4.1	ug/L	11028	Standard
	Cr	53	72303.0	2.1	45.3759	0.977	2.2	ug/L	333	Standard
	Mn	55	2668.6	3.7	0.1164	0.007	6.2	ug/L	3794	Standard
	Co	59	92.3	7.0	-0.0045	0.000	10.9	ug/L	200	Standard
	Ni	60	178.0	13.2	0.0274	0.009	34.1	ug/L	111	Standard
	Cu	65	237.3	2.5	0.0293	0.003	9.9	ug/L	137	Standard
	Zn	66	2349.8	1.9	1.5731	0.062	3.9	ug/L	360	Standard
[>	Ge	72	227026.4	1.3				ug/L	236618	Standard
	As	75	-398.9	40.9	-0.1422	0.142	100.1	ug/L	-269	Standard
	Se	82	23.4	3.9	0.0289	0.008	27.5	ug/L	22	Standard
[	Se-1	77	2383.9	3.6	27.9630	0.745	2.7	ug/L	91	Standard
[>	Ga	71	194971.5	0.6				mg/L	202510	Standard
	Rb	85	33.3	31.2				ug/L	10	Standard
[	Y	89	217358.1	1.0				ug/L	222253	Standard
[>	Rh	103	107654.4	0.2				ug/L	115393	Standard
[	Mo	98	184.2	6.4	0.0277	0.002	6.9	ug/L	14	Standard
	Ag	107	33.7	17.9	-0.0062	0.001	11.3	ug/L	48	Standard
	Cd	111	98.2	13.5	-0.0016	0.004	214.4	mg/L	86	Standard
	Cd	114	271.8	4.4	0.0009	0.002	186.0	ug/L	246	Standard
[>	In	115	478688.8	2.3				ug/L	421413	Standard
	Sn	118	716.7	4.4	0.0236	0.003	12.0	ug/L	392	Standard
	Sb	123	79.4	22.8	0.0097	0.002	21.6	ug/L	70	Standard
	Ba	135	87.3	8.9	0.0081	0.003	34.4	ug/L	39	Standard
[	Ce	140	63.3	14.7				ug/L	138	Standard
[>	Tb	159	492362.3	3.1				ug/L	426404	Standard
[	Ho	165	7.0	37.8				ug/L	7	Standard
	Tl	203	24.3	27.4	-0.0004	0.001	163.9	ug/L	11	Standard
	Tl	205	54.7	51.8	0.0009	0.001	120.1	ug/L	18	Standard
	Pb	206	279.7	2.4	0.0103	0.001	8.4	ug/L	174	Standard
	Pb	207	242.0	17.7	0.0124	0.006	46.2	ug/L	146	Standard
	Pb	208	1085.0	5.3	0.0095	0.002	18.8	ug/L	687	Standard
	U	238	5.7	127.7	0.0013	0.000	35.7	ug/L	131	Standard
[>	Bi	209	269167.9	0.4				ug/L	245542	Standard
[	Na	23	618.3	20.9	0.0343	0.012	36.0	mg/L	180	Standard
	Mg	24	2138.5	16.0	0.0038	0.001	25.9	mg/L	930	Standard

Sample ID: PBW 43 WG401015-02

Report Date/Time: Tuesday, June 19, 2012 14:37:26

Page 1

Approved: June 19, 2012



	K	39	160.0	3.1	-0.0219	0.007	30.8	mg/L	162	Standard
	Ca	43	0.0		0.0050			mg/L	2	Standard
	Fe	54	522.7	11.0	0.0135	0.015	111.5	mg/L	439	Standard
	Fe	57	5089.2	4.2	-0.0016	0.003	177.7	mg/L	5846	Standard
>	Sc-1	45	301224.9	3.0				mg/L	276213	Standard
	Cl	35	1077.4	2.7				ug/L	6	Standard
	Kr	83	38.8	5.7				ug/L	41	Standard
	Br	81	6295.5	3.0				ug/L	5073	Standard
	P	31	77143.5	2.8				ug/L	51446	Standard
	S	34	985617.2	2.0				ug/L	649594	Standard
	Sr	88	116.7	13.1				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	95.946	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	96.278	
	Rb	85		
	Y	89		
>	Rh	103	93.294	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	113.591	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	115.469	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: PBW 43 WG401015-02

Report Date/Time: Tuesday, June 19, 2012 14:37:26

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	109.622
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: PBW 43 WG401015-02
 Report Date/Time: Tuesday, June 19, 2012 14:37:26
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: F BLANK WG400954-01

Sample Date/Time: Tuesday, June 19, 2012 14:38:08

Number of Replicates: 3

Autosampler Position: 311

Sample Description: 10

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	10950.6	3.3	192.5311	57.610	29.9	ug/L	8387	Standard
	Be	9	11.7	24.7	-0.0024	0.001	36.6	ug/L	38	Standard
	Al	27	60339.9	2.0	4.0676	0.040	1.0	ug/L	15112	Standard
>	Sc	45	317144.4	2.5				ug/L	276213	Standard
	Ti	47	289.3	6.4	0.1375	0.013	9.7	ug/L	124	Standard
	V	51	30227.5	3.7	1.8705	0.091	4.9	ug/L	3503	Standard
	Cr	52	17590.9	0.9	0.6322	0.024	3.8	ug/L	11028	Standard
	Cr	53	74425.7	0.9	44.9996	0.419	0.9	ug/L	333	Standard
	Mn	55	9010.0	1.2	0.5572	0.011	1.9	ug/L	3794	Standard
	Co	59	120.7	6.3	-0.0027	0.001	19.3	ug/L	200	Standard
	Ni	60	308.7	10.4	0.0716	0.011	15.3	ug/L	111	Standard
	Cu	65	418.3	5.3	0.0955	0.009	9.3	ug/L	137	Standard
	Zn	66	2748.6	1.8	1.8191	0.031	1.7	ug/L	360	Standard
>	Ge	72	235624.7	0.6				ug/L	236618	Standard
	As	75	-379.5	38.7	-0.1130	0.121	107.2	ug/L	-269	Standard
	Se	82	20.8	16.5	0.0010	0.028	2669.4	ug/L	22	Standard
	Se-1	77	2498.2	0.7	28.2519	0.320	1.1	ug/L	91	Standard
>	Ga	71	200965.8	1.4				mg/L	202510	Standard
	Rb	85	148.3	3.9				ug/L	10	Standard
	Y	89	219086.0	1.1				ug/L	222253	Standard
>	Rh	103	110484.7	0.4				ug/L	115393	Standard
	Mo	98	182.2	6.5	0.0258	0.002	7.3	ug/L	14	Standard
	Ag	107	39.3	12.5	-0.0057	0.001	10.4	ug/L	48	Standard
	Cd	111	108.2	6.5	0.0001	0.002	1709.8	mg/L	86	Standard
	Cd	114	322.0	9.0	0.0049	0.003	68.6	ug/L	246	Standard
>	In	115	498647.6	1.5				ug/L	421413	Standard
	Sn	118	719.7	1.3	0.0212	0.001	5.0	ug/L	392	Standard
	Sb	123	52.3	5.4	0.0060	0.000	5.5	ug/L	70	Standard
	Ba	135	252.0	11.0	0.0517	0.007	14.2	ug/L	39	Standard
	Ce	140	263.3	1.2				ug/L	138	Standard
>	Tb	159	513238.7	1.2				ug/L	426404	Standard
	Ho	165	8.7	37.1				ug/L	7	Standard
	Tl	203	19.7	7.8	-0.0008	0.000	15.9	ug/L	11	Standard
	Tl	205	50.0	12.5	0.0007	0.000	34.2	ug/L	18	Standard
	Pb	206	451.0	3.2	0.0278	0.002	6.2	ug/L	174	Standard
	Pb	207	382.0	0.5	0.0292	0.000	0.5	ug/L	146	Standard
	Pb	208	1725.4	2.0	0.0264	0.001	4.2	ug/L	687	Standard
	U	238	3.7	41.7	0.0012	0.000	8.1	ug/L	131	Standard
>	Bi	209	276750.0	0.4				ug/L	245542	Standard
	Na	23	86119.1	2.1	7.1971	0.146	2.0	mg/L	180	Standard
	Mg	24	1706.8	10.4	0.0024	0.000	15.4	mg/L	930	Standard

Sample ID: F BLANK WG400954-01

Report Date/Time: Tuesday, June 19, 2012 14:40:40

Page 1

Approved: June 19, 2012

	K	39	200.0	5.0	0.0089	0.006	68.7	mg/L	162	Standard
	Ca	43	0.0		0.0050			mg/L	2	Standard
	Fe	54	497.3	13.1	-0.0033	0.019	566.1	mg/L	439	Standard
	Fe	57	5259.2	4.9	-0.0024	0.001	54.1	mg/L	5846	Standard
>	Sc-1	45	317144.4	2.5				mg/L	276213	Standard
	Cl	35	1159.0	1.2				ug/L	6	Standard
	Kr	83	43.2	7.3				ug/L	41	Standard
	Br	81	6346.3	3.1				ug/L	5073	Standard
	P	31	76798.3	1.4				ug/L	51446	Standard
	S	34	1005125.9	0.5				ug/L	649594	Standard
	Sr	88	96.7	23.3				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		99.580	
As	75			
Se	82			
Se-1	77			
> Ga	71		99.238	
Rb	85			
Y	89			
> Rh	103		95.746	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		118.327	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		120.364	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: F BLANK WG400954-01

Report Date/Time: Tuesday, June 19, 2012 14:40:40

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	112.710
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Tb 159 Int Std for sample	Tb	159	Rerun sample

Sample ID: F BLANK WG400954-01
 Report Date/Time: Tuesday, June 19, 2012 14:40:40
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: F BLANK WG400954-02

Sample Date/Time: Tuesday, June 19, 2012 14:41:22

Number of Replicates: 3

Autosampler Position: 312

Sample Description: 10

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

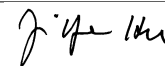
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	11102.4	5.5	258.8765	34.978	13.5	ug/L	8387	Standard
	Be	9	20.0	90.1	0.0007	0.006	965.8	ug/L	38	Standard
	Al	27	138961.1	1.7	10.2257	0.294	2.9	ug/L	15112	Standard
>	Sc	45	308499.3	4.2				ug/L	276213	Standard
	Ti	47	963.4	1.5	0.6317	0.027	4.2	ug/L	124	Standard
	V	51	32092.6	4.7	2.0777	0.195	9.4	ug/L	3503	Standard
	Cr	52	17801.8	1.8	0.7077	0.043	6.0	ug/L	11028	Standard
	Cr	53	79733.5	2.2	49.8209	1.055	2.1	ug/L	333	Standard
	Mn	55	17840.8	1.1	1.2232	0.047	3.9	ug/L	3794	Standard
	Co	59	131.7	8.9	-0.0015	0.001	69.2	ug/L	200	Standard
	Ni	60	161.3	12.9	0.0208	0.007	34.8	ug/L	111	Standard
	Cu	65	574.7	3.4	0.1633	0.017	10.6	ug/L	137	Standard
	Zn	66	2737.9	3.5	1.8861	0.174	9.2	ug/L	360	Standard
>	Ge	72	228219.9	4.2				ug/L	236618	Standard
	As	75	-264.4	36.7	-0.0259	0.087	335.3	ug/L	-269	Standard
	Se	82	26.8	6.0	0.0568	0.023	40.6	ug/L	22	Standard
	Se-1	77	2575.9	1.2	30.1957	1.733	5.7	ug/L	91	Standard
>	Ga	71	196589.3	5.0				mg/L	202510	Standard
	Rb	85	358.3	15.9				ug/L	10	Standard
	Y	89	217718.6	2.3				ug/L	222253	Standard
>	Rh	103	108980.2	1.4				ug/L	115393	Standard
	Mo	98	196.4	7.4	0.0294	0.003	10.3	ug/L	14	Standard
	Ag	107	39.7	5.2	-0.0056	0.000	4.5	ug/L	48	Standard
	Cd	111	109.9	10.1	0.0012	0.004	301.4	mg/L	86	Standard
	Cd	114	299.0	4.5	0.0031	0.002	55.7	ug/L	246	Standard
>	In	115	489636.0	1.1				ug/L	421413	Standard
	Sn	118	733.4	0.5	0.0236	0.001	2.2	ug/L	392	Standard
	Sb	123	78.9	3.2	0.0095	0.000	4.4	ug/L	70	Standard
	Ba	135	518.0	0.5	0.1265	0.002	1.6	ug/L	39	Standard
	Ce	140	828.0	5.1				ug/L	138	Standard
>	Tb	159	501508.2	1.9				ug/L	426404	Standard
	Ho	165	15.7	16.1				ug/L	7	Standard
	Tl	203	22.0	32.8	-0.0006	0.001	96.1	ug/L	11	Standard
	Tl	205	49.7	11.4	0.0007	0.000	41.2	ug/L	18	Standard
	Pb	206	945.4	1.8	0.0818	0.004	5.1	ug/L	174	Standard
	Pb	207	815.4	4.5	0.0852	0.002	2.8	ug/L	146	Standard
	Pb	208	3690.8	0.5	0.0820	0.003	4.2	ug/L	687	Standard
	U	238	1.7	34.6	0.0010	0.000	3.2	ug/L	131	Standard
>	Bi	209	274171.7	3.8				ug/L	245542	Standard
	Na	23	1240.1	6.0	0.0867	0.010	11.2	mg/L	180	Standard
	Mg	24	2213.5	2.6	0.0038	0.000	10.3	mg/L	930	Standard

Sample ID: F BLANK WG400954-02

Report Date/Time: Tuesday, June 19, 2012 14:43:55

Page 1

Approved: June 19, 2012



	K	39	168.3	32.7	-0.0189	0.050	263.7	mg/L	162	Standard
	Ca	43	0.0		0.0050			mg/L	2	Standard
	Fe	54	604.0	12.8	0.0361	0.023	62.6	mg/L	439	Standard
	Fe	57	5431.0	3.7	0.0001	0.001	2317.2	mg/L	5846	Standard
>	Sc-1	45	308499.3	4.2				mg/L	276213	Standard
	Cl	35	1181.7	4.2				ug/L	6	Standard
	Kr	83	39.2	8.7				ug/L	41	Standard
	Br	81	6625.6	0.3				ug/L	5073	Standard
	P	31	76525.3	2.0				ug/L	51446	Standard
	S	34	1007133.3	1.1				ug/L	649594	Standard
	Sr	88	136.7	18.8				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	96.451	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	97.077	
	Rb	85		
	Y	89		
>	Rh	103	94.443	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	116.189	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	117.613	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: F BLANK WG400954-02

Report Date/Time: Tuesday, June 19, 2012 14:43:55

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	111.660
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: F BLANK WG400954-02
 Report Date/Time: Tuesday, June 19, 2012 14:43:55
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: LCSW 43 WG401015-03

Sample Date/Time: Tuesday, June 19, 2012 14:44:38

Number of Replicates: 3

Autosampler Position: 313

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	92991.2	1.0	12775.6488	302.294	2.4	ug/L	8387	Standard
	Be	9	726.7	1.7	0.2598	0.005	2.1	ug/L	38	Standard
	Al	27	661816.8	1.4	51.3537	1.312	2.6	ug/L	15112	Standard
>	Sc	45	302229.1	2.5				ug/L	276213	Standard
	Ti	47	7221.4	0.8	5.2341	0.023	0.4	ug/L	124	Standard
	V	51	88740.9	0.7	6.2454	0.060	1.0	ug/L	3503	Standard
	Cr	52	40282.5	0.5	2.9581	0.018	0.6	ug/L	11028	Standard
	Cr	53	34840.8	0.4	21.9950	0.127	0.6	ug/L	333	Standard
	Mn	55	38591.4	0.6	2.7794	0.014	0.5	ug/L	3794	Standard
	Co	59	12937.2	1.4	0.9935	0.011	1.1	ug/L	200	Standard
	Ni	60	6779.2	1.6	2.5034	0.034	1.4	ug/L	111	Standard
	Cu	65	6463.7	2.2	2.5431	0.046	1.8	ug/L	137	Standard
	Zn	66	8707.5	1.6	6.8988	0.090	1.3	ug/L	360	Standard
>	Ge	72	224709.7	0.4				ug/L	236618	Standard
	As	75	1956.9	0.9	1.9030	0.017	0.9	ug/L	-269	Standard
	Se	82	254.3	2.1	1.9880	0.039	2.0	ug/L	22	Standard
	Se-1	77	1208.4	1.8	13.7723	0.315	2.3	ug/L	91	Standard
>	Ga	71	193933.4	1.4				mg/L	202510	Standard
	Rb	85	178.3	27.2				ug/L	10	Standard
	Y	89	216043.0	1.7				ug/L	222253	Standard
>	Rh	103	106937.4	0.7				ug/L	115393	Standard
	Mo	98	20168.9	1.2	4.1143	0.055	1.3	ug/L	14	Standard
	Ag	107	13650.8	0.2	1.7020	0.011	0.6	ug/L	48	Standard
	Cd	111	879.0	0.4	0.2340	0.000	0.2	mg/L	86	Standard
	Cd	114	2547.8	0.9	0.2434	0.001	0.5	ug/L	246	Standard
>	In	115	478911.4	0.5				ug/L	421413	Standard
	Sn	118	812.4	10.1	0.0322	0.008	24.2	ug/L	392	Standard
	Sb	123	44770.6	0.7	5.6758	0.066	1.2	ug/L	70	Standard
	Ba	135	17048.6	1.5	4.8006	0.075	1.6	ug/L	39	Standard
	Ce	140	75.3	7.5				ug/L	138	Standard
>	Tb	159	491061.1	0.3				ug/L	426404	Standard
	Ho	165	5.3	60.3				ug/L	7	Standard
	Tl	203	27046.5	0.8	2.3965	0.042	1.8	ug/L	11	Standard
	Tl	205	65079.8	0.4	2.4555	0.040	1.6	ug/L	18	Standard
	Pb	206	21562.7	1.4	2.3171	0.061	2.6	ug/L	174	Standard
	Pb	207	19781.9	1.2	2.5237	0.043	1.7	ug/L	146	Standard
	Pb	208	86742.2	0.8	2.4163	0.047	1.9	ug/L	687	Standard
	U	238	1.3	86.6	0.0010	0.000	7.2	ug/L	131	Standard
>	Bi	209	273236.0	1.4				ug/L	245542	Standard
	Na	23	6788.2	7.6	0.5771	0.053	9.2	mg/L	180	Standard
	Mg	24	27104.2	2.1	0.0687	0.003	3.8	mg/L	930	Standard

Sample ID: LCSW 43 WG401015-03

Report Date/Time: Tuesday, June 19, 2012 14:47:10

Page 1

Approved: June 19, 2012



	K	39	451.7	2.3	0.2782	0.020	7.1	mg/L	162	Standard
	Ca	43	0.0		0.0050			mg/L	2	Standard
	Fe	54	611.1	4.1	0.0429	0.013	31.4	mg/L	439	Standard
	Fe	57	8394.0	2.0	0.0246	0.003	12.5	mg/L	5846	Standard
>	Sc-1	45	302229.1	2.5				mg/L	276213	Standard
	Cl	35	422.0	4.5				ug/L	6	Standard
	Kr	83	45.6	10.4				ug/L	41	Standard
	Br	81	6176.3	2.0				ug/L	5073	Standard
	P	31	70238.3	1.5				ug/L	51446	Standard
	S	34	948749.4	1.3				ug/L	649594	Standard
	Sr	88	10625.4	5.5				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	94.967	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	95.765	
	Rb	85		
	Y	89		
>	Rh	103	92.672	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	113.644	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	115.163	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: LCSW 43 WG401015-03

Report Date/Time: Tuesday, June 19, 2012 14:47:10

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	111.278
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: LCSW 43 WG401015-03
 Report Date/Time: Tuesday, June 19, 2012 14:47:10
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, June 19, 2012 14:47:54

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

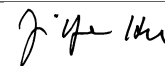
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9578.0	5.3	122.3084	68.038	55.6	ug/L	8387	Standard
	Be	9	137983.8	1.0	52.6671	1.035	2.0	ug/L	38	Standard
	Al	27	660751.7	1.9	53.4206	0.927	1.7	ug/L	15112	Standard
>	Sc	45	290058.6	1.0				ug/L	276213	Standard
	Ti	47	144416.7	0.4	107.7346	3.189	3.0	ug/L	124	Standard
	V	51	742728.9	1.3	54.9318	1.595	2.9	ug/L	3503	Standard
	Cr	52	557077.0	0.5	55.0363	1.199	2.2	ug/L	11028	Standard
	Cr	53	82695.9	1.6	53.3714	2.058	3.9	ug/L	333	Standard
	Mn	55	726528.0	0.8	54.6622	1.487	2.7	ug/L	3794	Standard
	Co	59	642213.3	1.1	50.7490	1.827	3.6	ug/L	200	Standard
	Ni	60	132850.9	0.9	50.6421	1.769	3.5	ug/L	111	Standard
	Cu	65	124127.4	0.7	50.8871	1.103	2.2	ug/L	137	Standard
	Zn	66	59299.8	0.4	49.9711	1.098	2.2	ug/L	360	Standard
>	Ge	72	221021.5	2.6				ug/L	236618	Standard
	As	75	57200.3	0.8	50.7864	1.422	2.8	ug/L	-269	Standard
	Se	82	5946.2	1.9	51.1045	2.149	4.2	ug/L	22	Standard
	Se-1	77	4230.6	3.1	51.9222	1.488	2.9	ug/L	91	Standard
>	Ga	71	188740.1	1.6				mg/L	202510	Standard
	Rb	85	823.4	10.0				ug/L	10	Standard
	Y	89	212413.9	1.8				ug/L	222253	Standard
>	Rh	103	105181.9	1.6				ug/L	115393	Standard
	Mo	98	407778.7	1.0	85.9326	1.484	1.7	ug/L	14	Standard
	Ag	107	338983.5	1.3	43.8140	0.202	0.5	ug/L	48	Standard
	Cd	111	158519.7	2.0	49.2730	0.572	1.2	mg/L	86	Standard
	Cd	114	455434.4	1.4	49.9877	0.383	0.8	ug/L	246	Standard
>	In	115	464689.4	0.9				ug/L	421413	Standard
	Sn	118	532759.5	0.6	49.8883	0.730	1.5	ug/L	392	Standard
	Sb	123	373013.4	1.2	48.7360	0.270	0.6	ug/L	70	Standard
	Ba	135	169378.1	0.1	49.3098	0.416	0.8	ug/L	39	Standard
	Ce	140	667.0	1.8				ug/L	138	Standard
>	Tb	159	478761.3	0.7				ug/L	426404	Standard
	Ho	165	10.3	27.9				ug/L	7	Standard
	Tl	203	553686.3	0.2	50.0528	0.473	0.9	ug/L	11	Standard
	Tl	205	1318600.5	0.2	50.7299	0.541	1.1	ug/L	18	Standard
	Pb	206	448457.5	0.7	49.5254	0.655	1.3	ug/L	174	Standard
	Pb	207	384459.6	0.1	50.3527	0.473	0.9	ug/L	146	Standard
	Pb	208	1751366.5	0.0	50.1420	0.467	0.9	ug/L	687	Standard
	U	238	784735.4	1.4	49.7291	0.788	1.6	ug/L	131	Standard
>	Bi	209	268065.3	0.9				ug/L	245542	Standard
	Na	23	65688.8	1.8	5.9978	0.087	1.5	mg/L	180	Standard
	Mg	24	1849702.1	0.5	5.0092	0.046	0.9	mg/L	930	Standard

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 14:50:27

Page 1

Approved: June 19, 2012



	K	39	5140.9	1.9	5.3303	0.138	2.6	mg/L	162	Standard
	Ca	43	6.7	173.2	5.5981	9.688	173.1	mg/L	2	Standard
	Fe	54	17352.3	0.6	5.8843	0.088	1.5	mg/L	439	Standard
	Fe	57	637875.1	3.1	5.2546	0.135	2.6	mg/L	5846	Standard
>	Sc-1	45	290058.6	1.0				mg/L	276213	Standard
	Cl	35	11.3	31.0				ug/L	6	Standard
	Kr	83	38.8	13.4				ug/L	41	Standard
	Br	81	5671.9	2.7				ug/L	5073	Standard
	P	31	75768.2	1.1				ug/L	51446	Standard
	S	34	889699.5	2.0				ug/L	649594	Standard
	Sr	88	83.3	54.4				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27	106.841		
> Sc	45			
Ti	47	107.735		
V	51	109.864		
Cr	52	110.073		
Cr	53			
Mn	55	109.324		
Co	59	101.498		
Ni	60	101.284		
Cu	65	101.774		
Zn	66	99.942		
> Ge	72		93.409	
As	75	101.573		
Se	82	102.209		
Se-1	77			
> Ga	71		93.201	
Rb	85			
Y	89			
> Rh	103		91.151	
Mo	98	85.933		
Ag	107	87.628		
Cd	111	98.546		
Cd	114			
> In	115		110.269	
Sn	118	99.777		
Sb	123	97.472		
Ba	135	98.620		
Ce	140			
> Tb	159		112.279	
Ho	165			
Tl	203	100.106		
Tl	205			
Pb	206	99.051		

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 14:50:27

Page 2

Approved: June 19, 2012



	Pb	207	100.705	
	Pb	208	100.284	
	U	238	99.458	
>	Bi	209		109.173
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Cr	52	
QC Std 6	Mo	98	
QC Std 6	Ag	107	

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 14:50:27

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, June 19, 2012 14:51:09

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

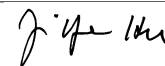
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9077.7	2.2	86.1917	12.526	14.5	ug/L	8387	Standard
	Be	9	31.7	59.8	0.0060	0.008	125.8	ug/L	38	Standard
	Al	27	5712.7	4.7	0.0492	0.029	58.7	ug/L	15112	Standard
>	Sc	45	281654.3	1.7				ug/L	276213	Standard
	Ti	47	105.0	6.7	0.0161	0.006	36.8	ug/L	124	Standard
	V	51	3406.2	1.9	0.0271	0.008	29.1	ug/L	3503	Standard
	Cr	52	10259.1	2.1	0.0411	0.034	82.4	ug/L	11028	Standard
	Cr	53	842.5	15.2	0.3809	0.092	24.1	ug/L	333	Standard
	Mn	55	1089.0	9.2	0.0057	0.008	147.7	ug/L	3794	Standard
	Co	59	130.3	29.8	-0.0010	0.003	340.9	ug/L	200	Standard
	Ni	60	84.3	21.9	-0.0054	0.008	141.4	ug/L	111	Standard
	Cu	65	129.0	2.1	-0.0107	0.002	16.2	ug/L	137	Standard
	Zn	66	316.7	8.1	-0.0902	0.026	28.3	ug/L	360	Standard
>	Ge	72	213429.5	1.2				ug/L	236618	Standard
	As	75	-254.4	3.8	-0.0312	0.008	25.8	ug/L	-269	Standard
	Se	82	21.0	16.3	0.0201	0.028	141.7	ug/L	22	Standard
	Se-1	77	100.0	4.4	0.1684	0.069	41.2	ug/L	91	Standard
>	Ga	71	180305.2	2.3				mg/L	202510	Standard
	Rb	85	16.7	17.3				ug/L	10	Standard
	Y	89	204222.3	1.5				ug/L	222253	Standard
>	Rh	103	102918.0	0.8				ug/L	115393	Standard
	Mo	98	111.6	50.0	0.0143	0.012	84.1	ug/L	14	Standard
	Ag	107	53.7	26.8	-0.0033	0.002	58.0	ug/L	48	Standard
	Cd	111	99.7	29.4	0.0008	0.009	1215.0	mg/L	86	Standard
	Cd	114	311.6	7.2	0.0073	0.002	34.1	ug/L	246	Standard
>	In	115	449977.3	0.4				ug/L	421413	Standard
	Sn	118	600.0	11.1	0.0164	0.006	38.5	ug/L	392	Standard
	Sb	123	865.8	44.0	0.1164	0.051	43.8	ug/L	70	Standard
	Ba	135	112.0	50.2	0.0170	0.017	98.7	ug/L	39	Standard
	Ce	140	28.3	19.4				ug/L	138	Standard
>	Tb	159	462859.1	0.7				ug/L	426404	Standard
	Ho	165	7.7	45.8				ug/L	7	Standard
	Tl	203	57.3	30.1	0.0027	0.002	59.8	ug/L	11	Standard
	Tl	205	133.7	35.9	0.0041	0.002	47.3	ug/L	18	Standard
	Pb	206	283.7	31.1	0.0115	0.010	88.0	ug/L	174	Standard
	Pb	207	254.0	23.1	0.0147	0.008	54.8	ug/L	146	Standard
	Pb	208	1114.7	30.3	0.0111	0.010	90.8	ug/L	687	Standard
	U	238	119.0	48.3	0.0086	0.004	43.7	ug/L	131	Standard
>	Bi	209	263121.8	0.7				ug/L	245542	Standard
	Na	23	181.7	14.1	-0.0032	0.002	67.6	mg/L	180	Standard
	Mg	24	330.0	34.1	-0.0009	0.000	36.4	mg/L	930	Standard

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 14:53:42

Page 1

Approved: June 19, 2012



	K	39	163.3	19.7	-0.0067	0.036	543.9	mg/L	162	Standard
	Ca	43	1.7	173.2	1.4602	2.520	172.6	mg/L	2	Standard
	Fe	54	505.5	12.0	0.0197	0.022	110.5	mg/L	439	Standard
	Fe	57	5447.7	9.1	0.0043	0.005	113.9	mg/L	5846	Standard
>	Sc-1	45	281654.3	1.7				mg/L	276213	Standard
	Cl	35	7.3	41.7				ug/L	6	Standard
	Kr	83	35.7	2.5				ug/L	41	Standard
	Br	81	5483.5	0.4				ug/L	5073	Standard
	P	31	73251.6	0.5				ug/L	51446	Standard
	S	34	889635.6	0.2				ug/L	649594	Standard
	Sr	88	36.7	55.1				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		90.200	
As	75			
Se	82			
Se-1	77			
> Ga	71		89.035	
Rb	85			
Y	89			
> Rh	103		89.189	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		106.778	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		108.549	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 14:53:42

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	107.159
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

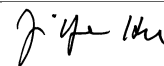
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 14:53:42

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: LCSW 43 WG401015-03

Sample Date/Time: Tuesday, June 19, 2012 14:59:09

Number of Replicates: 3

Autosampler Position: 313

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

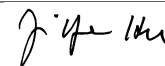
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	178031.7	1.7	25788.7323	741.662	2.9	ug/L	8387	Standard
	Be	9	1523.4	8.0	0.5531	0.051	9.2	ug/L	38	Standard
	Al	27	1297706.6	1.3	101.3100	3.147	3.1	ug/L	15112	Standard
>	Sc	45	301638.6	1.9				ug/L	276213	Standard
	Ti	47	14407.5	1.5	10.6364	0.507	4.8	ug/L	124	Standard
	V	51	161740.0	1.8	11.7145	0.373	3.2	ug/L	3503	Standard
	Cr	52	66830.4	1.3	5.6627	0.199	3.5	ug/L	11028	Standard
	Cr	53	44895.9	8.7	28.6704	1.333	4.6	ug/L	333	Standard
	Mn	55	73728.6	1.4	5.4501	0.300	5.5	ug/L	3794	Standard
	Co	59	25634.3	0.7	2.0038	0.074	3.7	ug/L	200	Standard
	Ni	60	13013.9	1.3	4.8989	0.152	3.1	ug/L	111	Standard
	Cu	65	12302.0	1.6	4.9582	0.171	3.4	ug/L	137	Standard
	Zn	66	13708.9	0.3	11.2109	0.453	4.0	ug/L	360	Standard
>	Ge	72	222283.5	4.2				ug/L	236618	Standard
	As	75	4169.4	1.8	3.8687	0.091	2.4	ug/L	-269	Standard
	Se	82	481.7	4.0	3.9660	0.283	7.1	ug/L	22	Standard
	Se-1	77	1730.1	4.5	20.4428	0.625	3.1	ug/L	91	Standard
>	Ga	71	191369.3	4.6				mg/L	202510	Standard
	Rb	85	321.7	18.1				ug/L	10	Standard
	Y	89	209759.4	2.8				ug/L	222253	Standard
>	Rh	103	105346.0	3.7				ug/L	115393	Standard
	Mo	98	40142.0	1.7	8.2364	0.096	1.2	ug/L	14	Standard
	Ag	107	27181.4	1.0	3.4158	0.077	2.2	ug/L	48	Standard
	Cd	111	1695.8	2.3	0.4829	0.010	2.0	mg/L	86	Standard
	Cd	114	4979.5	1.0	0.5051	0.011	2.2	ug/L	246	Standard
>	In	115	476800.8	2.8				ug/L	421413	Standard
	Sn	118	632.0	12.5	0.0160	0.006	35.0	ug/L	392	Standard
	Sb	123	89262.4	0.9	11.3711	0.277	2.4	ug/L	70	Standard
	Ba	135	34198.6	1.2	9.6955	0.351	3.6	ug/L	39	Standard
	Ce	140	52.7	4.0				ug/L	138	Standard
>	Tb	159	492698.1	2.6				ug/L	426404	Standard
	Ho	165	4.0	25.0				ug/L	7	Standard
	Tl	203	54766.1	1.0	4.8677	0.110	2.3	ug/L	11	Standard
	Tl	205	131920.2	0.7	4.9922	0.156	3.1	ug/L	18	Standard
	Pb	206	43416.8	0.7	4.6986	0.141	3.0	ug/L	174	Standard
	Pb	207	39584.3	1.1	5.0836	0.176	3.5	ug/L	146	Standard
	Pb	208	173748.7	0.5	4.8746	0.145	3.0	ug/L	687	Standard
	U	238	107.3	154.6	0.0074	0.010	134.6	ug/L	131	Standard
>	Bi	209	272613.6	2.9				ug/L	245542	Standard
	Na	23	12636.9	3.6	1.0936	0.058	5.3	mg/L	180	Standard
	Mg	24	53942.5	0.8	0.1388	0.004	2.7	mg/L	930	Standard

Sample ID: LCSW 43 WG401015-03

Report Date/Time: Tuesday, June 19, 2012 15:01:42

Page 1

Approved: June 19, 2012



	K	39	638.3	9.4	0.4720	0.068	14.5	mg/L	162	Standard
	Ca	43	5.0	100.0	4.0449	3.989	98.6	mg/L	2	Standard
	Fe	54	606.5	4.6	0.0415	0.006	13.3	mg/L	439	Standard
	Fe	57	9514.7	6.3	0.0336	0.005	15.3	mg/L	5846	Standard
>	Sc-1	45	301638.6	1.9				mg/L	276213	Standard
	Cl	35	855.0	1.4				ug/L	6	Standard
	Kr	83	39.7	5.1				ug/L	41	Standard
	Br	81	5977.8	1.5				ug/L	5073	Standard
	P	31	74743.9	1.5				ug/L	51446	Standard
	S	34	923055.4	1.3				ug/L	649594	Standard
	Sr	88	19070.3	3.9				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	93.942	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	94.499	
	Rb	85		
	Y	89		
>	Rh	103	91.293	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	113.143	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	115.547	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: LCSW 43 WG401015-03

Report Date/Time: Tuesday, June 19, 2012 15:01:42

Page 2

Approved: June 19, 2012

	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	111.025
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: LCSW 43 WG401015-03
 Report Date/Time: Tuesday, June 19, 2012 15:01:42
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206045805 WG401015-01

Sample Date/Time: Tuesday, June 19, 2012 15:03:37

Number of Replicates: 3

Autosampler Position: 314

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	10505.3	1.2	215.3514	20.847	9.7	ug/L	8387	Standard
	Be	9	31.7	59.8	0.0052	0.007	134.7	ug/L	38	Standard
	Al	27	308963.6	1.1	23.9255	0.183	0.8	ug/L	15112	Standard
>	Sc	45	299868.3	0.4				ug/L	276213	Standard
	Ti	47	444.7	6.4	0.2564	0.021	8.2	ug/L	124	Standard
	V	51	9667.3	4.4	0.4605	0.031	6.8	ug/L	3503	Standard
	Cr	52	12871.8	1.5	0.2266	0.023	10.0	ug/L	11028	Standard
	Cr	53	13693.8	18.4	8.4039	1.597	19.0	ug/L	333	Standard
	Mn	55	17246.5	0.8	1.1791	0.013	1.1	ug/L	3794	Standard
	Co	59	292.0	9.1	0.0107	0.002	19.3	ug/L	200	Standard
	Ni	60	390.7	3.8	0.1055	0.006	5.5	ug/L	111	Standard
	Cu	65	1084.4	3.0	0.3655	0.011	3.1	ug/L	137	Standard
	Zn	66	2614.6	1.9	1.7808	0.045	2.5	ug/L	360	Standard
>	Ge	72	228139.1	0.4				ug/L	236618	Standard
	As	75	-281.0	29.9	-0.0393	0.073	185.5	ug/L	-269	Standard
	Se	82	23.4	23.5	0.0278	0.046	164.2	ug/L	22	Standard
	Se-1	77	675.0	2.7	7.0684	0.190	2.7	ug/L	91	Standard
>	Ga	71	198130.4	0.5				mg/L	202510	Standard
	Rb	85	873.4	4.7				ug/L	10	Standard
	Y	89	214688.7	0.9				ug/L	222253	Standard
>	Rh	103	108100.3	0.7				ug/L	115393	Standard
	Mo	98	44.7	8.1	-0.0009	0.001	89.1	ug/L	14	Standard
	Ag	107	88981.9	0.7	11.0367	0.077	0.7	ug/L	48	Standard
	Cd	111	107.9	10.9	0.0010	0.004	373.4	mg/L	86	Standard
	Cd	114	291.2	4.7	0.0026	0.002	60.0	ug/L	246	Standard
>	In	115	483905.8	0.4				ug/L	421413	Standard
	Sn	118	949.7	4.6	0.0438	0.004	9.5	ug/L	392	Standard
	Sb	123	80.5	8.5	0.0098	0.001	8.4	ug/L	70	Standard
	Ba	135	2322.8	1.9	0.6329	0.012	1.9	ug/L	39	Standard
	Ce	140	7317.4	0.8				ug/L	138	Standard
>	Tb	159	497435.4	1.1				ug/L	426404	Standard
	Ho	165	33.7	13.4				ug/L	7	Standard
	Tl	203	42.3	15.7	0.0011	0.001	51.3	ug/L	11	Standard
	Tl	205	96.0	15.6	0.0024	0.001	23.5	ug/L	18	Standard
	Pb	206	3155.7	0.8	0.3162	0.002	0.7	ug/L	174	Standard
	Pb	207	2654.2	2.0	0.3166	0.007	2.3	ug/L	146	Standard
	Pb	208	12164.6	0.6	0.3150	0.002	0.6	ug/L	687	Standard
	U	238	50.7	11.2	0.0040	0.000	8.8	ug/L	131	Standard
>	Bi	209	277583.0	0.2				ug/L	245542	Standard
	Na	23	50952.2	1.6	4.4949	0.059	1.3	mg/L	180	Standard
	Mg	24	5772.8	0.6	0.0133	0.000	1.0	mg/L	930	Standard

Sample ID: L1206045805 WG401015-01

Report Date/Time: Tuesday, June 19, 2012 15:06:10

Page 1

Approved: June 19, 2012

	K	39	203.3	13.5	0.0238	0.029	122.8	mg/L	162	Standard
	Ca	43	5.0	100.0	4.0974	4.102	100.1	mg/L	2	Standard
	Fe	54	786.4	2.4	0.1034	0.007	7.0	mg/L	439	Standard
	Fe	57	15062.5	0.3	0.0786	0.000	0.4	mg/L	5846	Standard
>	Sc-1	45	299868.3	0.4				mg/L	276213	Standard
	Cl	35	386.0	4.7				ug/L	6	Standard
	Kr	83	35.4	1.4				ug/L	41	Standard
	Br	81	6232.9	3.0				ug/L	5073	Standard
	P	31	75843.5	1.1				ug/L	51446	Standard
	S	34	936799.4	1.1				ug/L	649594	Standard
	Sr	88	4397.3	4.1				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	96.417	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	97.838	
	Rb	85		
	Y	89		
>	Rh	103	93.680	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	114.829	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	116.658	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206045805 WG401015-01

Report Date/Time: Tuesday, June 19, 2012 15:06:10

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	113.049
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206045805 WG401015-01
 Report Date/Time: Tuesday, June 19, 2012 15:06:10
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206045805S WG401015-04

Sample Date/Time: Tuesday, June 19, 2012 15:06:53

Number of Replicates: 3

Autosampler Position: 315

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	182669.6	0.9	25605.1513	719.216	2.8	ug/L	8387	Standard
	Be	9	1508.4	4.6	0.5295	0.026	4.9	ug/L	38	Standard
	Al	27	1364434.0	1.4	103.0816	0.349	0.3	ug/L	15112	Standard
>	Sc	45	311612.4	1.8				ug/L	276213	Standard
	Ti	47	15071.2	0.6	10.6756	0.058	0.5	ug/L	124	Standard
	V	51	164773.6	0.3	11.4506	0.061	0.5	ug/L	3503	Standard
	Cr	52	69101.6	0.8	5.6126	0.052	0.9	ug/L	11028	Standard
	Cr	53	33473.6	3.5	20.5092	0.688	3.4	ug/L	333	Standard
	Mn	55	81151.8	0.8	5.7587	0.025	0.4	ug/L	3794	Standard
	Co	59	26561.3	1.4	1.9925	0.026	1.3	ug/L	200	Standard
	Ni	60	13596.8	0.4	4.9129	0.012	0.2	ug/L	111	Standard
	Cu	65	12922.2	0.4	4.9995	0.035	0.7	ug/L	137	Standard
	Zn	66	14095.6	1.3	11.0570	0.150	1.4	ug/L	360	Standard
>	Ge	72	231381.4	0.3				ug/L	236618	Standard
	As	75	4243.3	1.0	3.7844	0.031	0.8	ug/L	-269	Standard
	Se	82	491.0	1.8	3.8738	0.079	2.0	ug/L	22	Standard
	Se-1	77	1632.1	2.2	18.4160	0.387	2.1	ug/L	91	Standard
>	Ga	71	197478.8	1.5				mg/L	202510	Standard
	Rb	85	793.4	6.2				ug/L	10	Standard
	Y	89	218443.5	0.8				ug/L	222253	Standard
>	Rh	103	108735.5	1.4				ug/L	115393	Standard
	Mo	98	41195.7	0.4	8.1370	0.036	0.4	ug/L	14	Standard
	Ag	107	27627.8	1.5	3.3413	0.032	1.0	ug/L	48	Standard
	Cd	111	1776.6	2.4	0.4873	0.014	2.8	mg/L	86	Standard
	Cd	114	5199.5	1.0	0.5078	0.004	0.8	ug/L	246	Standard
>	In	115	495189.9	0.5				ug/L	421413	Standard
	Sn	118	599.3	12.8	0.0111	0.007	61.0	ug/L	392	Standard
	Sb	123	93003.5	0.6	11.4030	0.101	0.9	ug/L	70	Standard
	Ba	135	35747.8	1.0	9.7523	0.104	1.1	ug/L	39	Standard
	Ce	140	1514.1	2.4				ug/L	138	Standard
>	Tb	159	513656.4	0.3				ug/L	426404	Standard
	Ho	165	7.3	34.3				ug/L	7	Standard
	Tl	203	55978.6	0.8	4.8740	0.098	2.0	ug/L	11	Standard
	Tl	205	134099.2	1.5	4.9701	0.105	2.1	ug/L	18	Standard
	Pb	206	44260.9	0.5	4.6912	0.064	1.4	ug/L	174	Standard
	Pb	207	40653.1	0.9	5.1127	0.037	0.7	ug/L	146	Standard
	Pb	208	177773.1	0.8	4.8846	0.048	1.0	ug/L	687	Standard
	U	238	39.0	142.1	0.0033	0.003	102.9	ug/L	131	Standard
>	Bi	209	278226.0	1.5				ug/L	245542	Standard
	Na	23	57965.7	0.6	4.9242	0.113	2.3	mg/L	180	Standard
	Mg	24	56441.6	2.5	0.1405	0.002	1.3	mg/L	930	Standard

Sample ID: L1206045805S WG401015-04

Report Date/Time: Tuesday, June 19, 2012 15:09:26

Page 1

Approved: June 19, 2012

	K	39	643.3	5.2	0.4558	0.043	9.4	mg/L	162	Standard
	Ca	43	8.3	34.6	6.5724	2.295	34.9	mg/L	2	Standard
	Fe	54	691.3	4.7	0.0626	0.011	17.5	mg/L	439	Standard
	Fe	57	11521.0	3.4	0.0467	0.003	5.5	mg/L	5846	Standard
>	Sc-1	45	311612.4	1.8				mg/L	276213	Standard
	Cl	35	853.0	6.4				ug/L	6	Standard
	Kr	83	39.7	2.9				ug/L	41	Standard
	Br	81	6076.2	2.1				ug/L	5073	Standard
	P	31	75373.7	1.5				ug/L	51446	Standard
	S	34	960760.0	1.2				ug/L	649594	Standard
	Sr	88	26299.5	3.4				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		97.787	
As	75			
Se	82			
Se-1	77			
> Ga	71		97.516	
Rb	85			
Y	89			
> Rh	103		94.230	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		117.507	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		120.462	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206045805S WG401015-04

Report Date/Time: Tuesday, June 19, 2012 15:09:26

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	113.311
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Tb 159 Int Std for sample	Tb	159	Rerun sample

Sample ID: L1206045805S WG401015-04
 Report Date/Time: Tuesday, June 19, 2012 15:09:26
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206045805SD WG401015-05

Sample Date/Time: Tuesday, June 19, 2012 15:10:08

Number of Replicates: 3

Autosampler Position: 316

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	183202.9	2.2	25992.1039	482.386	1.9	ug/L	8387	Standard
	Be	9	1538.4	1.4	0.5465	0.007	1.3	ug/L	38	Standard
	Al	27	1356398.4	1.6	103.6723	1.238	1.2	ug/L	15112	Standard
>	Sc	45	307999.1	0.5				ug/L	276213	Standard
	Ti	47	15140.9	1.5	10.8388	0.222	2.1	ug/L	124	Standard
	V	51	167925.6	2.3	11.7974	0.186	1.6	ug/L	3503	Standard
	Cr	52	70225.7	1.1	5.7913	0.091	1.6	ug/L	11028	Standard
	Cr	53	40775.7	3.5	25.2872	0.871	3.4	ug/L	333	Standard
	Mn	55	76424.3	1.8	5.4766	0.133	2.4	ug/L	3794	Standard
	Co	59	26378.3	0.8	1.9996	0.025	1.2	ug/L	200	Standard
	Ni	60	13713.5	1.8	5.0082	0.126	2.5	ug/L	111	Standard
	Cu	65	13013.6	0.4	5.0888	0.055	1.1	ug/L	137	Standard
	Zn	66	14139.9	1.5	11.2124	0.136	1.2	ug/L	360	Standard
>	Ge	72	228991.2	0.8				ug/L	236618	Standard
	As	75	4454.6	2.9	4.0017	0.080	2.0	ug/L	-269	Standard
	Se	82	521.1	2.1	4.1659	0.059	1.4	ug/L	22	Standard
	Se-1	77	1870.4	4.2	21.5031	0.863	4.0	ug/L	91	Standard
>	Ga	71	197678.0	1.4				mg/L	202510	Standard
	Rb	85	578.3	12.4				ug/L	10	Standard
	Y	89	213983.9	1.1				ug/L	222253	Standard
>	Rh	103	106967.6	0.7				ug/L	115393	Standard
	Mo	98	41554.1	1.1	8.1704	0.093	1.1	ug/L	14	Standard
	Ag	107	27890.7	1.8	3.3578	0.054	1.6	ug/L	48	Standard
	Cd	111	1747.0	2.2	0.4764	0.011	2.3	mg/L	86	Standard
	Cd	114	5242.7	0.1	0.5098	0.004	0.7	ug/L	246	Standard
>	In	115	497458.6	0.6				ug/L	421413	Standard
	Sn	118	544.0	1.1	0.0060	0.001	11.7	ug/L	392	Standard
	Sb	123	95298.3	1.4	11.6305	0.085	0.7	ug/L	70	Standard
	Ba	135	36132.4	1.1	9.8120	0.045	0.5	ug/L	39	Standard
	Ce	140	104.3	8.7				ug/L	138	Standard
>	Tb	159	501853.5	0.7				ug/L	426404	Standard
	Ho	165	5.0	0.0				ug/L	7	Standard
	Tl	203	56229.5	1.0	4.8880	0.048	1.0	ug/L	11	Standard
	Tl	205	135168.3	1.2	5.0021	0.076	1.5	ug/L	18	Standard
	Pb	206	44597.2	1.1	4.7200	0.072	1.5	ug/L	174	Standard
	Pb	207	40702.3	0.6	5.1114	0.038	0.7	ug/L	146	Standard
	Pb	208	179112.3	0.2	4.9143	0.036	0.7	ug/L	687	Standard
	U	238	2.7	86.6	0.0011	0.000	12.9	ug/L	131	Standard
>	Bi	209	278618.8	0.6				ug/L	245542	Standard
	Na	23	57539.1	0.7	4.9442	0.040	0.8	mg/L	180	Standard
	Mg	24	58009.2	1.6	0.1462	0.003	2.1	mg/L	930	Standard

Sample ID: L1206045805SD WG401015-05

Report Date/Time: Tuesday, June 19, 2012 15:12:42

Page 1

Approved: June 19, 2012

	K	39	698.3	9.2	0.5182	0.061	11.8	mg/L	162	Standard
	Ca	43	5.0	0.0	3.9878	0.021	0.5	mg/L	2	Standard
	Fe	54	636.4	11.9	0.0471	0.024	50.5	mg/L	439	Standard
	Fe	57	10743.8	3.8	0.0416	0.003	6.9	mg/L	5846	Standard
>	Sc-1	45	307999.1	0.5				mg/L	276213	Standard
	Cl	35	884.4	4.4				ug/L	6	Standard
	Kr	83	43.2	1.2				ug/L	41	Standard
	Br	81	5992.9	1.0				ug/L	5073	Standard
	P	31	74165.2	0.8				ug/L	51446	Standard
	S	34	962303.8	2.1				ug/L	649594	Standard
	Sr	88	24982.3	3.9				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		96.777	
As	75			
Se	82			
Se-1	77			
> Ga	71		97.614	
Rb	85			
Y	89			
> Rh	103		92.698	
Mo	98			
Ag	107			
Cd	111			
Cd	114			
> In	115		118.045	
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159		117.694	
Ho	165			
Tl	203			
Tl	205			
Pb	206			

Sample ID: L1206045805SD WG401015-05

Report Date/Time: Tuesday, June 19, 2012 15:12:42

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	113.471
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206045805SD WG401015-05
 Report Date/Time: Tuesday, June 19, 2012 15:12:42
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206046101

Sample Date/Time: Tuesday, June 19, 2012 15:13:24

Number of Replicates: 3

Autosampler Position: 317

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

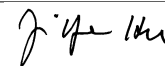
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	26641.7	1.3	2710.4556	91.782	3.4	ug/L	8387	Standard
	Be	9	21.7	74.2	0.0016	0.006	386.0	ug/L	38	Standard
	Al	27	25252.8	8.8	1.5696	0.197	12.5	ug/L	15112	Standard
>	Sc	45	298661.7	1.0				ug/L	276213	Standard
	Ti	47	189.0	15.7	0.0749	0.021	28.5	ug/L	124	Standard
	V	51	8768.4	5.4	0.4119	0.046	11.2	ug/L	3503	Standard
	Cr	52	13365.6	5.7	0.3082	0.105	34.0	ug/L	11028	Standard
	Cr	53	11493.5	9.2	7.2123	0.856	11.9	ug/L	333	Standard
	Mn	55	3393.7	3.5	0.1744	0.010	5.6	ug/L	3794	Standard
	Co	59	295.7	46.6	0.0115	0.011	93.0	ug/L	200	Standard
	Ni	60	830.4	6.4	0.2757	0.023	8.3	ug/L	111	Standard
	Cu	65	293.0	11.8	0.0538	0.014	26.0	ug/L	137	Standard
	Zn	66	2401.9	2.7	1.6542	0.012	0.7	ug/L	360	Standard
>	Ge	72	222678.0	2.4				ug/L	236618	Standard
	As	75	-298.2	10.9	-0.0605	0.033	55.3	ug/L	-269	Standard
	Se	82	153.0	2.3	1.1413	0.028	2.5	ug/L	22	Standard
	Se-1	77	782.0	2.1	8.6084	0.437	5.1	ug/L	91	Standard
>	Ga	71	190429.4	1.6				mg/L	202510	Standard
	Rb	85	21929.2	1.4				ug/L	10	Standard
	Y	89	206173.5	1.7				ug/L	222253	Standard
>	Rh	103	103834.6	0.8				ug/L	115393	Standard
	Mo	98	427.6	5.4	0.0785	0.004	4.8	ug/L	14	Standard
	Ag	107	50.3	40.1	-0.0041	0.002	61.3	ug/L	48	Standard
	Cd	111	93.6	17.4	-0.0027	0.005	187.1	mg/L	86	Standard
	Cd	114	280.1	4.1	0.0021	0.001	66.7	ug/L	246	Standard
>	In	115	473342.3	1.1				ug/L	421413	Standard
	Sn	118	517.0	3.4	0.0059	0.001	19.1	ug/L	392	Standard
	Sb	123	116.4	29.1	0.0146	0.004	28.6	ug/L	70	Standard
	Ba	135	23787.0	0.5	6.7840	0.047	0.7	ug/L	39	Standard
	Ce	140	96.7	6.9				ug/L	138	Standard
>	Tb	159	483239.5	1.8				ug/L	426404	Standard
	Ho	165	7.0	24.7				ug/L	7	Standard
	Tl	203	157.7	30.2	0.0103	0.004	37.2	ug/L	11	Standard
	Tl	205	378.3	36.3	0.0120	0.005	39.4	ug/L	18	Standard
	Pb	206	511.7	3.8	0.0308	0.002	5.9	ug/L	174	Standard
	Pb	207	414.7	6.6	0.0300	0.003	10.2	ug/L	146	Standard
	Pb	208	1912.7	5.2	0.0282	0.002	8.0	ug/L	687	Standard
	U	238	46.7	160.3	0.0036	0.004	118.9	ug/L	131	Standard
>	Bi	209	295844.2	0.9				ug/L	245542	Standard
	Na	23	82556.0	1.9	7.3251	0.108	1.5	mg/L	180	Standard
	Mg	24	1168.4	31.1	0.0013	0.001	78.0	mg/L	930	Standard

Sample ID: L1206046101

Report Date/Time: Tuesday, June 19, 2012 15:15:57

Page 1

Approved: June 19, 2012



	K	39	5142.5	1.6	5.1734	0.139	2.7	mg/L	162	Standard
	Ca	43	11.7	49.5	9.6098	4.789	49.8	mg/L	2	Standard
	Fe	54	599.5	5.5	0.0412	0.011	27.4	mg/L	439	Standard
	Fe	57	9119.4	5.1	0.0312	0.004	14.4	mg/L	5846	Standard
>	Sc-1	45	298661.7	1.0				mg/L	276213	Standard
	Cl	35	456.3	4.2				ug/L	6	Standard
	Kr	83	37.2	1.4				ug/L	41	Standard
	Br	81	7185.9	1.6				ug/L	5073	Standard
	P	31	74177.0	1.4				ug/L	51446	Standard
	S	34	999877.9	2.5				ug/L	649594	Standard
	Sr	88	23414.7	1.0				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	94.109	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	94.035	
	Rb	85		
	Y	89		
>	Rh	103	89.983	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	112.323	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	113.329	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206046101

Report Date/Time: Tuesday, June 19, 2012 15:15:57

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	120.486
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Bi 209 Int Std for sample	Bi	209	Rerun sample

Sample ID: L1206046101

Report Date/Time: Tuesday, June 19, 2012 15:15:57

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: L1206046101PS WG401064-01

Sample Date/Time: Tuesday, June 19, 2012 15:16:39

Number of Replicates: 3

Autosampler Position: 318

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	27673.6	1.9	2864.4806	19.372	0.7	ug/L	8387	Standard
	Be	9	143111.1	1.6	52.9891	0.078	0.1	ug/L	38	Standard
	Al	27	663068.0	2.7	52.0050	1.541	3.0	ug/L	15112	Standard
>	Sc	45	298971.4	1.7				ug/L	276213	Standard
	Ti	47	185.3	15.2	0.0708	0.021	29.4	ug/L	124	Standard
	V	51	748902.5	0.9	54.3948	0.578	1.1	ug/L	3503	Standard
	Cr	52	559728.8	1.1	54.2998	0.739	1.4	ug/L	11028	Standard
	Cr	53	95374.3	2.4	60.4669	1.557	2.6	ug/L	333	Standard
	Mn	55	722722.7	2.0	53.4017	1.191	2.2	ug/L	3794	Standard
	Co	59	638014.2	1.6	49.5065	0.878	1.8	ug/L	200	Standard
	Ni	60	130209.2	1.8	48.7383	0.980	2.0	ug/L	111	Standard
	Cu	65	121488.8	0.5	48.9154	0.316	0.6	ug/L	137	Standard
	Zn	66	59502.0	1.4	49.2421	0.704	1.4	ug/L	360	Standard
>	Ge	72	224949.2	0.2				ug/L	236618	Standard
	As	75	56013.5	0.7	48.8493	0.390	0.8	ug/L	-269	Standard
	Se	82	5968.5	1.4	50.3628	0.731	1.5	ug/L	22	Standard
	Se-1	77	5100.9	1.5	61.7071	0.877	1.4	ug/L	91	Standard
>	Ga	71	193720.6	0.7				mg/L	202510	Standard
	Rb	85	22236.3	1.6				ug/L	10	Standard
	Y	89	215669.2	1.0				ug/L	222253	Standard
>	Rh	103	105034.8	1.1				ug/L	115393	Standard
	Mo	98	458.5	2.7	0.0840	0.005	5.5	ug/L	14	Standard
	Ag	107	307067.4	0.5	38.5772	0.920	2.4	ug/L	48	Standard
	Cd	111	161227.6	0.9	48.7168	1.335	2.7	mg/L	86	Standard
	Cd	114	456930.5	0.7	48.7484	1.204	2.5	ug/L	246	Standard
>	In	115	478240.8	2.3				ug/L	421413	Standard
	Sn	118	829.7	1.7	0.0339	0.003	7.7	ug/L	392	Standard
	Sb	123	384596.6	0.9	48.8464	1.395	2.9	ug/L	70	Standard
	Ba	135	192950.2	2.2	54.6136	2.350	4.3	ug/L	39	Standard
	Ce	140	95.7	18.0				ug/L	138	Standard
>	Tb	159	486198.1	0.6				ug/L	426404	Standard
	Ho	165	9.7	39.2				ug/L	7	Standard
	Tl	203	545349.8	1.9	43.7419	0.973	2.2	ug/L	11	Standard
	Tl	205	1313181.4	1.4	44.8258	0.803	1.8	ug/L	18	Standard
	Pb	206	445760.1	1.5	43.6785	1.047	2.4	ug/L	174	Standard
	Pb	207	381404.6	1.2	44.3204	0.808	1.8	ug/L	146	Standard
	Pb	208	1738350.0	1.6	44.1576	0.943	2.1	ug/L	687	Standard
	U	238	787651.3	2.1	44.2947	1.416	3.2	ug/L	131	Standard
>	Bi	209	302138.9	1.5				ug/L	245542	Standard
	Na	23	83643.6	0.4	7.4157	0.129	1.7	mg/L	180	Standard
	Mg	24	978.4	17.5	0.0008	0.000	63.8	mg/L	930	Standard

Sample ID: L1206046101PS WG401064-01

Report Date/Time: Tuesday, June 19, 2012 15:19:11

Page 1

Approved: June 19, 2012

	K	39	5547.7	0.6	5.5898	0.109	1.9	mg/L	162	Standard
	Ca	43	16.7	45.8	13.7402	6.511	47.4	mg/L	2	Standard
	Fe	54	506.4	12.0	0.0093	0.019	199.6	mg/L	439	Standard
	Fe	57	9861.5	2.0	0.0371	0.003	7.5	mg/L	5846	Standard
>	Sc-1	45	298971.4	1.7				mg/L	276213	Standard
	Cl	35	497.0	2.1				ug/L	6	Standard
	Kr	83	43.1	7.6				ug/L	41	Standard
	Br	81	7160.9	2.8				ug/L	5073	Standard
	P	31	75432.3	1.4				ug/L	51446	Standard
	S	34	1035848.7	0.5				ug/L	649594	Standard
	Sr	88	22246.4	6.6				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	95.069	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	95.660	
	Rb	85		
	Y	89		
>	Rh	103	91.023	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	113.485	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	114.023	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206046101PS WG401064-01

Report Date/Time: Tuesday, June 19, 2012 15:19:11

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	123.050
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Bi 209 Int Std for sample	Bi	209	Rerun sample

Sample ID: L1206046101PS WG401064-01
 Report Date/Time: Tuesday, June 19, 2012 15:19:11
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: L1206046101SDL WG401064-02

Sample Date/Time: Tuesday, June 19, 2012 15:19:57

Number of Replicates: 3

Autosampler Position: 319

Sample Description: 250

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

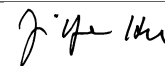
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	12772.0	2.1	619.0498	28.963	4.7	ug/L	8387	Standard
	Be	9	23.3	44.6	0.0024	0.004	170.1	ug/L	38	Standard
	Al	27	16981.2	7.8	0.9457	0.098	10.3	ug/L	15112	Standard
>	Sc	45	291587.5	1.0				ug/L	276213	Standard
	Ti	47	98.3	8.5	0.0098	0.005	55.1	ug/L	124	Standard
	V	51	5865.4	1.4	0.2095	0.001	0.4	ug/L	3503	Standard
	Cr	52	13316.2	1.7	0.3393	0.039	11.4	ug/L	11028	Standard
	Cr	53	5624.4	4.5	3.5288	0.118	3.3	ug/L	333	Standard
	Mn	55	1854.1	3.4	0.0632	0.007	10.8	ug/L	3794	Standard
	Co	59	167.0	17.3	0.0018	0.003	136.2	ug/L	200	Standard
	Ni	60	258.0	9.5	0.0616	0.009	14.4	ug/L	111	Standard
	Cu	65	144.0	8.2	-0.0053	0.005	87.7	ug/L	137	Standard
	Zn	66	2082.8	3.1	1.4352	0.072	5.0	ug/L	360	Standard
>	Ge	72	216614.3	1.4				ug/L	236618	Standard
	As	75	-230.2	18.0	-0.0063	0.040	629.1	ug/L	-269	Standard
	Se	82	47.4	2.1	0.2493	0.006	2.5	ug/L	22	Standard
	Se-1	77	284.3	10.6	2.5111	0.436	17.3	ug/L	91	Standard
>	Ga	71	185855.4	3.2				mg/L	202510	Standard
	Rb	85	4205.6	1.5				ug/L	10	Standard
	Y	89	209449.5	0.7				ug/L	222253	Standard
>	Rh	103	103263.7	0.9				ug/L	115393	Standard
	Mo	98	83.8	2.5	0.0078	0.001	7.0	ug/L	14	Standard
	Ag	107	51.3	28.4	-0.0038	0.002	48.7	ug/L	48	Standard
	Cd	111	113.5	6.8	0.0042	0.002	58.3	mg/L	86	Standard
	Cd	114	288.7	6.1	0.0038	0.002	47.5	ug/L	246	Standard
>	In	115	462910.6	0.7				ug/L	421413	Standard
	Sn	118	469.3	1.9	0.0025	0.001	25.5	ug/L	392	Standard
	Sb	123	93.9	11.2	0.0120	0.001	10.7	ug/L	70	Standard
	Ba	135	4753.1	3.2	1.3726	0.035	2.5	ug/L	39	Standard
	Ce	140	56.3	2.7				ug/L	138	Standard
>	Tb	159	471014.3	1.6				ug/L	426404	Standard
	Ho	165	6.3	39.7				ug/L	7	Standard
	Tl	203	132.7	11.0	0.0093	0.001	14.5	ug/L	11	Standard
	Tl	205	364.7	14.3	0.0127	0.002	16.1	ug/L	18	Standard
	Pb	206	335.7	24.6	0.0164	0.009	56.4	ug/L	174	Standard
	Pb	207	283.7	30.1	0.0177	0.011	63.9	ug/L	146	Standard
	Pb	208	1284.4	26.8	0.0151	0.010	66.2	ug/L	687	Standard
	U	238	109.0	64.2	0.0078	0.004	57.0	ug/L	131	Standard
>	Bi	209	270029.3	0.5				ug/L	245542	Standard
	Na	23	30143.3	1.3	2.7269	0.042	1.6	mg/L	180	Standard
	Mg	24	351.7	10.0	-0.0009	0.000	11.2	mg/L	930	Standard

Sample ID: L1206046101SDL WG401064-02

Report Date/Time: Tuesday, June 19, 2012 15:22:30

Page 1

Approved: June 19, 2012



	K	39	1185.0	2.5	1.0778	0.032	3.0	mg/L	162	Standard
	Ca	43	5.0	100.0	4.1863	4.177	99.8	mg/L	2	Standard
	Fe	54	515.2	13.4	0.0169	0.024	141.6	mg/L	439	Standard
	Fe	57	6783.2	3.5	0.0137	0.002	18.0	mg/L	5846	Standard
>	Sc-1	45	291587.5	1.0				mg/L	276213	Standard
	Cl	35	91.0	1.9				ug/L	6	Standard
	Kr	83	37.7	7.2				ug/L	41	Standard
	Br	81	5883.6	2.1				ug/L	5073	Standard
	P	31	72155.6	0.8				ug/L	51446	Standard
	S	34	1017869.0	0.3				ug/L	649594	Standard
	Sr	88	4532.3	2.5				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	91.546	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	91.776	
	Rb	85		
	Y	89		
>	Rh	103	89.489	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	109.847	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	110.462	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: L1206046101SDL WG401064-02
Report Date/Time: Tuesday, June 19, 2012 15:22:30
Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	109.973
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1206046101SDL WG401064-02
 Report Date/Time: Tuesday, June 19, 2012 15:22:30
 Page 3

Approved: June 19, 2012


Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, June 19, 2012 15:23:14

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9539.7	2.0	138.9715	46.368	33.4	ug/L	8387	Standard
	Be	9	137324.7	2.1	53.1680	0.570	1.1	ug/L	38	Standard
	Al	27	650770.9	1.7	53.3811	0.902	1.7	ug/L	15112	Standard
>	Sc	45	285897.4	1.2				ug/L	276213	Standard
	Ti	47	142462.7	1.4	108.7215	2.840	2.6	ug/L	124	Standard
	V	51	729733.6	0.3	55.2106	0.740	1.3	ug/L	3503	Standard
	Cr	52	547301.5	0.3	55.3202	0.630	1.1	ug/L	11028	Standard
	Cr	53	79643.0	1.9	52.5761	1.621	3.1	ug/L	333	Standard
	Mn	55	716711.5	1.0	55.1660	1.239	2.2	ug/L	3794	Standard
	Co	59	633858.8	1.7	51.2355	1.455	2.8	ug/L	200	Standard
	Ni	60	128858.4	1.9	50.2454	1.493	3.0	ug/L	111	Standard
	Cu	65	121245.0	2.1	50.8559	1.549	3.0	ug/L	137	Standard
	Zn	66	57728.8	0.8	49.7694	1.050	2.1	ug/L	360	Standard
>	Ge	72	215988.1	1.3				ug/L	236618	Standard
	As	75	55878.3	0.4	50.7494	0.514	1.0	ug/L	-269	Standard
	Se	82	5850.3	1.4	51.4270	1.306	2.5	ug/L	22	Standard
	Se-1	77	4128.9	1.0	51.8545	1.180	2.3	ug/L	91	Standard
>	Ga	71	184105.8	3.1				mg/L	202510	Standard
	Rb	85	851.7	12.7				ug/L	10	Standard
	Y	89	204171.8	1.9				ug/L	222253	Standard
>	Rh	103	102028.4	0.8				ug/L	115393	Standard
	Mo	98	401708.4	2.0	86.3534	1.252	1.5	ug/L	14	Standard
	Ag	107	331903.5	1.0	43.7674	0.303	0.7	ug/L	48	Standard
	Cd	111	158441.8	0.9	50.2490	0.317	0.6	mg/L	86	Standard
	Cd	114	452065.5	0.6	50.6239	0.303	0.6	ug/L	246	Standard
>	In	115	455474.5	0.7				ug/L	421413	Standard
	Sn	118	532473.2	1.1	50.8659	0.303	0.6	ug/L	392	Standard
	Sb	123	377660.8	0.6	50.3421	0.041	0.1	ug/L	70	Standard
	Ba	135	167681.4	0.6	49.8021	0.343	0.7	ug/L	39	Standard
	Ce	140	645.7	3.5				ug/L	138	Standard
>	Tb	159	473241.6	1.5				ug/L	426404	Standard
	Ho	165	9.3	37.6				ug/L	7	Standard
	Tl	203	549453.8	1.2	50.4151	0.535	1.1	ug/L	11	Standard
	Tl	205	1318733.1	0.8	51.4957	0.383	0.7	ug/L	18	Standard
	Pb	206	448169.6	0.9	50.2356	0.422	0.8	ug/L	174	Standard
	Pb	207	385064.3	1.0	51.1885	0.445	0.9	ug/L	146	Standard
	Pb	208	1743509.1	0.6	50.6660	0.244	0.5	ug/L	687	Standard
	U	238	784201.0	1.5	50.4411	0.751	1.5	ug/L	131	Standard
>	Bi	209	264088.0	0.2				ug/L	245542	Standard
	Na	23	65059.4	0.3	6.0274	0.058	1.0	mg/L	180	Standard
	Mg	24	1809773.3	1.1	4.9722	0.012	0.2	mg/L	930	Standard

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 15:25:47

Page 1

Approved: June 19, 2012

	K	39	5057.5	2.2	5.3189	0.077	1.5	mg/L	162	Standard
	Ca	43	6.7	114.6	5.7782	6.654	115.2	mg/L	2	Standard
	Fe	54	17317.8	3.4	5.9598	0.202	3.4	mg/L	439	Standard
	Fe	57	655095.9	3.1	5.4763	0.106	1.9	mg/L	5846	Standard
>	Sc-1	45	285897.4	1.2				mg/L	276213	Standard
	Cl	35	10.7	30.1				ug/L	6	Standard
	Kr	83	38.2	7.4				ug/L	41	Standard
	Br	81	5603.5	1.4				ug/L	5073	Standard
	P	31	81776.0	2.0				ug/L	51446	Standard
	S	34	916774.1	1.5				ug/L	649594	Standard
	Sr	88	171.7	52.2				ug/L	65	Standard

QC Calculated Values

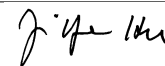
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27	106.762	
>	Sc	45		
	Ti	47	108.721	
	V	51	110.421	
	Cr	52	110.640	
	Cr	53		
	Mn	55	110.332	
	Co	59	102.471	
	Ni	60	100.491	
	Cu	65	101.712	
	Zn	66	99.539	
>	Ge	72		91.281
	As	75	101.499	
	Se	82	102.854	
	Se-1	77		
>	Ga	71		90.912
	Rb	85		
	Y	89		
>	Rh	103		88.418
	Mo	98	86.353	
	Ag	107	87.535	
	Cd	111	100.498	
	Cd	114		
>	In	115		108.083
	Sn	118	101.732	
	Sb	123	100.684	
	Ba	135	99.604	
	Ce	140		
>	Tb	159		110.984
	Ho	165		
	Tl	203	100.830	
	Tl	205		
	Pb	206	100.471	

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 15:25:47

Page 2

Approved: June 19, 2012



	Pb	207	102.377	
	Pb	208	101.332	
	U	238	100.882	
>	Bi	209		107.553
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	V	51	
QC Std 6	Cr	52	
QC Std 6	Mn	55	
QC Std 6	Mo	98	
QC Std 6	Ag	107	

Sample ID: QC Std 6

Report Date/Time: Tuesday, June 19, 2012 15:25:47

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, June 19, 2012 15:26:30

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9221.1	2.1	133.9457	23.250	17.4	ug/L	8387	Standard
	Be	9	30.0	66.7	0.0055	0.008	146.1	ug/L	38	Standard
	Al	27	5591.0	3.9	0.0463	0.018	38.3	ug/L	15112	Standard
>	Sc	45	277180.8	0.7				ug/L	276213	Standard
	Ti	47	109.7	8.3	0.0223	0.007	31.9	ug/L	124	Standard
	V	51	3221.4	1.5	0.0203	0.005	23.5	ug/L	3503	Standard
	Cr	52	9983.3	1.9	0.0437	0.019	44.5	ug/L	11028	Standard
	Cr	53	879.2	3.1	0.4228	0.018	4.4	ug/L	333	Standard
	Mn	55	1041.0	6.9	0.0043	0.006	129.6	ug/L	3794	Standard
	Co	59	117.3	37.0	-0.0018	0.004	207.3	ug/L	200	Standard
	Ni	60	87.3	6.3	-0.0032	0.002	71.8	ug/L	111	Standard
	Cu	65	134.0	10.8	-0.0069	0.006	89.7	ug/L	137	Standard
	Zn	66	296.3	5.5	-0.1004	0.014	13.9	ug/L	360	Standard
>	Ge	72	207144.7	0.4				ug/L	236618	Standard
	As	75	-243.1	1.5	-0.0276	0.003	12.4	ug/L	-269	Standard
	Se	82	17.8	36.4	-0.0043	0.059	1359.6	ug/L	22	Standard
	Se-1	77	109.0	8.4	0.3274	0.117	35.9	ug/L	91	Standard
>	Ga	71	176476.9	1.0				mg/L	202510	Standard
	Rb	85	21.7	74.2				ug/L	10	Standard
	Y	89	199283.7	0.3				ug/L	222253	Standard
>	Rh	103	99131.3	2.1				ug/L	115393	Standard
	Mo	98	98.0	32.1	0.0116	0.007	57.3	ug/L	14	Standard
	Ag	107	54.0	37.0	-0.0031	0.003	82.2	ug/L	48	Standard
	Cd	111	96.8	13.4	0.0002	0.004	1965.7	mg/L	86	Standard
	Cd	114	275.1	19.0	0.0035	0.006	160.4	ug/L	246	Standard
>	In	115	444421.0	1.4				ug/L	421413	Standard
	Sn	118	568.7	15.3	0.0140	0.008	55.1	ug/L	392	Standard
	Sb	123	838.9	46.0	0.1138	0.051	44.7	ug/L	70	Standard
	Ba	135	109.3	69.8	0.0164	0.023	137.7	ug/L	39	Standard
	Ce	140	32.7	12.4				ug/L	138	Standard
>	Tb	159	454038.8	1.7				ug/L	426404	Standard
	Ho	165	4.7	24.7				ug/L	7	Standard
	Tl	203	53.7	59.0	0.0024	0.003	122.4	ug/L	11	Standard
	Tl	205	120.3	54.9	0.0036	0.003	73.9	ug/L	18	Standard
	Pb	206	273.7	32.0	0.0107	0.010	95.3	ug/L	174	Standard
	Pb	207	225.3	39.3	0.0112	0.012	108.9	ug/L	146	Standard
	Pb	208	1037.3	36.5	0.0091	0.011	124.9	ug/L	687	Standard
	U	238	133.0	58.4	0.0096	0.005	53.3	ug/L	131	Standard
>	Bi	209	260911.7	0.7				ug/L	245542	Standard
	Na	23	146.7	20.0	-0.0063	0.003	43.1	mg/L	180	Standard
	Mg	24	278.3	44.2	-0.0010	0.000	34.2	mg/L	930	Standard

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 15:29:03

Page 1

Approved: June 19, 2012



	K	39	153.3	21.2	-0.0152	0.036	238.7	mg/L	162	Standard
	Ca	43	3.3	173.2	2.9723	5.139	172.9	mg/L	2	Standard
	Fe	54	563.2	11.6	0.0437	0.025	56.6	mg/L	439	Standard
	Fe	57	5427.6	8.6	0.0048	0.004	79.7	mg/L	5846	Standard
>	Sc-1	45	277180.8	0.7				mg/L	276213	Standard
	Cl	35	7.0	28.6				ug/L	6	Standard
	Kr	83	39.7	0.8				ug/L	41	Standard
	Br	81	5306.8	3.6				ug/L	5073	Standard
	P	31	75213.7	0.7				ug/L	51446	Standard
	S	34	902126.5	0.9				ug/L	649594	Standard
	Sr	88	53.3	19.5				ug/L	65	Standard

QC Calculated Values

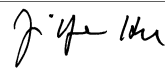
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
	Li	7		
	Be	9		
	Al	27		
>	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72	87.544	
	As	75		
	Se	82		
	Se-1	77		
>	Ga	71	87.145	
	Rb	85		
	Y	89		
>	Rh	103	85.907	
	Mo	98		
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115	105.460	
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159	106.481	
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		

Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 15:29:03

Page 2

Approved: June 19, 2012



	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	106.259
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Tuesday, June 19, 2012 15:29:03

Page 3

Approved: June 19, 2012



Method 6020 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Tuesday, June 19, 2012 15:29:48

Number of Replicates: 3

Autosampler Position: 202

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH user

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
	Li	7	9222.8	3.2	149.8548	36.299	24.2	ug/L	8387	Standard
	Be	9	26.7	96.2	0.0043	0.010	242.5	ug/L	38	Standard
	Al	27	6338.0	5.2	0.1156	0.028	24.1	ug/L	15112	Standard
>	Sc	45	274361.9	0.9				ug/L	276213	Standard
	Ti	47	89.0	23.1	0.0050	0.014	285.0	ug/L	124	Standard
	V	51	8983.4	3.8	0.4717	0.036	7.6	ug/L	3503	Standard
	Cr	52	18208.9	1.0	0.9127	0.065	7.1	ug/L	11028	Standard
	Cr	53	1964.3	2.0	1.1619	0.019	1.6	ug/L	333	Standard
	Mn	55	8041.8	1.9	0.5621	0.014	2.5	ug/L	3794	Standard
	Co	59	5054.5	0.9	0.4114	0.015	3.7	ug/L	200	Standard
	Ni	60	4055.9	3.0	1.5995	0.074	4.6	ug/L	111	Standard
	Cu	65	2024.1	3.2	0.8148	0.053	6.4	ug/L	137	Standard
	Zn	66	8340.3	2.5	7.1319	0.397	5.6	ug/L	360	Standard
>	Ge	72	208754.6	2.8				ug/L	236618	Standard
	As	75	184.6	8.5	0.3744	0.014	3.8	ug/L	-269	Standard
	Se	82	62.5	11.8	0.4037	0.079	19.7	ug/L	22	Standard
	Se-1	77	140.0	1.4	0.7292	0.070	9.5	ug/L	91	Standard
>	Ga	71	178657.4	2.0				mg/L	202510	Standard
	Rb	85	25.0	52.9				ug/L	10	Standard
	Y	89	202369.9	2.8				ug/L	222253	Standard
>	Rh	103	102519.9	3.5				ug/L	115393	Standard
	Mo	98	39.3	72.1	-0.0016	0.006	366.2	ug/L	14	Standard
	Ag	107	2680.9	0.6	0.3449	0.014	4.1	ug/L	48	Standard
	Cd	111	810.9	0.5	0.2272	0.008	3.4	mg/L	86	Standard
	Cd	114	2321.2	2.5	0.2333	0.015	6.6	ug/L	246	Standard
>	In	115	453737.6	3.4				ug/L	421413	Standard
	Sn	118	570.7	13.7	0.0130	0.006	45.7	ug/L	392	Standard
	Sb	123	3118.2	3.9	0.4169	0.003	0.6	ug/L	70	Standard
	Ba	135	2508.5	3.4	0.7315	0.012	1.7	ug/L	39	Standard
	Ce	140	31.0	11.6				ug/L	138	Standard
>	Tb	159	458435.4	0.3				ug/L	426404	Standard
	Ho	165	3.0	88.2				ug/L	7	Standard
	Tl	203	1021.0	19.3	0.0929	0.017	18.4	ug/L	11	Standard
	Tl	205	2449.9	23.6	0.0963	0.021	22.3	ug/L	18	Standard
	Pb	206	2095.1	8.8	0.2193	0.019	8.5	ug/L	174	Standard
	Pb	207	1716.4	6.8	0.2136	0.012	5.7	ug/L	146	Standard
	Pb	208	7902.8	8.8	0.2129	0.018	8.3	ug/L	687	Standard
	U	238	6237.6	0.6	0.4105	0.006	1.5	ug/L	131	Standard
>	Bi	209	258741.6	1.6				ug/L	245542	Standard
	Na	23	233.3	23.6	0.0023	0.006	242.9	mg/L	180	Standard
	Mg	24	415.0	81.5	-0.0006	0.001	159.4	mg/L	930	Standard

Sample ID: QC Std 8

Report Date/Time: Tuesday, June 19, 2012 15:32:21

Page 1

Approved: June 19, 2012



	K	39	160.0	19.0	-0.0056	0.036	632.7	mg/L	162	Standard
	Ca	43	0.0		0.0050			mg/L	2	Standard
	Fe	54	545.1	7.3	0.0391	0.014	35.5	mg/L	439	Standard
	Fe	57	4864.1	4.7	0.0003	0.002	634.5	mg/L	5846	Standard
>	Sc-1	45	274361.9	0.9				mg/L	276213	Standard
	Cl	35	8.7	6.7				ug/L	6	Standard
	Kr	83	35.9	4.3				ug/L	41	Standard
	Br	81	5387.6	1.6				ug/L	5073	Standard
	P	31	72904.2	1.6				ug/L	51446	Standard
	S	34	901263.1	0.9				ug/L	649594	Standard
	Sr	88	51.7	31.1				ug/L	65	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	7			
Be	9			
Al	27			
> Sc	45			
Ti	47			
V	51	117.926		
Cr	52	114.090		
Cr	53			
Mn	55	112.421		
Co	59	102.840		
Ni	60	99.967		
Cu	65	101.850		
Zn	66	114.110		
> Ge	72		88.224	
As	75	93.589		
Se	82	100.925		
Se-1	77			
> Ga	71		88.222	
Rb	85			
Y	89			
> Rh	103		88.844	
Mo	98			
Ag	107	86.213		
Cd	111	94.684		
Cd	114			
> In	115		107.670	
Sn	118			
Sb	123	104.219		
Ba	135	97.539		
Ce	140			
> Tb	159		107.512	
Ho	165			
Tl	203	116.144		
Tl	205			
Pb	206			

Sample ID: QC Std 8

Report Date/Time: Tuesday, June 19, 2012 15:32:21

Page 2

Approved: June 19, 2012



	Pb	207		
	Pb	208	106.454	
	U	238	102.621	
>	Bi	209		105.375
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 8

Report Date/Time: Tuesday, June 19, 2012 15:32:21

Page 3

Approved: June 19, 2012



2.3.3 Metals CVAA Data (Mercury)

2.3.3.1 Summary Data



Login Number: L12060445
Department: Metals - AA
Analyst: Pierce Morris

METHOD

Preparation: SW-846 7470

Analysis: SW-846 7470

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG401291 - All acceptance criteria were met.

Matrix Spikes: WG401291 - Sample 05 was chosen by the client for MS/MSD analysis. Samples 06(MS) and 07(MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 48365

Approved By: Sheri Pfalzgraf

A handwritten signature in black ink, appearing to read "Sheri L. Pfalzgraf".

Certificate of Analysis

Sample #: L12060445-01	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW7GW601212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:27
Collect Date: 06/12/2012 10:25	Dilution: 1	File ID: HY.062512.132725
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12060445-03	PrePrep Method: N/A	Instrument: HYDRA
Client ID: LFMW01GW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:31
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: HY.062512.133103
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12060445-04	PrePrep Method: N/A	Instrument: HYDRA
Client ID: LFMW01GW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:32
Collect Date: 06/12/2012 12:59	Dilution: 1	File ID: HY.062512.133239
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-05	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW6GW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:34
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: HY.062512.133417
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12060445-06	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW6MSGW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:35
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: HY.062512.133553
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00496		0.000222	0.000111

Sample #: L12060445-07	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW6MSDGW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:37
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: HY.062512.133735
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00483		0.000222	0.000111

Sample #: L12060445-08	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40DUPGW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 14:10
Collect Date: 06/12/2012 15:02	Dilution: 1	File ID: HY.062512.141049
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12060445-09	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40FB061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:39
Collect Date: 06/12/2012 16:00	Dilution: 1	File ID: HY.062512.133912
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12060445-10	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40EQR061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:44
Collect Date: 06/12/2012 16:30	Dilution: 1	File ID: HY.062512.134417
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12060445-11	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW5GW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:46
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: HY.062512.134614
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12060445-12	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW5GW061212	Prep Method: 7470A	Prep Date: 06/18/2012 10:33
Matrix: Water	Analytical Method: 7470A	Cal Date: 06/25/2012 13:06
Workgroup #: WG401291	Analyst: PDM	Run Date: 06/25/2012 13:48
Collect Date: 06/12/2012 17:51	Dilution: 1	File ID: HY.062512.134805
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

2.3.3.2 QC Summary

Example Cold Vapor Mercury Calculations

Hydra AA Mercury Analyzer

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and five standards.

2.0 Calculating the concentration (C) of an element in water using data from run log and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Diluted to Volume (mL)

Vi = Aliquot Volume (mL)

D = Manual dilution factor, if required (10X = 10)

Example:

0.1

40

40

1

Cx = Concentration of element in ppb (ug/L)

0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Ws} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Diluted to volume (mL)

Ws = Aliquot weight (g)

D = Manual dilution factor

Example:

0.1

40

0.6

1

Cx = Concentration of element in ug/kg

6.67

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

6.67

80

$Cdry$ = Concentration calculated as dry weight (ug/kg)

8.33

8.33 ug/kg = 0.00833 mg/kg

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG400894

Analyst: BRG

Spike Analyst: BRG

Method: 7470A

Run Date: 06/18/2012 10:33

Hotblock Start Temp: 95.1 @ 10:20

Hotblock End Temp: 95 @ 12:20

SOP: ME404 Revision 13

Spike Solution: STD52307

Spike Witness: VC

HN03 Lot #: COA16174

KMn04 1:1 Lot #: RGT17337

H2S04 Lot #: COA16153

K2S208 1:1 Lot #: RGT16987

Digestion Tubes Lot #: COA16074

Mercury Water ICV Lot #: STD52309

HG H2O STDS 10PPM Lot #: STD52315

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG400894-02	BLANK	1	40 mL	40 mL		
2	WG400894-03	LCS	1	40 mL	40 mL	4 mL	
3	L12060445-01	SAMP	1	40 mL	40 mL		06/25/12
4	L12060445-03	SAMP	1	40 mL	40 mL		06/25/12
5	L12060445-04	SAMP	1	40 mL	40 mL		06/25/12
6	WG400894-01	REF	1	40 mL	40 mL		
7	L12060445-05	RS01	1	40 mL	40 mL		06/25/12
8	WG400894-04	MS	1	36 mL	40 mL	4 mL	
9	L12060445-06	MS01	1	36 mL	40 mL	4 mL	06/25/12
10	WG400894-05	MSD	1	36 mL	40 mL	4 mL	
11	L12060445-07	SD01	1	36 mL	40 mL	4 mL	06/25/12
12	L12060445-08	SAMP	1	40 mL	40 mL		06/25/12
13	L12060445-09	SAMP	1	40 mL	40 mL		06/25/12
14	L12060445-10	SAMP	1	40 mL	40 mL		06/25/12
15	L12060445-11	SAMP	1	40 mL	40 mL		06/25/12
16	L12060445-12	SAMP	1	40 mL	40 mL		06/25/12
17	L12060496-04	SAMP	1	40 mL	40 mL		06/25/12
18	L12060497-05	SAMP	1	40 mL	40 mL		06/25/12
19	L12060498-06	SAMP	1	40 mL	40 mL		06/25/12
20	L12060498-07	SAMP	1	40 mL	40 mL		06/25/12
21	L12060498-08	SAMP	1	40 mL	40 mL		06/25/12
22	L12060498-09	SAMP	1	40 mL	40 mL		06/25/12
23	L12060498-12	SAMP	1	40 mL	40 mL		06/25/12
24	L12060498-13	SAMP	1	40 mL	40 mL		06/25/12
25	L12060499-10	SAMP	1	40 mL	40 mL		06/25/12
26	L12060499-11	SAMP	1	40 mL	40 mL		06/25/12

Analyst: Brenda Gregory

Reviewer: Vicki Collier

HB_DIG - Modified 09/30/2009
PDF ID: 2456620
Report generated: 06/18/2012 14:11



Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG400894

Analyst: BRG

Spike Analyst: BRG

Method: 7470A

Run Date: 06/18/2012 10:33

Hotblock Start Temp: 95.1 @ 10:20

Hotblock End Temp: 95 @ 12:20

SOP: ME404 Revision 13

Spike Solution: STD52307

Spike Witness: VC

HN03 Lot #: COA16174

KMn04 1:1 Lot #: RGT17337

H2S04 Lot #: COA16153

K2S208 1:1 Lot #: RGT16987

Digestion Tubes Lot #: COA16074

Mercury Water ICV Lot #: STD52309

HG H2O STDS 10PPM Lot #: STD52315

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG400894-02	BLANK	1	40 mL	40 mL		
2	WG400894-03	LCS	1	40 mL	40 mL	4 mL	
3	L12060445-01	SAMP	1	40 mL	40 mL		06/25/12
4	L12060445-03	SAMP	1	40 mL	40 mL		06/25/12
5	L12060445-04	SAMP	1	40 mL	40 mL		06/25/12
6	WG400894-01	REF	1	40 mL	40 mL		
7	L12060445-05	RS01	1	40 mL	40 mL		06/25/12
8	WG400894-04	MS	1	36 mL	40 mL	4 mL	
9	L12060445-06	MS01	1	36 mL	40 mL	4 mL	06/25/12
10	WG400894-05	MSD	1	36 mL	40 mL	4 mL	
11	L12060445-07	SD01	1	36 mL	40 mL	4 mL	06/25/12
12	L12060445-08	SAMP	1	40 mL	40 mL		06/25/12
13	L12060445-09	SAMP	1	40 mL	40 mL		06/25/12
14	L12060445-10	SAMP	1	40 mL	40 mL		06/25/12
15	L12060445-11	SAMP	1	40 mL	40 mL		06/25/12
16	L12060445-12	SAMP	1	40 mL	40 mL		06/25/12
17	L12060496-04	SAMP	1	40 mL	40 mL		06/25/12
18	L12060497-05	SAMP	1	40 mL	40 mL		06/25/12
19	L12060498-06	SAMP	1	40 mL	40 mL		06/25/12
20	L12060498-07	SAMP	1	40 mL	40 mL		06/25/12
21	L12060498-08	SAMP	1	40 mL	40 mL		06/25/12
22	L12060498-09	SAMP	1	40 mL	40 mL		06/25/12
23	L12060498-12	SAMP	1	40 mL	40 mL		06/25/12
24	L12060498-13	SAMP	1	40 mL	40 mL		06/25/12
25	L12060499-10	SAMP	1	40 mL	40 mL		06/25/12
26	L12060499-11	SAMP	1	40 mL	40 mL		06/25/12

Analyst: Brenda Gregory

Reviewer: Vicki Collier

HB_DIG - Modified 09/30/2009
PDF ID: 2456624
Report generated: 06/18/2012 14:11



Microbac Laboratories Inc.

Instrument Run Log

Instrument: HYDRA Dataset: 062512B.PRN
 Analyst1: PDM Analyst2: N/A
 Method: 7470 SOP: ME404 Rev: 13
 Maintenance Log ID: 42240

Calibration Std: STD52315 ICV Std: STD52309 Post Spike: STD52315
 ICSA: N/A ICSAB: N/A Int. Std: _____
 CCV: _____ LLCCV: _____

401291

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	HY.062512.125828	WG401546-01	Calibration Point		1		06/25/12 12:58
2	HY.062512.130014	WG401546-02	Calibration Point		1		06/25/12 13:00
3	HY.062512.130152	WG401546-03	Calibration Point		1		06/25/12 13:01
4	HY.062512.130331	WG401546-04	Calibration Point		1		06/25/12 13:03
5	HY.062512.130508	WG401546-05	Calibration Point		1		06/25/12 13:05
6	HY.062512.130646	WG401546-06	Calibration Point		1		06/25/12 13:06
7	HY.062512.131633	WG401546-07	Initial Calibration Verification		1		06/25/12 13:16
8	HY.062512.131820	WG401546-08	Initial Calib Blank		1		06/25/12 13:18
9	HY.062512.131958	WG401546-09	CCV		1		06/25/12 13:19
10	HY.062512.132158	WG401546-10	CCB		1		06/25/12 13:21
11	HY.062512.132347	WG400894-02	Method/Prep Blank	40/40	1		06/25/12 13:23
12	HY.062512.132547	WG400894-03	Laboratory Control S	40/40	1		06/25/12 13:25
13	HY.062512.132725	L12060445-01	40MW7GW601212	40/40	1		06/25/12 13:27
14	HY.062512.132921	WG401291-01	Post Digestion Spike		1	L12060496-04	06/25/12 13:29
15	HY.062512.133103	L12060445-03	LFMW01GW061212	40/40	1		06/25/12 13:31
16	HY.062512.133239	L12060445-04	LFMW01GW061212	40/40	1		06/25/12 13:32
17	HY.062512.133417	WG400894-01	Reference Sample	40/40	1	L12060445-05	06/25/12 13:34
18	HY.062512.133553	L12060445-06	40MW6MSGW061212	36/40	1	WG400894-04	06/25/12 13:35
19	HY.062512.133735	L12060445-07	40MW6MSDGW061212	36/40	1	WG400894-05	06/25/12 13:37
20	HY.062512.133912	L12060445-09	40FB061212	40/40	1		06/25/12 13:39
21	HY.062512.134101	WG401546-11	CCV		1		06/25/12 13:41
22	HY.062512.134239	WG401546-12	CCB		1		06/25/12 13:42
23	HY.062512.134417	L12060445-10	40EQR061212	40/40	1		06/25/12 13:44
24	HY.062512.134614	L12060445-11	40MW5GW061212	40/40	1		06/25/12 13:46
25	HY.062512.134805	L12060445-12	40MW5GW061212	40/40	1		06/25/12 13:48
26	HY.062512.134942	L12060496-04	03-00004-000 P-1	40/40	1		06/25/12 13:49
27	HY.062512.135133	L12060497-05	03-00304-000 W-1	40/40	1		06/25/12 13:51
28	HY.062512.135331	L12060498-06	03-00305-001 DS-1	40/40	1		06/25/12 13:53
29	HY.062512.135519	L12060498-07	03-00305-002 W-1	40/40	1		06/25/12 13:55
30	HY.062512.135655	L12060498-08	03-00305-004 W-1	40/40	1		06/25/12 13:56
31	HY.062512.135842	L12060498-09	03-00305-003 W-1	40/40	1		06/25/12 13:58
32	HY.062512.140019	L12060498-12	03-00305-000 W-1	40/40	1		06/25/12 14:00
33	HY.062512.140207	WG401546-13	CCV		1		06/25/12 14:02
34	HY.062512.140343	WG401546-14	CCB		1		06/25/12 14:03

Page: 1 Approved: June 25, 2012

Shari L. Bahgat

Microbac Laboratories Inc.
Instrument Run Log

Instrument: HYDRA Dataset: 062512B.PRN
 Analyst1: PDM Analyst2: N/A
 Method: 7470 SOP: ME404 Rev: 13
 Maintenance Log ID: 42240

Calibration Std: STD52315 ICV Std: STD52309 Post Spike: STD52315
 ICSA: N/A ICSAB: N/A Int. Std: _____
 CCV: _____ LLCCV: _____

401291

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	HY.062512.140532	L12060498-13	03-00305-000 DS-1	40/40	1		06/25/12 14:05
36	HY.062512.140723	L12060499-10	03-00637-002 W-1	40/40	1		06/25/12 14:07
37	HY.062512.140903	L12060499-11	03-00637-001 DS-1	40/40	1		06/25/12 14:09
38	HY.062512.141049	L12060445-08	40DUPGW061212	40/40	1		06/25/12 14:10
39	HY.062512.141227	WG401546-15	CCV		1		06/25/12 14:12
40	HY.062512.141406	WG401546-16	CCB		1		06/25/12 14:14

Page: 2 Approved: June 25, 2012

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 25-JUN-2012

Analyst: PDM

Analyst: NA

Method: 7470

Instrument: HYDRA

Curve Workgroup: 401546

Runlog ID: 47483

Analytical Workgroups: 401291

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	0445,0496,0497,0498,0499
Client Forms	X
Level X	
Level 3	
Level 4	0445,0496,0497,0498,0499
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	PDM
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
25-JUN-2012

Secondary Reviewer:
25-JUN-2012

Pierre Morris *Shari L. Bahgat*



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 7470A

AAB#: WG401291

Login Number: L12060445

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
40MW7GW061212	01	06/12/12					06/18/12	6	28		06/25/12	13.1	28	
LFMW01GW061212	03	06/12/12					06/18/12	5.9	28		06/25/12	13	28	
40MW6GW061212	05	06/12/12					06/18/12	5.8	28		06/25/12	12.9	28	
40MW6MSGW061212	06	06/12/12					06/18/12	5.8	28		06/25/12	12.9	28	
40MW6MSDGW061212	07	06/12/12					06/18/12	5.8	28		06/25/12	12.9	28	
40DUPGW061212	08	06/12/12					06/18/12	5.8	28		06/25/12	13	28	
40FB061212	09	06/12/12					06/18/12	5.8	28		06/25/12	12.9	28	
40EQR061212	10	06/12/12					06/18/12	5.8	28		06/25/12	12.9	28	
40MW5GW061212	11	06/12/12					06/18/12	5.7	28		06/25/12	12.8	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2463134
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 7470A
Login Number: L12060445

AAB#: WG401291

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
LFMW01GW061212	04	06/12/12					06/18/12	5.9	28		06/25/12	13	28	
40MW5GW061212	12	06/12/12					06/18/12	5.7	28		06/25/12	12.8	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 2463145
Report generated 06/25/2012 14:31



METHOD BLANK SUMMARY

Login Number: L12060445
 Blank File ID: HY.062512.132347
 Prep Date: 06/18/12 10:33
 Analyzed Date: 06/25/12 13:23
 Analyst: PDM

Work Group: WG401291
 Blank Sample ID: WG400894-02
 Instrument ID: HYDRA
 Method: 7470A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG400894-03	HY.062512.132547	06/25/12 13:25	01
40MW7GW061212	L12060445-01	HY.062512.132725	06/25/12 13:27	01
LFMW01GW061212	L12060445-03	HY.062512.133103	06/25/12 13:31	01
LFMW01GW061212	L12060445-04	HY.062512.133239	06/25/12 13:32	01
40MW6GW061212	L12060445-05	HY.062512.133417	06/25/12 13:34	01
40MW6MSGW061212	L12060445-06	HY.062512.133553	06/25/12 13:35	01
40MW6MSDGW061212	L12060445-07	HY.062512.133735	06/25/12 13:37	01
40FB061212	L12060445-09	HY.062512.133912	06/25/12 13:39	01
40EQR061212	L12060445-10	HY.062512.134417	06/25/12 13:44	01
40MW5GW061212	L12060445-11	HY.062512.134614	06/25/12 13:46	01
40MW5GW061212	L12060445-12	HY.062512.134805	06/25/12 13:48	01
40DUPGW061212	L12060445-08	HY.062512.141049	06/25/12 14:10	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2463135
 Report generated 06/25/2012 14:31



METHOD BLANK SUMMARY

Login Number: L12060445
 Blank File ID: HY.062512.132347
 Prep Date: 06/18/12 10:33
 Analyzed Date: 06/25/12 13:23
 Analyst: PDM

Work Group: WG401291
 Blank Sample ID: WG400894-02
 Instrument ID: HYDRA
 Method: 7470A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG400894-03	HY.062512.132547	06/25/12 13:25	01
40MW7GW061212	L12060445-01	HY.062512.132725	06/25/12 13:27	01
LFMW01GW061212	L12060445-03	HY.062512.133103	06/25/12 13:31	01
LFMW01GW061212	L12060445-04	HY.062512.133239	06/25/12 13:32	01
40MW6GW061212	L12060445-05	HY.062512.133417	06/25/12 13:34	01
40MW6MSGW061212	L12060445-06	HY.062512.133553	06/25/12 13:35	01
40MW6MSDGW061212	L12060445-07	HY.062512.133735	06/25/12 13:37	01
40FB061212	L12060445-09	HY.062512.133912	06/25/12 13:39	01
40EQR061212	L12060445-10	HY.062512.134417	06/25/12 13:44	01
40MW5GW061212	L12060445-11	HY.062512.134614	06/25/12 13:46	01
40MW5GW061212	L12060445-12	HY.062512.134805	06/25/12 13:48	01
40DUPGW061212	L12060445-08	HY.062512.141049	06/25/12 14:10	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2463146
 Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/18/12 10:33 Sample ID: WG400894-02
Instrument ID: HYDRA Run Date: 06/25/12 13:23 Prep Method: 7470A
File ID: HY.062512.132347 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG401291 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA - 25-JUN-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2463136

25-JUN-2012 14:31



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12060445 Prep Date: 06/18/12 10:33 Sample ID: WG400894-02
Instrument ID: HYDRA Run Date: 06/25/12 13:23 Prep Method: 7470A
File ID: HY.062512.132347 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG401291 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA - 25-JUN-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Mercury, Dissolved	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2463147

25-JUN-2012 14:31



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG400894-03
Instrument ID: HYDRA Run Time: 13:25 Prep Method: 7470A
File ID: HY.062512.132547 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG401291 Matrix: Water Units: mg/L
QC Key: D0D4 Lot#: STD52307 Cal ID: HYDRA - 25-JUN-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00441	110	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2463137
Report generated: 06/25/2012 14:31



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG400894-03
Instrument ID: HYDRA Run Time: 13:25 Prep Method: 7470A
File ID: HY.062512.132547 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG401291 Matrix: Water Units: mg/L
QC Key: D0D4 Lot#: STD52307 Cal ID: HYDRA - 25-JUN-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury, Dissolved	0.00400	0.00441	110	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2463148
Report generated: 06/25/2012 14:31



MS/MSD REPORT

Loginnum: L12060445 Cal ID: HYDRA- 25-JUN-12
 Instrument ID: HYDRA Contract #: _____
 Parent ID: L12060445-05 File ID: HY.062512.133417 Dil: 1
 Sample ID: L12060445-06 MS File ID: HY.062512.133553 Dil: 1
 Sample ID: L12060445-07 MSD File ID: HY.062512.133735 Dil: 1

Worknum: WG401291
 Prep Method: 7470A
 Method: 7470A
 Matrix: Water
 Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Mercury	U	0.00444	0.00496	112	0.00444	0.00483	109	2.50	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT



MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12060445 Cal ID: HYDRA - Worknum: WG401291
 Instrument ID: HYDRA Contract #: _____ Method: 7470A
 Parent ID: WG400894-01 File ID: HY.062512.133417 Dil: 1 Matrix: WATER
 Sample ID: WG400894-04 MS File ID: HY.062512.133553 Dil: 1 Units: mg/L
 Sample ID: WG400894-05 MSD File ID: HY.062512.133735 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Mercury, Dissolved	ND	0.00444	0.00496	112	0.00444	0.00483	109	2.50	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12060445

Worknum: WG401291

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG401291-01

File ID: HY.062512.132921

Dil: 1

Units: ug/L

Sample ID: L12060496-04

File ID: HY.062512.134942

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.929		0	U	1	92.9	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2463133
Report generated: 06/25/2012 14:31



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12060445

Worknum: WG401291

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG401291-01

File ID: HY.062512.132921

Dil: 1

Units: ug/L

Sample ID: L12060496-04

File ID: HY.062512.134942

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.929		0	U	1	92.9	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2463144
Report generated: 06/25/2012 14:31



Login Number: L12060445
Analytical Method: 7470A
ICAL Worknum: WG401546

Workgroup (AAB#): WG401291
Instrument ID: HYDRA
Initial Calibration Date: 06/25/2012 13:06

Analyte	WG401546-01		WG401546-02		WG401546-03		WG401546-04		WG401546-05		WG401546-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	254	0.200	10620	1.00	45145	2.00	86193	5.00	213707	10.0	431406

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2463139
Report generated 06/25/2012 14:31



Login Number: L12060445
Analytical Method: 7470A
ICAL Worknum: WG401546

Workgroup (AAB#): WG401291
Instrument ID: HYDRA
Initial Calibration Date: 06/25/2012 13:06

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; $R < 0.995$

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2463139
Report generated 06/25/2012 14:31



Login Number: L12060445
Analytical Method: 7470A
ICAL Worknum: WG401546

Workgroup (AAB#): WG401291
Instrument ID: HYDRA
Initial Calibration Date: 06/25/2012 13:06

Analyte	WG401546-01		WG401546-02		WG401546-03		WG401546-04		WG401546-05		WG401546-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	254	0.200	10620	1.00	45145	2.00	86193	5.00	213707	10.0	431406

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2463149
Report generated 06/25/2012 14:31



Login Number: L12060445
Analytical Method: 7470A
ICAL Worknum: WG401546

Workgroup (AAB#): WG401291
Instrument ID: HYDRA
Initial Calibration Date: 06/25/2012 13:06

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; $R < 0.995$

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2463149
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-08
Instrument ID: HYDRA Run Time: 13:18 Method: 7470A
File ID: HY.062512.131820 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2463141
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-08
Instrument ID: HYDRA Run Time: 13:18 Method: 7470A
File ID: HY.062512.131820 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2463151
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-10
Instrument ID: HYDRA Run Time: 13:21 Method: 7470A
File ID: HY.062512.132158 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2463143
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-12
Instrument ID: HYDRA Run Time: 13:42 Method: 7470A
File ID: HY.062512.134239 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2463143
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-14
Instrument ID: HYDRA Run Time: 14:03 Method: 7470A
File ID: HY.062512.140343 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2463143
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-16
Instrument ID: HYDRA Run Time: 14:14 Method: 7470A
File ID: HY.062512.141406 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2463143
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-10
Instrument ID: HYDRA Run Time: 13:21 Method: 7470A
File ID: HY.062512.132158 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2463153
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-12
Instrument ID: HYDRA Run Time: 13:42 Method: 7470A
File ID: HY.062512.134239 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2463153
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-14
Instrument ID: HYDRA Run Time: 14:03 Method: 7470A
File ID: HY.062512.140343 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2463153
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-07
Instrument ID: HYDRA Run Time: 13:16 Method: 7470A
File ID: HY.062512.131633 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	1.97	98.5	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2463140
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-07
Instrument ID: HYDRA Run Time: 13:16 Method: 7470A
File ID: HY.062512.131633 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	1.97	98.5	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2463150
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-09
Instrument ID: HYDRA Run Time: 13:19 Method: 7470A
File ID: HY.062512.131958 Analyst: PDM QC Key: D0D4
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00203	mg/L	102	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2463142
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-11
Instrument ID: HYDRA Run Time: 13:41 Method: 7470A
File ID: HY.062512.134101 Analyst: PDM QC Key: D0D4
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00205	mg/L	103	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2463142
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-13
Instrument ID: HYDRA Run Time: 14:02 Method: 7470A
File ID: HY.062512.140207 Analyst: PDM QC Key: D0D4
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00207	mg/L	104	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2463142
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-15
Instrument ID: HYDRA Run Time: 14:12 Method: 7470A
File ID: HY.062512.141227 Analyst: PDM QC Key: D0D4
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00197	mg/L	98.5	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2463142
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-09
Instrument ID: HYDRA Run Time: 13:19 Method: 7470A
File ID: HY.062512.131958 Analyst: PDM QC Key: D0D4
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00203	mg/L	102	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2463152
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-11
Instrument ID: HYDRA Run Time: 13:41 Method: 7470A
File ID: HY.062512.134101 Analyst: PDM QC Key: D0D4
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00205	mg/L	103	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2463152
Report generated 06/25/2012 14:31



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12060445 Run Date: 06/25/2012 Sample ID: WG401546-13
Instrument ID: HYDRA Run Time: 14:02 Method: 7470A
File ID: HY.062512.140207 Analyst: PDM QC Key: D0D4
Workgroup (AAB#): WG401291 Cal ID: HYDRA - 25-JUN-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00207	mg/L	104	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2463152
Report generated 06/25/2012 14:31



2.3.3.3 Raw Data

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Standard: 1 Rep: 1				Seq: 1		12:58:28	25 Jun 12	HG
Hg	.000	ppb	254					=
*** Standard: 2 Rep: 1				Seq: 2		13:00:14	25 Jun 12	HG
Hg	.200	ppb	10620					=
*** Standard: 3 Rep: 1				Seq: 3		13:01:52	25 Jun 12	HG
Hg	1.00	ppb	45145					=
*** Standard: 4 Rep: 1				Seq: 4		13:03:31	25 Jun 12	HG
Hg	2.00	ppb	86193					=
*** Standard: 5 Rep: 1				Seq: 5		13:05:08	25 Jun 12	HG
Hg	5.00	ppb	213707					=
*** Standard: 6 Rep: 1				Seq: 6		13:06:46	25 Jun 12	HG
Hg	10.0	ppb	431406					=
*** Check Standard: 2 Ck2ICV				Seq: 7		13:16:33	25 Jun 12	HG
Line Flag %Rcv. Found True Units SD/RSD								=
Hg		98.4	1.97	2.00	ppb	.000		
*** Check Standard: 3 Ck3ICB				Seq: 8		13:18:20	25 Jun 12	HG
Line Flag %Rcv. Found True Units SD/RSD								=
Hg		-9.59	-.019	.200	ppb	.000		
*** Check Standard: 4 Ck4CCV				Seq: 9		13:19:58	25 Jun 12	HG
Line Flag %Rcv. Found True Units SD/RSD								=
Hg		101.	2.03	2.00	ppb	.000		
*** Check Standard: 5 Ck5CCB				Seq: 10		13:21:58	25 Jun 12	HG
Line Flag %Rcv. Found True Units SD/RSD								=
Hg		18.5	.037	.200	ppb	.000		
*** Sample ID: WG40089402 062512B				Seq: 11		13:23:47	25 Jun 12	HG
			PBW 4A					=
Hg	-.018	ppb	.000	-.018				
=====								
*** Sample ID: WG40089403 062512B				Seq: 12		13:25:47	25 Jun 12	HG
			LCSW 4A					=
Hg	4.41	ppb	.000	4.41				
=====								

Approved: 06/25/2012 15:14

Pierce Morris

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: 1206044501 062512B Seq: 13 13:27:25 25 Jun 12 HG								
Hg	-.083	ppb	.000	-.083				
=====								
*** Sample ID: WG40129101 062512B Seq: 14 13:29:21 25 Jun 12 HG								
1206044501PS.9								
Hg	.929	ppb	.000	.929				
=====								
*** Sample ID: 1206044503 062512B Seq: 15 13:31:03 25 Jun 12 HG								
Hg	-.033	ppb	.000	-.033				
=====								
*** Sample ID: 1206044504 062512B Seq: 16 13:32:39 25 Jun 12 HG								
Hg	.004	ppb	.000	.004				
=====								
*** Sample ID: 1206044505 062512B Seq: 17 13:34:17 25 Jun 12 HG								
WG40089401								
Hg	.008	ppb	.000	.008				
=====								
*** Sample ID: WG40089404 062512B Seq: 18 13:35:53 25 Jun 12 HG								
1206044506S								
Hg	4.46	ppb	.000	4.46				
=====								
*** Sample ID: WG40089405 062512B Seq: 19 13:37:35 25 Jun 12 HG								
1206044507SD								
Hg	4.35	ppb	.000	4.35				
=====								
*** Sample ID: 1206044509 062512B Seq: 20 13:39:12 25 Jun 12 HG								
Hg	-.098	ppb	.000	-.098				
=====								
*** Check Standard: 4 Ck4CCV Seq: 21 13:41:01 25 Jun 12 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		103.	2.05	2.00	ppb	.000		
=====								
*** Check Standard: 5 Ck5CCB Seq: 22 13:42:39 25 Jun 12 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		-26.3	-.053	.200	ppb	.000		
=====								

Approved: 06/25/2012 15:14

Pierce Morris

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: 1206044510 062512B Seq: 23 13:44:17 25 Jun 12 HG								
Hg	-.001	ppb	.000	-.001				=
*** Sample ID: 1206044511 062512B Seq: 24 13:46:14 25 Jun 12 HG								
Hg	.005	ppb	.000	.005				=
*** Sample ID: 1206044512 062512B Seq: 25 13:48:05 25 Jun 12 HG								
Hg	-.013	ppb	.000	-.013				=
*** Sample ID: 1206049604 062512B Seq: 26 13:49:42 25 Jun 12 HG								
Hg	-.023	ppb	.000	-.023				=
*** Sample ID: 1206049705 062512B Seq: 27 13:51:33 25 Jun 12 HG								
Hg	-.028	ppb	.000	-.028				=
*** Sample ID: 1206049806 062512B Seq: 28 13:53:31 25 Jun 12 HG								
Hg	-.011	ppb	.000	-.011				=
*** Sample ID: 1206049807 062512B Seq: 29 13:55:19 25 Jun 12 HG								
Hg	-.013	ppb	.000	-.013				=
*** Sample ID: 1206049808 062512B Seq: 30 13:56:55 25 Jun 12 HG								
Hg	.007	ppb	.000	.007				=
*** Sample ID: 1206049809 062512B Seq: 31 13:58:42 25 Jun 12 HG								
Hg	.008	ppb	.000	.008				=
*** Sample ID: 1206049812 062512B Seq: 32 14:00:19 25 Jun 12 HG								
Hg	.011	ppb	.000	.011				=

Approved: 06/25/2012 15:14

Pierce Morris

POST-RUN REPORT

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Check Standard: 4 Ck4CCV Seq: 33 14:02:07 25 Jun 12 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		103.	2.07	2.00	ppb	.000		=
*** Check Standard: 5 Ck5CCB Seq: 34 14:03:43 25 Jun 12 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		-28.9	-.058	.200	ppb	.000		=
*** Sample ID: 1206049813 062512B Seq: 35 14:05:32 25 Jun 12 HG								
Hg	.011	ppb	.000	.011				=
=====								
*** Sample ID: 1206049910 062512B Seq: 36 14:07:23 25 Jun 12 HG								
Hg	.005	ppb	.000	.005				=
=====								
*** Sample ID: 1206049911 062512B Seq: 37 14:09:03 25 Jun 12 HG								
Hg	.009	ppb	.000	.009				=
=====								
*** Sample ID: 1206044508 062512B Seq: 38 14:10:49 25 Jun 12 HG								
Hg	-.006	ppb	.000	-.006				=
*** Check Standard: 4 Ck4CCV Seq: 39 14:12:27 25 Jun 12 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		98.5	1.97	2.00	ppb	.000		=
*** Check Standard: 5 Ck5CCB Seq: 40 14:14:06 25 Jun 12 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		-44.5	-.089	.200	ppb	.000		=

Approved: 06/25/2012 15:14

Pierce Morris

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
June 28, 2012

ADC - ANTHONY D. CANTER	AGK - ANDREW G. KASICK	AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BROWN	ALV - AMY L. VALENTINE	AML - TONY M. LONG
AZH - AFTER HOURS	BLG - BRENDA L. GREENWALT	BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN	CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD	CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS
CPD - CHAD P. DAVIS	CS - CODY M. STRAHLER	CSH - CHRIS S. HILL
DDE - DEBRA D. ELLIOTT	DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON	DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH	DSM - DAVID S. MOSSOR	ECL - ERIC C. LAWSON
EDL - ERIN D. LONG	ERP - ERIN R. PORTER	FJB - FRANCES J. BOLDEN
HAV - HEMA VILASAGAR	HJR - HOLLY J. REED	JAL - JOHN A. LENT
JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON	JKS - JANE K. SCHAAD
JLL - JOHN L. LENT	JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES
JYH - JI Y. HU	KEB - KATIE E. BARNES	KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON	LKN - LINDA K. NEDEFF	LSB - LESLIE S. BUCINA
MDA - MIKE D. ALBERTSON	MDC - MIKE D. COCHRAN	MES - MARY E. SCHILLING
MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON
PDM - PIERCE D. MORRIS	PWD - PAUL W. DENT	QX - QIN XU
RAH - ROY A. HALSTEAD	REK - BOB E. KYER	RLB - BOB BUCHANAN
RLK - ROBIN L. KLINGER	RS - ROSEMARY SCOTT	RWC - RODNEY W. CAMPBELL
SJP - SUZANNE J. PAUGH	SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF
TIP - TAE I. PARRISH	TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS
VC - VICKI COLLIER	WJB - WILL J. BEASLEY	WTD - WADE T. DELONG
XXX - UNAVAILABLE OR SUBCONTRACT		

June 28, 2012

Qualkey: DOD

<u>Qualifier</u>	<u>Description</u>
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL).
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Analyte was not detected. The concentration is below the reported LOD.
UJ	Undetected; the analyte was analyzed for, but not detected.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below



COC No. A 4131

2343-A State Route 821

Marietta, OH 45750



Phone: 740-373-4308

Fax: 740-376-2536

CHAIN-OF-CUSTODY RECORD

Company Name: KEMRON		Contact Phone #: 740-373-4308		Location: RADFORD, VA		Project ID: MD0609-300-001		Signature: <i>[Signature]</i>				
Project Contact: MARY LOU ROCHETTE		Turn Around Requirements: 14-DAY		Project ID: MD0609-300-001		Signature: <i>[Signature]</i>		Signature: <i>[Signature]</i>				
Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	Hold	TCL VOC	TCL SVOC + SIM	TCL PEST	TCL METALS	PENICILLINATE	TCL METALS (FILTER)
40MW76W061212	X	X	6-12-12	1025	W	11	3	4	2	1	1	
40TB661212	X	X	6-12-12	X	W	2	2	4	2	1	1	
LFMW61GW061212	X	X	6-12-12	1259	W	12	3	4	2	1	1	
40MW66W061212	X	X	6-12-12	1502	W	11	3	4	2	1	1	
40MW66MS6W061212	X	X	6-12-12	1502	W	11	3	4	2	1	1	
40MW66MSDG061212	X	X	6-12-12	1502	W	11	3	4	2	1	1	
40DUPGW061212	X	X	6-12-12	1502	W	11	3	4	2	1	1	
40FB661212	X	X	6-12-12	1600	W	11	3	4	2	1	1	
40EOR661212	X	X	6-12-12	1630	W	11	3	4	2	1	1	
40RWS6W061212	X	X	6-12-12	1751	W	12	3	4	2	1	1	
Microbac OVD Received: 06/14/2012 14:14 By: BOB BUCHANAN												
Relinquished by: <i>[Signature]</i>	Date: 6-14-12	Time: 1410										
Relinquished by: <i>[Signature]</i>	Date: 6-14-12	Time: 1410										
Received by: <i>[Signature]</i>			Date: 6/14/12	Time: 1410	Remarks:							

Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum Container ID Products**L12060445-01 979995**

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:15	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:12	JKT	MRT	
---	-------	------	----	-------------------	-----	-----	--

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:15	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:12	JKT	MRT	
---	-------	------	----	-------------------	-----	-----	--

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:15	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:12	JKT	MRT	
---	-------	------	----	-------------------	-----	-----	--

Comments:Products cancelled.

Samplenum Container ID Products**L12060445-01 979996 826-SPE 827-PAHL 827-SPE**

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 13:29	CSH	JKS	
3	DISP	EXT	DISP	19-JUN-2012 08:18	RLB	RLB	
4	ANALYZ*	EXT	SEMI	20-JUN-2012 15:07	CAA	CSH	

****Sample extract/digestate/leachate***

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:57	BLG	BLG	

****Sample extract/digestate/leachate***

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products****L12060445-01** 979997

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 09:55	CSH	BLG	

Comments:Products cancelled.

3	DISP	EXT	DISP	19-JUN-2012 08:19	RLB	RLB	
---	------	-----	------	-------------------	-----	-----	--

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:57	BLG	BLG	

Comments:Products cancelled.

Samplenum **Container ID** **Products****L12060445-01** 979998 8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	EXT	14-JUN-2012 16:20	JKT		
2	DISP	EXT	DISP	19-JUN-2012 08:20	RLB	RLB	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:57	BLG	BLG	

Samplenum **Container ID** **Products****L12060445-01** 979999 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	ANALYZ	W1	SEM	19-JUN-2012 14:16	ADC	JKS	

Samplenum **Container ID** **Products****L12060445-01** 980000 AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-M

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	DIG	14-JUN-2012 16:20	JKT		
2	STORE	DIG	A2	18-JUN-2012 14:38	JKS	BRG	

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L12060445-02	980001	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:15	AGK	JKT	
3	STORE	ORG4	A2	28-JUN-2012 07:12	JKT	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:15	AGK	JKT	
3	STORE	ORG4	A2	28-JUN-2012 07:12	JKT	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		14-JUN-2012 16:20	JKT		<2

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L12060445-03	980002	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:15	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:12	JKT	MRT	
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Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:15	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:12	JKT	MRT	
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Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:15	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:12	JKT	MRT	
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Comments:Products cancelled.

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L12060445-03	980003	826-SPE 827-PAHL 827-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 13:29	CSH	JKS	
3	DISP	EXT	DISP	19-JUN-2012 08:19	RLB	RLB	
4	ANALYZ*	EXT	SEMI	20-JUN-2012 15:07	CAA	CSH	

**Sample extract/digestate/leachate*

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:57	BLG	BLG	

**Sample extract/digestate/leachate*

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L12060445-03	980004	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 09:55	CSH	BLG	

Comments:Products cancelled.

3	DISP	EXT	DISP	19-JUN-2012 08:19	RLB	RLB	
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Comments:Products cancelled.Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:57	BLG	BLG	

Comments:Products cancelled.

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products**
L12060445-03 980005 8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	EXT	14-JUN-2012 16:20	JKT		
2	DISP	EXT	DISP	19-JUN-2012 08:20	RLB	RLB	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:57	BLG	BLG	

Samplenum **Container ID** **Products**
L12060445-03 980006 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	ANALYZ	W1	SEM	19-JUN-2012 14:15	ADC	JKS	

Samplenum **Container ID** **Products**
L12060445-03 980007 AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-M

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	DIG	14-JUN-2012 16:20	JKT		
2	STORE	DIG	A2	18-JUN-2012 14:38	JKS	BRG	

Samplenum **Container ID** **Products**
L12060445-04 980008 AG-MSD AL-D AS-MSD BA-MS-D BE-AXD CA-D CD-MS-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	DIG	14-JUN-2012 16:20	JKT		
2	STORE	DIG	A2	18-JUN-2012 14:38	JKS	BRG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products**
L12060445-05 980009

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:15	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:12	JKT	MRT	
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Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Samplenum **Container ID** **Products**
L12060445-05 980010 826-SPE 827-PAHL 827-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 13:29	CSH	JKS	
3	DISP	EXT	DISP	19-JUN-2012 08:18	RLB	RLB	
4	ANALYZ*	EXT	SEMI	20-JUN-2012 15:07	CAA	CSH	

**Sample extract/digestate/leachate*

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

**Sample extract/digestate/leachate*

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products**
L12060445-05 980011

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 09:55	CSH	BLG	

Comments: Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

Comments: Products cancelled.

Samplenum **Container ID** **Products**
L12060445-05 980012 8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	EXT	14-JUN-2012 16:20	JKT		
2	DISP	EXT	DISP	19-JUN-2012 08:20	RLB	RLB	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

Samplenum **Container ID** **Products**
L12060445-05 980013 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	ANALYZ	W1	SEM	19-JUN-2012 14:15	ADC	JKS	

Samplenum **Container ID** **Products**
L12060445-05 980014 AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-M

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	DIG	14-JUN-2012 16:20	JKT		
2	STORE	DIG	A2	18-JUN-2012 14:38	JKS	BRG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum Container ID Products**L12060445-06 980015**

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Samplenum Container ID Products**L12060445-06 980016 826-SPE 827-PAHL 827-SPE**

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 13:29	CSH	JKS	
3	DISP	EXT	DISP	19-JUN-2012 08:18	RLB	RLB	
4	ANALYZ*	EXT	SEMI	20-JUN-2012 15:07	CAA	CSH	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:57	BLG	BLG	

***Sample extract/digestate/leachate**

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products****L12060445-06** 980017

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 09:55	CSH	BLG	

Comments:Products cancelled.

3	DISP	EXT	DISP	19-JUN-2012 08:19	RLB	RLB	
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Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:57	BLG	BLG	

Comments:Products cancelled.

Samplenum **Container ID** **Products****L12060445-06** 980018 8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	EXT	14-JUN-2012 16:20	JKT		
2	DISP	EXT	DISP	19-JUN-2012 08:20	RLB	RLB	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

Samplenum **Container ID** **Products****L12060445-06** 980019 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	ANALYZ	W1	SEM	19-JUN-2012 14:15	ADC	JKS	

Samplenum **Container ID** **Products****L12060445-06** 980020 AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-M

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	DIG	14-JUN-2012 16:20	JKT		
2	STORE	DIG	A2	18-JUN-2012 14:38	JKS	BRG	

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum Container ID Products**L12060445-07 980021**

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Samplenum Container ID Products**L12060445-07 980022 826-SPE 827-PAHL 827-SPE**

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 13:29	CSH	JKS	
3	DISP	EXT	DISP	19-JUN-2012 08:18	RLB	RLB	
4	ANALYZ*	EXT	SEMI	20-JUN-2012 15:07	CAA	CSH	

****Sample extract/digestate/leachate***

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:57	BLG	BLG	

****Sample extract/digestate/leachate***

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products****L12060445-07** 980023

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 09:55	CSH	BLG	

Comments:Products cancelled.

3	DISP	EXT	DISP	19-JUN-2012 08:19	RLB	RLB	
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Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:57	BLG	BLG	

Comments:Products cancelled.

Samplenum **Container ID** **Products****L12060445-07** 980024 8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	EXT	14-JUN-2012 16:20	JKT		
2	DISP	EXT	DISP	19-JUN-2012 08:20	RLB	RLB	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:57	BLG	BLG	

Samplenum **Container ID** **Products****L12060445-07** 980025 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	ANALYZ	W1	SEM	19-JUN-2012 14:16	ADC	JKS	

Samplenum **Container ID** **Products****L12060445-07** 980026 AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-M

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	DIG	14-JUN-2012 16:20	JKT		
2	STORE	DIG	A2	18-JUN-2012 14:38	JKS	BRG	

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products**
L12060445-08 980027

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Samplenum **Container ID** **Products**
L12060445-08 980028 826-SPE 827-PAHL 827-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 13:29	CSH	JKS	
3	DISP	EXT	DISP	19-JUN-2012 08:18	RLB	RLB	
4	ANALYZ*	EXT	SEMI	20-JUN-2012 15:07	CAA	CSH	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

***Sample extract/digestate/leachate**

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products****L12060445-08** 980029

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 09:55	CSH	BLG	

Comments:Products cancelled.

3	DISP	EXT	DISP	19-JUN-2012 08:19	RLB	RLB	
---	------	-----	------	-------------------	-----	-----	--

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

Comments:Products cancelled.

Samplenum **Container ID** **Products****L12060445-08** 980030 8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	EXT	14-JUN-2012 16:20	JKT		
2	DISP	EXT	DISP	19-JUN-2012 08:20	RLB	RLB	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

Samplenum **Container ID** **Products****L12060445-08** 980031 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	ANALYZ	W1	SEM	19-JUN-2012 14:15	ADC	JKS	

Samplenum **Container ID** **Products****L12060445-08** 980032 AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-M

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	DIG	14-JUN-2012 16:20	JKT		
2	STORE	DIG	A2	18-JUN-2012 14:38	JKS	BRG	

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products**
L12060445-09 980033

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
---	-------	------	----	-------------------	-----	-----	--

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
---	-------	------	----	-------------------	-----	-----	--

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
---	-------	------	----	-------------------	-----	-----	--

Comments:Products cancelled.

Samplenum **Container ID** **Products**
L12060445-09 980034 826-SPE 827-PAHL 827-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 13:29	CSH	JKS	
3	DISP	EXT	DISP	19-JUN-2012 08:18	RLB	RLB	
4	ANALYZ*	EXT	SEMI	20-JUN-2012 15:07	CAA	CSH	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

***Sample extract/digestate/leachate**

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products****L12060445-09** 980035

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 09:55	CSH	BLG	

Comments:Products cancelled.

3	DISP	EXT	DISP	19-JUN-2012 08:19	RLB	RLB	
---	------	-----	------	-------------------	-----	-----	--

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

Comments:Products cancelled.

Samplenum **Container ID** **Products****L12060445-09** 980036 8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	EXT	14-JUN-2012 16:20	JKT		
2	DISP	EXT	DISP	19-JUN-2012 08:20	RLB	RLB	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

Samplenum **Container ID** **Products****L12060445-09** 980037 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	ANALYZ	W1	SEM	19-JUN-2012 14:15	ADC	JKS	

Samplenum **Container ID** **Products****L12060445-09** 980038 AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-M

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	DIG	14-JUN-2012 16:20	JKT		
2	STORE	DIG	A2	18-JUN-2012 14:38	JKS	BRG	

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products**
L12060445-10 980039

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
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Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:16	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
---	-------	------	----	-------------------	-----	-----	--

Comments:Products cancelled.

Samplenum **Container ID** **Products**
L12060445-10 980040 826-SPE 827-PAHL 827-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 13:29	CSH	JKS	
3	DISP	EXT	DISP	19-JUN-2012 08:18	RLB	RLB	
4	ANALYZ*	EXT	SEMI	20-JUN-2012 15:07	CAA	CSH	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

***Sample extract/digestate/leachate**

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products****L12060445-10** 980041

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 09:55	CSH	BLG	

Comments:Products cancelled.

3	DISP	EXT	DISP	19-JUN-2012 08:19	RLB	RLB	
---	------	-----	------	-------------------	-----	-----	--

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

Comments:Products cancelled.

3	PREP	A1	EXT	22-JUN-2012 10:49	CSH	AZH	
---	------	----	-----	-------------------	-----	-----	--

Comments:Products cancelled.

4	DISP	EXT	DISP	25-JUN-2012 08:25	RLB	RLB	
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Comments:Products cancelled.

Samplenum **Container ID** **Products****L12060445-10** 980042 8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	EXT	14-JUN-2012 16:20	JKT		
2	DISP	EXT	DISP	19-JUN-2012 08:20	RLB	RLB	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

Samplenum **Container ID** **Products****L12060445-10** 980043 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	ANALYZ	W1	SEM	19-JUN-2012 14:15	ADC	JKS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum	Container ID	Products
L12060445-10	980044	AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-M

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	DIG	14-JUN-2012 16:20	JKT		
2	STORE	DIG	A2	18-JUN-2012 14:38	JKS	BRG	

Samplenum	Container ID	Products
L12060445-11	980045	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:17	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
---	-------	------	----	-------------------	-----	-----	--

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:17	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
---	-------	------	----	-------------------	-----	-----	--

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-JUN-2012 16:20	JKT		<2
2	ANALYZ	V1	ORG4	15-JUN-2012 09:17	AGK	JKT	

Comments:Products cancelled.

3	STORE	ORG4	A2	28-JUN-2012 07:11	JKT	MRT	
---	-------	------	----	-------------------	-----	-----	--

Comments:Products cancelled.

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L12060445-11	980046	826-SPE 827-PAHL 827-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 13:29	CSH	JKS	
3	DISP	EXT	DISP	19-JUN-2012 08:18	RLB	RLB	
4	ANALYZ*	EXT	SEMI	20-JUN-2012 15:07	CAA	CSH	

**Sample extract/digestate/leachate*

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

**Sample extract/digestate/leachate*

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L12060445-11	980047	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	PREP	W1	EXT	18-JUN-2012 09:56	CSH	BLG	

Comments:Products cancelled.

3	DISP	EXT	DISP	19-JUN-2012 08:19	RLB	RLB	
---	------	-----	------	-------------------	-----	-----	--

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

Comments:Products cancelled.

3	PREP	A1	EXT	22-JUN-2012 10:49	CSH	AZH	
---	------	----	-----	-------------------	-----	-----	--

Comments:Products cancelled.

4	DISP	EXT	DISP	25-JUN-2012 08:25	RLB	RLB	
---	------	-----	------	-------------------	-----	-----	--

Comments:Products cancelled.

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L12060445

Account: 2820

Project: 2820.216

Samples: 12

Due Date: 25-JUN-2012

Samplenum **Container ID** **Products**
L12060445-11 980048 8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	EXT	14-JUN-2012 16:20	JKT		
2	DISP	EXT	DISP	19-JUN-2012 08:20	RLB	RLB	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	STORE	W1	A1	14-JUN-2012 16:56	BLG	BLG	

Samplenum **Container ID** **Products**
L12060445-11 980049 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-JUN-2012 16:20	JKT		
2	ANALYZ	W1	SEM	19-JUN-2012 14:15	ADC	JKS	

Samplenum **Container ID** **Products**
L12060445-11 980050 AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-M

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	DIG	14-JUN-2012 16:20	JKT		
2	STORE	DIG	A2	18-JUN-2012 14:38	JKS	BRG	

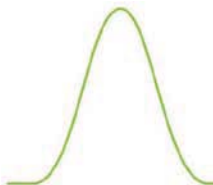
Samplenum **Container ID** **Products**
L12060445-12 980051 AG-MSD AL-D AS-MSD BA-MS-D BE-AXD CA-D CD-MS-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	DIG	14-JUN-2012 16:20	JKT		
2	STORE	DIG	A2	18-JUN-2012 14:38	JKS	BRG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login





Date: November 7, 2012

Subject: Data Validation for Lab Report L12090809
Radford Army Ammunition Plant

From: Jeanne Peterson
Senior Data Validator, AQA

To: Mary Lou Rochotte
Kemron Environmental Services, Inc.

OVERVIEW

Microbac Laboratories Inc., Marietta, Ohio, received 11 field samples associated with the project work described in the *Radford Army Ammunition Plant Final SWMU 40 (RAAP-009) Landfill Nitro Area IMWP* (August 2011) (project QAPP) on September 27, 2012. The field samples were assigned laboratory sample delivery group (SDG) number L12090809 and included four normal water samples, one field duplicate water sample, one matrix spike pair, two equipment blanks, one field blank, and one trip blank. All samples were analyzed for volatile organic compounds (VOCs) using EPA method 8260B. All samples excluding the trip blank were analyzed for semi-volatile organic compounds (SVOCs) by EPA method 8270C; polynuclear aromatic hydrocarbons (PAHs) by EPA method 8270C SIM; perchlorates by EPA method 6850 and pesticides by EPA method 8081A; and metals by EPA methods 6010B, 6020, and 7470A as detailed in *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (SW-846)*, Third Edition, Final Update III.

SUMMARY

The samples were analyzed according to the quality control (QC) criteria of the applicable analytical method. The data for these samples were found to be compliant with the requirements of the project QAPP and/or EPA Region III's *Innovative Approaches to Data Validation* (June 1995) and *EPA Region III Modifications to the National Functional Guidelines for Organic Data Review* (September 1994) or *EPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses* (April 1993) (Region III NFG, collectively), as applicable, and the results for all target analytes except 2-chloroethyl vinyl ether, acetone, 2-butanone, and 4-methyl-2-pentanone are considered usable. The 2-chloroethyl vinyl ether results for all samples were rejected due to 0% matrix spike recovery and analysis on acidified sample aliquots. The 2-butanone and 4-methyl-2-pentanone results for sample 40DUPGW92512 and the acetone results for all samples except 40FB92612 were rejected due to initial and/or continuing calibration relative response factors (RRFs) <0.05. The benzoic acid results for all samples were rejected due to an RRF <0.05, very low calibration bias, and/or 0% matrix spike recovery.

MAJOR PROBLEMS

(Refer to Appendix B – Data Qualifier Summary)

- The 2-chloroethyl vinyl ether results for all samples were rejected due to 0% matrix spike recovery and analysis on acidified sample aliquots.
- The 2-butanone and 4-methyl-2-pentanone results for sample 40DUPGW92512 and the acetone results for all samples except 40FB92612 were rejected due to initial and continuing calibration verification RRFs <0.05.
- The benzoic acid results for all samples were rejected due to an RRF <0.05, very low calibration bias, and/or 0% matrix spike recovery.

MINOR PROBLEMS

(Refer to Appendix B – Data Qualifier Summary)

- 40MW7GW92512: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Chloroform 1.73 (B)
All pesticide results (UL)
Manganese, dissolved 0.00377 (B)
Mercury, total (UL)
Mercury, dissolved (UL)
- 40EQR92512: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
All pesticide results (UL)
Mercury, total (UL)
- 40MW6GW92512: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
All pesticide results (UL)
Manganese, total 0.00241 (B)
Manganese, dissolved 0.00107 (B)
Mercury, total (UL)
Mercury, dissolved (UL)
- 40MW5GW92512: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Chloroform 3.48 (L)
All VOC compounds *except*: (UL)
 2-Chloroethyl vinyl ether
 Acetone
 Chloroform
SVOC compound:
 Dibenzo(a,h)anthracene (UJ)
PAH compounds:
 Indeno(1,2,3-cd)pyrene (UJ)
 Dibenzo(a,h)anthracene (UJ)
 Benzo(g,h,i)perylene (UJ)
Aldrin (UJ)
Gamma-BHC (UJ)
Heptachlor (UJ)
Aluminum, total 0.266 (J)
Manganese, total 0.00213 (B)

- Mercury, total (UL)
- Mercury, dissolved (UL)
- 40DUPGW92512: 2-Chloroethyl vinyl ether (R)
Acetone (R)
2-Butanone (R)
4-Methyl-2-pentanone (R)
Benzoic acid (R)
1,2-Dibromo-3-chloropropane (UJ)
SVOC compound:
Dibenzo(a,h)anthracene (UJ)
PAH compounds:
Indeno(1,2,3-cd)pyrene (UJ)
Dibenzo(a,h)anthracene (UJ)
Benzo(g,h,i)perylene (UJ)
Aldrin (UJ)
Gamma-BHC (UJ)
Heptachlor (UJ)
Aluminum, total 0.140 (J)
Manganese, total 0.00400 (B)
Mercury, total (UL)
Mercury, dissolved (UL)
- 40TB92512: 2-Chloroethyl vinyl ether (R)
Acetone (R)
- 40FB92612: 2-Chloroethyl vinyl ether (R)
Benzoic acid (R)
Acetone 2.70 (L)
All pesticide results (UL)
Mercury, total (UL)
- 40EQR92612: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Chloroform 0.426 (K)
Methylene chloride 0.294 (K)
All pesticide results (UL)
Mercury, total (UL)
- LFMW01GW92612: 2-Chloroethyl vinyl ether (R)
Acetone (R)
Benzoic acid (R)
Chloroform 1.08 (B)
All pesticide results (UL)
Mercury, total (UL)
Mercury, dissolved (UL)

NOTES

(Refer to Appendix D – Support Documentation)

Sample Chain of Custody (COC) Records

- The samples were listed on COC #4132. Data were reported for all required analyses.

Preservation and Holding Times

- The samples were correctly preserved and analyzed within the holding times specified in the project QAPP and the Region III NFG.

Instrument Tune

- The instrument tunes for all applicable analyses were within the criteria specified in the project QAPP and the Region III NFG with the following exception.
 - The perchlorate tune data were not included in the data package. The laboratory stated that the instrument was tuned after maintenance is performed and that the ion ratio was verified with every reported sample in order to demonstrate that the instrument was working properly. No sample data were qualified based on professional judgment.

Initial Calibration (ICAL)

- The initial calibration (ICAL) percent relative standard deviations (%RSDs) and/or correlation coefficients, as applicable, for all analyses were within the criteria specified in the project QAPP and the Region III NFG with the following exceptions.
 - The ICAL RRF for the second lowest concentration standard associated with batch WG410419 was <0.05 for acetone. In addition, the continuing calibration verification (CCV) RRF was also <0.05. The acetone result for sample 40FB92612 was a detect and, therefore, was **qualified L**. The remaining associated sample results were non-detects and, therefore, were **qualified R**.
 - The ICAL RRF for only the lowest concentration standard associated with batch WG410853 was <0.05 for 1,2-dibromo-3-chloropropane; however, the average and CCV RRFs were ≥0.05. The associated sample result was a non-detect and, therefore, was **qualified UJ** based on professional judgment.
 - The ICAL RRFs associated with batch WG410853 were <0.05 for acetone, 2-butanone, and 4-methyl-2-pentanone. The associated sample results were non-detects and, therefore, were **qualified R**.

Initial Calibration Verification (ICV)/Continuing Calibration Verification (CCV)

- The initial and/or continuing calibration verification (ICV/CCV) RRFs, percent differences (%Ds), and/or recoveries, as applicable, for all analyses were within the criteria specified in the project QAPP and the Region III NFG with the following exceptions.
 - The CCV RRF associated with batch WG410419 was <0.05 for acetone. The acetone result for sample 40FB92612 was a detect and, therefore, was **qualified L**. The remaining associated sample results were non-detects and, therefore, were **qualified R**.
 - The CCV RRFs associated with batch WG410853 were <0.05 for acetone, 2-butanone, and 4-methyl-2-pentanone. The associated sample results were non-detects and, therefore, were **qualified R**.
 - The CCV %D associated with the SVOC samples analyzed on 10/2/12 was $>50\%$ with negative bias for benzoic acid, and the RRF was <0.05 . The associated sample results were non-detects and, therefore, were **qualified R**.
 - The CCV %D associated with the SVOC samples analyzed on 10/4/12 was $>50\%$ with negative bias for benzoic acid; however, the RRF was slightly ≥ 0.05 . The associated sample results were non-detects and, therefore, were **qualified R** based on professional judgment.
 - The ICV %Ds associated with batch WG410419 were $>25\%$ with positive bias for chloromethane, 2-chloroethyl vinyl ether, and dichlorodifluoromethane. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.
 - The CCV %Ds associated with batch WG410419 were $>25\%$ with positive bias for chloromethane, dichlorodifluoromethane, and cis-1,3-dichloropropene. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.
 - The ICV %D associated with batch WG410853 was $>25\%$ with positive bias for dichlorodifluoromethane. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.
 - The ICV %Ds were $>25\%$ with positive bias for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.
 - The CCV %D was slightly $>15\%$ with positive bias for heptachlor epoxide on the reported column. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.

Contract Required Detection Limit (CRDL)

- The perchlorate CRDL was analyzed at the reporting limit (RL) and not 2X the RL. No sample data were qualified.
- A CRDL standard was not analyzed for mercury. The low ICAL standard was at the RL and recalculated against the calibration curve. The recovery for this standard was <90%. The associated sample results were non-detects and, therefore, were **qualified UL**.
- A CRDL standard was not analyzed for methods 6010 and 6020. The laboratory calibration curves were linear with a standard at or near the RL and, therefore, no sample results were qualified.

Inductively Coupled Plasma (ICP) Interference Check Sample

- ICP/ICP-MS interference check sample recoveries were within the project QAPP- and Region III-specified control limits, and all non-spiked ICS A results were < the MDL.

Field Blanks

- No target analytes were detected in the field blank, equipment blanks, or trip blank with the following exceptions.
 - Acetone, chloroform, and methylene chloride were detected in equipment rinse 40EQR92612 and/or field blank 40FB92612. The chloroform result for sample LFMW01GW92612 was a detect $\leq 5X$ the highest blank concentration and, therefore, was **qualified B**. The remaining associated sample results were non-detects and, therefore, were not qualified.
 - Chloroform was detected in equipment rinse 40EQR92512. The chloroform result for sample 40MW7GW92512 was a detect $\leq 5X$ the equipment rinse concentration and, therefore, was **qualified B**. The remaining associated sample results were detects $> 5X$ the equipment rinse concentration and, therefore, were not qualified.
 - Manganese was detected in equipment rinse 40EQR92512. The total manganese result for sample 40MW7GW92512 was a detect $> 5X$ the equipment rinse concentration and, therefore, was not qualified. The dissolved manganese results for samples 40MW5GW92512 and 40DUPGW92512 were non-detects and, therefore, were not qualified. The remaining associated manganese results were detects $\leq 5X$ the equipment rinse concentration and, therefore, were **qualified B**.
 - bis(2-Ethylhexyl)phthalate was detected in equipment rinse 40EQR92612. The associated sample result was a non-detect and, therefore, was not qualified.
 - Calcium was detected in equipment rinse 40EQR92512 and equipment rinse 40EQR92512. The associated sample results were detects $> 5X$ the equipment rinse concentration and, therefore, were not qualified.

Laboratory Method Blanks

- No target analytes were detected in the method blanks.

Laboratory Calibration Blanks

- No target analytes were detected in the calibration blanks.

Laboratory Control Samples (LCSs)

- The LCS recoveries met project QAPP- and Region III-specified QC acceptance criteria with the following exceptions.
 - The LCS recoveries associated with batch WG410419 were > the upper acceptance limit (UAL) for 1,2-dibromo-3-chloropropane and 1,2-dichlorobenzene. The associated sample results were non-detects and not affected by the positive bias and, therefore, were not qualified based on professional judgment.
 - The LCS recoveries were >UAL for SVOC compounds 2,4-dinitrotoluene; butylbenzylphthalate; chrysene; and pentachlorophenol. The associated sample results were non-detects and not affected by the positive bias and, therefore, were not qualified based on professional judgment.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

- One MS/MSD pair was analyzed on sample 40MW5GW92512 for all analyses and met project QAPP- and Region III-specified QC acceptance criteria with the following exceptions.
 - The MS/MSD recoveries were 0% for 2-chloroethyl vinyl ether. The MS and MSD were performed on an acidified sample aliquot; however, highly reactive VOC compounds such as 2-chloroethyl vinyl ether can be lost due to acidification. This was confirmed by the acceptable 2-chloroethyl vinyl ether recovery for the unacidified LCS. VOC analysis was performed on acidified sample aliquots for all samples and, therefore, the 2-chloroethyl vinyl ether results for all samples were **qualified R** based on professional judgment.
 - The MS recovery was 0% and the MSD recovery was within acceptance limits for benzoic acid. The benzoic acid results for the associated samples analyzed on 10/2/12 were qualified R due to a low RRF and therefore, were not further qualified. The benzoic acid results for the samples analyzed on 10/4/12 were **qualified R** due to the 0% MS recovery and the very low CCV bias based on professional judgment.
 - The MS recovery was slightly < the lower acceptance limit (LAL) for 4-chlorotoluene. The associated sample results were non-detects; however, the MSD recovery was within acceptance limits, the relative percent difference (RPD) between the MS and MSD results was < the acceptance limit, and all other QC criteria were met for this compound. The associated samples were not qualified based on professional judgment.

- The MS and/or MSD recoveries were >UAL for nine SVOC target compounds. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.
- The MS/MSD recoveries were > the UAL for perchlorate. The associated sample results were non-detects and not affected by the high bias and, therefore, were not qualified based on professional judgment.
- The MS and MSD recoveries were >UAL for calcium (total and dissolved). The parent sample results were >4X the spike amount and, therefore, no sample results were qualified.

ICP Serial Dilution Analyses

- The serial dilution %Ds met project QAPP- and Region III-specified QC acceptance criteria.

Laboratory Sample Duplicate

- MSDs were analyzed as the laboratory duplicates for all analyses and met project QAPP- and Region III-specified QC acceptance criteria with the following exceptions.
 - The MS/MSD RPDs were > the acceptance limit for SVOC compounds benzoic acid and dibenzo(a,h)anthracene. The associated benzoic acid results were qualified R due to low matrix spike recoveries and low CCV bias and, therefore, were not further qualified. The dibenzo(a,h)anthracene results for the parent sample and its field duplicate were non-detects and, therefore, were **qualified UJ** based on professional judgment. The remaining associated dibenzo(a,h)anthracene results were non-detects and all other QC criteria were met; therefore, no sample data were qualified based on professional judgment.
 - The MS/MSD RPDs were > the acceptance limit for PAH compounds indeno(1,2,3-cd)pyrene; dibenzo(a,h)anthracene; and benzo(g,h,i)perylene. The associated results for the parent sample and its field duplicate were non-detects and, therefore, were **qualified UJ** based on professional judgment. The results for the remaining associated samples were non-detects and all other QC criteria were met; therefore, no sample data were qualified based on professional judgment.
 - The MS/MSD RPDs were > the acceptance limit for aldrin, gamma-BHC, and heptachlor. The associated results for the parent sample and its field duplicate were non-detects and, therefore, were **qualified UJ** based on professional judgment. The results for the remaining associated samples were non-detects and all other QC criteria were met; therefore, no sample data were qualified based on professional judgment.

Field Sample Duplicate

- Sample 40MW5GW92512 was collected and analyzed in duplicate (sample 40DUPGW92512) for all analyses. The RPDs between the sample and duplicate results were within the project QAPP-specified control limits with the following exceptions.

The total aluminum results were > the RL, and the RPD was >25%. The total aluminum results for sample 40MW5GW92512 and its duplicate, sample 40DUPGW92512, were **qualified J**.

Analyte	40MW5GW92512		40DUPGW92512		RPD	>25%
	Result	RL	Result	RL		
Chloroform	3.48	1	2.73	1	24.15	
bis(2-Ethylhexyl)phthalate	0	10.6	3.2	10	<RL	
Perchlorate	1.81	0.2	1.99	0.2	9.47	
Al, total	0.266	0.1	0.14	0.1	62.07	J/UJ
Ca, total	86.9	0.2	84.9	0.2	2.33	
Fe, total	0.217	0.1	0.123	0.1	55.29	*
Mg, total	32	0.5	32.5	0.5	1.55	
K, total	1.3	1	1.26	1	3.13	
Na, total	5.73	0.5	5.27	0.5	8.36	
Ca, dissolved	89.2	0.2	86.1	0.2	3.54	
Mg, dissolved	32.3	0.5	32.1	0.5	0.62	
K, dissolved	1.23	1	1.23	1	0.00	
Na, dissolved	5.43	0.5	5.42	0.5	0.18	
Ba, total	0.0562	0.003	0.0581	0.003	3.32	
Cr, total	0.0025	0.002	0.0026	0.002	3.92	
Cu, total	0.00259	0.002	0.00143	0.002	<RL	
Mn, total	0.00213	0.002	0.004	0.002	61.01	*
Ni, total	0.0073	0.004	0.00839	0.004	13.89	
Se, total	0.000845	0.001	0.00102	0.001	<RL	
Ba, dissolved	0.0587	0.003	0.0563	0.003	4.17	
Cr, dissolved	0.0023	0.002	0.0023	0.002	0.00	
Cu, dissolved	0.00124	0.002	0.00118	0.002	<RL	
Ni, dissolved	0.00821	0.004	0.00796	0.004	3.09	
Se, dissolved	0.00105	0.001	0.00117	0.001	10.81	

*The sample and/or duplicate results were > the RL but $\leq$ 5X the RL, and the absolute difference between the two results was < the RL; therefore, no data were qualified based on professional judgment.

NOTE: All results not listed in the table were non-detects.

Sample Surrogate Spikes

- Surrogate spikes added to all field samples analyzed for VOCs, SVOCs, PAHs, and pesticides were within the project QAPP-specified control limits with the following exceptions.
 - One or more VOC surrogate recoveries was < the LAL but $\geq$ 10% for samples 40MW5GW92512, 40MW5MSGW92512, and 40MW5MSDGW92512. The chloroform results for sample 40MW5GW92512 was a detect and, therefore, was **qualified L**. The

remaining results for sample 40MW5GW92512 were non-detects and, therefore, were **qualified UL**. Samples 40MW5MSGW92512 and 40MW5MSDGW92512 were QC samples and, therefore, no results were qualified due to low surrogate recoveries.

- One or more VOC surrogate recoveries was > the UAL for samples 40EQR92612 and LFMW01GW92612. The associated sample results that were detects were **qualified K**.
- The DCB recoveries were < the lower acceptance limit ~~>10%~~ on the reported column for pesticide samples 40MW7GW92512, 40EQR92512, 40MW6GW92512, 40FB92612, 40EQR92612, and LFMW01GW92612. The associated sample results were non-detects and were **qualified UL**.
- The DCB and TCMX recoveries were < the lower acceptance limit ~~>10%~~ on the reported column for pesticide sample 40MW5MSDGW92512. This sample was a QC sample and, therefore, no results were qualified due to low surrogate recoveries.

Sample Internal Standard Recoveries

- The internal standard recoveries for VOCs, SVOCs, and perchlorates were within the project QAPP- and Region III-specified control limits.
- The internal standard recoveries for metals by method 6020 were within the 60-125% limits provided in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (NFG) (October 2004).

Sample Results

- 2-Chloroethyl vinyl ether was analyzed for on acidified aliquots for all samples. Highly reactive VOC compounds such as 2-chloroethyl vinyl ether can be lost due to acidification as illustrated by the MS/MSD recoveries. The associated sample results for the acidified samples were non-detects and, therefore, were **qualified R**.
- The samples were analyzed for the methods requested on the COC. Method detection limits (MDLs) and reporting limits (RLs) were reported for all analyses and met project-specified MDLs and RLs with the following exceptions.
 - The MDLs for method 6010B analytes iron, potassium and zinc and the MDLs for all method 6020 target analytes *except* selenium were > the MDLs specified in the project QAPP; however, the associated RLs were $\leq$ the RLs specified in the project QAPP for all target analytes *except* cadmium.
- The recalculated PAH ICAL RRFs did not match the laboratory-reported RRFs; however, the all recalculated percent relative standard deviations (%RSDs), ICV/CCV RRFs and percent differences (%Ds), and sample results did match the laboratory-reported RRFs. The laboratory was asked to review the RRFs on the ICAL summary.

- The raw data for dataset 100112B.REP (Run Log ID 49210) was missing from the metals raw data section. The missing data was requested and received from the laboratory, and a revised data package that included the missing data was generated.

Action Level Notification

- No results were above the action levels specified in the Region III NFG.

Usability Statement

- There were 1733 field sample data points associated with the data package for SDG L12090809. Of these field sample data points, 1476 (85.17% of the total) were assessed and left unqualified, 27 (1.56% of the total) were assessed and qualified R, 2 (0.12% of the total) were assessed and qualified J, 2 (0.12% of the total) were assessed and qualified L, 15 (0.87% of the total) were assessed and qualified UJ, 202 (11.66% of the total) were assessed and qualified UL, 2 (0.12% of the total) were assessed and qualified K, and 7 (0.40% of the total) were assessed and qualified B.
- *The field sample data points that were qualified R must be categorized as unusable data.*
- The field sample data points that were qualified J can be categorized as definitive data with positively identified analyte concentrations that are only estimates due to QC deficiencies, the field sample data points that were qualified L can be categorized as definitive data with a positively identified analyte concentrations that are only estimates and may be qualified low due to QC deficiencies, the field sample data points that were assessed and qualified UJ can be categorized as definitive data with nondetectable analyte concentrations that are only estimates due to QC deficiencies, the field sample data points that were assessed and qualified UL can be categorized as definitive data with nondetectable analyte concentrations that are only estimates and may be biased low due to QC deficiencies, the field sample data points that were qualified K can be categorized as definitive data with positively identified analyte concentrations that are only estimates and may be biased high due to QC deficiencies, and the field sample data points that were qualified B can be categorized as definitive data with potentially falsely identified analytes whose concentrations are only estimates due to QC deficiencies.
- The unqualified field sample data points can be categorized as definitive data with no associated QC deficiencies. Based on the number of unqualified data points, the percent completeness is 85.17%.

Report Content Statement

This report has been formatted for consistency with Appendix B, Region III Standard Operating Procedures for Data Validation Reports, contained in the guidance *EPA Region III Modifications to the National Functional Guidelines for Organic Data Review* (September 1994). The laboratory data were reviewed in accordance with the EPA Region III's *Innovative Approaches to Data Validation* (June 1995) and *EPA Region III Modifications to the National Functional Guidelines for Organic Data Review* (September 1994) or *EPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses* (April 1993) (Region III NFG, collectively), as applicable; and the *Radford Army Ammunition Plant Final SWMU 40 (RAAP-009) Landfill Nitro Area IMWP* (August 2011) (project QAPP); and the applicable SW-846 methods. This report only addresses those problems and issues that may affect data usability.

Attachments

Appendix A – Glossary of Data Qualifiers

Appendix B – Data Qualifier Summary

Appendix C – Laboratory Report Results/Data Summary

Appendix D – Support Documentation

Appendix A – Glossary of Data Qualifiers

Data Qualifier Codes

Codes Related to Identification

- U Not detected. The associated number indicates the approximate sample concentration necessary to be detected.
- B Not detected substantially above the level reported in laboratory or field blanks.
- R Unusable result. Analyte may or may not be present in the sample.

Codes Related to Quantitation

- J Analyte present. Reported value may or may not be accurate or precise.
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ Not detected. Quantitation limit may be inaccurate or imprecise.
- UL The analyte was not detected, and the reported quantitation limit is probably higher than reported.

Appendix B – Data Qualifier Summary

Data Qualifier Summary

Note: The results listed in this table are detects and qualified non-detects only. Unqualified non-detects are not listed.

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40MW7GW92512 L12090809-01, -02	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	Low standard and CCV relative response factors <0.05
	Benzoic acid	R	U	CCV relative response factor <0.05, CCV percent difference >50% with negative bias; matrix spike 0% recovery
	Chloroform	B		EQR contamination
	All pesticide results	UL	UQ	Low surrogate recovery
	Manganese, dissolved	B		EQR contamination
40EQR92512 L12090809-03	Mercury, total	UL	U	Low CRI recovery
	Mercury, dissolved	UL	U	Low CRI recovery
	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	Low standard and CCV relative response factors <0.05
	Benzoic acid	R	U	CCV relative response factor <0.05, CCV percent difference >50% with negative bias; matrix spike 0% recovery
	Chloroform	J	J	>MDL, <RL
	All pesticide results	UL	UQ	Low surrogate recovery
	Mercury, total	UL	U	Low CRI recovery

B-1

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40MW6GW92512 L12090809-04, -05	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	Low standard and CCV relative response factors <0.05
	Benzoic acid	R	U	CCV percent difference >50% with negative bias; matrix spike 0% recovery
	All pesticide results	UL	U	Low surrogate recovery
	Manganese, total	B	J	EQR contamination
	Manganese, dissolved	B	U	EQR contamination
	Mercury, total	UL	U	Low CRI recovery
40MW5GW92512 L12090809-06, -07	Mercury, dissolved	UL	U	Low CRI recovery
	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	Low standard and CCV relative response factors <0.05
	Benzoic acid	R	U	CCV relative response factor <0.05, CCV percent difference >50% with negative bias; matrix spike 0% recovery
	Chloroform	L	U	Low surrogate recovery
	All VOC compounds <u>except</u> : 2-Chloroethyl vinyl ether Acetone Chloroform	UL		Low surrogate recovery
	SVOC compound: Dibenzo(a,h)anthracene	UJ	U	High laboratory duplicate RPD

B-2

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40DUPGW92512 L12090809-08,09	PAH compounds: Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene Aldrin	UJ	U	High laboratory duplicate RPD
	Gamma-BHC	UJ	U	High laboratory duplicate RPD
	Heptachlor	UJ	U	High laboratory duplicate RPD
	Aluminum, total Manganese, total Mercury, total Mercury, dissolved	J B UL UL		High field duplicate RPD EQR contamination Low CRI recovery Low CRI recovery
	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	ICAL/ICV/CCV relative response factors <0.05
	2-Butanone	R	U	ICAL/ICV/CCV relative response factors <0.05
	4-Methyl-2-pentanone	R	U	ICAL/ICV/CCV relative response factors <0.05
	Benzoic acid	R	U	CCV percent difference >50% with negative bias; matrix spike 0% recovery
	1,2-Dibromo-3-chloropropane	UJ	U	Low standard relative response factor <0.05
	SVOC compound: Dibenzo(a,h)anthracene	UJ	U	High laboratory duplicate RPD

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40TB92512 L12090809-14	PAH compounds: Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene bis(2-Ethylhexyl)phthalate Aldrin	UJ	U	High laboratory duplicate RPD
		J	J	>MDL, <RL
		UJ	U	High laboratory duplicate RPD
	Gamma-BHC	UJ	U	High laboratory duplicate RPD
	Heptachlor	UJ	U	High laboratory duplicate RPD
	Aluminum, total	J		High field duplicate RPD
	Manganese, total	B		EQR contamination
	Mercury, total	UL	U	Low CRI recovery
	Mercury, dissolved	UL	U	Low CRI recovery
	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	Low standard and CCV relative response factors <0.05

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
40FB92612 L12090809-15	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Benzoic acid	R	U	CCV percent difference >50% with negative bias;
	Acetone	L	J	matrix spike 0% recovery ICV/CCV relative response factor <0.05
	Chloroform	J	J	>MDL, <RL
	Methylene chloride	J	J	>MDL, <RL
	All pesticide results	UL	U	Low surrogate recovery
	Mercury, total	UL	U	Low CRI recovery
40EQR92612 L12090809-16	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	Low standard and CCV relative response factors <0.05
	Benzoic acid	R	U	CCV percent difference >50% with negative bias;
	Chloroform	K	J	matrix spike 0% recovery High surrogate recovery;
	Methylene chloride	K	J	>MDL, <RL High surrogate recovery;
	All pesticide results	UL	U	>MDL, <RL Low surrogate recovery
	Mercury, total	UL	U	Low CRI recovery

Data Qualifier Summary (Cont.)

FIELD SAMPLE ID/ LAB SAMPLE ID	ANALYTE	FINAL VALIDATION QUALIFIER	INITIAL LAB QUALIFIER	REASON
LFMW01GW92612 L12090809-17, -18	2-Chloroethyl vinyl ether	R	U	Matrix spike 0% recovery; acidified sample
	Acetone	R	U	Low standard and CCV relative response factors <0.05
	Benzoic acid	R	U	CCV percent difference >50% with negative bias; matrix spike 0% recovery
	Chloroform	B		High surrogate recovery; FB and EQR contamination
	All pesticide results	UL	U	Low surrogate recovery
	Mercury, total	UL	U	Low CRI recovery
	Mercury, dissolved	UL	U	Low CRI recovery

Appendix C – Laboratory Report Results/Data Summary

Certificate of Analysis

Sample #: L12090809-01

PrePrep Method: N/A

Instrument: HPMS8

Client ID: 40MW7GW92512

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/02/2012 17:34

Workgroup #: WG410419

Analyst: ADC

Run Date: 10/03/2012 18:59

Collect Date: 09/25/2012 11:13

Dilution: 1

File ID: 8M382347

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.73		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	106	70	120		
4-Bromofluorobenzene	115	75	120		
Dibromofluoromethane	90.8	85	115		
Toluene-d8	97.1	85	120		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-03

PrePrep Method: N/A

Instrument: HPMS8

Client ID: 40EQR92512

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/02/2012 17:34

Workgroup #: WG410419

Analyst: ADC

Run Date: 10/03/2012 19:29

Collect Date: 09/25/2012 14:30

Dilution: 1

File ID: 8M382348

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.358	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	102	70	120		
4-Bromofluorobenzene	94.7	75	120		
Dibromofluoromethane	101	85	115		
Toluene-d8	103	85	120		

Certificate of Analysis

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #: L12090809-04

PrePrep Method: N/A

Instrument: HPMS8

Client ID: 40MW6GW92512

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/02/2012 17:34

Workgroup #: WG410419

Analyst: ADC

Run Date: 10/03/2012 20:00

Collect Date: 09/25/2012 15:45

Dilution: 1

File ID: 8M382349

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	2.72		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	113	70	120		
4-Bromofluorobenzene	95.9	75	120		
Dibromofluoromethane	111	85	115		
Toluene-d8	96.8	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12090809-06

PrePrep Method: N/A

Instrument: HPMS8

Client ID: 40MW5GW92512

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/02/2012 17:34

Workgroup #: WG410419

Analyst: ADC

Run Date: 10/03/2012 20:31

Collect Date: 09/25/2012 18:16

Dilution: 1

File ID: 8M382350

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	3.48		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	113	70	120		
4-Bromofluorobenzene	95.9	75	120		
Dibromofluoromethane	105	85	115		
Toluene-d8	86.6	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12090809-08

PrePrep Method: N/A

Instrument: HPMS6

Client ID: 40DUPGW92512

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/01/2012 20:54

Workgroup #: WG410853

Analyst: ADC

Run Date: 10/08/2012 19:01

Collect Date: 09/25/2012 18:16

Dilution: 1

File ID: 6M111668

Sample Tag: 02

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	2.73		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	97.5	70	120		
4-Bromofluorobenzene	102	75	120		
Dibromofluoromethane	101	85	115		
Toluene-d8	96.2	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12090809-10

PrePrep Method: N/A

Instrument: HPMS8

Client ID: 40MW5MSGW92512

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/02/2012 17:34

Workgroup #: WG410419

Analyst: ADC

Run Date: 10/03/2012 13:22

Collect Date: 09/25/2012 18:16

Dilution: 1

File ID: 8M382336

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6	20.6		1.00	0.250
1,1,1,1-Trichloroethane	71-55-6	19.5		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	17.4		1.00	0.200
1,1,2-Trichloroethane	79-00-5	19.5		1.00	0.250
1,1-Dichloroethane	75-34-3	18.5		1.00	0.125
1,1-Dichloroethene	75-35-4	17.9		1.00	0.500
1,1-Dichloropropene	563-58-6	17.6		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	21.9		1.00	0.150
1,2,3-Trichloropropane	96-18-4	17.8		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	21.5		1.00	0.200
1,2,4-Trimethylbenzene	95-63-6	19.7		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	21.3		5.00	1.00
1,2-Dibromoethane	106-93-4	19.9		1.00	0.250
1,2-Dichlorobenzene	95-50-1	20.1		1.00	0.125
1,2-Dichloroethane	107-06-2	18.8		1.00	0.250
1,2-Dichloropropane	78-87-5	20.8		1.00	0.200
1,3,5-Trimethylbenzene	108-67-8	17.5		1.00	0.250
1,3-Dichlorobenzene	541-73-1	20.3		1.00	0.250
1,3-Dichloropropane	142-28-9	19.2		1.00	0.200
1,4-Dichlorobenzene	106-46-7	20.3		1.00	0.125
2,2-Dichloropropane	594-20-7	20.8		1.00	0.250
2-Butanone	78-93-3	18.3		10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8	19.6		1.00	0.125
2-Hexanone	591-78-6	17.5		10.0	2.50
4-Chlorotoluene	106-43-4	14.7		1.00	0.250
4-Methyl-2-pentanone	108-10-1	17.4		10.0	2.50
Acetone	67-64-1	19.0		10.0	2.50
Benzene	71-43-2	17.8		1.00	0.125
Bromobenzene	108-86-1	17.1		1.00	0.125
Bromochloromethane	74-97-5	18.4		1.00	0.200
Bromodichloromethane	75-27-4	21.9		1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2	19.9		1.00	0.500
Bromomethane	74-83-9	17.1		1.00	0.500
Carbon disulfide	75-15-0	17.6		1.00	0.500
Carbon tetrachloride	56-23-5	19.5		1.00	0.250
Chlorobenzene	108-90-7	20.4		1.00	0.125
Chlorodibromomethane	124-48-1	20.2		1.00	0.250
Chloroethane	75-00-3	17.2		1.00	0.500
Chloroform	67-66-3	21.5		1.00	0.125
Chloromethane	74-87-3	22.7		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.6		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	18.2		1.00	0.250
Dibromomethane	74-95-3	20.0		1.00	0.250
Dichlorodifluoromethane	75-71-8	26.5		1.00	0.250
Ethylbenzene	100-41-4	20.5		1.00	0.250
Hexachlorobutadiene	87-68-3	20.1		1.00	0.250
Isopropylbenzene	98-82-8	18.4		1.00	0.250
m-,p-Xylene	179601-23-1	41.3		1.00	0.500
Methylene chloride	75-09-2	18.0		5.00	0.250
n-Butylbenzene	104-51-8	21.4		1.00	0.250
n-Propylbenzene	103-65-1	18.5		1.00	0.125
Naphthalene	91-20-3	21.9		1.00	0.200
o-Xylene	95-47-6	19.8		1.00	0.250
p-Isopropyltoluene	99-87-6	19.6		1.00	0.250
sec-Butylbenzene	135-98-8	20.2		1.00	0.250
Styrene	100-42-5	21.0		1.00	0.125
tert-Butylbenzene	98-06-6	20.0		1.00	0.250
Tetrachloroethene	127-18-4	18.9		1.00	0.250
Toluene	108-88-3	18.5		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	18.1		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	17.5		1.00	0.500
Trichloroethene	79-01-6	20.8		1.00	0.250
Trichlorofluoromethane	75-69-4	18.7		1.00	0.250
Vinyl acetate	108-05-4	20.2		10.0	2.50
Vinyl chloride	75-01-4	20.0		1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	93.6	70	120		
4-Bromofluorobenzene	80.5	75	120		
Dibromofluoromethane	91.7	85	115		
Toluene-d8	93.6	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12090809-12

PrePrep Method: N/A

Instrument: HPMS8

Client ID: 40MW5MSDGW92512

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/02/2012 17:34

Workgroup #: WG410419

Analyst: ADC

Run Date: 10/03/2012 13:53

Collect Date: 09/25/2012 18:16

Dilution: 1

File ID: 8M382337

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6	20.6		1.00	0.250
1,1,1,1-Trichloroethane	71-55-6	19.9		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	16.3		1.00	0.200
1,1,2-Trichloroethane	79-00-5	19.1		1.00	0.250
1,1-Dichloroethane	75-34-3	17.8		1.00	0.125
1,1-Dichloroethene	75-35-4	16.7		1.00	0.500
1,1-Dichloropropene	563-58-6	19.1		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	16.9		1.00	0.150
1,2,3-Trichloropropane	96-18-4	19.9		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	16.4		1.00	0.200
1,2,4-Trimethylbenzene	95-63-6	19.4		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	17.5		5.00	1.00
1,2-Dibromoethane	106-93-4	19.7		1.00	0.250
1,2-Dichlorobenzene	95-50-1	20.6		1.00	0.125
1,2-Dichloroethane	107-06-2	20.2		1.00	0.250
1,2-Dichloropropane	78-87-5	17.9		1.00	0.200
1,3,5-Trimethylbenzene	108-67-8	18.3		1.00	0.250
1,3-Dichlorobenzene	541-73-1	20.0		1.00	0.250
1,3-Dichloropropane	142-28-9	19.3		1.00	0.200
1,4-Dichlorobenzene	106-46-7	20.2		1.00	0.125
2,2-Dichloropropane	594-20-7	20.2		1.00	0.250
2-Butanone	78-93-3	22.1		10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8	17.9		1.00	0.125
2-Hexanone	591-78-6	18.7		10.0	2.50
4-Chlorotoluene	106-43-4	18.4		1.00	0.250
4-Methyl-2-pentanone	108-10-1	17.0		10.0	2.50
Acetone	67-64-1	18.2		10.0	2.50
Benzene	71-43-2	19.9		1.00	0.125
Bromobenzene	108-86-1	18.5		1.00	0.125
Bromochloromethane	74-97-5	22.3		1.00	0.200
Bromodichloromethane	75-27-4	18.7		1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2	19.9		1.00	0.500
Bromomethane	74-83-9	15.7		1.00	0.500
Carbon disulfide	75-15-0	20.0		1.00	0.500
Carbon tetrachloride	56-23-5	19.8		1.00	0.250
Chlorobenzene	108-90-7	20.0		1.00	0.125
Chlorodibromomethane	124-48-1	20.1		1.00	0.250
Chloroethane	75-00-3	16.0		1.00	0.500
Chloroform	67-66-3	25.1		1.00	0.125
Chloromethane	74-87-3	21.1		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	21.3		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	17.7		1.00	0.250
Dibromomethane	74-95-3	18.2		1.00	0.250
Dichlorodifluoromethane	75-71-8	24.4		1.00	0.250
Ethylbenzene	100-41-4	20.2		1.00	0.250
Hexachlorobutadiene	87-68-3	15.5		1.00	0.250
Isopropylbenzene	98-82-8	18.1		1.00	0.250
m-,p-Xylene	179601-23-1	40.5		1.00	0.500
Methylene chloride	75-09-2	20.4		5.00	0.250
n-Butylbenzene	104-51-8	19.6		1.00	0.250
n-Propylbenzene	103-65-1	19.5		1.00	0.125
Naphthalene	91-20-3	16.2		1.00	0.200
o-Xylene	95-47-6	19.8		1.00	0.250
p-Isopropyltoluene	99-87-6	19.5		1.00	0.250
sec-Butylbenzene	135-98-8	19.5		1.00	0.250
Styrene	100-42-5	20.2		1.00	0.125
tert-Butylbenzene	98-06-6	18.9		1.00	0.250
Tetrachloroethene	127-18-4	18.6		1.00	0.250
Toluene	108-88-3	18.2		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	17.1		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	17.4		1.00	0.500
Trichloroethene	79-01-6	20.0		1.00	0.250
Trichlorofluoromethane	75-69-4	17.8		1.00	0.250
Vinyl acetate	108-05-4	19.1		10.0	2.50
Vinyl chloride	75-01-4	18.2		1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	102	70	120		
4-Bromofluorobenzene	82.3	75	120		
Dibromofluoromethane	105	85	115		
Toluene-d8	95.2	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12090809-14

PrePrep Method: N/A

Instrument: HPMS8

Client ID: 40TB92512

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/02/2012 17:34

Workgroup #: WG410419

Analyst: ADC

Run Date: 10/03/2012 15:55

Collect Date: 09/25/2012 00:01

Dilution: 1

File ID: 8M382341

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	103	70	120		
4-Bromofluorobenzene	95.0	75	120		
Dibromofluoromethane	88.4	85	115		
Toluene-d8	102	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12090809-15

PrePrep Method: N/A

Instrument: HPMS8

Client ID: 40FB92612

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/02/2012 17:34

Workgroup #: WG410419

Analyst: ADC

Run Date: 10/03/2012 21:31

Collect Date: 09/26/2012 09:00

Dilution: 1

File ID: 8M382352

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	2.70	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.195	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2	0.327	J	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	112	70	120		
4-Bromofluorobenzene	105	75	120		
Dibromofluoromethane	106	85	115		
Toluene-d8	98.1	85	120		

Certificate of Analysis

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #: L12090809-16

PrePrep Method: N/A

Instrument: HPMS8

Client ID: 40EQR92612

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/02/2012 17:34

Workgroup #: WG410419

Analyst: ADC

Run Date: 10/03/2012 22:02

Collect Date: 09/26/2012 09:45

Dilution: 1

File ID: 8M382353

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.426	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2	0.294	J	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	116	70	120		
4-Bromofluorobenzene	96.2	75	120		
Dibromofluoromethane	106	85	115		
Toluene-d8	104	85	120		

Certificate of Analysis

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #: L12090809-17

PrePrep Method: N/A

Instrument: HPMS8

Client ID: LFMW01GW92612

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/02/2012 17:34

Workgroup #: WG410419

Analyst: ADC

Run Date: 10/03/2012 22:33

Collect Date: 09/26/2012 10:54

Dilution: 1

File ID: 8M382354

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,3-Dichloropropane	142-28-9		U	1.00	0.200
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2,2-Dichloropropane	594-20-7		U	1.00	0.250
2-Butanone	78-93-3		U	10.0	2.50
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
2-Chlorotoluene	95-49-8		U	1.00	0.125
2-Hexanone	591-78-6		U	10.0	2.50
4-Chlorotoluene	106-43-4		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	1.08		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Methylene chloride	75-09-2		U	5.00	0.250
n-Butylbenzene	104-51-8		U	1.00	0.250
n-Propylbenzene	103-65-1		U	1.00	0.125
Naphthalene	91-20-3		U	1.00	0.200
o-Xylene	95-47-6		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
tert-Butylbenzene	98-06-6		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	117	70	120		
4-Bromofluorobenzene	97.4	75	120		
Dibromofluoromethane	107	85	115		
Toluene-d8	93.3	85	120		

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Certificate of Analysis

Sample #: L12090809-01

PrePrep Method: N/A

Instrument: HPMS5

Client ID: 40MW7GW92512

Prep Method: 3510C

Prep Date: 10/01/2012 09:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 09/18/2012 17:28

Workgroup #: WG410253

Analyst: CAA

Run Date: 10/02/2012 21:12

Collect Date: 09/25/2012 11:13

Dilution: 1

File ID: 5M68319

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.68	2.84
1,2-Dichlorobenzene	95-50-1		U	5.68	2.84
1,3-Dichlorobenzene	541-73-1		U	5.68	2.84
1,4-Dichlorobenzene	106-46-7		U	5.68	2.84
2,4,5-Trichlorophenol	95-95-4		U	5.68	2.84
2,4,6-Trichlorophenol	88-06-2		U	5.68	2.84
2,4-Dichlorophenol	120-83-2		U	5.68	2.84
2,4-Dimethylphenol	105-67-9		U	5.68	2.84
2,4-Dinitrophenol	51-28-5		U	28.4	14.2
2,4-Dinitrotoluene	121-14-2		U	5.68	2.84
2,6-Dinitrotoluene	606-20-2		U	5.68	2.84
2-Chloronaphthalene	91-58-7		U	5.68	2.84
2-Chlorophenol	95-57-8		U	5.68	2.84
2-Methylnaphthalene	91-57-6		U	5.68	2.84
2-Methylphenol	95-48-7		U	5.68	2.84
2-Nitroaniline	88-74-4		U	28.4	14.2
2-Nitrophenol	88-75-5		U	5.68	2.84
3,3'-Dichlorobenzidine	91-94-1		U	11.4	2.84
3-,4-Methylphenol	106-44-5		U	5.68	2.84
3-Nitroaniline	99-09-2		U	28.4	14.2
4,6-Dinitro-2-methylphenol	534-52-1		U	28.4	14.2
4-Bromophenyl-phenylether	101-55-3		U	5.68	2.84
4-Chloro-3-methylphenol	59-50-7		U	5.68	2.84
4-Chloroaniline	106-47-8		U	5.68	2.84
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.68	2.84
4-Nitroaniline	100-01-6		U	28.4	14.2
4-Nitrophenol	100-02-7		U	28.4	14.2
Acenaphthene	83-32-9		U	5.68	2.84
Acenaphthylene	208-96-8		U	5.68	2.84
Anthracene	120-12-7		U	5.68	2.84
Benzo(a)anthracene	56-55-3		U	5.68	2.84
Benzo(a)pyrene	50-32-8		U	5.68	2.84
Benzo(b)fluoranthene	205-99-2		U	5.68	2.84

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(g,h,i)Perylene	191-24-2		U	5.68	2.84
Benzo(k)fluoranthene	207-08-9		U	5.68	2.84
Benzoic acid	65-85-0		U	28.4	14.2
Benzyl alcohol	100-51-6		U	5.68	2.84
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.68	2.84
Bis(2-Chloroethyl)ether	111-44-4		U	5.68	2.84
bis(2-Chloroisopropyl)ether	39638-32-9		U	5.68	2.84
bis(2-Ethylhexyl)phthalate	117-81-7		U	11.4	3.41
Butylbenzylphthalate	85-68-7		U	5.68	2.84
Chrysene	218-01-9		U	5.68	2.84
Di-N-Butylphthalate	84-74-2		U	5.68	2.84
Di-n-octylphthalate	117-84-0		U	5.68	2.84
Dibenzo(a,h)Anthracene	53-70-3		U	5.68	2.84
Dibenzofuran	132-64-9		U	5.68	2.84
Diethylphthalate	84-66-2		U	5.68	2.84
Dimethylphthalate	131-11-3		U	5.68	2.84
Fluoranthene	206-44-0		U	5.68	2.84
Fluorene	86-73-7		U	5.68	2.84
Hexachlorobenzene	118-74-1		U	5.68	2.84
Hexachlorobutadiene	87-68-3		U	5.68	2.84
Hexachlorocyclopentadiene	77-47-4		U	5.68	2.84
Hexachloroethane	67-72-1		U	5.68	2.84
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.68	2.84
Isophorone	78-59-1		U	5.68	2.84
N-Nitrosodiphenylamine	86-30-6		U	5.68	2.84
N-Nitrosodipropylamine	621-64-7		U	5.68	2.84
Naphthalene	91-20-3		U	5.68	2.84
Nitrobenzene	98-95-3		U	5.68	2.84
Pentachlorophenol	87-86-5		U	28.4	14.2
Phenanthrene	85-01-8		U	5.68	2.84
Phenol	108-95-2		U	5.68	2.84
Pyrene	129-00-0		U	5.68	2.84

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	58.0	40	125	
2-Fluorobiphenyl	77.0	50	110	
2-Fluorophenol	42.5	20	110	
Nitrobenzene-d5	78.0	40	110	
p-Terphenyl-d14	50.6	50	135	
Phenol-d5	31.5	10	115	

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12090809-03

PrePrep Method: N/A

Instrument: HPMS5

Client ID: 40EQR92512

Prep Method: 3510C

Prep Date: 10/01/2012 09:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 09/18/2012 17:28

Workgroup #: WG410253

Analyst: CAA

Run Date: 10/02/2012 21:45

Collect Date: 09/25/2012 14:30

Dilution: 1

File ID: 5M68320

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.41	2.70
1,2-Dichlorobenzene	95-50-1		U	5.41	2.70
1,3-Dichlorobenzene	541-73-1		U	5.41	2.70
1,4-Dichlorobenzene	106-46-7		U	5.41	2.70
2,4,5-Trichlorophenol	95-95-4		U	5.41	2.70
2,4,6-Trichlorophenol	88-06-2		U	5.41	2.70
2,4-Dichlorophenol	120-83-2		U	5.41	2.70
2,4-Dimethylphenol	105-67-9		U	5.41	2.70
2,4-Dinitrophenol	51-28-5		U	27.0	13.5
2,4-Dinitrotoluene	121-14-2		U	5.41	2.70
2,6-Dinitrotoluene	606-20-2		U	5.41	2.70
2-Chloronaphthalene	91-58-7		U	5.41	2.70
2-Chlorophenol	95-57-8		U	5.41	2.70
2-Methylnaphthalene	91-57-6		U	5.41	2.70
2-Methylphenol	95-48-7		U	5.41	2.70
2-Nitroaniline	88-74-4		U	27.0	13.5
2-Nitrophenol	88-75-5		U	5.41	2.70
3,3'-Dichlorobenzidine	91-94-1		U	10.8	2.70
3-,4-Methylphenol	106-44-5		U	5.41	2.70
3-Nitroaniline	99-09-2		U	27.0	13.5
4,6-Dinitro-2-methylphenol	534-52-1		U	27.0	13.5
4-Bromophenyl-phenylether	101-55-3		U	5.41	2.70
4-Chloro-3-methylphenol	59-50-7		U	5.41	2.70
4-Chloroaniline	106-47-8		U	5.41	2.70
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.41	2.70
4-Nitroaniline	100-01-6		U	27.0	13.5
4-Nitrophenol	100-02-7		U	27.0	13.5
Acenaphthene	83-32-9		U	5.41	2.70
Acenaphthylene	208-96-8		U	5.41	2.70
Anthracene	120-12-7		U	5.41	2.70
Benzo(a)anthracene	56-55-3		U	5.41	2.70
Benzo(a)pyrene	50-32-8		U	5.41	2.70

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.41	2.70
Benzo(g,h,i)Perylene	191-24-2		U	5.41	2.70
Benzo(k)fluoranthene	207-08-9		U	5.41	2.70
Benzoic acid	65-85-0		U	27.0	13.5
Benzyl alcohol	100-51-6		U	5.41	2.70
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.41	2.70
Bis(2-Chloroethyl)ether	111-44-4		U	5.41	2.70
bis(2-Chloroisopropyl)ether	39638-32-9		U	5.41	2.70
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.8	3.24
Butylbenzylphthalate	85-68-7		U	5.41	2.70
Chrysene	218-01-9		U	5.41	2.70
Di-N-Butylphthalate	84-74-2		U	5.41	2.70
Di-n-octylphthalate	117-84-0		U	5.41	2.70
Dibenzo(a,h)Anthracene	53-70-3		U	5.41	2.70
Dibenzofuran	132-64-9		U	5.41	2.70
Diethylphthalate	84-66-2		U	5.41	2.70
Dimethylphthalate	131-11-3		U	5.41	2.70
Fluoranthene	206-44-0		U	5.41	2.70
Fluorene	86-73-7		U	5.41	2.70
Hexachlorobenzene	118-74-1		U	5.41	2.70
Hexachlorobutadiene	87-68-3		U	5.41	2.70
Hexachlorocyclopentadiene	77-47-4		U	5.41	2.70
Hexachloroethane	67-72-1		U	5.41	2.70
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.41	2.70
Isophorone	78-59-1		U	5.41	2.70
N-Nitrosodiphenylamine	86-30-6		U	5.41	2.70
N-Nitrosodipropylamine	621-64-7		U	5.41	2.70
Naphthalene	91-20-3		U	5.41	2.70
Nitrobenzene	98-95-3		U	5.41	2.70
Pentachlorophenol	87-86-5		U	27.0	13.5
Phenanthrene	85-01-8		U	5.41	2.70
Phenol	108-95-2		U	5.41	2.70
Pyrene	129-00-0		U	5.41	2.70

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	76.3	40	125	
2-Fluorobiphenyl	87.3	50	110	
2-Fluorophenol	50.7	20	110	
Nitrobenzene-d5	82.2	40	110	
p-Terphenyl-d14	104	50	135	

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	34.1	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12090809-04

PrePrep Method: N/A

Instrument: HPMS5

Client ID: 40MW6GW92512

Prep Method: 3510C

Prep Date: 10/01/2012 09:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 09/18/2012 17:28

Workgroup #: WG410253

Analyst: CAA

Run Date: 10/04/2012 08:25

Collect Date: 09/25/2012 15:45

Dilution: 1

File ID: 5M68340

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.26	2.63
1,2-Dichlorobenzene	95-50-1		U	5.26	2.63
1,3-Dichlorobenzene	541-73-1		U	5.26	2.63
1,4-Dichlorobenzene	106-46-7		U	5.26	2.63
2,4,5-Trichlorophenol	95-95-4		U	5.26	2.63
2,4,6-Trichlorophenol	88-06-2		U	5.26	2.63
2,4-Dichlorophenol	120-83-2		U	5.26	2.63
2,4-Dimethylphenol	105-67-9		U	5.26	2.63
2,4-Dinitrophenol	51-28-5		U	26.3	13.2
2,4-Dinitrotoluene	121-14-2		U	5.26	2.63
2,6-Dinitrotoluene	606-20-2		U	5.26	2.63
2-Chloronaphthalene	91-58-7		U	5.26	2.63
2-Chlorophenol	95-57-8		U	5.26	2.63
2-Methylnaphthalene	91-57-6		U	5.26	2.63
2-Methylphenol	95-48-7		U	5.26	2.63
2-Nitroaniline	88-74-4		U	26.3	13.2
2-Nitrophenol	88-75-5		U	5.26	2.63
3,3'-Dichlorobenzidine	91-94-1		U	10.5	2.63
3-,4-Methylphenol	106-44-5		U	5.26	2.63
3-Nitroaniline	99-09-2		U	26.3	13.2
4,6-Dinitro-2-methylphenol	534-52-1		U	26.3	13.2
4-Bromophenyl-phenylether	101-55-3		U	5.26	2.63
4-Chloro-3-methylphenol	59-50-7		U	5.26	2.63
4-Chloroaniline	106-47-8		U	5.26	2.63
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.26	2.63
4-Nitroaniline	100-01-6		U	26.3	13.2
4-Nitrophenol	100-02-7		U	26.3	13.2
Acenaphthene	83-32-9		U	5.26	2.63
Acenaphthylene	208-96-8		U	5.26	2.63
Anthracene	120-12-7		U	5.26	2.63
Benzo(a)anthracene	56-55-3		U	5.26	2.63
Benzo(a)pyrene	50-32-8		U	5.26	2.63

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.26	2.63
Benzo(g,h,i)Perylene	191-24-2		U	5.26	2.63
Benzo(k)fluoranthene	207-08-9		U	5.26	2.63
Benzoic acid	65-85-0		U	26.3	13.2
Benzyl alcohol	100-51-6		U	5.26	2.63
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.26	2.63
Bis(2-Chloroethyl)ether	111-44-4		U	5.26	2.63
bis(2-Chloroisopropyl)ether	39638-32-9		U	5.26	2.63
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.5	3.16
Butylbenzylphthalate	85-68-7		U	5.26	2.63
Chrysene	218-01-9		U	5.26	2.63
Di-N-Butylphthalate	84-74-2		U	5.26	2.63
Di-n-octylphthalate	117-84-0		U	5.26	2.63
Dibenzo(a,h)Anthracene	53-70-3		U	5.26	2.63
Dibenzofuran	132-64-9		U	5.26	2.63
Diethylphthalate	84-66-2		U	5.26	2.63
Dimethylphthalate	131-11-3		U	5.26	2.63
Fluoranthene	206-44-0		U	5.26	2.63
Fluorene	86-73-7		U	5.26	2.63
Hexachlorobenzene	118-74-1		U	5.26	2.63
Hexachlorobutadiene	87-68-3		U	5.26	2.63
Hexachlorocyclopentadiene	77-47-4		U	5.26	2.63
Hexachloroethane	67-72-1		U	5.26	2.63
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.26	2.63
Isophorone	78-59-1		U	5.26	2.63
N-Nitrosodiphenylamine	86-30-6		U	5.26	2.63
N-Nitrosodipropylamine	621-64-7		U	5.26	2.63
Naphthalene	91-20-3		U	5.26	2.63
Nitrobenzene	98-95-3		U	5.26	2.63
Pentachlorophenol	87-86-5		U	26.3	13.2
Phenanthrene	85-01-8		U	5.26	2.63
Phenol	108-95-2		U	5.26	2.63
Pyrene	129-00-0		U	5.26	2.63
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	82.6	40	125		
2-Fluorobiphenyl	80.8	50	110		
2-Fluorophenol	49.0	20	110		
Nitrobenzene-d5	76.8	40	110		
p-Terphenyl-d14	80.5	50	135		

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	32.5	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12090809-06

PrePrep Method: N/A

Instrument: HPMS5

Client ID: 40MW5GW92512

Prep Method: 3510C

Prep Date: 10/01/2012 09:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 09/18/2012 17:28

Workgroup #: WG410253

Analyst: CAA

Run Date: 10/02/2012 19:33

Collect Date: 09/25/2012 18:16

Dilution: 1

File ID: 5M68316

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.29	2.65
1,2-Dichlorobenzene	95-50-1		U	5.29	2.65
1,3-Dichlorobenzene	541-73-1		U	5.29	2.65
1,4-Dichlorobenzene	106-46-7		U	5.29	2.65
2,4,5-Trichlorophenol	95-95-4		U	5.29	2.65
2,4,6-Trichlorophenol	88-06-2		U	5.29	2.65
2,4-Dichlorophenol	120-83-2		U	5.29	2.65
2,4-Dimethylphenol	105-67-9		U	5.29	2.65
2,4-Dinitrophenol	51-28-5		U	26.5	13.2
2,4-Dinitrotoluene	121-14-2		U	5.29	2.65
2,6-Dinitrotoluene	606-20-2		U	5.29	2.65
2-Chloronaphthalene	91-58-7		U	5.29	2.65
2-Chlorophenol	95-57-8		U	5.29	2.65
2-Methylnaphthalene	91-57-6		U	5.29	2.65
2-Methylphenol	95-48-7		U	5.29	2.65
2-Nitroaniline	88-74-4		U	26.5	13.2
2-Nitrophenol	88-75-5		U	5.29	2.65
3,3'-Dichlorobenzidine	91-94-1		U	10.6	2.65
3-,4-Methylphenol	106-44-5		U	5.29	2.65
3-Nitroaniline	99-09-2		U	26.5	13.2
4,6-Dinitro-2-methylphenol	534-52-1		U	26.5	13.2
4-Bromophenyl-phenylether	101-55-3		U	5.29	2.65
4-Chloro-3-methylphenol	59-50-7		U	5.29	2.65
4-Chloroaniline	106-47-8		U	5.29	2.65
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.29	2.65
4-Nitroaniline	100-01-6		U	26.5	13.2
4-Nitrophenol	100-02-7		U	26.5	13.2
Acenaphthene	83-32-9		U	5.29	2.65
Acenaphthylene	208-96-8		U	5.29	2.65
Anthracene	120-12-7		U	5.29	2.65
Benzo(a)anthracene	56-55-3		U	5.29	2.65
Benzo(a)pyrene	50-32-8		U	5.29	2.65

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.29	2.65
Benzo(g,h,i)Perylene	191-24-2		U	5.29	2.65
Benzo(k)fluoranthene	207-08-9		U	5.29	2.65
Benzoic acid	65-85-0		U	26.5	13.2
Benzyl alcohol	100-51-6		U	5.29	2.65
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.29	2.65
Bis(2-Chloroethyl)ether	111-44-4		U	5.29	2.65
bis(2-Chloroisopropyl)ether	39638-32-9		U	5.29	2.65
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.6	3.17
Butylbenzylphthalate	85-68-7		U	5.29	2.65
Chrysene	218-01-9		U	5.29	2.65
Di-N-Butylphthalate	84-74-2		U	5.29	2.65
Di-n-octylphthalate	117-84-0		U	5.29	2.65
Dibenzo(a,h)Anthracene	53-70-3		U	5.29	2.65
Dibenzofuran	132-64-9		U	5.29	2.65
Diethylphthalate	84-66-2		U	5.29	2.65
Dimethylphthalate	131-11-3		U	5.29	2.65
Fluoranthene	206-44-0		U	5.29	2.65
Fluorene	86-73-7		U	5.29	2.65
Hexachlorobenzene	118-74-1		U	5.29	2.65
Hexachlorobutadiene	87-68-3		U	5.29	2.65
Hexachlorocyclopentadiene	77-47-4		U	5.29	2.65
Hexachloroethane	67-72-1		U	5.29	2.65
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.29	2.65
Isophorone	78-59-1		U	5.29	2.65
N-Nitrosodiphenylamine	86-30-6		U	5.29	2.65
N-Nitrosodipropylamine	621-64-7		U	5.29	2.65
Naphthalene	91-20-3		U	5.29	2.65
Nitrobenzene	98-95-3		U	5.29	2.65
Pentachlorophenol	87-86-5		U	26.5	13.2
Phenanthrene	85-01-8		U	5.29	2.65
Phenol	108-95-2		U	5.29	2.65
Pyrene	129-00-0		U	5.29	2.65

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	94.7	40	125	
2-Fluorobiphenyl	86.3	50	110	
2-Fluorophenol	55.6	20	110	
Nitrobenzene-d5	81.9	40	110	
p-Terphenyl-d14	88.3	50	135	

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	35.9	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12090809-08

PrePrep Method: N/A

Instrument: HPMS5

Client ID: 40DUPGW92512

Prep Method: 3510C

Prep Date: 10/01/2012 09:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 09/18/2012 17:28

Workgroup #: WG410253

Analyst: CAA

Run Date: 10/04/2012 08:57

Collect Date: 09/25/2012 18:16

Dilution: 1

File ID: 5M68341

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4		U	5.00	2.50
bis(2-Chloroisopropyl)ether	39638-32-9		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7	3.20	J	10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	91.9	40	125	
2-Fluorobiphenyl	75.1	50	110	
2-Fluorophenol	51.7	20	110	
Nitrobenzene-d5	70.1	40	110	
p-Terphenyl-d14	114	50	135	

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	32.1	10	115	
J	Estimated value ; the analyte concentration was less than the LOQ.			
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12090809-10

PrePrep Method: N/A

Instrument: HPMS5

Client ID: 40MW5MSGW92512

Prep Method: 3510C

Prep Date: 10/01/2012 09:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 09/18/2012 17:28

Workgroup #: WG410253

Analyst: CAA

Run Date: 10/02/2012 20:06

Collect Date: 09/25/2012 18:16

Dilution: 1

File ID: 5M68317

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1	38.8		5.29	2.65
1,2-Dichlorobenzene	95-50-1	46.7		5.29	2.65
1,3-Dichlorobenzene	541-73-1	45.3		5.29	2.65
1,4-Dichlorobenzene	106-46-7	45.6		5.29	2.65
2,4,5-Trichlorophenol	95-95-4	53.1		5.29	2.65
2,4,6-Trichlorophenol	88-06-2	50.7		5.29	2.65
2,4-Dichlorophenol	120-83-2	43.3		5.29	2.65
2,4-Dimethylphenol	105-67-9	42.9		5.29	2.65
2,4-Dinitrophenol	51-28-5	32.7		26.5	13.2
2,4-Dinitrotoluene	121-14-2	60.5		5.29	2.65
2,6-Dinitrotoluene	606-20-2	56.2		5.29	2.65
2-Chloronaphthalene	91-58-7	50.0		5.29	2.65
2-Chlorophenol	95-57-8	43.4		5.29	2.65
2-Methylnaphthalene	91-57-6	44.0		5.29	2.65
2-Methylphenol	95-48-7	41.3		5.29	2.65
2-Nitroaniline	88-74-4	53.1		26.5	13.2
2-Nitrophenol	88-75-5	45.4		5.29	2.65
3,3'-Dichlorobenzidine	91-94-1	61.7		10.6	2.65
3-,4-Methylphenol	106-44-5	39.3		5.29	2.65
3-Nitroaniline	99-09-2	52.2		26.5	13.2
4,6-Dinitro-2-methylphenol	534-52-1	51.5		26.5	13.2
4-Bromophenyl-phenylether	101-55-3	57.0		5.29	2.65
4-Chloro-3-methylphenol	59-50-7	42.1		5.29	2.65
4-Chloroaniline	106-47-8	41.5		5.29	2.65
4-Chlorophenyl-phenyl ether	7005-72-3	56.1		5.29	2.65
4-Nitroaniline	100-01-6	57.5		26.5	13.2
4-Nitrophenol	100-02-7	24.1	J	26.5	13.2
Acenaphthene	83-32-9	53.1		5.29	2.65
Acenaphthylene	208-96-8	57.9		5.29	2.65
Anthracene	120-12-7	57.2		5.29	2.65
Benzo(a)anthracene	56-55-3	58.8		5.29	2.65
Benzo(a)pyrene	50-32-8	57.3		5.29	2.65

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2	53.8		5.29	2.65
Benzo(g,h,i)Perylene	191-24-2	65.4		5.29	2.65
Benzo(k)fluoranthene	207-08-9	60.9		5.29	2.65
Benzoic acid	65-85-0		U	26.5	13.2
Benzyl alcohol	100-51-6	45.1		5.29	2.65
Bis(2-Chloroethoxy)Methane	111-91-1	34.6		5.29	2.65
Bis(2-Chloroethyl)ether	111-44-4	46.1		5.29	2.65
bis(2-Chloroisopropyl)ether	39638-32-9	47.3		5.29	2.65
bis(2-Ethylhexyl)phthalate	117-81-7	57.7		10.6	3.17
Butylbenzylphthalate	85-68-7	66.8		5.29	2.65
Chrysene	218-01-9	60.9		5.29	2.65
Di-N-Butylphthalate	84-74-2	57.4		5.29	2.65
Di-n-octylphthalate	117-84-0	56.6		5.29	2.65
Dibenzo(a,h)Anthracene	53-70-3	57.5		5.29	2.65
Dibenzofuran	132-64-9	56.0		5.29	2.65
Diethylphthalate	84-66-2	54.2		5.29	2.65
Dimethylphthalate	131-11-3	52.2		5.29	2.65
Fluoranthene	206-44-0	59.2		5.29	2.65
Fluorene	86-73-7	55.7		5.29	2.65
Hexachlorobenzene	118-74-1	57.1		5.29	2.65
Hexachlorobutadiene	87-68-3	41.6		5.29	2.65
Hexachlorocyclopentadiene	77-47-4	26.4		5.29	2.65
Hexachloroethane	67-72-1	39.6		5.29	2.65
Indeno(1,2,3-cd)pyrene	193-39-5	63.5		5.29	2.65
Isophorone	78-59-1	43.1		5.29	2.65
N-Nitrosodiphenylamine	86-30-6	58.2		5.29	2.65
N-Nitrosodipropylamine	621-64-7	53.2		5.29	2.65
Naphthalene	91-20-3	46.5		5.29	2.65
Nitrobenzene	98-95-3	40.8		5.29	2.65
Pentachlorophenol	87-86-5	59.6		26.5	13.2
Phenanthrene	85-01-8	58.8		5.29	2.65
Phenol	108-95-2	21.7		5.29	2.65
Pyrene	129-00-0	59.2		5.29	2.65

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	109	40	125	
2-Fluorobiphenyl	95.2	50	110	
2-Fluorophenol	59.9	20	110	
Nitrobenzene-d5	76.0	40	110	
p-Terphenyl-d14	91.5	50	135	

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	39.8	10	115	
J	Estimated value ; the analyte concentration was less than the LOQ.			
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12090809-12

PrePrep Method: N/A

Instrument: HPMS5

Client ID: 40MW5MSDGW92512

Prep Method: 3510C

Prep Date: 10/01/2012 09:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 09/18/2012 17:28

Workgroup #: WG410253

Analyst: CAA

Run Date: 10/02/2012 20:39

Collect Date: 09/25/2012 18:16

Dilution: 1

File ID: 5M68318

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1	37.0		5.29	2.65
1,2-Dichlorobenzene	95-50-1	44.1		5.29	2.65
1,3-Dichlorobenzene	541-73-1	42.0		5.29	2.65
1,4-Dichlorobenzene	106-46-7	42.6		5.29	2.65
2,4,5-Trichlorophenol	95-95-4	54.9		5.29	2.65
2,4,6-Trichlorophenol	88-06-2	52.2		5.29	2.65
2,4-Dichlorophenol	120-83-2	45.0		5.29	2.65
2,4-Dimethylphenol	105-67-9	45.1		5.29	2.65
2,4-Dinitrophenol	51-28-5	35.4		26.5	13.2
2,4-Dinitrotoluene	121-14-2	59.0		5.29	2.65
2,6-Dinitrotoluene	606-20-2	55.5		5.29	2.65
2-Chloronaphthalene	91-58-7	48.8		5.29	2.65
2-Chlorophenol	95-57-8	45.2		5.29	2.65
2-Methylnaphthalene	91-57-6	43.0		5.29	2.65
2-Methylphenol	95-48-7	43.3		5.29	2.65
2-Nitroaniline	88-74-4	52.7		26.5	13.2
2-Nitrophenol	88-75-5	46.1		5.29	2.65
3,3'-Dichlorobenzidine	91-94-1	59.4		10.6	2.65
3-,4-Methylphenol	106-44-5	40.8		5.29	2.65
3-Nitroaniline	99-09-2	51.2		26.5	13.2
4,6-Dinitro-2-methylphenol	534-52-1	52.7		26.5	13.2
4-Bromophenyl-phenylether	101-55-3	57.2		5.29	2.65
4-Chloro-3-methylphenol	59-50-7	44.4		5.29	2.65
4-Chloroaniline	106-47-8	40.7		5.29	2.65
4-Chlorophenyl-phenyl ether	7005-72-3	55.9		5.29	2.65
4-Nitroaniline	100-01-6	52.9		26.5	13.2
4-Nitrophenol	100-02-7	22.7	J	26.5	13.2
Acenaphthene	83-32-9	52.3		5.29	2.65
Acenaphthylene	208-96-8	56.8		5.29	2.65
Anthracene	120-12-7	56.7		5.29	2.65
Benzo(a)anthracene	56-55-3	56.9		5.29	2.65
Benzo(a)pyrene	50-32-8	56.2		5.29	2.65

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2	52.1		5.29	2.65
Benzo(g,h,i)Perylene	191-24-2	63.7		5.29	2.65
Benzo(k)fluoranthene	207-08-9	59.8		5.29	2.65
Benzoic acid	65-85-0	15.7	J	26.5	13.2
Benzyl alcohol	100-51-6	45.2		5.29	2.65
Bis(2-Chloroethoxy)Methane	111-91-1	34.1		5.29	2.65
Bis(2-Chloroethyl)ether	111-44-4	45.2		5.29	2.65
bis(2-Chloroisopropyl)ether	39638-32-9	46.5		5.29	2.65
bis(2-Ethylhexyl)phthalate	117-81-7	56.3		10.6	3.17
Butylbenzylphthalate	85-68-7	64.4		5.29	2.65
Chrysene	218-01-9	59.2		5.29	2.65
Di-N-Butylphthalate	84-74-2	55.6		5.29	2.65
Di-n-octylphthalate	117-84-0	55.4		5.29	2.65
Dibenzo(a,h)Anthracene	53-70-3	37.1		5.29	2.65
Dibenzofuran	132-64-9	56.0		5.29	2.65
Diethylphthalate	84-66-2	53.3		5.29	2.65
Dimethylphthalate	131-11-3	52.5		5.29	2.65
Fluoranthene	206-44-0	57.5		5.29	2.65
Fluorene	86-73-7	54.7		5.29	2.65
Hexachlorobenzene	118-74-1	56.4		5.29	2.65
Hexachlorobutadiene	87-68-3	38.3		5.29	2.65
Hexachlorocyclopentadiene	77-47-4	27.2		5.29	2.65
Hexachloroethane	67-72-1	36.2		5.29	2.65
Indeno(1,2,3-cd)pyrene	193-39-5	57.9		5.29	2.65
Isophorone	78-59-1	43.2		5.29	2.65
N-Nitrosodiphenylamine	86-30-6	58.7		5.29	2.65
N-Nitrosodipropylamine	621-64-7	52.7		5.29	2.65
Naphthalene	91-20-3	44.9		5.29	2.65
Nitrobenzene	98-95-3	40.1		5.29	2.65
Pentachlorophenol	87-86-5	59.2		26.5	13.2
Phenanthrene	85-01-8	56.9		5.29	2.65
Phenol	108-95-2	20.8		5.29	2.65
Pyrene	129-00-0	58.3		5.29	2.65

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	112	40	125	
2-Fluorobiphenyl	94.0	50	110	
2-Fluorophenol	61.2	20	110	
Nitrobenzene-d5	75.8	40	110	
p-Terphenyl-d14	96.5	50	135	

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	38.3	10	115	
J	Estimated value ; the analyte concentration was less than the LOQ.			

Certificate of Analysis

Sample #: L12090809-15

PrePrep Method: N/A

Instrument: HPMS5

Client ID: 40FB92612

Prep Method: 3510C

Prep Date: 10/01/2012 09:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 09/18/2012 17:28

Workgroup #: WG410253

Analyst: CAA

Run Date: 10/04/2012 09:30

Collect Date: 09/26/2012 09:00

Dilution: 1

File ID: 5M68342

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.32	2.66
1,2-Dichlorobenzene	95-50-1		U	5.32	2.66
1,3-Dichlorobenzene	541-73-1		U	5.32	2.66
1,4-Dichlorobenzene	106-46-7		U	5.32	2.66
2,4,5-Trichlorophenol	95-95-4		U	5.32	2.66
2,4,6-Trichlorophenol	88-06-2		U	5.32	2.66
2,4-Dichlorophenol	120-83-2		U	5.32	2.66
2,4-Dimethylphenol	105-67-9		U	5.32	2.66
2,4-Dinitrophenol	51-28-5		U	26.6	13.3
2,4-Dinitrotoluene	121-14-2		U	5.32	2.66
2,6-Dinitrotoluene	606-20-2		U	5.32	2.66
2-Chloronaphthalene	91-58-7		U	5.32	2.66
2-Chlorophenol	95-57-8		U	5.32	2.66
2-Methylnaphthalene	91-57-6		U	5.32	2.66
2-Methylphenol	95-48-7		U	5.32	2.66
2-Nitroaniline	88-74-4		U	26.6	13.3
2-Nitrophenol	88-75-5		U	5.32	2.66
3,3'-Dichlorobenzidine	91-94-1		U	10.6	2.66
3-,4-Methylphenol	106-44-5		U	5.32	2.66
3-Nitroaniline	99-09-2		U	26.6	13.3
4,6-Dinitro-2-methylphenol	534-52-1		U	26.6	13.3
4-Bromophenyl-phenylether	101-55-3		U	5.32	2.66
4-Chloro-3-methylphenol	59-50-7		U	5.32	2.66
4-Chloroaniline	106-47-8		U	5.32	2.66
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.32	2.66
4-Nitroaniline	100-01-6		U	26.6	13.3
4-Nitrophenol	100-02-7		U	26.6	13.3
Acenaphthene	83-32-9		U	5.32	2.66
Acenaphthylene	208-96-8		U	5.32	2.66
Anthracene	120-12-7		U	5.32	2.66
Benzo(a)anthracene	56-55-3		U	5.32	2.66
Benzo(a)pyrene	50-32-8		U	5.32	2.66

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.32	2.66
Benzo(g,h,i)Perylene	191-24-2		U	5.32	2.66
Benzo(k)fluoranthene	207-08-9		U	5.32	2.66
Benzoic acid	65-85-0		U	26.6	13.3
Benzyl alcohol	100-51-6		U	5.32	2.66
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.32	2.66
Bis(2-Chloroethyl)ether	111-44-4		U	5.32	2.66
bis(2-Chloroisopropyl)ether	39638-32-9		U	5.32	2.66
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.6	3.19
Butylbenzylphthalate	85-68-7		U	5.32	2.66
Chrysene	218-01-9		U	5.32	2.66
Di-N-Butylphthalate	84-74-2		U	5.32	2.66
Di-n-octylphthalate	117-84-0		U	5.32	2.66
Dibenzo(a,h)Anthracene	53-70-3		U	5.32	2.66
Dibenzofuran	132-64-9		U	5.32	2.66
Diethylphthalate	84-66-2		U	5.32	2.66
Dimethylphthalate	131-11-3		U	5.32	2.66
Fluoranthene	206-44-0		U	5.32	2.66
Fluorene	86-73-7		U	5.32	2.66
Hexachlorobenzene	118-74-1		U	5.32	2.66
Hexachlorobutadiene	87-68-3		U	5.32	2.66
Hexachlorocyclopentadiene	77-47-4		U	5.32	2.66
Hexachloroethane	67-72-1		U	5.32	2.66
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.32	2.66
Isophorone	78-59-1		U	5.32	2.66
N-Nitrosodiphenylamine	86-30-6		U	5.32	2.66
N-Nitrosodipropylamine	621-64-7		U	5.32	2.66
Naphthalene	91-20-3		U	5.32	2.66
Nitrobenzene	98-95-3		U	5.32	2.66
Pentachlorophenol	87-86-5		U	26.6	13.3
Phenanthrene	85-01-8		U	5.32	2.66
Phenol	108-95-2		U	5.32	2.66
Pyrene	129-00-0		U	5.32	2.66

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	82.4	40	125	
2-Fluorobiphenyl	73.4	50	110	
2-Fluorophenol	47.6	20	110	
Nitrobenzene-d5	67.2	40	110	
p-Terphenyl-d14	116	50	135	

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	30.0	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12090809-16	PrePrep Method: N/A	Instrument: HPMS5
Client ID: 40EQR92612	Prep Method: 3510C	Prep Date: 10/01/2012 09:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 09/18/2012 17:28
Workgroup #: WG410253	Analyst: CAA	Run Date: 10/04/2012 10:03
Collect Date: 09/26/2012 09:45	Dilution: 1	File ID: 5M68343
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.26	2.63
1,2-Dichlorobenzene	95-50-1		U	5.26	2.63
1,3-Dichlorobenzene	541-73-1		U	5.26	2.63
1,4-Dichlorobenzene	106-46-7		U	5.26	2.63
2,4,5-Trichlorophenol	95-95-4		U	5.26	2.63
2,4,6-Trichlorophenol	88-06-2		U	5.26	2.63
2,4-Dichlorophenol	120-83-2		U	5.26	2.63
2,4-Dimethylphenol	105-67-9		U	5.26	2.63
2,4-Dinitrophenol	51-28-5		U	26.3	13.2
2,4-Dinitrotoluene	121-14-2		U	5.26	2.63
2,6-Dinitrotoluene	606-20-2		U	5.26	2.63
2-Chloronaphthalene	91-58-7		U	5.26	2.63
2-Chlorophenol	95-57-8		U	5.26	2.63
2-Methylnaphthalene	91-57-6		U	5.26	2.63
2-Methylphenol	95-48-7		U	5.26	2.63
2-Nitroaniline	88-74-4		U	26.3	13.2
2-Nitrophenol	88-75-5		U	5.26	2.63
3,3'-Dichlorobenzidine	91-94-1		U	10.5	2.63
3-,4-Methylphenol	106-44-5		U	5.26	2.63
3-Nitroaniline	99-09-2		U	26.3	13.2
4,6-Dinitro-2-methylphenol	534-52-1		U	26.3	13.2
4-Bromophenyl-phenylether	101-55-3		U	5.26	2.63
4-Chloro-3-methylphenol	59-50-7		U	5.26	2.63
4-Chloroaniline	106-47-8		U	5.26	2.63
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.26	2.63
4-Nitroaniline	100-01-6		U	26.3	13.2
4-Nitrophenol	100-02-7		U	26.3	13.2
Acenaphthene	83-32-9		U	5.26	2.63
Acenaphthylene	208-96-8		U	5.26	2.63
Anthracene	120-12-7		U	5.26	2.63
Benzo(a)anthracene	56-55-3		U	5.26	2.63
Benzo(a)pyrene	50-32-8		U	5.26	2.63

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.26	2.63
Benzo(g,h,i)Perylene	191-24-2		U	5.26	2.63
Benzo(k)fluoranthene	207-08-9		U	5.26	2.63
Benzoic acid	65-85-0		U	26.3	13.2
Benzyl alcohol	100-51-6		U	5.26	2.63
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.26	2.63
Bis(2-Chloroethyl)ether	111-44-4		U	5.26	2.63
bis(2-Chloroisopropyl)ether	39638-32-9		U	5.26	2.63
bis(2-Ethylhexyl)phthalate	117-81-7	19.1		10.5	3.16
Butylbenzylphthalate	85-68-7		U	5.26	2.63
Chrysene	218-01-9		U	5.26	2.63
Di-N-Butylphthalate	84-74-2		U	5.26	2.63
Di-n-octylphthalate	117-84-0		U	5.26	2.63
Dibenzo(a,h)Anthracene	53-70-3		U	5.26	2.63
Dibenzofuran	132-64-9		U	5.26	2.63
Diethylphthalate	84-66-2		U	5.26	2.63
Dimethylphthalate	131-11-3		U	5.26	2.63
Fluoranthene	206-44-0		U	5.26	2.63
Fluorene	86-73-7		U	5.26	2.63
Hexachlorobenzene	118-74-1		U	5.26	2.63
Hexachlorobutadiene	87-68-3		U	5.26	2.63
Hexachlorocyclopentadiene	77-47-4		U	5.26	2.63
Hexachloroethane	67-72-1		U	5.26	2.63
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.26	2.63
Isophorone	78-59-1		U	5.26	2.63
N-Nitrosodiphenylamine	86-30-6		U	5.26	2.63
N-Nitrosodipropylamine	621-64-7		U	5.26	2.63
Naphthalene	91-20-3		U	5.26	2.63
Nitrobenzene	98-95-3		U	5.26	2.63
Pentachlorophenol	87-86-5		U	26.3	13.2
Phenanthrene	85-01-8		U	5.26	2.63
Phenol	108-95-2		U	5.26	2.63
Pyrene	129-00-0		U	5.26	2.63

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	97.8	40	125	
2-Fluorobiphenyl	85.2	50	110	
2-Fluorophenol	54.3	20	110	
Nitrobenzene-d5	78.8	40	110	
p-Terphenyl-d14	113	50	135	

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	34.9	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12090809-17

PrePrep Method: N/A

Instrument: HPMS5

Client ID: LFMW01GW92612

Prep Method: 3510C

Prep Date: 10/01/2012 09:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 09/18/2012 17:28

Workgroup #: WG410253

Analyst: CAA

Run Date: 10/04/2012 10:35

Collect Date: 09/26/2012 10:54

Dilution: 1

File ID: 5M68344

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
1,2,4-Trichlorobenzene	120-82-1		U	5.38	2.69
1,2-Dichlorobenzene	95-50-1		U	5.38	2.69
1,3-Dichlorobenzene	541-73-1		U	5.38	2.69
1,4-Dichlorobenzene	106-46-7		U	5.38	2.69
2,4,5-Trichlorophenol	95-95-4		U	5.38	2.69
2,4,6-Trichlorophenol	88-06-2		U	5.38	2.69
2,4-Dichlorophenol	120-83-2		U	5.38	2.69
2,4-Dimethylphenol	105-67-9		U	5.38	2.69
2,4-Dinitrophenol	51-28-5		U	26.9	13.4
2,4-Dinitrotoluene	121-14-2		U	5.38	2.69
2,6-Dinitrotoluene	606-20-2		U	5.38	2.69
2-Chloronaphthalene	91-58-7		U	5.38	2.69
2-Chlorophenol	95-57-8		U	5.38	2.69
2-Methylnaphthalene	91-57-6		U	5.38	2.69
2-Methylphenol	95-48-7		U	5.38	2.69
2-Nitroaniline	88-74-4		U	26.9	13.4
2-Nitrophenol	88-75-5		U	5.38	2.69
3,3'-Dichlorobenzidine	91-94-1		U	10.8	2.69
3-,4-Methylphenol	106-44-5		U	5.38	2.69
3-Nitroaniline	99-09-2		U	26.9	13.4
4,6-Dinitro-2-methylphenol	534-52-1		U	26.9	13.4
4-Bromophenyl-phenylether	101-55-3		U	5.38	2.69
4-Chloro-3-methylphenol	59-50-7		U	5.38	2.69
4-Chloroaniline	106-47-8		U	5.38	2.69
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.38	2.69
4-Nitroaniline	100-01-6		U	26.9	13.4
4-Nitrophenol	100-02-7		U	26.9	13.4
Acenaphthene	83-32-9		U	5.38	2.69
Acenaphthylene	208-96-8		U	5.38	2.69
Anthracene	120-12-7		U	5.38	2.69
Benzo(a)anthracene	56-55-3		U	5.38	2.69
Benzo(a)pyrene	50-32-8		U	5.38	2.69

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	5.38	2.69
Benzo(g,h,i)Perylene	191-24-2		U	5.38	2.69
Benzo(k)fluoranthene	207-08-9		U	5.38	2.69
Benzoic acid	65-85-0		U	26.9	13.4
Benzyl alcohol	100-51-6		U	5.38	2.69
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.38	2.69
Bis(2-Chloroethyl)ether	111-44-4		U	5.38	2.69
bis(2-Chloroisopropyl)ether	39638-32-9		U	5.38	2.69
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.8	3.23
Butylbenzylphthalate	85-68-7		U	5.38	2.69
Chrysene	218-01-9		U	5.38	2.69
Di-N-Butylphthalate	84-74-2		U	5.38	2.69
Di-n-octylphthalate	117-84-0		U	5.38	2.69
Dibenzo(a,h)Anthracene	53-70-3		U	5.38	2.69
Dibenzofuran	132-64-9		U	5.38	2.69
Diethylphthalate	84-66-2		U	5.38	2.69
Dimethylphthalate	131-11-3		U	5.38	2.69
Fluoranthene	206-44-0		U	5.38	2.69
Fluorene	86-73-7		U	5.38	2.69
Hexachlorobenzene	118-74-1		U	5.38	2.69
Hexachlorobutadiene	87-68-3		U	5.38	2.69
Hexachlorocyclopentadiene	77-47-4		U	5.38	2.69
Hexachloroethane	67-72-1		U	5.38	2.69
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.38	2.69
Isophorone	78-59-1		U	5.38	2.69
N-Nitrosodiphenylamine	86-30-6		U	5.38	2.69
N-Nitrosodipropylamine	621-64-7		U	5.38	2.69
Naphthalene	91-20-3		U	5.38	2.69
Nitrobenzene	98-95-3		U	5.38	2.69
Pentachlorophenol	87-86-5		U	26.9	13.4
Phenanthrene	85-01-8		U	5.38	2.69
Phenol	108-95-2		U	5.38	2.69
Pyrene	129-00-0		U	5.38	2.69

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	103	40	125	
2-Fluorobiphenyl	87.0	50	110	
2-Fluorophenol	57.1	20	110	
Nitrobenzene-d5	77.3	40	110	
p-Terphenyl-d14	87.3	50	135	

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Phenol-d5	35.5	10	115	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Certificate of Analysis

Sample #: L12090809-01

PrePrep Method: N/A

Instrument: HPMS7

Client ID: 40MW7GW92512

Prep Method: 3510C

Prep Date: 10/02/2012 07:00

Matrix: Water

Analytical Method: 8270C

Cal Date: 09/26/2012 11:46

Workgroup #: WG410396

Analyst: CAA

Run Date: 10/03/2012 10:48

Collect Date: 09/25/2012 11:13

Dilution: 1

File ID: 7M56044

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0500	0.0250
Acenaphthylene	208-96-8		U	0.0500	0.0250
Acenaphthene	83-32-9		U	0.0500	0.0250
Fluorene	86-73-7		U	0.0500	0.0250
Phenanthrene	85-01-8		U	0.0500	0.0250
Anthracene	120-12-7		U	0.0500	0.0250
Fluoranthene	206-44-0		U	0.0500	0.0250
Pyrene	129-00-0		U	0.0500	0.0250
Benzo(a)anthracene	56-55-3		U	0.0500	0.0250
Chrysene	218-01-9		U	0.0500	0.0250
Benzo(b)fluoranthene	205-99-2		U	0.0500	0.0250
Benzo(k)fluoranthene	207-08-9		U	0.0500	0.0250
Benzo(a)pyrene	50-32-8		U	0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3		U	0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2		U	0.0500	0.0250
1-Methylnaphthalene	90-12-0		U	0.0500	0.0250
2-Methylnaphthalene	91-57-6		U	0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	84.7	35	114		
2-Fluorobiphenyl	76.8	50	110		
p-Terphenyl-d14	91.6	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-03	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40EQR92512	Prep Method: 3510C	Prep Date: 10/02/2012 07:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 09/26/2012 11:46
Workgroup #: WG410396	Analyst: CAA	Run Date: 10/03/2012 11:14
Collect Date: 09/25/2012 14:30	Dilution: 1	File ID: 7M56045
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0581	0.0291
Acenaphthylene	208-96-8		U	0.0581	0.0291
Acenaphthene	83-32-9		U	0.0581	0.0291
Fluorene	86-73-7		U	0.0581	0.0291
Phenanthrene	85-01-8		U	0.0581	0.0291
Anthracene	120-12-7		U	0.0581	0.0291
Fluoranthene	206-44-0		U	0.0581	0.0291
Pyrene	129-00-0		U	0.0581	0.0291
Benzo(a)anthracene	56-55-3		U	0.0581	0.0291
Chrysene	218-01-9		U	0.0581	0.0291
Benzo(b)fluoranthene	205-99-2		U	0.0581	0.0291
Benzo(k)fluoranthene	207-08-9		U	0.0581	0.0291
Benzo(a)pyrene	50-32-8		U	0.0581	0.0291
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0581	0.0291
Dibenzo(a,h)anthracene	53-70-3		U	0.0581	0.0291
Benzo(g,h,i)perylene	191-24-2		U	0.0581	0.0291
1-Methylnaphthalene	90-12-0		U	0.0581	0.0291
2-Methylnaphthalene	91-57-6		U	0.0581	0.0291
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	58.0	35	114		
2-Fluorobiphenyl	54.9	50	110		
p-Terphenyl-d14	87.0	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-04	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW6GW92512	Prep Method: 3510C	Prep Date: 10/02/2012 07:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 09/26/2012 11:46
Workgroup #: WG410396	Analyst: CAA	Run Date: 10/03/2012 11:40
Collect Date: 09/25/2012 15:45	Dilution: 1	File ID: 7M56046
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0562	0.0281
Acenaphthylene	208-96-8		U	0.0562	0.0281
Acenaphthene	83-32-9		U	0.0562	0.0281
Fluorene	86-73-7		U	0.0562	0.0281
Phenanthrene	85-01-8		U	0.0562	0.0281
Anthracene	120-12-7		U	0.0562	0.0281
Fluoranthene	206-44-0		U	0.0562	0.0281
Pyrene	129-00-0		U	0.0562	0.0281
Benzo(a)anthracene	56-55-3		U	0.0562	0.0281
Chrysene	218-01-9		U	0.0562	0.0281
Benzo(b)fluoranthene	205-99-2		U	0.0562	0.0281
Benzo(k)fluoranthene	207-08-9		U	0.0562	0.0281
Benzo(a)pyrene	50-32-8		U	0.0562	0.0281
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0562	0.0281
Dibenzo(a,h)anthracene	53-70-3		U	0.0562	0.0281
Benzo(g,h,i)perylene	191-24-2		U	0.0562	0.0281
1-Methylnaphthalene	90-12-0		U	0.0562	0.0281
2-Methylnaphthalene	91-57-6		U	0.0562	0.0281
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	83.7	35	114		
2-Fluorobiphenyl	80.9	50	110		
p-Terphenyl-d14	91.8	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-06	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW5GW92512	Prep Method: 3510C	Prep Date: 10/02/2012 07:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 09/26/2012 11:46
Workgroup #: WG410396	Analyst: CAA	Run Date: 10/03/2012 12:33
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 7M56048
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0676	0.0338
Acenaphthylene	208-96-8		U	0.0676	0.0338
Acenaphthene	83-32-9		U	0.0676	0.0338
Fluorene	86-73-7		U	0.0676	0.0338
Phenanthrene	85-01-8		U	0.0676	0.0338
Anthracene	120-12-7		U	0.0676	0.0338
Fluoranthene	206-44-0		U	0.0676	0.0338
Pyrene	129-00-0		U	0.0676	0.0338
Benzo(a)anthracene	56-55-3		U	0.0676	0.0338
Chrysene	218-01-9		U	0.0676	0.0338
Benzo(b)fluoranthene	205-99-2		U	0.0676	0.0338
Benzo(k)fluoranthene	207-08-9		U	0.0676	0.0338
Benzo(a)pyrene	50-32-8		U	0.0676	0.0338
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0676	0.0338
Dibenzo(a,h)anthracene	53-70-3		U	0.0676	0.0338
Benzo(g,h,i)perylene	191-24-2		U	0.0676	0.0338
1-Methylnaphthalene	90-12-0		U	0.0676	0.0338
2-Methylnaphthalene	91-57-6		U	0.0676	0.0338
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	96.6	35	114		
2-Fluorobiphenyl	88.5	50	110		
p-Terphenyl-d14	108	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-08	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40DUPGW92512	Prep Method: 3510C	Prep Date: 10/02/2012 07:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 09/26/2012 11:46
Workgroup #: WG410396	Analyst: CAA	Run Date: 10/03/2012 12:07
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 7M56047
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0510	0.0255
Acenaphthylene	208-96-8		U	0.0510	0.0255
Acenaphthene	83-32-9		U	0.0510	0.0255
Fluorene	86-73-7		U	0.0510	0.0255
Phenanthrene	85-01-8		U	0.0510	0.0255
Anthracene	120-12-7		U	0.0510	0.0255
Fluoranthene	206-44-0		U	0.0510	0.0255
Pyrene	129-00-0		U	0.0510	0.0255
Benzo(a)anthracene	56-55-3		U	0.0510	0.0255
Chrysene	218-01-9		U	0.0510	0.0255
Benzo(b)fluoranthene	205-99-2		U	0.0510	0.0255
Benzo(k)fluoranthene	207-08-9		U	0.0510	0.0255
Benzo(a)pyrene	50-32-8		U	0.0510	0.0255
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0510	0.0255
Dibenzo(a,h)anthracene	53-70-3		U	0.0510	0.0255
Benzo(g,h,i)perylene	191-24-2		U	0.0510	0.0255
1-Methylnaphthalene	90-12-0		U	0.0510	0.0255
2-Methylnaphthalene	91-57-6		U	0.0510	0.0255
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	86.4	35	114		
2-Fluorobiphenyl	81.6	50	110		
p-Terphenyl-d14	93.9	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-10	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW5MSGW92512	Prep Method: 3510C	Prep Date: 10/02/2012 07:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 09/26/2012 11:46
Workgroup #: WG410396	Analyst: CAA	Run Date: 10/03/2012 12:59
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 7M56049
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	0.802		0.0510	0.0255
Acenaphthylene	208-96-8	0.835		0.0510	0.0255
Acenaphthene	83-32-9	0.834		0.0510	0.0255
Fluorene	86-73-7	0.834		0.0510	0.0255
Phenanthrene	85-01-8	0.870		0.0510	0.0255
Anthracene	120-12-7	0.870		0.0510	0.0255
Fluoranthene	206-44-0	0.956		0.0510	0.0255
Pyrene	129-00-0	1.01		0.0510	0.0255
Benzo(a)anthracene	56-55-3	0.929		0.0510	0.0255
Chrysene	218-01-9	1.04		0.0510	0.0255
Benzo(b)fluoranthene	205-99-2	1.04		0.0510	0.0255
Benzo(k)fluoranthene	207-08-9	1.05		0.0510	0.0255
Benzo(a)pyrene	50-32-8	1.06		0.0510	0.0255
Indeno(1,2,3-cd)pyrene	193-39-5	0.960		0.0510	0.0255
Dibenzo(a,h)anthracene	53-70-3	0.943		0.0510	0.0255
Benzo(g,h,i)perylene	191-24-2	0.981		0.0510	0.0255
1-Methylnaphthalene	90-12-0	0.809		0.0510	0.0255
2-Methylnaphthalene	91-57-6	0.835		0.0510	0.0255
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	85.4	35	114		
2-Fluorobiphenyl	80.4	50	110		
p-Terphenyl-d14	102	33	141		

Sample #: L12090809-12	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40MW5MSDGW92512	Prep Method: 3510C	Prep Date: 10/02/2012 07:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 09/26/2012 11:46
Workgroup #: WG410396	Analyst: CAA	Run Date: 10/03/2012 13:25
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 7M56050
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3	0.794		0.0510	0.0255

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Acenaphthylene	208-96-8	0.816		0.0510	0.0255
Acenaphthene	83-32-9	0.823		0.0510	0.0255
Fluorene	86-73-7	0.829		0.0510	0.0255
Phenanthrene	85-01-8	0.864		0.0510	0.0255
Anthracene	120-12-7	0.859		0.0510	0.0255
Fluoranthene	206-44-0	0.902		0.0510	0.0255
Pyrene	129-00-0	0.947		0.0510	0.0255
Benzo(a)anthracene	56-55-3	0.808		0.0510	0.0255
Chrysene	218-01-9	0.877		0.0510	0.0255
Benzo(b)fluoranthene	205-99-2	0.801		0.0510	0.0255
Benzo(k)fluoranthene	207-08-9	0.858		0.0510	0.0255
Benzo(a)pyrene	50-32-8	0.840		0.0510	0.0255
Indeno(1,2,3-cd)pyrene	193-39-5	0.698		0.0510	0.0255
Dibenzo(a,h)anthracene	53-70-3	0.577		0.0510	0.0255
Benzo(g,h,i)perylene	191-24-2	0.643		0.0510	0.0255
1-Methylnaphthalene	90-12-0	0.795		0.0510	0.0255
2-Methylnaphthalene	91-57-6	0.823		0.0510	0.0255
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	81.9	35	114		
2-Fluorobiphenyl	78.1	50	110		
p-Terphenyl-d14	86.1	33	141		

Sample #: L12090809-15

Client ID: 40FB92612

Matrix: Water

Workgroup #: WG410396

Collect Date: 09/26/2012 09:00

Sample Tag: 01

PrePrep Method: N/A

Prep Method: 3510C

Analytical Method: 8270C

Analyst: CAA

Dilution: 1

Units: ug/L

Instrument: HPMS7

Prep Date: 10/02/2012 07:00

Cal Date: 09/26/2012 11:46

Run Date: 10/03/2012 13:51

File ID: 7M56051

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0552	0.0276
Acenaphthylene	208-96-8		U	0.0552	0.0276
Acenaphthene	83-32-9		U	0.0552	0.0276
Fluorene	86-73-7		U	0.0552	0.0276
Phenanthrene	85-01-8		U	0.0552	0.0276
Anthracene	120-12-7		U	0.0552	0.0276
Fluoranthene	206-44-0		U	0.0552	0.0276
Pyrene	129-00-0		U	0.0552	0.0276
Benzo(a)anthracene	56-55-3		U	0.0552	0.0276
Chrysene	218-01-9		U	0.0552	0.0276

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Benzo(b)fluoranthene	205-99-2		U	0.0552	0.0276
Benzo(k)fluoranthene	207-08-9		U	0.0552	0.0276
Benzo(a)pyrene	50-32-8		U	0.0552	0.0276
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0552	0.0276
Dibenzo(a,h)anthracene	53-70-3		U	0.0552	0.0276
Benzo(g,h,i)perylene	191-24-2		U	0.0552	0.0276
1-Methylnaphthalene	90-12-0		U	0.0552	0.0276
2-Methylnaphthalene	91-57-6		U	0.0552	0.0276
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	85.5	35	114		
2-Fluorobiphenyl	81.7	50	110		
p-Terphenyl-d14	98.0	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-16	PrePrep Method: N/A	Instrument: HPMS7
Client ID: 40EQR92612	Prep Method: 3510C	Prep Date: 10/02/2012 07:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 09/26/2012 11:46
Workgroup #: WG410396	Analyst: CAA	Run Date: 10/03/2012 14:17
Collect Date: 09/26/2012 09:45	Dilution: 1	File ID: 7M56052
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0532	0.0266
Acenaphthylene	208-96-8		U	0.0532	0.0266
Acenaphthene	83-32-9		U	0.0532	0.0266
Fluorene	86-73-7		U	0.0532	0.0266
Phenanthrene	85-01-8		U	0.0532	0.0266
Anthracene	120-12-7		U	0.0532	0.0266
Fluoranthene	206-44-0		U	0.0532	0.0266
Pyrene	129-00-0		U	0.0532	0.0266
Benzo(a)anthracene	56-55-3		U	0.0532	0.0266
Chrysene	218-01-9		U	0.0532	0.0266
Benzo(b)fluoranthene	205-99-2		U	0.0532	0.0266
Benzo(k)fluoranthene	207-08-9		U	0.0532	0.0266
Benzo(a)pyrene	50-32-8		U	0.0532	0.0266
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0532	0.0266
Dibenzo(a,h)anthracene	53-70-3		U	0.0532	0.0266
Benzo(g,h,i)perylene	191-24-2		U	0.0532	0.0266
1-Methylnaphthalene	90-12-0		U	0.0532	0.0266
2-Methylnaphthalene	91-57-6		U	0.0532	0.0266
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	73.4	35	114		
2-Fluorobiphenyl	66.7	50	110		
p-Terphenyl-d14	91.9	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-17	PrePrep Method: N/A	Instrument: HPMS7
Client ID: LFMW01GW92612	Prep Method: 3510C	Prep Date: 10/02/2012 07:00
Matrix: Water	Analytical Method: 8270C	Cal Date: 09/26/2012 11:46
Workgroup #: WG410396	Analyst: CAA	Run Date: 10/03/2012 14:43
Collect Date: 09/26/2012 10:54	Dilution: 1	File ID: 7M56053
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Naphthalene	91-20-3		U	0.0510	0.0255
Acenaphthylene	208-96-8		U	0.0510	0.0255
Acenaphthene	83-32-9		U	0.0510	0.0255
Fluorene	86-73-7		U	0.0510	0.0255
Phenanthrene	85-01-8		U	0.0510	0.0255
Anthracene	120-12-7		U	0.0510	0.0255
Fluoranthene	206-44-0		U	0.0510	0.0255
Pyrene	129-00-0		U	0.0510	0.0255
Benzo(a)anthracene	56-55-3		U	0.0510	0.0255
Chrysene	218-01-9		U	0.0510	0.0255
Benzo(b)fluoranthene	205-99-2		U	0.0510	0.0255
Benzo(k)fluoranthene	207-08-9		U	0.0510	0.0255
Benzo(a)pyrene	50-32-8		U	0.0510	0.0255
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0510	0.0255
Dibenzo(a,h)anthracene	53-70-3		U	0.0510	0.0255
Benzo(g,h,i)perylene	191-24-2		U	0.0510	0.0255
1-Methylnaphthalene	90-12-0		U	0.0510	0.0255
2-Methylnaphthalene	91-57-6		U	0.0510	0.0255
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
Nitrobenzene-d5	72.2	35	114		
2-Fluorobiphenyl	66.0	50	110		
p-Terphenyl-d14	86.4	33	141		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Certificate of Analysis

Sample #: L12090809-01	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW7GW92512	Prep Method: 6850	Prep Date: 10/02/2012 16:00
Matrix: Water	Analytical Method: 6850	Cal Date: 10/01/2012 20:18
Workgroup #: WG410340	Analyst: ADC	Run Date: 10/03/2012 00:54
Collect Date: 09/25/2012 11:13	Dilution: 1	File ID: 1LM.LM17924
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	3.66		0.200	0.100

Sample #: L12090809-03	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40EQR92512	Prep Method: 6850	Prep Date: 10/02/2012 16:00
Matrix: Water	Analytical Method: 6850	Cal Date: 10/01/2012 20:18
Workgroup #: WG410340	Analyst: ADC	Run Date: 10/03/2012 01:13
Collect Date: 09/25/2012 14:30	Dilution: 1	File ID: 1LM.LM17925
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-04	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW6GW92512	Prep Method: 6850	Prep Date: 10/02/2012 16:00
Matrix: Water	Analytical Method: 6850	Cal Date: 10/01/2012 20:18
Workgroup #: WG410340	Analyst: ADC	Run Date: 10/03/2012 01:32
Collect Date: 09/25/2012 15:45	Dilution: 1	File ID: 1LM.LM17926
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	1.25		0.200	0.100

Sample #: L12090809-06	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW5GW92512	Prep Method: 6850	Prep Date: 10/02/2012 16:00
Matrix: Water	Analytical Method: 6850	Cal Date: 10/01/2012 20:18
Workgroup #: WG410340	Analyst: ADC	Run Date: 10/03/2012 01:51
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 1LM.LM17927
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	1.71		0.200	0.100

Sample #: L12090809-08	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40DUPGW92512	Prep Method: 6850	Prep Date: 10/02/2012 16:00
Matrix: Water	Analytical Method: 6850	Cal Date: 10/01/2012 20:18
Workgroup #: WG410340	Analyst: ADC	Run Date: 10/03/2012 02:10
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 1LM.LM17928
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	1.81		0.200	0.100

Sample #: L12090809-10	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW5MSGW92512	Prep Method: 6850	Prep Date: 10/02/2012 16:00
Matrix: Water	Analytical Method: 6850	Cal Date: 10/01/2012 20:18
Workgroup #: WG410340	Analyst: ADC	Run Date: 10/03/2012 02:29
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 1LM.LM17929
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	1.99		0.200	0.100

Certificate of Analysis

Sample #: L12090809-12	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40MW5MSDGW92512	Prep Method: 6850	Prep Date: 10/02/2012 16:00
Matrix: Water	Analytical Method: 6850	Cal Date: 10/01/2012 20:18
Workgroup #: WG410340	Analyst: ADC	Run Date: 10/03/2012 02:48
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 1LM.LM17930
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	1.98		0.200	0.100

Sample #: L12090809-15	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40FB92612	Prep Method: 6850	Prep Date: 10/02/2012 16:00
Matrix: Water	Analytical Method: 6850	Cal Date: 10/01/2012 20:18
Workgroup #: WG410340	Analyst: ADC	Run Date: 10/03/2012 09:59
Collect Date: 09/26/2012 09:00	Dilution: 1	File ID: 1LM.LM17950
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-16	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 40EQR92612	Prep Method: 6850	Prep Date: 10/02/2012 16:00
Matrix: Water	Analytical Method: 6850	Cal Date: 10/01/2012 20:18
Workgroup #: WG410340	Analyst: ADC	Run Date: 10/03/2012 10:18
Collect Date: 09/26/2012 09:45	Dilution: 1	File ID: 1LM.LM17951
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0		U	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-17	PrePrep Method: N/A	Instrument: LCMS1
Client ID: LFMW01GW92612	Prep Method: 6850	Prep Date: 10/02/2012 16:00
Matrix: Water	Analytical Method: 6850	Cal Date: 10/01/2012 20:18
Workgroup #: WG410340	Analyst: ADC	Run Date: 10/03/2012 10:37
Collect Date: 09/26/2012 10:54	Dilution: 1	File ID: 1LM.LM17952
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Perchlorate	14797-73-0	8.75		0.200	0.100

Certificate of Analysis

Sample #: L12090809-01

PrePrep Method: N/A

Instrument: HP15

Client ID: 40MW7GW92512

Prep Method: 3510C

Prep Date: 10/01/2012 13:45

Matrix: Water

Analytical Method: 8081A

Cal Date: 10/01/2012 20:38

Workgroup #: WG410265

Analyst: ECL

Run Date: 10/02/2012 19:07

Collect Date: 09/25/2012 11:13

Dilution: 1

File ID: 15G34675.F

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		UQ	0.0526	0.0105
4,4'-DDE	72-55-9		UQ	0.0526	0.0105
4,4'-DDT	50-29-3		UQ	0.0526	0.0105
Aldrin	309-00-2		UQ	0.0526	0.0105
alpha Chlordane	5103-71-9		UQ	0.0526	0.0105
alpha-BHC	319-84-6		UQ	0.0526	0.0105
beta-BHC	319-85-7		UQ	0.0526	0.0105
delta-BHC	319-86-8		UQ	0.0526	0.0105
Dieldrin	60-57-1		UQ	0.0526	0.0105
Endosulfan I	959-98-8		UQ	0.0526	0.0105
Endosulfan II	33213-65-9		UQ	0.0526	0.0105
Endosulfan sulfate	1031-07-8		UQ	0.0526	0.0105
Endrin	72-20-8		UQ	0.0526	0.0105
Endrin aldehyde	7421-93-4		UQ	0.0526	0.0105
Endrin ketone	53494-70-5		UQ	0.0526	0.0105
gamma Chlordane	5103-74-2		UQ	0.0526	0.0105
gamma-BHC (Lindane)	58-89-9		UQ	0.0526	0.0105
Heptachlor	76-44-8		UQ	0.0526	0.0105
Heptachlor epoxide	1024-57-3		UQ	0.0526	0.0105
Methoxychlor	72-43-5		UQ	0.0526	0.0105
Toxaphene	8001-35-2		UQ	1.05	0.316
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	69.2	25	140		
Decachlorobiphenyl	26.2	30	135	*	
UQ	Undetected; the analyte was analyzed for, but not detected.				

Certificate of Analysis

Sample #: L12090809-03	PrePrep Method: N/A	Instrument: HP15
Client ID: 40EQR92512	Prep Method: 3510C	Prep Date: 10/01/2012 13:45
Matrix: Water	Analytical Method: 8081A	Cal Date: 10/01/2012 20:38
Workgroup #: WG410265	Analyst: ECL	Run Date: 10/02/2012 19:35
Collect Date: 09/25/2012 14:30	Dilution: 1	File ID: 15G34676.F
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		UQ	0.0549	0.0110
4,4'-DDE	72-55-9		UQ	0.0549	0.0110
4,4'-DDT	50-29-3		UQ	0.0549	0.0110
Aldrin	309-00-2		UQ	0.0549	0.0110
alpha Chlordane	5103-71-9		UQ	0.0549	0.0110
alpha-BHC	319-84-6		UQ	0.0549	0.0110
beta-BHC	319-85-7		UQ	0.0549	0.0110
delta-BHC	319-86-8		UQ	0.0549	0.0110
Dieldrin	60-57-1		UQ	0.0549	0.0110
Endosulfan I	959-98-8		UQ	0.0549	0.0110
Endosulfan II	33213-65-9		UQ	0.0549	0.0110
Endosulfan sulfate	1031-07-8		UQ	0.0549	0.0110
Endrin	72-20-8		UQ	0.0549	0.0110
Endrin aldehyde	7421-93-4		UQ	0.0549	0.0110
Endrin ketone	53494-70-5		UQ	0.0549	0.0110
gamma Chlordane	5103-74-2		UQ	0.0549	0.0110
gamma-BHC (Lindane)	58-89-9		UQ	0.0549	0.0110
Heptachlor	76-44-8		UQ	0.0549	0.0110
Heptachlor epoxide	1024-57-3		UQ	0.0549	0.0110
Methoxychlor	72-43-5		UQ	0.0549	0.0110
Toxaphene	8001-35-2		UQ	1.10	0.330

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	64.3	25	140	
Decachlorobiphenyl	25.5	30	135	*

UQ	Undetected; the analyte was analyzed for, but not detected.
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Certificate of Analysis

Sample #: L12090809-04	PrePrep Method: N/A	Instrument: HP15
Client ID: 40MW6GW92512	Prep Method: 3510C	Prep Date: 10/01/2012 13:45
Matrix: Water	Analytical Method: 8081A	Cal Date: 10/01/2012 20:38
Workgroup #: WG410265	Analyst: ECL	Run Date: 10/02/2012 20:03
Collect Date: 09/25/2012 15:45	Dilution: 1	File ID: 15G34677.F
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0515	0.0103
4,4'-DDE	72-55-9		U	0.0515	0.0103
4,4'-DDT	50-29-3		U	0.0515	0.0103
Aldrin	309-00-2		U	0.0515	0.0103
alpha Chlordane	5103-71-9		U	0.0515	0.0103
alpha-BHC	319-84-6		U	0.0515	0.0103
beta-BHC	319-85-7		U	0.0515	0.0103
delta-BHC	319-86-8		U	0.0515	0.0103
Dieldrin	60-57-1		U	0.0515	0.0103
Endosulfan I	959-98-8		U	0.0515	0.0103
Endosulfan II	33213-65-9		U	0.0515	0.0103
Endosulfan sulfate	1031-07-8		U	0.0515	0.0103
Endrin	72-20-8		U	0.0515	0.0103
Endrin aldehyde	7421-93-4		U	0.0515	0.0103
Endrin ketone	53494-70-5		U	0.0515	0.0103
gamma Chlordane	5103-74-2		U	0.0515	0.0103
gamma-BHC (Lindane)	58-89-9		U	0.0515	0.0103
Heptachlor	76-44-8		U	0.0515	0.0103
Heptachlor epoxide	1024-57-3		U	0.0515	0.0103
Methoxychlor	72-43-5		U	0.0515	0.0103
Toxaphene	8001-35-2		U	1.03	0.309

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	63.4	25	140	
Decachlorobiphenyl	49.0	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12090809-06	PrePrep Method: N/A	Instrument: HP15
Client ID: 40MW5GW92512	Prep Method: 3510C	Prep Date: 10/01/2012 13:45
Matrix: Water	Analytical Method: 8081A	Cal Date: 10/01/2012 20:38
Workgroup #: WG410265	Analyst: ECL	Run Date: 10/02/2012 22:22
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 15G34682.F
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0538	0.0108
4,4'-DDE	72-55-9		U	0.0538	0.0108
4,4'-DDT	50-29-3		U	0.0538	0.0108
Aldrin	309-00-2		U	0.0538	0.0108
alpha Chlordane	5103-71-9		U	0.0538	0.0108
alpha-BHC	319-84-6		U	0.0538	0.0108
beta-BHC	319-85-7		U	0.0538	0.0108
delta-BHC	319-86-8		U	0.0538	0.0108
Dieldrin	60-57-1		U	0.0538	0.0108
Endosulfan I	959-98-8		U	0.0538	0.0108
Endosulfan II	33213-65-9		U	0.0538	0.0108
Endosulfan sulfate	1031-07-8		U	0.0538	0.0108
Endrin	72-20-8		U	0.0538	0.0108
Endrin aldehyde	7421-93-4		U	0.0538	0.0108
Endrin ketone	53494-70-5		U	0.0538	0.0108
gamma Chlordane	5103-74-2		U	0.0538	0.0108
gamma-BHC (Lindane)	58-89-9		U	0.0538	0.0108
Heptachlor	76-44-8		U	0.0538	0.0108
Heptachlor epoxide	1024-57-3		U	0.0538	0.0108
Methoxychlor	72-43-5		U	0.0538	0.0108
Toxaphene	8001-35-2		U	1.08	0.323

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	86.5	25	140	
Decachlorobiphenyl	69.1	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12090809-08	PrePrep Method: N/A	Instrument: HP15
Client ID: 40DUPGW92512	Prep Method: 3510C	Prep Date: 10/01/2012 13:45
Matrix: Water	Analytical Method: 8081A	Cal Date: 10/01/2012 20:38
Workgroup #: WG410265	Analyst: ECL	Run Date: 10/02/2012 20:30
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 15G34678.F
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0510	0.0102
4,4'-DDE	72-55-9		U	0.0510	0.0102
4,4'-DDT	50-29-3		U	0.0510	0.0102
Aldrin	309-00-2		U	0.0510	0.0102
alpha Chlordane	5103-71-9		U	0.0510	0.0102
alpha-BHC	319-84-6		U	0.0510	0.0102
beta-BHC	319-85-7		U	0.0510	0.0102
delta-BHC	319-86-8		U	0.0510	0.0102
Dieldrin	60-57-1		U	0.0510	0.0102
Endosulfan I	959-98-8		U	0.0510	0.0102
Endosulfan II	33213-65-9		U	0.0510	0.0102
Endosulfan sulfate	1031-07-8		U	0.0510	0.0102
Endrin	72-20-8		U	0.0510	0.0102
Endrin aldehyde	7421-93-4		U	0.0510	0.0102
Endrin ketone	53494-70-5		U	0.0510	0.0102
gamma Chlordane	5103-74-2		U	0.0510	0.0102
gamma-BHC (Lindane)	58-89-9		U	0.0510	0.0102
Heptachlor	76-44-8		U	0.0510	0.0102
Heptachlor epoxide	1024-57-3		U	0.0510	0.0102
Methoxychlor	72-43-5		U	0.0510	0.0102
Toxaphene	8001-35-2		U	1.02	0.306

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	78.7	25	140	
Decachlorobiphenyl	84.3	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12090809-10	PrePrep Method: N/A	Instrument: HP15
Client ID: 40MW5MSGW92512	Prep Method: 3510C	Prep Date: 10/01/2012 13:45
Matrix: Water	Analytical Method: 8081A	Cal Date: 10/01/2012 20:38
Workgroup #: WG410265	Analyst: ECL	Run Date: 10/02/2012 22:50
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 15G34683.F
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.476		0.0510	0.0102
4,4'-DDE	72-55-9	0.464		0.0510	0.0102
4,4'-DDT	50-29-3	0.499		0.0510	0.0102
Aldrin	309-00-2	0.332		0.0510	0.0102
alpha Chlordane	5103-71-9	0.444		0.0510	0.0102
alpha-BHC	319-84-6	0.432		0.0510	0.0102
beta-BHC	319-85-7	0.449		0.0510	0.0102
delta-BHC	319-86-8	0.473		0.0510	0.0102
Dieldrin	60-57-1	0.466		0.0510	0.0102
Endosulfan I	959-98-8	0.328		0.0510	0.0102
Endosulfan II	33213-65-9	0.499		0.0510	0.0102
Endosulfan sulfate	1031-07-8	0.550		0.0510	0.0102
Endrin	72-20-8	0.490		0.0510	0.0102
Endrin aldehyde	7421-93-4	0.422		0.0510	0.0102
Endrin ketone	53494-70-5	0.538		0.0510	0.0102
gamma Chlordane	5103-74-2	0.442		0.0510	0.0102
gamma-BHC (Lindane)	58-89-9	0.433		0.0510	0.0102
Heptachlor	76-44-8	0.404		0.0510	0.0102
Heptachlor epoxide	1024-57-3	0.442		0.0510	0.0102
Methoxychlor	72-43-5	0.493		0.0510	0.0102
Toxaphene	8001-35-2		U	1.02	0.306
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,5,6-Tetrachloro-m-xylene	72.2	25	140		
Decachlorobiphenyl	69.2	30	135		
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-12	PrePrep Method: N/A	Instrument: HP15
Client ID: 40MW5MSDGW92512	Prep Method: 3510C	Prep Date: 10/01/2012 13:45
Matrix: Water	Analytical Method: 8081A	Cal Date: 10/01/2012 20:38
Workgroup #: WG410265	Analyst: ECL	Run Date: 10/02/2012 23:17
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: 15G34684.F
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8	0.416		0.0500	0.0100
4,4'-DDE	72-55-9	0.406		0.0500	0.0100
4,4'-DDT	50-29-3	0.436		0.0500	0.0100
Aldrin	309-00-2	0.264		0.0500	0.0100
alpha Chlordane	5103-71-9	0.379		0.0500	0.0100
alpha-BHC	319-84-6	0.344		0.0500	0.0100
beta-BHC	319-85-7	0.376		0.0500	0.0100
delta-BHC	319-86-8	0.395		0.0500	0.0100
Dieldrin	60-57-1	0.390		0.0500	0.0100
Endosulfan I	959-98-8	0.276		0.0500	0.0100
Endosulfan II	33213-65-9	0.420		0.0500	0.0100
Endosulfan sulfate	1031-07-8	0.457		0.0500	0.0100
Endrin	72-20-8	0.411		0.0500	0.0100
Endrin aldehyde	7421-93-4	0.352		0.0500	0.0100
Endrin ketone	53494-70-5	0.448		0.0500	0.0100
gamma Chlordane	5103-74-2	0.380		0.0500	0.0100
gamma-BHC (Lindane)	58-89-9	0.349		0.0500	0.0100
Heptachlor	76-44-8	0.329		0.0500	0.0100
Heptachlor epoxide	1024-57-3	0.362		0.0500	0.0100
Methoxychlor	72-43-5	0.432		0.0500	0.0100
Toxaphene	8001-35-2		U	1.00	0.300

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	59.0	25	140	
Decachlorobiphenyl	54.2	30	135	

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12090809-15	PrePrep Method: N/A	Instrument: HP15
Client ID: 40FB92612	Prep Method: 3510C	Prep Date: 10/01/2012 13:45
Matrix: Water	Analytical Method: 8081A	Cal Date: 10/01/2012 20:38
Workgroup #: WG410265	Analyst: ECL	Run Date: 10/02/2012 20:58
Collect Date: 09/26/2012 09:00	Dilution: 1	File ID: 15G34679.F
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0521	0.0104
4,4'-DDE	72-55-9		U	0.0521	0.0104
4,4'-DDT	50-29-3		U	0.0521	0.0104
Aldrin	309-00-2		U	0.0521	0.0104
alpha Chlordane	5103-71-9		U	0.0521	0.0104
alpha-BHC	319-84-6		U	0.0521	0.0104
beta-BHC	319-85-7		U	0.0521	0.0104
delta-BHC	319-86-8		U	0.0521	0.0104
Dieldrin	60-57-1		U	0.0521	0.0104
Endosulfan I	959-98-8		U	0.0521	0.0104
Endosulfan II	33213-65-9		U	0.0521	0.0104
Endosulfan sulfate	1031-07-8		U	0.0521	0.0104
Endrin	72-20-8		U	0.0521	0.0104
Endrin aldehyde	7421-93-4		U	0.0521	0.0104
Endrin ketone	53494-70-5		U	0.0521	0.0104
gamma Chlordane	5103-74-2		U	0.0521	0.0104
gamma-BHC (Lindane)	58-89-9		U	0.0521	0.0104
Heptachlor	76-44-8		U	0.0521	0.0104
Heptachlor epoxide	1024-57-3		U	0.0521	0.0104
Methoxychlor	72-43-5		U	0.0521	0.0104
Toxaphene	8001-35-2		U	1.04	0.313

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	70.4	25	140	
Decachlorobiphenyl	35.5	30	135	
U	Analyte was not detected. The concentration is below the reported LOD.			

Certificate of Analysis

Sample #: L12090809-16	PrePrep Method: N/A	Instrument: HP15
Client ID: 40EQR92612	Prep Method: 3510C	Prep Date: 10/01/2012 13:45
Matrix: Water	Analytical Method: 8081A	Cal Date: 10/01/2012 20:38
Workgroup #: WG410265	Analyst: ECL	Run Date: 10/02/2012 23:46
Collect Date: 09/26/2012 09:45	Dilution: 1	File ID: 15G34685.F
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0543	0.0109
4,4'-DDE	72-55-9		U	0.0543	0.0109
4,4'-DDT	50-29-3		U	0.0543	0.0109
Aldrin	309-00-2		U	0.0543	0.0109
alpha Chlordane	5103-71-9		U	0.0543	0.0109
alpha-BHC	319-84-6		U	0.0543	0.0109
beta-BHC	319-85-7		U	0.0543	0.0109
delta-BHC	319-86-8		U	0.0543	0.0109
Dieldrin	60-57-1		U	0.0543	0.0109
Endosulfan I	959-98-8		U	0.0543	0.0109
Endosulfan II	33213-65-9		U	0.0543	0.0109
Endosulfan sulfate	1031-07-8		U	0.0543	0.0109
Endrin	72-20-8		U	0.0543	0.0109
Endrin aldehyde	7421-93-4		U	0.0543	0.0109
Endrin ketone	53494-70-5		U	0.0543	0.0109
gamma Chlordane	5103-74-2		U	0.0543	0.0109
gamma-BHC (Lindane)	58-89-9		U	0.0543	0.0109
Heptachlor	76-44-8		U	0.0543	0.0109
Heptachlor epoxide	1024-57-3		U	0.0543	0.0109
Methoxychlor	72-43-5		U	0.0543	0.0109
Toxaphene	8001-35-2		U	1.09	0.326

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	83.7	25	140	
Decachlorobiphenyl	36.2	30	135	

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L12090809-17	PrePrep Method: N/A	Instrument: HP15
Client ID: LFMW01GW92612	Prep Method: 3510C	Prep Date: 10/01/2012 13:45
Matrix: Water	Analytical Method: 8081A	Cal Date: 10/01/2012 20:38
Workgroup #: WG410265	Analyst: ECL	Run Date: 10/03/2012 00:13
Collect Date: 09/26/2012 10:54	Dilution: 1	File ID: 15G34686.F
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
4,4'-DDD	72-54-8		U	0.0526	0.0105
4,4'-DDE	72-55-9		U	0.0526	0.0105
4,4'-DDT	50-29-3		U	0.0526	0.0105
Aldrin	309-00-2		U	0.0526	0.0105
alpha Chlordane	5103-71-9		U	0.0526	0.0105
alpha-BHC	319-84-6		U	0.0526	0.0105
beta-BHC	319-85-7		U	0.0526	0.0105
delta-BHC	319-86-8		U	0.0526	0.0105
Dieldrin	60-57-1		U	0.0526	0.0105
Endosulfan I	959-98-8		U	0.0526	0.0105
Endosulfan II	33213-65-9		U	0.0526	0.0105
Endosulfan sulfate	1031-07-8		U	0.0526	0.0105
Endrin	72-20-8		U	0.0526	0.0105
Endrin aldehyde	7421-93-4		U	0.0526	0.0105
Endrin ketone	53494-70-5		U	0.0526	0.0105
gamma Chlordane	5103-74-2		U	0.0526	0.0105
gamma-BHC (Lindane)	58-89-9		U	0.0526	0.0105
Heptachlor	76-44-8		U	0.0526	0.0105
Heptachlor epoxide	1024-57-3		U	0.0526	0.0105
Methoxychlor	72-43-5		U	0.0526	0.0105
Toxaphene	8001-35-2		U	1.05	0.316

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	78.3	25	140	
Decachlorobiphenyl	40.7	30	135	

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Certificate of Analysis

Sample #: L12090809-01	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW7GW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 14:10
Collect Date: 09/25/2012 11:13	Dilution: 1	File ID: P2.100412.141044
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	1.73		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	101		0.200	0.100
Iron, Total	7439-89-6	1.62		0.100	0.0500
Magnesium, Total	7439-95-4	41.1		0.500	0.250
Potassium, Total	7440-09-7	2.13		1.00	0.500
Sodium, Total	7440-23-5	3.51		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-02	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW7GW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 14:16
Collect Date: 09/25/2012 11:13	Dilution: 1	File ID: P2.100412.141642
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Calcium, Dissolved	7440-70-2	77.7		0.200	0.100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	36.1		0.500	0.250
Potassium, Dissolved	7440-09-7	1.77		1.00	0.500
Sodium, Dissolved	7440-23-5	3.36		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-03	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40EQR92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 14:23
Collect Date: 09/25/2012 14:30	Dilution: 1	File ID: P2.100412.142338
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	0.167	J	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6GW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 14:30
Collect Date: 09/25/2012 15:45	Dilution: 1	File ID: P2.100412.143033
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.467		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	88.2		0.200	0.100
Iron, Total	7439-89-6	0.393		0.100	0.0500
Magnesium, Total	7439-95-4	33.7		0.500	0.250
Potassium, Total	7440-09-7	1.22		1.00	0.500
Sodium, Total	7440-23-5	5.24		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW6GW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 15:23
Collect Date: 09/25/2012 15:45	Dilution: 1	File ID: P2.100412.152327
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Calcium, Dissolved	7440-70-2	89.4		0.200	0.100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	33.5		0.500	0.250
Potassium, Dissolved	7440-09-7	1.14		1.00	0.500
Sodium, Dissolved	7440-23-5	5.18		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-06	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5GW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 15:30
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: P2.100412.153021
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.266		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	86.9		0.200	0.100
Iron, Total	7439-89-6	0.217		0.100	0.0500
Magnesium, Total	7439-95-4	32.0		0.500	0.250
Potassium, Total	7440-09-7	1.30		1.00	0.500
Sodium, Total	7440-23-5	5.73		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-07	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5GW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 15:37
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: P2.100412.153715
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Calcium, Dissolved	7440-70-2	89.2		0.200	0.100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	32.3		0.500	0.250
Potassium, Dissolved	7440-09-7	1.23		1.00	0.500
Sodium, Dissolved	7440-23-5	5.43		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-08	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40DUPGW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 15:44
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: P2.100412.154410
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	0.140		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	84.9		0.200	0.100
Iron, Total	7439-89-6	0.123		0.100	0.0500
Magnesium, Total	7439-95-4	32.5		0.500	0.250
Potassium, Total	7440-09-7	1.26		1.00	0.500
Sodium, Total	7440-23-5	5.27		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-09	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40DUPGW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 15:51
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: P2.100412.155105
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Calcium, Dissolved	7440-70-2	86.1		0.200	0.100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	32.1		0.500	0.250
Potassium, Dissolved	7440-09-7	1.23		1.00	0.500
Sodium, Dissolved	7440-23-5	5.42		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-10	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5MSGW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 15:57
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: P2.100412.155759
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	4.97		0.100	0.0500
Beryllium, Total	7440-41-7	0.0240		0.00200	0.00100
Calcium, Total	7440-70-2	93.8		0.200	0.100
Iron, Total	7439-89-6	2.02		0.100	0.0500
Magnesium, Total	7439-95-4	36.2		0.500	0.250
Potassium, Total	7440-09-7	25.4		1.00	0.500
Sodium, Total	7440-23-5	30.0		0.500	0.250
Vanadium, Total	7440-62-2	0.494		0.0100	0.00500
Zinc, Total	7440-66-6	0.477		0.0200	0.0100

Sample #: L12090809-11	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5MSGW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 16:03
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: P2.100412.160357
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5	4.95		0.100	0.0500
Beryllium, Dissolved	7440-41-7	0.0245		0.00200	0.00100
Calcium, Dissolved	7440-70-2	99.1		0.200	0.100
Iron, Dissolved	7439-89-6	2.03		0.100	0.0500
Magnesium, Dissolved	7439-95-4	38.3		0.500	0.250
Potassium, Dissolved	7440-09-7	25.8		1.00	0.500
Sodium, Dissolved	7440-23-5	30.0		0.500	0.250
Vanadium, Dissolved	7440-62-2	0.507		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.483		0.0200	0.0100

Certificate of Analysis

Sample #: L12090809-12	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5MSDGW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 16:09
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: P2.100412.160956
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	5.06		0.100	0.0500
Beryllium, Total	7440-41-7	0.0247		0.00200	0.00100
Calcium, Total	7440-70-2	97.9		0.200	0.100
Iron, Total	7439-89-6	2.08		0.100	0.0500
Magnesium, Total	7439-95-4	36.4		0.500	0.250
Potassium, Total	7440-09-7	25.5		1.00	0.500
Sodium, Total	7440-23-5	30.3		0.500	0.250
Vanadium, Total	7440-62-2	0.504		0.0100	0.00500
Zinc, Total	7440-66-6	0.480		0.0200	0.0100

Sample #: L12090809-13	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40MW5MSDGW92512	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 16:15
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: P2.100412.161555
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5	5.06		0.100	0.0500
Beryllium, Dissolved	7440-41-7	0.0254		0.00200	0.00100
Calcium, Dissolved	7440-70-2	99.5		0.200	0.100
Iron, Dissolved	7439-89-6	2.02		0.100	0.0500
Magnesium, Dissolved	7439-95-4	37.3		0.500	0.250
Potassium, Dissolved	7440-09-7	26.4		1.00	0.500
Sodium, Dissolved	7440-23-5	31.9		0.500	0.250
Vanadium, Dissolved	7440-62-2	0.521		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.496		0.0200	0.0100

Certificate of Analysis

Sample #: L12090809-15	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40FB92612	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 16:21
Collect Date: 09/26/2012 09:00	Dilution: 1	File ID: P2.100412.162154
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2		U	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-16	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: 40EQR92612	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 16:41
Collect Date: 09/26/2012 09:45	Dilution: 1	File ID: P2.100412.164144
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5		U	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	0.171	J	0.200	0.100
Iron, Total	7439-89-6		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Potassium, Total	7440-09-7		U	1.00	0.500
Sodium, Total	7440-23-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-17	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: LFMW01GW92612	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 16:48
Collect Date: 09/26/2012 10:54	Dilution: 1	File ID: P2.100412.164841
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Total	7429-90-5	9.15		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Calcium, Total	7440-70-2	105		0.200	0.100
Iron, Total	7439-89-6	8.95		0.100	0.0500
Magnesium, Total	7439-95-4	51.1		0.500	0.250
Potassium, Total	7440-09-7	3.70		1.00	0.500
Sodium, Total	7440-23-5	6.64		0.500	0.250
Vanadium, Total	7440-62-2	0.0181		0.0100	0.00500
Zinc, Total	7440-66-6	0.0526		0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-18	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: LFMW01GW92612	Prep Method: 3005A	Prep Date: 10/01/2012 09:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 10/04/2012 12:26
Workgroup #: WG410204	Analyst: KHR	Run Date: 10/04/2012 16:54
Collect Date: 09/26/2012 10:54	Dilution: 1	File ID: P2.100412.165441
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Aluminum, Dissolved	7429-90-5	0.0929	J	0.100	0.0500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Calcium, Dissolved	7440-70-2	85.7		0.200	0.100
Iron, Dissolved	7439-89-6	0.0741	J	0.100	0.0500
Magnesium, Dissolved	7439-95-4	35.4		0.500	0.250
Potassium, Dissolved	7440-09-7	1.69		1.00	0.500
Sodium, Dissolved	7440-23-5	7.10		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Certificate of Analysis

Sample #: L12090809-01

PrePrep Method: N/A

Instrument: ICP-MS2

Client ID: 40MW7GW92512

Prep Method: 3015

Prep Date: 09/28/2012 09:02

Matrix: Water

Analytical Method: 6020

Cal Date: 10/01/2012 10:11

Workgroup #: WG410082

Analyst: JYH

Run Date: 10/01/2012 11:01

Collect Date: 09/25/2012 11:13

Dilution: 1

File ID: NI.100112.110135

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.000615	J	0.00100	0.000500
Barium, Total	7440-39-3	0.172		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00442		0.00200	0.00100
Cobalt, Total	7440-48-4	0.00102		0.00100	0.000500
Copper, Total	7440-50-8	0.00232		0.00200	0.00100
Lead, Total	7439-92-1	0.00161		0.00100	0.000500
Manganese, Total	7439-96-5	0.0265		0.00200	0.00100
Nickel, Total	7440-02-0	0.0104		0.00400	0.00200
Selenium, Total	7782-49-2	0.000848	J	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-02	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW7GW92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 11:04
Collect Date: 09/25/2012 11:13	Dilution: 1	File ID: NI.100112.110450
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2		U	0.00100	0.000500
Barium, Dissolved	7440-39-3	0.170		0.00300	0.00150
Cadmium, Dissolved	7440-43-9		U	0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.00273		0.00200	0.00100
Cobalt, Dissolved	7440-48-4	0.000825	J	0.00100	0.000500
Copper, Dissolved	7440-50-8		U	0.00200	0.00100
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Manganese, Dissolved	7439-96-5	0.00377		0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.00706		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.000913	J	0.00100	0.000500
Silver, Dissolved	7440-22-4		U	0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-03	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40EQR92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 11:21
Collect Date: 09/25/2012 14:30	Dilution: 1	File ID: NI.100112.112115
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3		U	0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3		U	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00339		0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW6GW92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 11:24
Collect Date: 09/25/2012 15:45	Dilution: 1	File ID: NI.100112.112432
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0514		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00286		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00105	J	0.00200	0.00100
Lead, Total	7439-92-1	0.000733	J	0.00100	0.000500
Manganese, Total	7439-96-5	0.00241		0.00200	0.00100
Nickel, Total	7440-02-0	0.00788		0.00400	0.00200
Selenium, Total	7782-49-2	0.000943	J	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-05	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW6GW92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 11:27
Collect Date: 09/25/2012 15:45	Dilution: 1	File ID: NI.100112.112750
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2		U	0.00100	0.000500
Barium, Dissolved	7440-39-3	0.0515		0.00300	0.00150
Cadmium, Dissolved	7440-43-9		U	0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.00259		0.00200	0.00100
Cobalt, Dissolved	7440-48-4		U	0.00100	0.000500
Copper, Dissolved	7440-50-8		U	0.00200	0.00100
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Manganese, Dissolved	7439-96-5	0.00107	J	0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.00814		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.00111		0.00100	0.000500
Silver, Dissolved	7440-22-4		U	0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-06	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW5GW92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 10:51
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: NI.100112.105147
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0562		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00250		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00259		0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00213		0.00200	0.00100
Nickel, Total	7440-02-0	0.00730		0.00400	0.00200
Selenium, Total	7782-49-2	0.000845	J	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-07	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW5GW92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 11:31
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: NI.100112.113106
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2		U	0.00100	0.000500
Barium, Dissolved	7440-39-3	0.0587		0.00300	0.00150
Cadmium, Dissolved	7440-43-9		U	0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.00230		0.00200	0.00100
Cobalt, Dissolved	7440-48-4		U	0.00100	0.000500
Copper, Dissolved	7440-50-8	0.00124	J	0.00200	0.00100
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Manganese, Dissolved	7439-96-5		U	0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.00821		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.00105		0.00100	0.000500
Silver, Dissolved	7440-22-4		U	0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-08	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40DUPGW92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 11:34
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: NI.100112.113424
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3	0.0581		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00260		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00143	J	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00400		0.00200	0.00100
Nickel, Total	7440-02-0	0.00839		0.00400	0.00200
Selenium, Total	7782-49-2	0.00102		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-09	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40DUPGW92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 11:37
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: NI.100112.113740
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2		U	0.00100	0.000500
Barium, Dissolved	7440-39-3	0.0563		0.00300	0.00150
Cadmium, Dissolved	7440-43-9		U	0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.00230		0.00200	0.00100
Cobalt, Dissolved	7440-48-4		U	0.00100	0.000500
Copper, Dissolved	7440-50-8	0.00118	J	0.00200	0.00100
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Manganese, Dissolved	7439-96-5		U	0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.00796		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.00117		0.00100	0.000500
Silver, Dissolved	7440-22-4		U	0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-10	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW5MSGW92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 10:55
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: NI.100112.105504
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0659		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0677		0.00100	0.000500
Barium, Total	7440-39-3	0.123		0.00300	0.00150
Cadmium, Total	7440-43-9	0.0653		0.000600	0.000300
Chromium, Total	7440-47-3	0.0699		0.00200	0.00100
Cobalt, Total	7440-48-4	0.0680		0.00100	0.000500
Copper, Total	7440-50-8	0.0668		0.00200	0.00100
Lead, Total	7439-92-1	0.0650		0.00100	0.000500
Manganese, Total	7439-96-5	0.0702		0.00200	0.00100
Nickel, Total	7440-02-0	0.0733		0.00400	0.00200
Selenium, Total	7782-49-2	0.0676		0.00100	0.000500
Silver, Total	7440-22-4	0.0645		0.00100	0.000500
Thallium, Total	7440-28-0	0.0671		0.000200	0.000100

Sample #: L12090809-11	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW5MSGW92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 11:40
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: NI.100112.114057
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0	0.0641		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0655		0.00100	0.000500
Barium, Dissolved	7440-39-3	0.122		0.00300	0.00150
Cadmium, Dissolved	7440-43-9	0.0638		0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.0703		0.00200	0.00100
Cobalt, Dissolved	7440-48-4	0.0656		0.00100	0.000500
Copper, Dissolved	7440-50-8	0.0654		0.00200	0.00100
Lead, Dissolved	7439-92-1	0.0638		0.00100	0.000500
Manganese, Dissolved	7439-96-5	0.0694		0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.0727		0.00400	0.00200

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Selenium, Dissolved	7782-49-2	0.0667		0.00100	0.000500
Silver, Dissolved	7440-22-4	0.0660		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.0667		0.000200	0.000100

Sample #: L12090809-12	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW5MSDGW92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 10:58
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: NI.100112.105819
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0675		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0685		0.00100	0.000500
Barium, Total	7440-39-3	0.126		0.00300	0.00150
Cadmium, Total	7440-43-9	0.0670		0.000600	0.000300
Chromium, Total	7440-47-3	0.0715		0.00200	0.00100
Cobalt, Total	7440-48-4	0.0690		0.00100	0.000500
Copper, Total	7440-50-8	0.0676		0.00200	0.00100
Lead, Total	7439-92-1	0.0673		0.00100	0.000500
Manganese, Total	7439-96-5	0.0705		0.00200	0.00100
Nickel, Total	7440-02-0	0.0752		0.00400	0.00200
Selenium, Total	7782-49-2	0.0700		0.00100	0.000500
Silver, Total	7440-22-4	0.0667		0.00100	0.000500
Thallium, Total	7440-28-0	0.0687		0.000200	0.000100

Sample #: L12090809-13	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40MW5MSDGW92512	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 11:44
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: NI.100112.114413
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0	0.0633		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0652		0.00100	0.000500
Barium, Dissolved	7440-39-3	0.121		0.00300	0.00150
Cadmium, Dissolved	7440-43-9	0.0632		0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.0715		0.00200	0.00100
Cobalt, Dissolved	7440-48-4	0.0665		0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Copper, Dissolved	7440-50-8	0.0655		0.00200	0.00100
Lead, Dissolved	7439-92-1	0.0639		0.00100	0.000500
Manganese, Dissolved	7439-96-5	0.0692		0.00200	0.00100
Nickel, Dissolved	7440-02-0	0.0737		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.0665		0.00100	0.000500
Silver, Dissolved	7440-22-4	0.0658		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.0665		0.000200	0.000100

Sample #: L12090809-15

PrePrep Method: N/A

Instrument: ICP-MS2

Client ID: 40FB92612

Prep Method: 3015

Prep Date: 09/28/2012 09:02

Matrix: Water

Analytical Method: 6020

Cal Date: 10/01/2012 10:11

Workgroup #: WG410082

Analyst: JYH

Run Date: 10/01/2012 11:47

Collect Date: 09/26/2012 09:00

Dilution: 1

File ID: NI.100112.114730

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3		U	0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3		U	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5		U	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-16	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 40EQR92612	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 11:50
Collect Date: 09/26/2012 09:45	Dilution: 1	File ID: NI.100112.115046
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Barium, Total	7440-39-3		U	0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3		U	0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5		U	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2		U	0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-17	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: LFMW01GW92612	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 12:50
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 15:53
Collect Date: 09/26/2012 10:54	Dilution: 1	File ID: NI.100112.155309
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Manganese, Total	7439-96-5	0.0526		0.00200	0.00100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-17	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: LFMW01GW92612	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 12:00
Collect Date: 09/26/2012 10:54	Dilution: 1	File ID: NI.100112.120038
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00143		0.00100	0.000500
Barium, Total	7440-39-3	0.125		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.0125		0.00200	0.00100
Cobalt, Total	7440-48-4	0.00314		0.00100	0.000500
Copper, Total	7440-50-8	0.00887		0.00200	0.00100
Lead, Total	7439-92-1	0.00546		0.00100	0.000500
Nickel, Total	7440-02-0	0.0177		0.00400	0.00200
Selenium, Total	7782-49-2	0.00118		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0	0.000123	J	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-18	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: LFMW01GW92612	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 12:50
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 15:57
Collect Date: 09/26/2012 10:54	Dilution: 1	File ID: NI.100112.155726
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Manganese, Dissolved	7439-96-5		U	0.00200	0.00100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-18	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: LFMW01GW92612	Prep Method: 3015	Prep Date: 09/28/2012 09:02
Matrix: Water	Analytical Method: 6020	Cal Date: 10/01/2012 10:11
Workgroup #: WG410082	Analyst: JYH	Run Date: 10/01/2012 12:03
Collect Date: 09/26/2012 10:54	Dilution: 1	File ID: NI.100112.120356
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2		U	0.00100	0.000500
Barium, Dissolved	7440-39-3	0.0926		0.00300	0.00150
Cadmium, Dissolved	7440-43-9		U	0.000600	0.000300
Chromium, Dissolved	7440-47-3	0.00280		0.00200	0.00100
Cobalt, Dissolved	7440-48-4	0.000903	J	0.00100	0.000500
Copper, Dissolved	7440-50-8		U	0.00200	0.00100
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Nickel, Dissolved	7440-02-0	0.00844		0.00400	0.00200
Selenium, Dissolved	7782-49-2	0.00106		0.00100	0.000500
Silver, Dissolved	7440-22-4		U	0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Certificate of Analysis

Sample #: L12090809-01	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW7GW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:21
Collect Date: 09/25/2012 11:13	Dilution: 1	File ID: HY.100312.112113
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12090809-02	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW7GW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:25
Collect Date: 09/25/2012 11:13	Dilution: 1	File ID: HY.100312.112541
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-03	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40EQR92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:27
Collect Date: 09/25/2012 14:30	Dilution: 1	File ID: HY.100312.112741
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12090809-04	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW6GW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:29
Collect Date: 09/25/2012 15:45	Dilution: 1	File ID: HY.100312.112918
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12090809-05	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW6GW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:30
Collect Date: 09/25/2012 15:45	Dilution: 1	File ID: HY.100312.113057
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-06	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW5GW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:33
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: HY.100312.113309
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12090809-07	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW5GW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:34
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: HY.100312.113459
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-08	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40DUPGW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:40
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: HY.100312.114031
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12090809-09	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40DUPGW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:42
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: HY.100312.114210
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L12090809-10	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW5MSGW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:44
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: HY.100312.114419
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00493		0.000222	0.000111

Sample #: L12090809-11	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW5MSGW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:45
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: HY.100312.114556
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6	0.00481		0.000222	0.000111

Sample #: L12090809-12	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW5MSDGW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:47
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: HY.100312.114748
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00487		0.000222	0.000111

Sample #: L12090809-13	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40MW5MSDGW92512	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:49
Collect Date: 09/25/2012 18:16	Dilution: 1	File ID: HY.100312.114946
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6	0.00496		0.000222	0.000111

Certificate of Analysis

Sample #: L12090809-15	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40FB92612	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:51
Collect Date: 09/26/2012 09:00	Dilution: 1	File ID: HY.100312.115126
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12090809-16	PrePrep Method: N/A	Instrument: HYDRA
Client ID: 40EQR92612	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:53
Collect Date: 09/26/2012 09:45	Dilution: 1	File ID: HY.100312.115305
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12090809-17	PrePrep Method: N/A	Instrument: HYDRA
Client ID: LFMW01GW92612	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:54
Collect Date: 09/26/2012 10:54	Dilution: 1	File ID: HY.100312.115444
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L12090809-18	PrePrep Method: N/A	Instrument: HYDRA
Client ID: LFMW01GW92612	Prep Method: 7470A	Prep Date: 10/01/2012 10:41
Matrix: Water	Analytical Method: 7470A	Cal Date: 10/03/2012 09:36
Workgroup #: WG410286	Analyst: PDM	Run Date: 10/03/2012 11:56
Collect Date: 09/26/2012 10:54	Dilution: 1	File ID: HY.100312.115626
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Appendix D – Support Documentation

Laboratory Report Number: L12090809

Mary Lou Rochette
Kemron Environmental Services
156 Starlite Drive
Marietta, OH 45750

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on October 10 2012



David Vandenberg – Managing Director

State of Origin: VA
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 4.1



Microbac Laboratories * Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 * T: (740) 373-4071 F: (740) 373-4835 * www.microbac.com

2343-A State Route 821
Marietta, OH 45750

Phone: 740-373-4308
Fax: 740-376-2536



CHAIN-OF-CUSTODY RECORD

Company Name: KEMRON		Project Contact: MARY LOU ROCHETTE		Contact Phone #: 740-373-4308	
Turn Around Requirements: 14-DAY		Location: RADPOD, VA			
Project ID: MRO 669-300-001		SWMU 40(RAPP)		LTM Q44	
Sampler (print): Scott Anderson		Signature: <i>[Signature]</i>			
Sample I.D. No.	Comp	Grab	Date	Time	Matrix*
40 MW76W92512	X	X	9-25-12	1113	W
40 EQR92512	X	X	9-25-12	1430	W
40 MW66W92512	X	X	9-25-12	1545	W
40 MW56W92512	X	X	9-25-12	1816	W
40 DUP6W92512	X	X	9-25-12	1816	W
40 MW5MS 6W	X	X	9-25-12	1900	W
92512					
40 MW5 MSD 6W	X	X	9-25-12	1900	W
92512					
40 FB92512	X	X	9-25-12		W
40 FB92512	X	X	9-26-12	0900	W
40 EQR92612	X	X	9-26-12	0945	W
4070					
2FM W01 6W92612	X	X	9-26-12	1054	W

Relinquished by: <i>[Signature]</i>	Date: 9-27-12	Time: 1700	Received by: <i>[Signature]</i>
Relinquished by: <i>[Signature]</i>	Date: 9-27-12	Time: 1700	Received for Laboratory by: <i>[Signature]</i>

Project ID: MRO 669-300-001	SWMU 40(RAPP)	LTM Q44
Turn Around Requirements: 14-DAY	Location: RADPOD, VA	
Project Contact: MARY LOU ROCHETTE	Contact Phone #: 740-373-4308	
Company Name: KEMRON		

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*
40 MW76W92512	X	X	9-25-12	1113	W
40 EQR92512	X	X	9-25-12	1430	W
40 MW66W92512	X	X	9-25-12	1545	W
40 MW56W92512	X	X	9-25-12	1816	W
40 DUP6W92512	X	X	9-25-12	1816	W
40 MW5MS 6W	X	X	9-25-12	1900	W
92512					
40 MW5 MSD 6W	X	X	9-25-12	1900	W
92512					
40 FB92512	X	X	9-25-12		W
40 FB92512	X	X	9-26-12	0900	W
40 EQR92612	X	X	9-26-12	0945	W
4070					
2FM W01 6W92612	X	X	9-26-12	1054	W

Relinquished by: <i>[Signature]</i>	Date: 9-27-12	Time: 1700	Received by: <i>[Signature]</i>
Relinquished by: <i>[Signature]</i>	Date: 9-27-12	Time: 1700	Received for Laboratory by: <i>[Signature]</i>

Project ID: MRO 669-300-001	SWMU 40(RAPP)	LTM Q44
Turn Around Requirements: 14-DAY	Location: RADPOD, VA	
Project Contact: MARY LOU ROCHETTE	Contact Phone #: 740-373-4308	
Company Name: KEMRON		

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*
40 MW76W92512	X	X	9-25-12	1113	W
40 EQR92512	X	X	9-25-12	1430	W
40 MW66W92512	X	X	9-25-12	1545	W
40 MW56W92512	X	X	9-25-12	1816	W
40 DUP6W92512	X	X	9-25-12	1816	W
40 MW5MS 6W	X	X	9-25-12	1900	W
92512					
40 MW5 MSD 6W	X	X	9-25-12	1900	W
92512					
40 FB92512	X	X	9-25-12		W
40 FB92512	X	X	9-26-12	0900	W
40 EQR92612	X	X	9-26-12	0945	W
4070					
2FM W01 6W92612	X	X	9-26-12	1054	W

Relinquished by: <i>[Signature]</i>	Date: 9-27-12	Time: 1700	Received by: <i>[Signature]</i>
Relinquished by: <i>[Signature]</i>	Date: 9-27-12	Time: 1700	Received for Laboratory by: <i>[Signature]</i>

Project ID: MRO 669-300-001	SWMU 40(RAPP)	LTM Q44
Turn Around Requirements: 14-DAY	Location: RADPOD, VA	
Project Contact: MARY LOU ROCHETTE	Contact Phone #: 740-373-4308	
Company Name: KEMRON		

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*
40 MW76W92512	X	X	9-25-12	1113	W
40 EQR92512	X	X	9-25-12	1430	W
40 MW66W92512	X	X	9-25-12	1545	W
40 MW56W92512	X	X	9-25-12	1816	W
40 DUP6W92512	X	X	9-25-12	1816	W
40 MW5MS 6W	X	X	9-25-12	1900	W
92512					
40 MW5 MSD 6W	X	X	9-25-12	1900	W
92512					
40 FB92512	X	X	9-25-12		W
40 FB92512	X	X			

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Page _____ of _____

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

There were no discrepancies.

Discrepancy	Resolution
-------------	------------

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #
0010989	G	1.0		
0017758	G	1.0		
0017109	G	5.0		
0014691	G	0.0		
0017706	G	0.0		
0016691	G	1.0		
0017801	G	1.0		
001-000395	G	1.0		
0014514	G	1.0		
0016375	G	4.0		

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
40MW7GW92512	L12090809-01	09/25/2012 11:13	09/27/2012 14:15
40MW7GW92512	L12090809-02	09/25/2012 11:13	09/27/2012 14:15
40EQR92512	L12090809-03	09/25/2012 14:30	09/27/2012 14:15
40MW6GW92512	L12090809-04	09/25/2012 15:45	09/27/2012 14:15
40MW6GW92512	L12090809-05	09/25/2012 15:45	09/27/2012 14:15
40MW5GW92512	L12090809-06	09/25/2012 18:16	09/27/2012 14:15
40MW5GW92512	L12090809-07	09/25/2012 18:16	09/27/2012 14:15
40DUPGW92512	L12090809-08	09/25/2012 18:16	09/27/2012 14:15
40DUPGW92512	L12090809-09	09/25/2012 18:16	09/27/2012 14:15
40MW5MSGW92512	L12090809-10	09/25/2012 18:16	09/27/2012 14:15
40MW5MSGW92512	L12090809-11	09/25/2012 18:16	09/27/2012 14:15
40MW5MSDGW92512	L12090809-12	09/25/2012 18:16	09/27/2012 14:15
40MW5MSDGW92512	L12090809-13	09/25/2012 18:16	09/27/2012 14:15
40TB92512	L12090809-14	09/25/2012 00:01	09/27/2012 14:15
40FB92612	L12090809-15	09/26/2012 09:00	09/27/2012 14:15
40EQR92612	L12090809-16	09/26/2012 09:45	09/27/2012 14:15
LFMW01GW92612	L12090809-17	09/26/2012 10:54	09/27/2012 14:15
LFMW01GW92612	L12090809-18	09/26/2012 10:54	09/27/2012 14:15



Login Number: L12090809
Department: Volatiles
Analyst: Anthony Canter

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260B

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analytes: Dichlorodifluoromethane, Chloromethane, 4-Methyl-2-Pentanone, Bromochloromethane, Bromodichloromethane, Dibromomethane. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-Chloropropane, Carbon Disulfide, Chloromethane, cis-1,3-Dichloropropene, Dichlorodifluoromethane, trans-1,2-Dichloroethene. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: Analytes were detected above the applicable reporting limit for the following analytes: Toluene-d8. Please see the applicable QC report for a detailed presentation of the failures.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: 1,2-Dibromo-3-Chloropropane, 1,2-Dichlorobenzene. Please see the applicable QC report for a detailed presentation of the failures.

Matrix Spikes: Recoveries out of range were observed for the following analytes: 2-Chloroethyl vinyl ether, 4-Chlorotoluene. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: Recoveries out of range were observed for the following analytes: Toluene-d8. Please see the applicable QC report for a detailed presentation of the failures.

Other: None.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish

coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 54015

Approved By: Michael Albertson



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12090809
Instrument Id: HPMS8
Workgroup (AAB#): WG410419

Method: 8260
CAL ID: HPMS8 - 02-OCT-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L12090809-01	1.00	01	106	90.8	115	97.1
L12090809-03	1.00	01	102	101	94.7	103
L12090809-04	1.00	01	113	111	95.9	96.8
L12090809-06	1.00	01	113	105	95.9	86.6
L12090809-10	1.00	01	93.6	91.7	80.5	93.6
L12090809-12	1.00	01	102	105	82.3	95.2
L12090809-14	1.00	01	103	88.4	95.0	102
L12090809-15	1.00	01	112	106	105	98.1
L12090809-16	1.00	01	116	106	96.2	104
L12090809-17	1.00	01	117	107	97.4	93.3
WG410419-01	1.00	01	109	104	95.8	122
WG410419-02	1.00	01	97.7	86.0	96.4	93.2

Surrogates	Surrogate Limits			
1 - 1,2-Dichloroethane-d4	70	-	120	76-114
2 - Dibromofluoromethane	85	-	115	
3 - 4-Bromofluorobenzene	75	-	120	86-115
4 - Toluene-d8	85	-	120	88-110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2610324
Report generated: 10/10/2012 13:57



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12090809
Instrument Id: HPMS6
Workgroup (AAB#): WG410853

Method: 8260
CAL ID: HPMS6 - 01-OCT-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L12090809-08	1.00	02	97.5	101	102	96.2
WG410853-01	1.00	01	95.7	98.9	102	96.6
WG410853-02	1.00	01	98.3	99.3	103	96.5

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2610324
Report generated: 10/10/2012 13:57



METHOD BLANK SUMMARY

Login Number: L12090809 Work Group: WG410853
Blank File ID: 6M111662 Blank Sample ID: WG410853-01
Prep Date: 10/08/12 15:56 Instrument ID: HPMS6
Analyzed Date: 10/08/12 15:56 Method: 8260B
Analyst: ADC

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG410853-02	6M111663	10/08/12 16:27	01
40DUPGW92512	L12090809-08	6M111668	10/08/12 19:01	02

Report Name: BLANK_SUMMARY
PDF File ID: 2615318
Report generated 10/10/2012 13:57



METHOD BLANK SUMMARY

Login Number: <u>L12090809</u>	Work Group: <u>WG410419</u>
Blank File ID: <u>8M382334</u>	Blank Sample ID: <u>WG410419-01</u>
Prep Date: <u>10/03/12 12:21</u>	Instrument ID: <u>HPMS8</u>
Analyzed Date: <u>10/03/12 12:21</u>	Method: <u>8260B</u>
Analyst: <u>ADC</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG410419-02	8M382335	10/03/12 12:52	01
40MW5MSGW92512	L12090809-10	8M382336	10/03/12 13:22	01
40MW5MSDGW92512	L12090809-12	8M382337	10/03/12 13:53	01
40TB92512	L12090809-14	8M382341	10/03/12 15:55	01
40MW7GW92512	L12090809-01	8M382347	10/03/12 18:59	01
40EQR92512	L12090809-03	8M382348	10/03/12 19:29	01
40MW6GW92512	L12090809-04	8M382349	10/03/12 20:00	01
40MW5GW92512	L12090809-06	8M382350	10/03/12 20:31	01
40FB92612	L12090809-15	8M382352	10/03/12 21:31	01
40EQR92612	L12090809-16	8M382353	10/03/12 22:02	01
LFMW01GW92612	L12090809-17	8M382354	10/03/12 22:33	01

Report Name: BLANK_SUMMARY
PDF File ID: 2615318
Report generated 10/10/2012 13:57



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/08/12 15:56 Sample ID: WG410853-01
 Instrument ID: HPMS6 Run Date: 10/08/12 15:56 Prep Method: 5030B/5030C/503
 File ID: 6M111662 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG410853 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS6 - 01-OCT-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 2615319

10-OCT-2012 13:57



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/08/12 15:56 Sample ID: WG410853-01
 Instrument ID: HPMS6 Run Date: 10/08/12 15:56 Prep Method: 5030B/5030C/503
 File ID: 6M111662 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG410853 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS6 - 01-OCT-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Naphthalene	0.200	1.00	0.200	1	U
o-Xylene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	95.7	70 - 120	PASS
4-Bromofluorobenzene	102	75 - 120	PASS
Dibromofluoromethane	98.9	85 - 115	PASS
Toluene-d8	96.6	85 - 120	PASS

LOD Method Detection Limit
 LOQ Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2615319

10-OCT-2012 13:57



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/03/12 12:21 Sample ID: WG410419-01
 Instrument ID: HPMS8 Run Date: 10/03/12 12:21 Prep Method: 5030B/5030C/503
 File ID: 8M382334 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG410419 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS8 - 02-OCT-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 2615319

10-OCT-2012 13:57



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/03/12 12:21 Sample ID: WG410419-01
 Instrument ID: HPMS8 Run Date: 10/03/12 12:21 Prep Method: 5030B/5030C/503
 File ID: 8M382334 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG410419 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS8 - 02-OCT-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U
Methylene chloride	0.250	5.00	0.250	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Naphthalene	0.200	1.00	0.200	1	U
o-Xylene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	109	70 - 120	PASS
4-Bromofluorobenzene	95.8	75 - 120	PASS
Dibromofluoromethane	104	85 - 115	PASS
Toluene-d8	122	85 - 120	FAIL

LOD Method Detection Limit
 LOQ Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2615319

10-OCT-2012 13:57



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L12090809</u>	Run Date: <u>10/08/2012</u>	Sample ID: <u>WG410853-02</u>
Instrument ID: <u>HPMS6</u>	Run Time: <u>16:27</u>	Prep Method: <u>5030B/5030C/503</u>
File ID: <u>6M111663</u>	Analyst: <u>ADC</u>	Method: <u>8260B</u>
Workgroup (AAB#): <u>WG410853</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
QC Key: <u>DOD4</u>	Lot#: <u>STD54135</u>	Cal ID: <u>HPMS6 - 01-OCT-12</u>

Analytes	Expected	Found	% Rec	LCS Limits	Q
1,1,1,2-Tetrachloroethane	20.0	19.9	99.7	80 - 130	
1,1,1-Trichloroethane	20.0	19.8	98.9	65 - 130	
1,1,2,2-Tetrachloroethane	20.0	22.3	112	65 - 130	
1,1,2-Trichloroethane	20.0	21.5	108	75 - 125	
1,1-Dichloroethane	20.0	22.1	110	70 - 135	
1,1-Dichloroethene	20.0	21.0	105	70 - 130	61-145
1,1-Dichloropropene	20.0	20.0	100	75 - 130	
1,2,3-Trichlorobenzene	20.0	20.6	103	55 - 140	
1,2,3-Trichloropropane	20.0	22.1	110	75 - 125	
1,2,4-Trichlorobenzene	20.0	20.8	104	65 - 135	
1,2,4-Trimethylbenzene	20.0	21.4	107	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	19.6	98.1	50 - 130	
1,2-Dibromoethane	20.0	19.2	96.1	80 - 120	
1,2-Dichlorobenzene	20.0	21.5	107	70 - 120	
1,2-Dichloroethane	20.0	21.6	108	70 - 130	
1,2-Dichloropropane	20.0	22.4	112	75 - 125	
1,3,5-Trimethylbenzene	20.0	21.1	106	75 - 130	
1,3-Dichlorobenzene	20.0	21.4	107	75 - 125	
1,3-Dichloropropane	20.0	21.4	107	75 - 125	
1,4-Dichlorobenzene	20.0	21.6	108	75 - 125	
2,2-Dichloropropane	20.0	19.7	98.5	70 - 135	
2-Butanone	20.0	23.6	118	30 - 150	
2-Chloroethyl vinyl ether	20.0	19.1	95.6	45 - 160	
2-Chlorotoluene	20.0	21.9	110	75 - 125	
2-Hexanone	20.0	20.4	102	55 - 130	
4-Chlorotoluene	20.0	20.7	103	75 - 130	
4-Methyl-2-pentanone	20.0	20.2	101	60 - 135	
Acetone	20.0	25.3	126	40 - 140	
Benzene	20.0	21.0	105	80 - 120	76-127
Bromobenzene	20.0	22.3	112	75 - 125	
Bromochloromethane	20.0	21.8	109	65 - 130	
Bromodichloromethane	20.0	21.2	106	75 - 120	
Bromoform	20.0	19.1	95.5	70 - 130	
Bromomethane	20.0	13.2	66.2	30 - 145	
Carbon disulfide	20.0	19.2	96.1	35 - 160	
Carbon tetrachloride	20.0	19.8	99.2	65 - 140	
Chlorobenzene	20.0	20.2	101	80 - 120	75-130
Chlorodibromomethane	20.0	19.6	98.2	60 - 135	
Chloroethane	20.0	23.8	119	60 - 135	
Chloroform	20.0	21.4	107	65 - 135	
Chloromethane	20.0	17.5	87.3	40 - 125	

LCS - Modified 03/06/2008
PDF File ID: 2610319
Report generated: 10/10/2012 13:57



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12090809 Run Date: 10/08/2012 Sample ID: WG410853-02
Instrument ID: HPMS6 Run Time: 16:27 Prep Method: 5030B/5030C/503
File ID: 6M111663 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG410853 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD54135 Cal ID: HPMS6 - 01-OCT-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
cis-1,2-Dichloroethene	20.0	22.2	111	70 - 125	
cis-1,3-Dichloropropene	20.0	20.6	103	70 - 130	
Dibromomethane	20.0	20.7	103	75 - 125	
Dichlorodifluoromethane	20.0	22.4	112	30 - 155	
Ethylbenzene	20.0	19.9	99.7	75 - 125	
Hexachlorobutadiene	20.0	19.2	95.9	50 - 140	
Isopropylbenzene	20.0	17.8	89.1	75 - 125	
m-,p-Xylene	40.0	40.8	102	75 - 130	
Methylene chloride	20.0	22.5	113	55 - 140	
n-Butylbenzene	20.0	21.5	107	70 - 135	
n-Propylbenzene	20.0	22.2	111	70 - 130	
Naphthalene	20.0	20.5	103	55 - 140	
o-Xylene	20.0	20.1	100	80 - 120	
p-Isopropyltoluene	20.0	20.9	105	75 - 130	
sec-Butylbenzene	20.0	21.0	105	70 - 125	
Styrene	20.0	21.2	106	65 - 135	
tert-Butylbenzene	20.0	22.4	112	70 - 130	
Tetrachloroethene	20.0	19.3	96.7	45 - 150	
Toluene	20.0	20.0	99.8	75 - 120	76-125
trans-1,2-Dichloroethene	20.0	21.3	106	60 - 140	
trans-1,3-Dichloropropene	20.0	17.3	86.5	55 - 140	
Trichloroethene	20.0	20.7	104	70 - 125	71-120
Trichlorofluoromethane	20.0	21.1	106	60 - 145	
Vinyl acetate	20.0	22.8	114	10 - 190	
Vinyl chloride	20.0	18.2	90.8	50 - 145	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	98.3	70 - 120	PASS
4-Bromofluorobenzene	103	75 - 120	PASS
Dibromofluoromethane	99.3	85 - 115	PASS
Toluene-d8	96.5	85 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2610319
Report generated: 10/10/2012 13:57



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L12090809</u>	Run Date: <u>10/03/2012</u>	Sample ID: <u>WG410419-02</u>
Instrument ID: <u>HPMS8</u>	Run Time: <u>12:52</u>	Prep Method: <u>5030B/5030C/503</u>
File ID: <u>8M382335</u>	Analyst: <u>ADC</u>	Method: <u>8260B</u>
Workgroup (AAB#): <u>WG410419</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
QC Key: <u>DOD4</u>	Lot#: <u>STD54088</u>	Cal ID: <u>HPMS8 - 02-OCT-12</u>

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,1,1,2-Tetrachloroethane	20.0	20.9	105	80	-	130	
1,1,1-Trichloroethane	20.0	18.7	93.6	65	-	130	
1,1,2,2-Tetrachloroethane	20.0	20.6	103	65	-	130	
1,1,2-Trichloroethane	20.0	19.9	99.6	75	-	125	
1,1-Dichloroethane	20.0	17.8	89.1	70	-	135	
1,1-Dichloroethene	20.0	20.4	102	70	-	130	61-145
1,1-Dichloropropene	20.0	17.2	85.8	75	-	130	
1,2,3-Trichlorobenzene	20.0	26.3	132	55	-	140	
1,2,3-Trichloropropane	20.0	22.5	113	75	-	125	
1,2,4-Trichlorobenzene	20.0	26.0	130	65	-	135	
1,2,4-Trimethylbenzene	20.0	21.4	107	75	-	130	
1,2-Dibromo-3-chloropropane	20.0	26.5	132	50	-	130	*
1,2-Dibromoethane	20.0	20.1	100	80	-	120	
1,2-Dichlorobenzene	20.0	25.2	126	70	-	120	*
1,2-Dichloroethane	20.0	19.6	97.8	70	-	130	
1,2-Dichloropropane	20.0	20.4	102	75	-	125	
1,3,5-Trimethylbenzene	20.0	22.4	112	75	-	130	
1,3-Dichlorobenzene	20.0	21.3	106	75	-	125	
1,3-Dichloropropane	20.0	19.5	97.7	75	-	125	
1,4-Dichlorobenzene	20.0	21.7	108	75	-	125	
2,2-Dichloropropane	20.0	18.7	93.3	70	-	135	
2-Butanone	20.0	17.5	87.6	30	-	150	
2-Chloroethyl vinyl ether	20.0	17.6	88.1	45	-	160	
2-Chlorotoluene	20.0	21.5	107	75	-	125	
2-Hexanone	20.0	17.8	88.8	55	-	130	
4-Chlorotoluene	20.0	20.4	102	75	-	130	
4-Methyl-2-pentanone	20.0	16.9	84.3	60	-	135	
Acetone	20.0	22.6	113	40	-	140	
Benzene	20.0	18.9	94.7	80	-	120	76-127
Bromobenzene	20.0	21.3	107	75	-	125	
Bromochloromethane	20.0	17.9	89.7	65	-	130	
Bromodichloromethane	20.0	21.9	110	75	-	120	
Bromoform	20.0	20.3	102	70	-	130	
Bromomethane	20.0	20.5	102	30	-	145	
Carbon disulfide	20.0	16.6	83.1	35	-	160	
Carbon tetrachloride	20.0	19.1	95.6	65	-	140	
Chlorobenzene	20.0	20.9	105	80	-	120	75-130
Chlorodibromomethane	20.0	20.9	104	60	-	135	
Chloroethane	20.0	23.3	116	60	-	135	
Chloroform	20.0	18.2	91.1	65	-	135	
Chloromethane	20.0	23.0	115	40	-	125	

LCS - Modified 03/06/2008
PDF File ID: 2610319
Report generated: 10/10/2012 13:57



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410419-02
Instrument ID: HPMS8 Run Time: 12:52 Prep Method: 5030B/5030C/503
File ID: 8M382335 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG410419 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD54088 Cal ID: HPMS8 - 02-OCT-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
cis-1,2-Dichloroethene	20.0	19.1	95.4	70 - 125	
cis-1,3-Dichloropropene	20.0	17.7	88.5	70 - 130	
Dibromomethane	20.0	21.3	107	75 - 125	
Dichlorodifluoromethane	20.0	26.3	131	30 - 155	
Ethylbenzene	20.0	21.3	106	75 - 125	
Hexachlorobutadiene	20.0	24.2	121	50 - 140	
Isopropylbenzene	20.0	18.9	94.4	75 - 125	
m-,p-Xylene	40.0	42.7	107	75 - 130	
Methylene chloride	20.0	17.5	87.6	55 - 140	
n-Butylbenzene	20.0	24.8	124	70 - 135	
n-Propylbenzene	20.0	22.1	110	70 - 130	
Naphthalene	20.0	26.4	132	55 - 140	
o-Xylene	20.0	20.7	103	80 - 120	
p-Isopropyltoluene	20.0	21.9	110	75 - 130	
sec-Butylbenzene	20.0	21.6	108	70 - 125	
Styrene	20.0	21.0	105	65 - 135	
tert-Butylbenzene	20.0	20.8	104	70 - 130	
Tetrachloroethene	20.0	19.3	96.4	45 - 150	
Toluene	20.0	19.0	95.2	75 - 120	76-125
trans-1,2-Dichloroethene	20.0	17.7	88.4	60 - 140	
trans-1,3-Dichloropropene	20.0	17.3	86.6	55 - 140	
Trichloroethene	20.0	19.8	99.1	70 - 125	71-120
Trichlorofluoromethane	20.0	21.3	107	60 - 145	
Vinyl acetate	20.0	18.6	93.1	10 - 190	
Vinyl chloride	20.0	19.7	98.7	50 - 145	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	97.7	70 - 120	PASS
4-Bromofluorobenzene	96.4	75 - 120	PASS
Dibromofluoromethane	86.0	85 - 115	PASS
Toluene-d8	93.2	85 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2610319
Report generated: 10/10/2012 13:57



MS/MSD REPORT

Loginnum: L12090809

Cal ID: HPMS8- 02-OCT-12

Worknum: WG410419

Instrument ID: HPMS8

Contract #:

Prep Method: 5030B/5030C/

Parent ID: L12090809-06

File ID: 8M382350

Dil: 1

Method: 5035A

Sample ID: L12090809-10 MS

File ID: 8M382336

Dil: 1

Matrix: 8260B

Sample ID: L12090809-12 MSD

File ID: 8M382337

Dil: 1

Units: Water

ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1,2-Tetrachloroethane	U	20.0	20.6	103	20.0	20.6	103	0.0325	80 - 130	30	
1,1,1-Trichloroethane	U	20.0	19.5	97.7	20.0	19.9	99.6	1.87	65 - 130	30	
1,1,2,2-Tetrachloroethane	U	20.0	17.4	86.9	20.0	16.3	81.7	6.26	65 - 130	30	
1,1,2-Trichloroethane	U	20.0	19.5	97.3	20.0	19.1	95.6	1.76	75 - 125	30	
1,1-Dichloroethane	U	20.0	18.5	92.6	20.0	17.8	89.2	3.72	70 - 135	30	
1,1-Dichloroethene	U	20.0	17.9	89.5	20.0	16.7	83.4	7.09	70 - 130	30	61-145, 14
1,1-Dichloropropene	U	20.0	17.6	88.2	20.0	19.1	95.5	7.90	75 - 130	30	
1,2,3-Trichlorobenzene	U	20.0	21.9	109	20.0	16.9	84.6	25.5	55 - 140	30	
1,2,3-Trichloropropane	U	20.0	17.8	88.9	20.0	19.9	99.4	11.2	75 - 125	30	
1,2,4-Trichlorobenzene	U	20.0	21.5	108	20.0	16.4	82	27.1	65 - 135	30	
1,2,4-Trimethylbenzene	U	20.0	19.7	98.7	20.0	19.4	97.1	1.55	75 - 130	30	
1,2-Dibromo-3-chloropropane	U	20.0	21.3	106	20.0	17.5	87.5	19.6	50 - 130	30	
1,2-Dibromoethane	U	20.0	19.9	99.7	20.0	19.7	98.6	1.10	80 - 120	30	
1,2-Dichlorobenzene	U	20.0	20.1	100	20.0	20.6	103	2.78	70 - 120	30	
1,2-Dichloroethane	U	20.0	18.8	94.2	20.0	20.2	101	7.03	70 - 130	30	
1,2-Dichloropropane	U	20.0	20.8	104	20.0	17.9	89.7	15.0	75 - 125	30	
1,3,5-Trimethylbenzene	U	20.0	17.5	87.3	20.0	18.3	91.6	4.80	75 - 130	30	
1,3-Dichlorobenzene	U	20.0	20.3	102	20.0	20.0	99.8	1.83	75 - 125	30	
1,3-Dichloropropane	U	20.0	19.2	95.9	20.0	19.3	96.7	0.748	75 - 125	30	
1,4-Dichlorobenzene	U	20.0	20.3	102	20.0	20.2	101	0.580	75 - 125	30	
2,2-Dichloropropane	U	20.0	20.8	104	20.0	20.2	101	2.84	70 - 135	30	
2-Butanone	U	20.0	18.3	91.5	20.0	22.1	111	19.0	30 - 150	30	
2-Chloroethyl vinyl ether	U	20.0	0	0	20.0	0	0	NA	58 - 160	20	**
2-Chlorotoluene	U	20.0	19.6	97.8	20.0	17.9	89.4	8.98	75 - 125	30	
2-Hexanone	U	20.0	17.5	87.6	20.0	18.7	93.3	6.35	55 - 130	30	
4-Chlorotoluene	U	20.0	14.7	73.6	20.0	18.4	92.2	22.5	75 - 130	30	*
4-Methyl-2-pentanone	U	20.0	17.4	86.9	20.0	17.0	85	2.22	60 - 135	30	
Acetone	U	20.0	19.0	95	20.0	18.2	91	4.35	40 - 140	30	
Benzene	U	20.0	17.8	89.2	20.0	19.9	99.4	10.8	80 - 120	30	76-127, 11
Bromobenzene	U	20.0	17.1	85.4	20.0	18.5	92.4	7.81	75 - 125	30	
Bromochloromethane	U	20.0	18.4	91.9	20.0	22.3	111	19.2	65 - 130	30	
Bromodichloromethane	U	20.0	21.9	110	20.0	18.7	93.6	15.7	75 - 120	30	
Bromoform	U	20.0	19.9	99.4	20.0	19.9	99.6	0.271	70 - 130	30	
Bromomethane	U	20.0	17.1	85.3	20.0	15.7	78.4	8.42	30 - 145	30	
Carbon disulfide	U	20.0	17.6	88	20.0	20.0	99.8	12.6	35 - 160	30	
Carbon tetrachloride	U	20.0	19.5	97.7	20.0	19.8	99	1.35	65 - 140	30	
Chlorobenzene	U	20.0	20.4	102	20.0	20.0	100	1.75	80 - 120	30	75-130, 13
Chlorodibromomethane	U	20.0	20.2	101	20.0	20.1	100	0.368	60 - 135	30	
Chloroethane	U	20.0	17.2	86	20.0	16.0	80.1	7.16	60 - 135	30	
Chloroform	3.48	20.0	21.5	90.3	20.0	25.1	108	15.0	65 - 135	30	
Chloromethane	U	20.0	22.7	114	20.0	21.1	105	7.39	40 - 125	30	

MS_MSD - Modified 03/06/2008

PDF File ID: 2610320

Report generated 10/10/2012 13:57



MS/MSD REPORT

Loginnum: L12090809 Cal ID: HPMS8 02-OCT-12
 Instrument ID: HPMS8 Contract #: _____
 Parent ID: L12090809-06 File ID: 8M382350 Dil: 1
 Sample ID: L12090809-10 MS File ID: 8M382336 Dil: 1
 Sample ID: L12090809-12 MSD File ID: 8M382337 Dil: 1

Worknum: WG410419
 Prep Method: 5030B/5030C/
 Method: 5035A
 Matrix: 8260B
 Units: Water
ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
cis-1,2-Dichloroethene	U	20.0	19.6	97.9	20.0	21.3	107	8.50	70 - 125	30	
cis-1,3-Dichloropropene	U	20.0	18.2	91.1	20.0	17.7	88.3	3.21	70 - 130	30	
Dibromomethane	U	20.0	20.0	100	20.0	18.2	91.2	9.32	75 - 125	30	
Dichlorodifluoromethane	U	20.0	26.5	133	20.0	24.4	122	8.42	30 - 155	30	
Ethylbenzene	U	20.0	20.5	102	20.0	20.2	101	1.23	75 - 125	30	
Hexachlorobutadiene	U	20.0	20.1	100	20.0	15.5	77.4	25.7	50 - 140	30	
Isopropylbenzene	U	20.0	18.4	92.1	20.0	18.1	90.3	2.02	75 - 125	30	
m-,p-Xylene	U	40.0	41.3	103	40.0	40.5	101	1.89	75 - 130	30	
Methylene chloride	U	20.0	18.0	89.9	20.0	20.4	102	12.4	55 - 140	30	
n-Butylbenzene	U	20.0	21.4	107	20.0	19.6	97.8	8.75	70 - 135	30	
n-Propylbenzene	U	20.0	18.5	92.5	20.0	19.5	97.3	5.15	70 - 130	30	
Naphthalene	U	20.0	21.9	110	20.0	16.2	81.1	30.0	55 - 140	30	
o-Xylene	U	20.0	19.8	99.1	20.0	19.8	98.8	0.339	80 - 120	30	
p-Isopropyltoluene	U	20.0	19.6	98	20.0	19.5	97.6	0.332	75 - 130	30	
sec-Butylbenzene	U	20.0	20.2	101	20.0	19.5	97.5	3.38	70 - 125	30	
Styrene	U	20.0	21.0	105	20.0	20.2	101	4.26	65 - 135	30	
tert-Butylbenzene	U	20.0	20.0	99.8	20.0	18.9	94.3	5.71	70 - 130	30	
Tetrachloroethene	U	20.0	18.9	94.3	20.0	18.6	92.9	1.47	45 - 150	30	
Toluene	U	20.0	18.5	92.7	20.0	18.2	91.1	1.68	75 - 120	30	76-125, 13
trans-1,2-Dichloroethene	U	20.0	18.1	90.4	20.0	17.1	85.6	5.48	60 - 140	30	
trans-1,3-Dichloropropene	U	20.0	17.5	87.3	20.0	17.4	87	0.346	55 - 140	30	
Trichloroethene	U	20.0	20.8	104	20.0	20.0	100	3.79	70 - 125	30	71-120, 14
Trichlorofluoromethane	U	20.0	18.7	93.6	20.0	17.8	88.8	5.25	60 - 145	30	
Vinyl acetate	U	20.0	20.2	101	20.0	19.1	95.3	5.79	10 - 190	20	
Vinyl chloride	U	20.0	20.0	99.9	20.0	18.2	90.9	9.40	50 - 145	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12090809 Tune ID: WG387846-01
Instrument: HPMS6 Run Date: 01/25/2012
Analyst: ADC Run Time: 08:08
Workgroup: WG387846 File ID: 6M105367
Cal ID: HPMS6-29-NOV-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.4	3936	PASS
75.0	95.0	30.0	60.0	46.9	9059	PASS
95.0	95.0	100	100	100	19320	PASS
96.0	95.0	5.00	9.00	6.53	1262	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	91.6	17704	PASS
175	174	5.00	9.00	6.91	1223	PASS
176	174	95.0	101	96.1	17017	PASS
177	176	5.00	9.00	5.94	1011	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG388587-01	STD	01	01/25/2012 10:12	
WG388587-02	STD	01	01/25/2012 10:45	
WG388587-03	STD	01	01/25/2012 11:17	
WG388587-04	STD-CCV	01	01/25/2012 11:49	
WG388587-05	STD	01	01/25/2012 12:22	
WG388587-06	STD	01	01/25/2012 12:55	
WG388587-07	STD	01	01/25/2012 13:27	
WG388587-08	SSCV	01	01/25/2012 14:00	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2615320
Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12090809 Tune ID: WG410211-01
Instrument: HPMS6 Run Date: 10/01/2012
Analyst: ADC Run Time: 13:37
Workgroup: WG410211 File ID: 6M111451
Cal ID: HPMS6-01-OCT-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	15.5	4274	PASS
75.0	95.0	30.0	60.0	45.3	12486	PASS
95.0	95.0	100	100	100	27572	PASS
96.0	95.0	5.00	9.00	6.56	1810	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	92.1	25397	PASS
175	174	5.00	9.00	7.10	1803	PASS
176	174	95.0	101	97.3	24720	PASS
177	176	5.00	9.00	6.89	1702	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG410211-02	STD	01	10/01/2012 14:50	
WG410211-03	STD	01	10/01/2012 15:20	
WG410211-04	STD	01	10/01/2012 15:51	
WG410211-05	STD	01	10/01/2012 16:22	
WG410211-06	STD	01	10/01/2012 16:53	
WG410211-07	STD	01	10/01/2012 17:24	
WG410211-08	STD-CCV	01	10/01/2012 17:55	
WG410211-09	STD	01	10/01/2012 18:26	
WG410211-10	STD	01	10/01/2012 20:23	
WG410211-11	STD	01	10/01/2012 20:54	
WG410211-12	SSCV	01	10/01/2012 21:56	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2615320
Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12090809 Tune ID: WG410852-01
Instrument: HPMS6 Run Date: 10/08/2012
Analyst: ADC Run Time: 14:29
Workgroup: WG410852 File ID: 6M111659
Cal ID: HPMS6-01-OCT-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	18.5	4692	PASS
75.0	95.0	30.0	60.0	44.9	11380	PASS
95.0	95.0	100	100	100	25329	PASS
96.0	95.0	5.00	9.00	7.32	1855	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	83.2	21069	PASS
175	174	5.00	9.00	7.52	1585	PASS
176	174	95.0	101	95.3	20075	PASS
177	176	5.00	9.00	6.45	1294	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG410852-02	CCV	01	10/08/2012 14:54	
WG410853-01	BLANK	01	10/08/2012 15:56	
WG410853-02	LCS	01	10/08/2012 16:27	
L12090809-08	40DUPGW92512	02	10/08/2012 19:01	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2615320
Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12090809 Tune ID: WG387844-01
Instrument: HPMS8 Run Date: 01/25/2012
Analyst: ADC Run Time: 10:52
Workgroup: WG387844 File ID: 8M376554
Cal ID: HPMS8-12-DEC-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.8	8808	PASS
75.0	95.0	30.0	60.0	45.0	19993	PASS
95.0	95.0	100	100	100	44392	PASS
96.0	95.0	5.00	9.00	6.71	2979	PASS
173	174	0	2.00	0.970	324	PASS
174	95.0	50.0	100	75.3	33405	PASS
175	174	5.00	9.00	7.47	2495	PASS
176	174	95.0	101	97.5	32579	PASS
177	176	5.00	9.00	6.44	2099	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG387881-01	STD	01	01/25/2012 12:43	
WG387881-02	STD	01	01/25/2012 13:28	
WG387881-03	STD	01	01/25/2012 13:58	
WG387881-04	STD-CCV	01	01/25/2012 14:29	
WG387881-05	STD	01	01/25/2012 14:59	
WG387881-06	STD	01	01/25/2012 15:29	
WG387881-07	STD	01	01/25/2012 15:59	
WG387881-08	SSCV	01	01/25/2012 16:29	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2615320
Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12090809 Tune ID: WG410335-01
Instrument: HPMS8 Run Date: 10/02/2012
Analyst: ADC Run Time: 11:59
Workgroup: WG410335 File ID: 8M382315
Cal ID: HPMS8-02-OCT-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	26.3	12566	PASS
75.0	95.0	30.0	60.0	48.0	22909	PASS
95.0	95.0	100	100	100	47706	PASS
96.0	95.0	5.00	9.00	6.86	3273	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	73.1	34850	PASS
175	174	5.00	9.00	8.42	2936	PASS
176	174	95.0	101	98.7	34413	PASS
177	176	5.00	9.00	7.39	2544	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG410335-02	STD	01	10/02/2012 12:52	
WG410335-03	STD	01	10/02/2012 13:23	
WG410335-04	STD	01	10/02/2012 13:53	
WG410335-05	STD	01	10/02/2012 14:24	
WG410335-06	STD	01	10/02/2012 14:54	
WG410335-07	STD	01	10/02/2012 15:33	
WG410335-08	STD-CCV	01	10/02/2012 16:03	
WG410335-09	STD	01	10/02/2012 16:34	
WG410335-10	STD	01	10/02/2012 17:04	
WG410335-11	STD	01	10/02/2012 17:34	
WG410335-12	SSCV	01	10/02/2012 18:35	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2615320
Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12090809 Tune ID: WG410416-01
Instrument: HPMS8 Run Date: 10/03/2012
Analyst: ADC Run Time: 10:55
Workgroup: WG410416 File ID: 8M382331
Cal ID: HPMS8-02-OCT-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	25.4	9868	PASS
75.0	95.0	30.0	60.0	48.8	18971	PASS
95.0	95.0	100	100	100	38866	PASS
96.0	95.0	5.00	9.00	6.63	2575	PASS
173	174	0	2.00	0.381	110	PASS
174	95.0	50.0	100	74.4	28904	PASS
175	174	5.00	9.00	8.52	2462	PASS
176	174	95.0	101	100	29048	PASS
177	176	5.00	9.00	7.31	2124	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG410416-02	CCV	01	10/03/2012 11:20	
WG410419-01	BLANK	01	10/03/2012 12:21	
WG410419-02	LCS	01	10/03/2012 12:52	
L12090809-10	40MW5MSGW92512	01	10/03/2012 13:22	
L12090809-12	40MW5MSDGW92512	01	10/03/2012 13:53	
L12090809-14	40TB92512	01	10/03/2012 15:55	
L12090809-01	40MW7GW92512	01	10/03/2012 18:59	
L12090809-03	40EQR92512	01	10/03/2012 19:29	
L12090809-04	40MW6GW92512	01	10/03/2012 20:00	
L12090809-06	40MW5GW92512	01	10/03/2012 20:31	
L12090809-15	40FB92612	01	10/03/2012 21:31	
L12090809-16	40EQR92612	01	10/03/2012 22:02	
L12090809-17	LFMW01GW92612	01	10/03/2012 22:33	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2615320
Report generated 10/10/2012 13:57



Calibration Table Report
Method: A9FOOWTR.M
Title: A9-FOO Water - IC: 01/25/12 - HPMS6
Last Calibration: Thu Feb 02 09:44:46 2012
Curve: WG388587
Calibration Files

Compound	5	20	50	100	200	300	400	R ²		
	6M105371.D	6M105372.D	6M105373.D	6M105374.D	6M105375.D	6M105376.D	6M105377.D	Avg	%RSD	LINEAR
Fluorobenzene	ISTD									
Acetonitrile	0.018	0.021	0.024	0.024	0.024	0.025	0.025	0.023	11.902	
3-Chloro-1-propene	0.472	0.497	0.558	0.566	0.573	0.567	0.568	0.543	7.526	
2-Chloro-1,3-butadiene	0.409	0.461	0.530	0.541	0.554	0.549	0.549	0.513	10.953	
Ethyl Acetate	0.123	0.135	0.147	0.153	0.159	0.163	0.167	0.150	10.598	
Methacrylonitrile	0.050	0.054	0.064	0.065	0.068	0.070	0.070	0.063	12.553	
Isobutyl Alcohol		0.006	0.006	0.007	0.007	0.007	0.007	0.007	7.775	
1-Butanol			0.002	0.001	0.002	0.002	0.002	0.002	30.823	FAIL
Methyl methacrylate	0.107	0.132	0.158	0.168	0.176	0.183	0.184	0.158	18.144	1.000
2-Nitropropane	0.030	0.037	0.043	0.047	0.050	0.053	0.055	0.045	19.886	0.999
Chlorobenzene-d5	ISTD									
1,4-Dichlorobenzene-d4	ISTD									
Cyclohexanone		0.017	0.023	0.025	0.029	0.032	0.032	0.026	22.204	0.998

Thu Feb 02 09:47:01 2012



Calibration Table Report
 Method: 8260WT.M
 Title: 8260B/624_WATER SOP:OVLMSV01 10/01/12 - HPMS6
 Last Calibration: Tue Oct 02 12:34:38 2012
 Curve: ~~W0109887~~ *W010211*
 Calibration Files

Compound	0.3 0.4 1 2 5 20 50 100 200 300											Avg	1/RSD	R ²	
	SM11453.D	SM11454.D	SM11455.D	SM11456.D	SM11457.D	SM11458.D	SM11459.D	SM11460.D	SM11461.D	SM11462.D				Linear	Quadratic
Fluorobenzene															
Dichlorodifluoromethane X															
Chloromethane X	0.208	0.145	0.140	0.154	0.161	0.160	0.162	0.161	0.173	0.163	11.186				
Vinyl Chloride X	0.150	0.156	0.165	0.166	0.179	0.176	0.174	0.166	0.158	0.165	5.861				
1,3-Butadiene			0.136	0.122	0.124	0.114	0.111	0.105	0.096	0.116	11.447				
Bromomethane X	0.094	0.124	0.111	0.115	0.135	0.149	0.158	0.161	0.165	0.135	18.702			1.000	
Chloroethane X	0.101	0.145	0.156	0.170	0.178	0.173	0.170	0.159	0.158	0.157	14.780				
Trichlorofluoromethane X	0.305	0.356	0.370	0.381	0.414	0.392	0.402	0.388	0.397	0.378	8.620				
Diethyl ether		0.149	0.147	0.150	0.144	0.142	0.142			0.134	0.144	3.850			
Isoprene	0.264	0.295	0.312	0.330	0.338	0.349	0.349	0.341	0.334	0.323	8.815				
Acrolein			0.008	0.009	0.009	0.009	0.009			0.009	4.658				
1,1,2-Trichloro-1,2,2-Trifluoroethane X	0.111	0.197	0.207	0.226	0.234	0.223	0.231	0.219	0.224	0.208	18.489			0.999	
Acetone X				0.024	0.023	0.023	0.024	0.026	0.025	0.024	4.780				
1,1-Dichloroethene X	0.323	0.349	0.348	0.357	0.382	0.362	0.366	0.361	0.364	0.357	4.547				
Tert-Butyl Alcohol			0.008	0.008	0.007	0.007	0.007			0.007	3.942				
Dimethyl Sulfide	0.136	0.199	0.213	0.212	0.213	0.217	0.215	0.208	0.211	0.203	12.635				
Iodomethane		0.051	0.090	0.136	0.213	0.244	0.259	0.248	0.232	0.184	43.582			0.997	
Methyl acetate		0.065	0.067	0.079	0.072	0.070	0.070	0.073	0.075	0.071	6.037				
Methylene Chloride X	0.193	0.222	0.228	0.239	0.240	0.233	0.227	0.215	0.215	0.223	6.551				
Carbon Disulfide X	0.642	0.674	0.697	0.710	0.714	0.740	0.746	0.709	0.706	0.704	4.493				
Acrylonitrile				0.045	0.049	0.049	0.049	0.049	0.048	0.048	3.331				
Methyl Tert Butyl Ether	0.359	0.406	0.393	0.405	0.410	0.416	0.418	0.411	0.412	0.403	4.499				
trans-1,2-Dichloroethene X	0.196	0.228	0.223	0.235	0.249	0.238	0.246	0.240	0.239	0.233	6.931				
n-Hexane	0.214	0.246	0.274	0.280	0.280	0.288	0.276	0.253	0.260	0.263	8.835				
Diisopropyl ether		0.713	0.704	0.731	0.697	0.699	0.672		0.634	0.693	4.553				
Vinyl Acetate X				0.255	0.266	0.262	0.259	0.225	0.215	0.247	8.737				
1,1-Dichloroethane X	0.376	0.436	0.445	0.444	0.462	0.440	0.446	0.431	0.424	0.434	5.551				
Ethyl-Tert-Butyl ether		0.646	0.639	0.657	0.630	0.645	0.629		0.614	0.637	2.227				
2-Butanone X				0.039	0.040	0.040	0.040	0.042	0.041	0.040	4.454				
Propionitrile		0.012	0.015	0.014	0.014	0.015	0.015		0.016	0.014	8.309				
2,2-Dichloropropane X	0.340	0.341	0.343	0.358	0.385	0.380	0.380	0.352	0.349	0.359	5.041				
cis-1,2-Dichloroethene X	0.196	0.243	0.242	0.248	0.264	0.253	0.260	0.255	0.252	0.246	8.129				
Chloroform X	0.362	0.357	0.408	0.413	0.420	0.435	0.419	0.430	0.418	0.417	6.553			1.000	
1-Bromopropane		0.017	0.035	0.040	0.044	0.045	0.045	0.045	0.045	0.040	24.888			0.999	
Bromochloromethane X	0.068	0.136	0.132	0.141	0.146	0.141	0.143	0.137	0.134	0.131	18.225				
Tetrahydrofuran		0.028	0.027	0.027	0.026	0.026	0.026		0.026	0.027	3.547				
Dibromofluoromethane		0.254	0.237	0.231	0.222	0.231	0.239	0.234	0.234	0.235	3.839				
1,1,1-Trichloroethane X	0.336	0.367	0.377	0.391	0.410	0.402	0.407	0.389	0.390	0.385	6.035				
Cyclohexane	0.384	0.390	0.395	0.402	0.388	0.404	0.395	0.368	0.366	0.388	3.451				
1,1-Dichloropropene X	0.300	0.318	0.317	0.331	0.347	0.350	0.350	0.333	0.332	0.331	5.158				
Tert-Amyl-Methyl ether		0.463	0.458	0.473	0.460	0.478	0.474		0.469	0.468	1.599				
Carbon Tetrachloride X	0.296	0.328	0.334	0.358	0.379	0.376	0.377	0.367	0.361	0.3529	7.9808				
1,2-Dichloroethane-d4		0.23	0.22	0.213	0.196	0.203	0.208	0.202	0.203	0.2093	5.3614				
Heptane										0	0				
1,2-Dichloroethane X	0.204	0.242	0.258	0.262	0.271	0.266	0.269	0.258	0.259	0.254	8.1815				
Benzene X	0.947	0.959	0.933	0.957	0.987	0.97	0.959	0.894	0.868	0.9416	4.0357				
Trichloroethene X	0.244	0.241	0.252	0.261	0.275	0.278	0.279	0.268	0.267	0.2629	5.4036				
Methylcyclohexane	0.242	0.268	0.28	0.303	0.294	0.307	0.301	0.289	0.298	0.2868	7.2279				
1,2-Dichloropropane X	0.188	0.231	0.236	0.249	0.257	0.258	0.255	0.243	0.243	0.2398	9.0285				
1,4-Dioxane				0.001	0.001	0.001	0.001		0.001	0.0008	10.548				
Bromodichloromethane X	0.257	0.27	0.28	0.294	0.316	0.319	0.321	0.312	0.315	0.2982	8.0432				
Dibromomethane X	0.06	0.1	0.103	0.107	0.112	0.114	0.115	0.112	0.114	0.1042	16.831			1	
2-Chloroethyl Vinyl Ether X				0.084	0.088	0.085	0.087	0.085	0.087	0.0927	5.7635				
4-Methyl-2-Pentanone X				0.039	0.043	0.045	0.044	0.044	0.044	0.0432	1.9059				
cis-1,3-Dichloropropene X	0.259	0.307	0.308	0.337	0.369	0.373	0.371	0.354	0.356	0.337	11.474				
Dimethyl Disulfide		0.134	0.155	0.175	0.197	0.2	0.198	0.203	0.1804	14.895					
Chlorobenzene-d5															
Toluene-d8															
Toluene X	1.326	1.39	1.305	1.397	1.43	1.4	1.386	1.304	1.248	1.354	4.4367				
Ethyl Methacrylate		0.198	0.196	0.216	0.224	0.241	0.241	0.239	0.237	0.2239	8.4228				
Paraldehyde			0.002	0.002	0.003	0.003	0.003		0.003	0.0026	16.372			0.997	
trans-1,3-Dichloropropene X	0.217	0.297	0.316	0.358	0.401	0.411	0.413	0.395	0.394	0.3558	18.823			1	
1,1,2-Trichloroethane X	0.164	0.185	0.197	0.205	0.212	0.214	0.212	0.204	0.204	0.1998	8.0412				
2-Hexanone X				0.073	0.079	0.085	0.084	0.083	0.079	0.0804	5.4801				
1,3-Dichloropropane X	0.247	0.318	0.335	0.351	0.372	0.374	0.373	0.357	0.357	0.3426	11.818				
Tetrachloroethene X	0.394	0.364	0.367	0.394	0.402	0.404	0.4	0.385	0.377	0.3875	3.9156				
Dibromochloromethane X	0.197	0.266	0.264	0.282	0.307	0.315	0.316	0.308	0.31	0.2851	13.6				
1,2-Dibromomethane X	0.132	0.183	0.184	0.204	0.218	0.227	0.224	0.218	0.22	0.2011	15.236			1	
1-Chlorohexane		0.379	0.38	0.43	0.409	0.429	0.42	0.407	0.403	0.4073	4.8991				
Chlorobenzene X	0.851	0.866	0.899	0.916	0.93	0.95	0.94	0.929	0.875	0.85	9.9004	4.1834			
1,1,1,2-Tetrachloroethane X		0.279	0.323	0.323	0.335	0.353	0.353	0.347	0.328	0.321	0.3291	6.923			
Ethylbenzene X		0.438	0.47	0.46	0.489	0.501	0.498	0.489	0.463	0.449	4.731	4.7258			
m-,p-Xylene X		0.521	0.553	0.571	0.589	0.603	0.596	0.583	0.534	0.514	0.5627	5.9494			
o-Xylene X		0.475	0.555	0.549	0.575	0.595	0.588	0.574	0.54	0.535	0.5541	6.5643			
Styrene X		0.745	0.802	0.845	0.929	0.977	0.971	0.96	0.896	0.881	0.8897	9.0275			
Bromoform X		0.133	0.158	0.172	0.182	0.192	0.191	0.186	0.186	0.1751	11.542				
Isopropylbenzene X	1.314	1.311	1.361	1.43	1.476	1.457	1.418	1.318	1.271	1.373	5.3874				
1,4-Dichlorobenzene-d4															
1,1,2,2-Tetrachloroethane X	0.286	0.392	0.369	0.398	0.409	0.415	0.409	0.398	0.403	0.3866	10.361				
p-Bromofluorobenzene		0.977	0.843	0.803	0.766	0.805	0.812	0.792	0.801	0.8249	7.8693				

1,2,3-Trichloropropane X		0.074	0.099	0.114	0.12	0.12	0.117	0.116	0.117	0.1095	14.509	
trans-1,4-Dichloro-2-Butene			0.071	0.099	0.112	0.121	0.119	0.12	0.118	0.1086	16.818	1
n-Propylbenzene X		2.576	2.728	2.726	2.895	3.055	2.999	2.933	2.727	2.617	2.8061	6.0487
Bromobenzene X	0.593	0.564	0.627	0.683	0.73	0.764	0.757	0.749	0.725	0.725	0.6918	10.418
1,3,5-Trimethylbenzene X		1.894	1.931	1.974	2.085	2.199	2.171	2.15	2.035	1.996	2.0484	5.335
2-Chlorotoluene X		1.917	2.033	2.069	2.19	2.247	1.946	2.162	2.044	2.016	2.0691	5.348
4-Chlorotoluene X		1.641	1.778	1.813	1.888	1.984	1.949	1.937	1.834	1.786	1.8457	5.7865
a-Methylstyrene		0.828	0.999	0.997	1.152	1.195	1.252	1.239	1.195	1.188	1.1161	12.804
tert-Butylbenzene X		0.287	0.377	0.404	0.434	0.437	0.437	0.422	0.408	0.402	0.4009	11.708
1,2,4-Trimethylbenzene X		1.858	2.036	2.081	2.178	2.243	2.204	2.167	2.038	1.994	2.0887	5.823
sec-Butylbenzene X		2.196	2.222	2.226	2.311	2.402	2.363	2.301	2.173	2.109	2.2558	4.1991
p-Isopropyltoluene X		1.747	1.835	1.824	1.96	2.043	2.025	1.99	1.881	1.831	1.9038	5.4526
1,3-Dichlorobenzene X		1.204	1.286	1.288	1.337	1.403	1.382	1.358	1.282	1.27	1.3122	4.7777
1,4-Dichlorobenzene X	1.168	1.224	1.318	1.311	1.364	1.395	1.399	1.376	1.296	1.279	1.3131	5.7458
n-Butylbenzene X		1.494	1.615	1.608	1.645	1.75	1.733	1.681	1.585	1.552	1.6293	5.0873
1,2-Dichlorobenzene X	1.055	1.078	1.145	1.154	1.205	1.229	1.236	1.204	1.144	1.138	1.1587	5.2472
1,2-Dibromo-3-Chloropropane X				0.048	0.058	0.063	0.064	0.064	0.065	0.065	0.0611	10.058
1,2,4-Trichlorobenzene X		0.685	0.757	0.739	0.77	0.802	0.803	0.778	0.741	0.727	0.7559	5.0215
Hexachlorobutadiene X		0.331	0.289	0.332	0.345	0.358	0.357	0.351	0.336	0.32	0.3354	6.4982
Naphthalene X		1.149	1.192	1.211	1.279	1.316	1.349	1.293	1.259	1.239	1.2542	5.0369
1,2,3-Trichlorobenzene X	0.555	0.61	0.632	0.636	0.645	0.667	0.674	0.65	0.626	0.612	0.6307	5.3938

Wed Oct 03 14:54:01 2012

Calibration Table Report
Method: A9FOOWT.M
Title: A9-FOO Water - IC: 01/25/12- HPMS8
Last Calibration: Wed Feb 01 15:35:09 2012
Curve: WG387881
Calibration Files

Compound	5	20	50	100	200	300	400	500	Linear	
	8M376558.D	8M376559.D	8M376560.D	8M376561.D	8M376562.D	8M376563.D	8M376564.D	8M367713.D	Avg	%RSD
Fluorobenzene	ISTD									
Acetonitrile	0.018	0.017	0.018	0.019	0.020	0.019	0.019		0.019	5.995
3-Chloro-1-propene	0.376	0.390	0.392	0.395	0.408	0.388	0.382		0.390	2.658
2-Chloro-1,3-butadiene	0.465	0.465	0.468	0.464	0.475	0.452	0.445		0.462	2.198
Ethyl Acetate	0.125	0.125	0.128	0.137	0.138	0.133	0.126		0.130	4.168
Methacrylonitrile	0.053	0.050	0.054	0.055	0.056	0.054	0.053		0.054	4.009
Isobutyl Alcohol		0.005	0.006	0.006	0.006	0.006	0.006		0.006	7.894
1-Butanol		0.001	0.002	0.003	0.003	0.003	0.003		0.003	23.485
Methyl methacrylate	0.141	0.155	0.162	0.167	0.172	0.164	0.159		0.160	6.259
2-Nitropropane	0.043	0.051	0.055	0.059	0.063	0.060	0.058		0.056	11.690
Chlorobenzene-d5	ISTD									
1,4-Dichlorobenzene-d4	ISTD									
Cyclohexanone		0.025	0.024	0.024	0.025	0.026	0.024		0.025	3.783

Wed Feb 01 15:40:12 2012



Calibration Table Report
Method: 8260WTR.M
Title: Method 8260B/624 WTR-SOP:OVLMSV01 10/02/12 HPMS 8
Last Calibration: Wed Oct 03 09:18:11 2012
Curve: WG410335
Calibration Files

Compound	0.3 0.4 1 2 5 20 50 100 200 300										Avg	%RSD	Linear	Quadratic
	8M382317.D	8M382318.D	8M382319.D	8M382320.D	8M382321.D	8M382322.D	8M382323.D	8M382324.D	8M382325.D	8M382326.D				
Fluorobenzene	ISTD													
Dichlorodifluoromethane X			0.288	0.269	0.250	0.259	0.268	0.255	0.249	0.253	0.261	5.040		
Chloromethane X			0.870	0.780	0.577	0.563	0.577	0.548	0.507		0.631	21.675	0.998	
Vinyl Chloride X		0.386	0.475	0.444	0.384	0.345	0.356	0.333	0.315		0.380	14.615		
1,3-Butadiene					0.411	0.386	0.300	0.222	0.216	0.214	0.291	30.708		0.997
Bromomethane X			0.283	0.268	0.169	0.198	0.209	0.207	0.199	0.217	0.219	17.336	0.998	
Chloroethane X		0.242	0.302	0.288	0.182	0.232	0.237	0.230	0.222	0.224	0.240	14.963	0.999	
Trichlorofluoromethane X		0.495	0.565	0.578	0.432	0.458	0.484	0.455	0.460	0.472	0.489	10.286		
Diethyl ether			0.257	0.268	0.183	0.216	0.215	0.216		0.212	0.224	12.932		
Isoprene			0.477	0.448	0.317	0.401	0.407	0.399	0.410	0.394	0.407	11.317		
Acrolein			0.009	0.021	0.012	0.017	0.018	0.016		0.017	0.016	25.791		0.996
1,1,2-Trichloro-1,2,2-Trifluoroethane			0.298	0.292	0.236	0.256	0.269	0.265	0.265	0.258	0.267	7.397		
Acetone X					0.050	0.049	0.052	0.051	0.051	0.051	0.051	2.136		
1,1-Dichloroethene X		0.542	0.617	0.568	0.480	0.537	0.553	0.525	0.511	0.505	0.538	7.441		
Tert-Butyl Alcohol			0.011	0.013	0.011	0.011	0.011	0.011		0.009	0.011	8.903		
Dimethyl Sulfide			0.342	0.273	0.241	0.305	0.311	0.303	0.301	0.240	0.289	12.322		
Iodomethane			0.412	0.341	0.337	0.434	0.456	0.433	0.421	0.358	0.399	11.656		
Methyl acetate				0.171	0.143	0.160	0.155	0.161	0.159	0.131	0.154	8.620		
Methylene Chloride X		0.370	0.395	0.276	0.229	0.254	0.273	0.255	0.248		0.287	21.152	0.998	
Carbon Disulfide X		0.811	0.968	0.762	0.663	0.830	0.849	0.808	0.782	0.630	0.789	12.675		
Acrylonitrile					0.067	0.089	0.092	0.094	0.094	0.077	0.086	12.801		
Methyl Tert Butyl Ether	0.601	0.555	0.608	0.528	0.453	0.490	0.500	0.496	0.494	0.425	0.515	11.489		
trans-1,2-Dichloroethene X	0.544	0.582	0.520	0.452	0.519	0.544	0.525	0.509		0.423	0.513	9.451		
n-Hexane		0.538	0.546	0.452	0.557	0.561	0.516	0.518		0.410	0.512	10.517		
Diisopropyl ether		1.291	1.277	1.102	1.317	1.307	1.232			0.983	1.215	10.360		
Vinyl Acetate X					0.414	0.506	0.494	0.485	0.467	0.380	0.458	10.912		
1,1-Dichloroethane X	0.636	0.599	0.576	0.542	0.589	0.614	0.587	0.574		0.474	0.577	8.095		
Ethyl-Tert-Butyl ether		1.016	1.020	0.874	0.973	0.970	0.940			0.794	0.941	8.655		
2-Butanone X				0.072	0.080	0.084	0.086	0.085		0.069	0.079	9.104		
Propionitrile			0.025	0.026	0.023	0.026	0.028	0.029		0.024	0.026	8.367		
2,2-Dichloropropane XX		0.478	0.490	0.447	0.412	0.446	0.472	0.457	0.444	0.410	0.451	6.103		
cis-1,2-Dichloroethene X		0.221	0.258	0.269	0.248	0.271	0.293	0.284	0.276	0.240	0.262	8.665		
Chloroform X	0.437	0.531	0.520	0.500	0.482	0.472	0.501	0.489	0.469	0.413	0.481	7.449		
1-Bromopropane			0.031	0.044	0.047	0.049	0.051	0.052	0.051	0.044	0.046	14.851		
Bromochloromethane X		0.152	0.149	0.156	0.160	0.155	0.162	0.159	0.155	0.134	0.154	5.488		
Tetrahydrofuran			0.052	0.056	0.058	0.056	0.057	0.057		0.047	0.055	7.106		
Dibromofluoromethane				0.323	0.314	0.275	0.281	0.285	0.273	0.240	0.285	9.688		
1,1,1-Trichloroethane X	0.419	0.500	0.475	0.468	0.437	0.454	0.446	0.434		0.395	0.448	6.984		
Cyclohexane			0.712	0.649	0.680	0.683	0.689	0.650	0.650	0.525	0.655	8.697		
1,1-Dichloropropene X		0.405	0.407	0.413	0.411	0.386	0.407	0.391	0.381	0.355	0.395	4.776		
Tert-Amyl-Methyl ether			0.610	0.599	0.586	0.562	0.562	0.556		0.527	0.572	4.955		
Carbon Tetrachloride X	0.378	0.471	0.428	0.434	0.404	0.426	0.408	0.406		0.389	0.41592	6.62292		
1,2-Dichloroethane-d4				0.323	0.284	0.288	0.289	0.276		0.271	0.28838	6.31479		
Heptane												0		0
1,2-Dichloroethane X	0.386	0.433	0.431	0.414	0.372	0.394	0.387	0.375		0.365	0.39534	6.41412		
Benzene X	1.109	1.118	1.041	1.076	1.049	1.07	1.025	0.952		0.918	1.03975	6.45535		
Trichloroethene X	0.281	0.331	0.314	0.328	0.275	0.292	0.284	0.275		0.277	0.29515	7.75666		
Methylcyclohexane		0.404	0.39	0.444	0.412	0.418	0.395	0.396		0.382	0.40522	4.84387		
1,2-Dichloropropane X	0.343	0.32	0.297	0.346	0.32	0.329	0.321	0.314		0.306	0.32177	4.95282		
Bromodichloromethane X	0.328	0.385	0.416	0.363	0.357	0.375	0.364	0.358		0.362	0.3676	6.44652		
1,4-Dioxane				0.001	0.001	0.001	0.001			0.001	0.00098	15.9422		0.997
Dibromomethane X	0.112	0.105	0.153	0.13	0.12	0.129	0.13	0.128		0.129	0.12614	10.6923		
2-Chloroethyl Vinyl Ether X		0.107	0.117	0.109	0.132	0.136	0.139	0.138		0.144	0.12765	11.4031		
4-Methyl-2-Pentanone X				0.055	0.07	0.071	0.074	0.072		0.077	0.06977	10.8651		
cis-1,3-Dichloropropene X	0.362	0.414	0.423	0.382	0.42	0.439	0.428			0.436	0.41301	6.59226		
Dimethyl Disulfide			0.44	0.427	0.336	0.41	0.442	0.445	0.436	0.463	0.42505	9.146		
Chlorobenzene-d5	ISTD													
Toluene-d8				1.298	1.25	1.484	1.193	1.327		1.308	1.31016	7.48042		
Toluene X	1.457	1.789	1.46	1.431	1.443	1.801	1.392	1.497		1.411	1.52019	10.4477		
Ethyl Methacrylate		0.301	0.259	0.276	0.274	0.345	0.284	0.331		0.33	0.30008	10.6222		
Paraldehyde			0.003	0.004	0.004	0.005	0.004			0.00387	16.06	FAIL		
trans-1,3-Dichloropropene X	0.439	0.585	0.494	0.489	0.475	0.603	0.482	0.548		0.535	0.5168	10.5272		
1,1,2-Trichloroethane X	0.19	0.227	0.197	0.227	0.224	0.273	0.227	0.255		0.258	0.231	11.8821		
2-Hexanone X				0.076	0.084	0.106	0.09	0.102		0.101	0.09296	12.614		
1,3-Dichloropropane X	0.371	0.439	0.411	0.418	0.409	0.506	0.416	0.456		0.455	0.43125	8.86075		
Tetrachloroethene X	0.324	0.297	0.308	0.32	0.296	0.371	0.301	0.335		0.334	0.32073	7.45433		
Dibromochloromethane X	0.262	0.336	0.317	0.337	0.313	0.409	0.338	0.376		0.361	0.3386	12.2943		
1,2-Dibromoethane X	0.254	0.252	0.238	0.253	0.237	0.303	0.251	0.279		0.246	0.25698	8.17507		
1-Chlorohexane	0.479	0.52	0.475	0.493	0.489	0.584	0.471	0.47		0.433	0.49029	8.57282		
Chlorobenzene X	1.12	1.102	1.041	1.073	0.986	1.045	0.978	0.906		0.868	1.01323	8.48944		
1,1,1,2-Tetrachloroethane X	0.334	0.419	0.385	0.413	0.373	0.4	0.371	0.364		0.35	0.37869	7.50616		
Ethylbenzene X	0.601	0.58	0.58	0.567	0.554	0.578	0.548	0.516		0.504	0.5588	5.68468		
m-,p-Xylene X	0.74	0.738	0.709	0.712	0.675	0.707	0.651	0.603		0.566	0.6777	8.93318		
o-Xylene X	0.678	0.696	0.676	0.892	0.646	0.701	0.646	0.621		0.612	0.68525	12.1744		
Styrene X	1.075	1.085	1.1	1.432	1.065	1.157	1.056	1.006		1.008	1.0943	11.6518		
Bromoform X		0.173	0.202	0.202	0.163	0.2	0.186	0.192		0.192	0.18879	7.45102		
Isopropylbenzene X	1.99	1.83	2.064	2.104	1.627	1.823	1.614	1.52		1.424	1.77763	13.7673		
1,4-Dichlorobenzene-d4	ISTD													
1,1,2,2-Tetrachloroethane X	0.381	0.399	0.409	0.483	0.483	0.43	0.507	0.414		0.346	0.42815	12.4375		
p-Bromofluorobenzene				1.15	0.941	0.932	1.065	0.852			0.98799	11.9692		

1,2,3-TrichloropropaneX		0.106	0.137	0.149	0.137	0.146	0.163	0.137	0.118	0.13663	13.2037
trans-1,4-Dichloro-2-Butene		0.197	0.192	0.205	0.208	0.206	0.239	0.199	0.164	0.20124	10.2292
n-Propylbenzene X	3.692	3.671	3.624	3.986	3.548	3.535	3.838	2.94	2.327	3.46225	14.8414
BromobenzeneX	0.688	0.732	0.777	0.81	0.868	0.767	0.779	0.884	0.671	0.77042	9.08102
1,3,5-TrimethylbenzeneX		2.964	2.815	2.818	3.086	2.797	2.818	3.027	2.399	2.111	2.75941
2-Chlorotoluene X		2.501	2.634	2.291	2.6	2.245	2.511	2.302	2.048	1.837	2.32977
4-Chlorotoluene X		2.398	2.202	2.356	2.902	2.404	2.11	2.609	1.847		2.35348
a-Methylstyrene			1.319	1.399	1.762	1.523	1.474	1.627	1.374	1.252	1.46631
tert-Butylbenzene X		0.442	0.614	0.555	0.688	0.564	0.57	0.614	0.517	0.495	0.56219
1,2,4-TrimethylbenzeneX		3.023	2.928	2.777	3.461	2.841	2.831	2.986	2.489	2.13	2.82977
sec-ButylbenzeneXX		3.755	3.401	3.305	3.702	3.298	3.31	3.092	2.764	2.533	3.23998
p-Isopropyltoluene X		2.925	2.79	2.679	2.857	2.68	2.732	2.548	2.311	2.115	2.62631
1,3-Dichlorobenzene X		1.551	1.586	1.597	1.62	1.533	1.555	1.473	1.382	1.33	1.51421
1,4-Dichlorobenzene X	1.395	1.534	1.529	1.571	1.521	1.537	1.549	1.478	1.394	1.29	1.4798
n-ButylbenzeneX		2.768	2.52	2.392	2.431	2.465	2.467	2.31	2.132	1.934	2.37997
1,2-Dichlorobenzene X	1.208	1.489	1.37	1.543	1.392	1.342	1.383	1.306	1.235	1.172	1.34404
1,2-Dibromo-3-ChloropropaneX				0.078	0.092	0.082	0.091	0.089	0.087	0.082	0.08591
1,2,4-TrichlorobenzeneX		0.991	1.113	0.973	0.881	0.925	0.931	0.874	0.828	0.685	0.91123
Hexachlorobutadiene X		0.465	0.503	0.432	0.39	0.396	0.421	0.408	0.379	0.314	0.41199
Naphthalene X		1.554	2.06	1.715	1.525	1.561	1.58	1.53	1.443		1.62096
1,2,3-Trichlorobenzene X	0.722	0.771	0.947	0.865	0.773	0.76	0.778	0.748	0.718	0.593	0.76748

Mon Oct 08 09:25:42 2012

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12090809	Run Date: 10/01/2012	Sample ID: WG410211-12
Instrument ID: HPMS6	Run Time: 21:56	Method: 8260B
File ID: 6M111464	Analyst: ADC	QC Key: DOD4
ICal Workgroup: WG410211	Cal ID: HPMS6 - 01-OCT-12	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	50.1	ug/L	0.358	0.300	20	
1,2-Dichloropropane	CCC	50.0	55.1	ug/L	0.264	10.2	20	
Chloroform	CCC	50.0	52.4	ug/L	0.428	4.80	20	
Ethylbenzene	CCC	50.0	53.4	ug/L	0.505	6.80	20	
Toluene	CCC	50.0	52.7	ug/L	1.43	5.50	20	
Vinyl Chloride	CCC	50.0	50.8	ug/L	0.168	1.60	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	52.3	ug/L	0.404	4.50	20	
1,1-Dichloroethane	SPCC	50.0	52.0	ug/L	0.451	4.00	20	
Bromoform	SPCC	50.0	53.6	ug/L	0.188	7.30	20	
Chlorobenzene	SPCC	50.0	52.9	ug/L	0.952	5.70	20	
Chloromethane	SPCC	50.0	48.1	ug/L	0.157	3.80	20	
1,1,1,2-Tetrachloroethane		50.0	53.2	ug/L	0.350	6.30	20	
1,1,1-Trichloroethane		50.0	51.0	ug/L	0.393	2.10	20	
1,1,2-Trichloroethane		50.0	55.0	ug/L	0.220	10.0	20	
1,1-Dichloropropene		50.0	51.7	ug/L	0.342	3.40	20	
1,2,3-Trichlorobenzene		50.0	53.0	ug/L	0.669	6.00	20	
1,2,3-Trichloropropane		50.0	54.4	ug/L	0.119	8.70	20	
1,2,4-Trichlorobenzene		50.0	53.1	ug/L	0.802	6.10	20	
1,2,4-Trimethylbenzene		50.0	54.1	ug/L	2.26	8.20	20	
1,2-Dibromo-3-Chloropropane		50.0	52.6	ug/L	0.0642	5.10	20	
1,2-Dibromoethane		50.0	50.6	ug/L	0.222	1.10	20	
1,2-Dichlorobenzene		50.0	53.5	ug/L	1.24	7.00	20	
1,2-Dichloroethane		50.0	51.4	ug/L	0.261	2.70	20	
1,3,5-Trimethylbenzene		50.0	53.8	ug/L	2.21	7.60	20	
1,3-Dichlorobenzene		50.0	53.2	ug/L	1.40	6.30	20	
1,3-Dichloropropane		50.0	55.9	ug/L	0.383	11.9	20	
1,4-Dichlorobenzene		50.0	53.1	ug/L	1.39	6.10	20	
2,2-Dichloropropane		50.0	48.0	ug/L	0.344	4.00	20	
2-Butanone		50.0	51.3	ug/L	0.0412	2.60	20	
2-Chloroethyl Vinyl Ether		50.0	52.8	ug/L	0.0979	5.70	30	
2-Chlorotoluene		50.0	55.2	ug/L	2.28	10.4	20	
2-Hexanone		50.0	52.8	ug/L	0.0848	5.50	20	
4-Chlorotoluene		50.0	52.4	ug/L	1.93	4.70	20	
4-Methyl-2-Pentanone		50.0	52.2	ug/L	0.0451	4.50	20	
Acetone		50.0	53.7	ug/L	0.0261	7.50	20	
Benzene		50.0	52.8	ug/L	0.994	5.60	20	
Bromobenzene		50.0	55.4	ug/L	0.767	10.8	20	
Bromochloromethane		50.0	53.0	ug/L	0.145	6.10	20	
Bromodichloromethane		50.0	54.7	ug/L	0.326	9.40	20	
Bromomethane		50.0	41.5	ug/L	0.124	16.9	20	
Carbon Disulfide		50.0	53.5	ug/L	0.754	7.10	20	
Carbon Tetrachloride		50.0	51.5	ug/L	0.363	3.00	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2610321
Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L12090809</u>	Run Date: <u>10/01/2012</u>	Sample ID: <u>WG410211-12</u>
Instrument ID: <u>HPMS6</u>	Run Time: <u>21:56</u>	Method: <u>8260B</u>
File ID: <u>6M111464</u>	Analyst: <u>ADC</u>	QC Key: <u>DOD4</u>
ICal Workgroup: <u>WG410211</u>	Cal ID: <u>HPMS6 - 01-OCT-12</u>	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Dibromochloromethane	50.0	53.9	ug/L	0.307	7.80	20	
Chloroethane	50.0	56.0	ug/L	0.175	12.0	20	
cis-1,2-Dichloroethene	50.0	53.9	ug/L	0.265	7.80	20	
cis-1,3-Dichloropropene	50.0	53.5	ug/L	0.361	7.00	20	
Dibromomethane	50.0	50.3	ug/L	0.114	0.600	20	
Dichlorodifluoromethane	50.0	63.2	ug/L	0.272	26.4	20	*
Hexachlorobutadiene	50.0	51.6	ug/L	0.346	3.30	20	
Isopropylbenzene	50.0	48.1	ug/L	1.32	3.80	20	
m-,p-Xylene	100	108	ug/L	0.610	8.40	20	
Methylene Chloride	50.0	53.1	ug/L	0.238	6.30	20	
n-Butylbenzene	50.0	54.1	ug/L	1.76	8.30	20	
n-Propylbenzene	50.0	55.5	ug/L	3.11	10.9	20	
Naphthalene	50.0	53.8	ug/L	1.35	7.50	20	
o-Xylene	50.0	53.9	ug/L	0.597	7.70	20	
p-Isopropyltoluene	50.0	54.4	ug/L	2.07	8.70	20	
sec-Butylbenzene	50.0	53.4	ug/L	2.41	6.90	20	
Styrene	50.0	56.0	ug/L	0.996	11.9	20	
tert-Butylbenzene	50.0	55.2	ug/L	0.443	10.5	20	
Tetrachloroethene	50.0	52.2	ug/L	0.405	4.50	20	
trans-1,2-Dichloroethene	50.0	52.3	ug/L	0.243	4.60	20	
trans-1,3-Dichloropropene	50.0	46.3	ug/L	0.367	7.50	20	
Trichloroethene	50.0	54.6	ug/L	0.287	9.20	20	
Trichlorofluoromethane	50.0	52.0	ug/L	0.393	4.00	20	
Vinyl Acetate	50.0	46.7	ug/L	0.231	6.50	40	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2610321
Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12090809	Run Date: 10/02/2012	Sample ID: WG410335-12
Instrument ID: HPMS8	Run Time: 18:35	Method: 8260B
File ID: 8M382328	Analyst: ADC	QC Key: DOD4
ICal Workgroup: WG410335	Cal ID: HPMS8 - 02-OCT-12	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	51.3	ug/L	0.552	2.60	20	
1,2-Dichloropropane	CCC	50.0	57.6	ug/L	0.371	15.2	20	
Chloroform	CCC	50.0	58.9	ug/L	0.567	17.9	20	
Ethylbenzene	CCC	50.0	50.6	ug/L	0.565	1.20	20	
Toluene	CCC	50.0	51.0	ug/L	1.55	1.90	20	
Vinyl Chloride	CCC	50.0	53.1	ug/L	0.403	6.10	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	56.2	ug/L	0.481	12.3	20	
1,1-Dichloroethane	SPCC	50.0	52.8	ug/L	0.609	5.60	20	
Bromoform	SPCC	50.0	53.2	ug/L	0.201	6.40	20	
Chlorobenzene	SPCC	50.0	49.2	ug/L	0.996	1.70	20	
Chloromethane	SPCC	50.0	63.7	ug/L	0.678	27.4	20	*
1,1,1,2-Tetrachloroethane		50.0	50.0	ug/L	0.379	0.100	20	
1,1,1-Trichloroethane		50.0	54.5	ug/L	0.488	9.10	20	
1,1,2-Trichloroethane		50.0	52.2	ug/L	0.241	4.50	20	
1,1-Dichloropropene		50.0	50.5	ug/L	0.399	1.00	20	
1,2,3-Trichlorobenzene		50.0	52.9	ug/L	0.813	5.90	20	
1,2,3-Trichloropropane		50.0	54.9	ug/L	0.150	9.80	20	
1,2,4-Trichlorobenzene		50.0	49.6	ug/L	0.904	0.800	20	
1,2,4-Trimethylbenzene		50.0	54.7	ug/L	3.09	9.30	20	
1,2-Dibromo-3-Chloropropane		50.0	48.8	ug/L	0.0839	2.40	20	
1,2-Dibromoethane		50.0	48.0	ug/L	0.247	4.10	20	
1,2-Dichlorobenzene		50.0	50.5	ug/L	1.36	1.10	20	
1,2-Dichloroethane		50.0	52.0	ug/L	0.411	3.90	20	
1,3,5-Trimethylbenzene		50.0	53.8	ug/L	2.97	7.60	20	
1,3-Dichlorobenzene		50.0	50.5	ug/L	1.53	1.00	20	
1,3-Dichloropropane		50.0	46.5	ug/L	0.401	7.00	20	
1,4-Dichlorobenzene		50.0	51.6	ug/L	1.53	3.20	20	
2,2-Dichloropropane		50.0	52.3	ug/L	0.471	4.50	20	
2-Butanone		50.0	53.7	ug/L	0.0853	7.40	20	
2-Chloroethyl Vinyl Ether		50.0	64.8	ug/L	0.165	29.6	30	
2-Chlorotoluene		50.0	53.4	ug/L	2.49	6.80	20	
2-Hexanone		50.0	48.8	ug/L	0.0907	2.40	20	
4-Chlorotoluene		50.0	52.9	ug/L	2.49	5.80	20	
4-Methyl-2-Pentanone		50.0	61.8	ug/L	0.0862	23.6	20	*
Acetone		50.0	53.5	ug/L	0.0542	7.00	20	
Benzene		50.0	51.3	ug/L	1.07	2.60	20	
Bromobenzene		50.0	55.9	ug/L	0.861	11.7	20	
Bromochloromethane		50.0	61.1	ug/L	0.188	22.2	20	*
Bromodichloromethane		50.0	61.2	ug/L	0.450	22.4	20	*
Bromomethane		50.0	57.6	ug/L	0.241	15.2	20	
Carbon Disulfide		50.0	52.8	ug/L	0.833	5.60	20	
Carbon Tetrachloride		50.0	54.0	ug/L	0.449	8.00	20	

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Version 1.5 PDF File ID: 2610321
Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12090809	Run Date: 10/02/2012	Sample ID: WG410335-12
Instrument ID: HPMS8	Run Time: 18:35	Method: 8260B
File ID: 8M382328	Analyst: ADC	QC Key: DOD4
ICal Workgroup: WG410335	Cal ID: HPMS8 - 02-OCT-12	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Dibromochloromethane	50.0	48.1	ug/L	0.326	3.70	20	
Chloroethane	50.0	55.7	ug/L	0.252	11.5	20	
cis-1,2-Dichloroethene	50.0	56.7	ug/L	0.297	13.4	20	
cis-1,3-Dichloropropene	50.0	59.0	ug/L	0.487	17.9	20	
Dibromomethane	50.0	61.1	ug/L	0.154	22.1	20	*
Dichlorodifluoromethane	50.0	75.0	ug/L	0.392	50.0	20	*
Hexachlorobutadiene	50.0	47.4	ug/L	0.391	5.10	20	
Isopropylbenzene	50.0	48.1	ug/L	1.71	3.80	20	
m-,p-Xylene	100	103	ug/L	0.700	3.20	20	
Methylene Chloride	50.0	53.4	ug/L	0.270	6.70	20	
n-Butylbenzene	50.0	51.6	ug/L	2.45	3.10	20	
n-Propylbenzene	50.0	56.3	ug/L	3.90	12.5	20	
Naphthalene	50.0	49.0	ug/L	1.59	2.00	20	
o-Xylene	50.0	56.4	ug/L	0.774	12.9	20	
p-Isopropyltoluene	50.0	50.8	ug/L	2.67	1.60	20	
sec-Butylbenzene	50.0	53.0	ug/L	3.44	6.00	20	
Styrene	50.0	57.2	ug/L	1.27	14.4	20	
tert-Butylbenzene	50.0	55.8	ug/L	0.628	11.6	20	
Tetrachloroethene	50.0	46.1	ug/L	0.296	7.80	20	
trans-1,2-Dichloroethene	50.0	52.7	ug/L	0.541	5.50	20	
trans-1,3-Dichloropropene	50.0	44.7	ug/L	0.462	10.5	20	
Trichloroethene	50.0	51.7	ug/L	0.305	3.40	20	
Trichlorofluoromethane	50.0	53.1	ug/L	0.519	6.10	20	
Vinyl Acetate	50.0	54.4	ug/L	0.498	8.80	40	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2610321
Report generated 10/10/2012 13:57



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410416-02
Instrument ID: HPMS8 Run Time: 11:20 Method: 8260B
File ID: 8M382332 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG410419 Cal ID: HPMS8 - 02-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	51.3	ug/L	0.551	2.54	20	
1,2-Dichloropropane	CCC	50.0	49.7	ug/L	0.320	0.560	20	
Chloroform	CCC	50.0	51.0	ug/L	0.491	2.06	20	
Ethylbenzene	CCC	50.0	47.9	ug/L	0.536	4.13	20	
Toluene	CCC	50.0	55.1	ug/L	1.68	10.3	20	
Vinyl Chloride	CCC	50.0	56.5	ug/L	0.429	13.0	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	49.5	ug/L	0.424	1.08	20	
1,1-Dichloroethane	SPCC	50.0	59.7	ug/L	0.689	19.5	20	
Bromoform	SPCC	50.0	48.3	ug/L	0.183	3.31	20	
Chlorobenzene	SPCC	50.0	48.2	ug/L	0.976	3.63	20	
Chloromethane	SPCC	50.0	65.4	ug/L	0.695	30.8	20	*
1,1,1,2-Tetrachloroethane		50.0	48.5	ug/L	0.367	3.05	20	
1,1,1-Trichloroethane		50.0	53.2	ug/L	0.477	6.48	20	
1,1,2-Trichloroethane		50.0	57.0	ug/L	0.263	13.9	20	
1,1-Dichloropropene		50.0	50.0	ug/L	0.395	0.0916	20	
1,2,3-Trichlorobenzene		50.0	61.5	ug/L	0.944	23.0	20	*
1,2,3-Trichloropropane		50.0	52.2	ug/L	0.143	4.45	20	
1,2,4-Trichlorobenzene		50.0	61.0	ug/L	1.11	22.1	20	*
1,2,4-Trimethylbenzene		50.0	48.5	ug/L	2.75	2.94	20	
1,2-Dibromo-3-Chloropropane		50.0	61.1	ug/L	0.105	22.2	20	*
1,2-Dibromoethane		50.0	54.4	ug/L	0.280	8.82	20	
1,2-Dichlorobenzene		50.0	49.5	ug/L	1.33	1.05	20	
1,2-Dichloroethane		50.0	49.2	ug/L	0.389	1.65	20	
1,3,5-Trimethylbenzene		50.0	49.7	ug/L	2.74	0.698	20	
1,3-Dichlorobenzene		50.0	49.4	ug/L	1.50	1.15	20	
1,3-Dichloropropane		50.0	55.6	ug/L	0.480	11.2	20	
1,4-Dichlorobenzene		50.0	51.1	ug/L	1.51	2.11	20	
2,2-Dichloropropane		50.0	54.8	ug/L	0.494	9.64	20	
2-Butanone		50.0	50.4	ug/L	0.0800	0.716	20	
2-Chloroethyl Vinyl Ether		50.0	60.6	ug/L	0.155	21.2	40	
2-Chlorotoluene		50.0	47.1	ug/L	2.20	5.79	20	
2-Hexanone		50.0	51.7	ug/L	0.0962	3.50	20	
4-Chlorotoluene		50.0	48.8	ug/L	2.30	2.30	20	
4-Methyl-2-Pentanone		50.0	57.6	ug/L	0.0804	15.2	20	
Acetone		50.0	48.9	ug/L	0.0495	2.13	20	
Benzene		50.0	47.9	ug/L	0.995	4.28	20	
Bromobenzene		50.0	48.6	ug/L	0.749	2.75	20	
Bromochloromethane		50.0	50.0	ug/L	0.153	0.0538	20	
Bromodichloromethane		50.0	58.4	ug/L	0.429	16.8	20	
Bromomethane		50.0	59.4	ug/L	0.248	18.7	20	
Carbon Disulfide		50.0	61.2	ug/L	0.967	22.5	20	*
Carbon Tetrachloride		50.0	52.9	ug/L	0.440	5.81	20	

CCV - Modified 03/05/2008

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410416-02
 Instrument ID: HPMS8 Run Time: 11:20 Method: 8260B
 File ID: 8M382332 Analyst: ADC QC Key: DOD4
 Workgroup (AAB#): WG410419 Cal ID: HPMS8 - 02-OCT-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Dibromochloromethane	50.0	56.9	ug/L	0.385	13.8	20	
Chloroethane	50.0	59.0	ug/L	0.266	17.9	20	
cis-1,2-Dichloroethene	50.0	54.6	ug/L	0.286	9.21	20	
cis-1,3-Dichloropropene	50.0	63.6	ug/L	0.525	27.2	20	*
Dibromomethane	50.0	58.4	ug/L	0.147	16.7	20	
Dichlorodifluoromethane	50.0	66.8	ug/L	0.349	33.6	20	*
Hexachlorobutadiene	50.0	59.8	ug/L	0.493	19.6	20	
Isopropylbenzene	50.0	47.4	ug/L	1.69	5.13	20	
m-,p-Xylene	100	94.6	ug/L	0.641	5.40	20	
Methylene Chloride	50.0	57.5	ug/L	0.291	15.0	20	
n-Butylbenzene	50.0	50.4	ug/L	2.40	0.785	20	
n-Propylbenzene	50.0	49.4	ug/L	3.42	1.10	20	
Naphthalene	50.0	59.5	ug/L	1.93	19.0	20	
o-Xylene	50.0	47.0	ug/L	0.644	6.00	20	
p-Isopropyltoluene	50.0	50.4	ug/L	2.65	0.804	20	
sec-Butylbenzene	50.0	49.6	ug/L	3.21	0.833	20	
Styrene	50.0	48.1	ug/L	1.07	3.76	20	
tert-Butylbenzene	50.0	49.8	ug/L	0.560	0.438	20	
Tetrachloroethene	50.0	55.1	ug/L	0.353	10.1	20	
trans-1,2-Dichloroethene	50.0	60.7	ug/L	0.623	21.3	20	*
trans-1,3-Dichloropropene	50.0	54.1	ug/L	0.560	8.30	20	
Trichloroethene	50.0	48.2	ug/L	0.285	3.62	20	
Trichlorofluoromethane	50.0	54.5	ug/L	0.532	8.91	20	
Vinyl Acetate	50.0	57.5	ug/L	0.527	15.1	40	
1,2-Dichloroethene	100	115	ug/L	0.455	15.3	40	
Xylenes	150	142	ug/L	0.643	5.60	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

CCV - Modified 03/05/2008

PDF File ID: 2610322

Report generated 10/10/2012 13:57



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/08/2012 Sample ID: WG410852-02
 Instrument ID: HPMS6 Run Time: 14:54 Method: 8260B
 File ID: 6M111660 Analyst: ADC QC Key: DOD4
 Workgroup (AAB#): WG410853 Cal ID: HPMS6 - 01-OCT-12
 Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	56.9	ug/L	0.406	13.8	20	
1,2-Dichloropropane	CCC	50.0	56.3	ug/L	0.270	12.6	20	
Chloroform	CCC	50.0	54.0	ug/L	0.441	8.03	20	
Ethylbenzene	CCC	50.0	50.9	ug/L	0.482	1.86	20	
Toluene	CCC	50.0	50.8	ug/L	1.38	1.69	20	
Vinyl Chloride	CCC	50.0	49.9	ug/L	0.165	0.212	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	56.3	ug/L	0.435	12.6	20	
1,1-Dichloroethane	SPCC	50.0	55.9	ug/L	0.485	11.8	20	
Bromoform	SPCC	50.0	49.6	ug/L	0.174	0.744	20	
Chlorobenzene	SPCC	50.0	51.1	ug/L	0.920	2.13	20	
Chloromethane	SPCC	50.0	44.0	ug/L	0.143	12.0	20	
1,1,1,2-Tetrachloroethane		50.0	50.8	ug/L	0.334	1.57	20	
1,1,1-Trichloroethane		50.0	51.6	ug/L	0.398	3.24	20	
1,1,2-Trichloroethane		50.0	51.8	ug/L	0.207	3.70	20	
1,1-Dichloropropene		50.0	53.4	ug/L	0.353	6.70	20	
1,2,3-Trichlorobenzene		50.0	51.9	ug/L	0.655	3.82	20	
1,2,3-Trichloropropane		50.0	53.6	ug/L	0.117	7.15	20	
1,2,4-Trichlorobenzene		50.0	53.1	ug/L	0.803	6.23	20	
1,2,4-Trimethylbenzene		50.0	53.6	ug/L	2.24	7.20	20	
1,2-Dibromo-3-Chloropropane		50.0	51.4	ug/L	0.0628	2.76	20	
1,2-Dibromoethane		50.0	48.9	ug/L	0.215	2.19	20	
1,2-Dichlorobenzene		50.0	54.2	ug/L	1.26	8.49	20	
1,2-Dichloroethane		50.0	54.2	ug/L	0.276	8.46	20	
1,3,5-Trimethylbenzene		50.0	54.2	ug/L	2.22	8.42	20	
1,3-Dichlorobenzene		50.0	54.1	ug/L	1.42	8.29	20	
1,3-Dichloropropane		50.0	53.4	ug/L	0.366	6.81	20	
1,4-Dichlorobenzene		50.0	54.8	ug/L	1.44	9.70	20	
2,2-Dichloropropane		50.0	53.7	ug/L	0.385	7.44	20	
2-Butanone		50.0	55.8	ug/L	0.0448	11.5	20	
2-Chloroethyl Vinyl Ether		50.0	46.6	ug/L	0.0864	6.73	40	
2-Chlorotoluene		50.0	53.9	ug/L	2.23	7.72	20	
2-Hexanone		50.0	52.7	ug/L	0.0848	5.44	20	
4-Chlorotoluene		50.0	54.3	ug/L	2.00	8.54	20	
4-Methyl-2-Pentanone		50.0	51.0	ug/L	0.0441	2.08	20	
Acetone		50.0	54.2	ug/L	0.0263	8.38	20	
Benzene		50.0	52.7	ug/L	0.993	5.49	20	
Bromobenzene		50.0	56.2	ug/L	0.778	12.4	20	
Bromochloromethane		50.0	54.4	ug/L	0.149	8.82	20	
Bromodichloromethane		50.0	53.3	ug/L	0.318	6.70	20	
Bromomethane		50.0	41.0	ug/L	0.122	17.9	20	
Carbon Disulfide		50.0	56.0	ug/L	0.789	12.1	20	
Carbon Tetrachloride		50.0	52.3	ug/L	0.369	4.68	20	

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 PDF File ID: 2610322
 Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/08/2012 Sample ID: WG410852-02
Instrument ID: HPMS6 Run Time: 14:54 Method: 8260B
File ID: 6M111660 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG410853 Cal ID: HPMS6 - 01-OCT-12
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Dibromochloromethane	50.0	51.9	ug/L	0.296	3.72	20	
Chloroethane	50.0	58.5	ug/L	0.183	17.1	20	
cis-1,2-Dichloroethene	50.0	55.4	ug/L	0.273	10.9	20	
cis-1,3-Dichloropropene	50.0	54.3	ug/L	0.366	8.66	20	
Dibromomethane	50.0	51.5	ug/L	0.117	2.96	20	
Dichlorodifluoromethane	50.0	53.0	ug/L	0.228	6.02	20	
Hexachlorobutadiene	50.0	53.8	ug/L	0.361	7.51	20	
Isopropylbenzene	50.0	51.2	ug/L	1.41	2.35	20	
m-,p-Xylene	100	103	ug/L	0.579	2.92	20	
Methylene Chloride	50.0	53.6	ug/L	0.240	7.28	20	
n-Butylbenzene	50.0	56.4	ug/L	1.84	12.8	20	
n-Propylbenzene	50.0	55.8	ug/L	3.13	11.6	20	
Naphthalene	50.0	51.2	ug/L	1.28	2.45	20	
o-Xylene	50.0	51.0	ug/L	0.565	2.02	20	
p-Isopropyltoluene	50.0	54.8	ug/L	2.09	9.67	20	
sec-Butylbenzene	50.0	54.4	ug/L	2.46	8.89	20	
Styrene	50.0	52.9	ug/L	0.941	5.77	20	
tert-Butylbenzene	50.0	56.5	ug/L	0.453	13.0	20	
Tetrachloroethene	50.0	51.2	ug/L	0.397	2.44	20	
trans-1,2-Dichloroethene	50.0	55.7	ug/L	0.259	11.5	20	
trans-1,3-Dichloropropene	50.0	49.1	ug/L	0.390	1.80	20	
Trichloroethene	50.0	52.6	ug/L	0.277	5.18	20	
Trichlorofluoromethane	50.0	54.6	ug/L	0.413	9.18	20	
Vinyl Acetate	50.0	51.2	ug/L	0.253	2.41	40	
1,2-Dichloroethene	100	111	ug/L	0.266	11.2	40	
Xylenes	150	154	ug/L	0.572	2.62	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2610322
Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12090809
Instrument ID: HPMS8
Workgroup (AAB#): WG410419

ICAL CCV Number: WG410335-08
CAL ID: HPMS8 - 02-OCT-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG410335-08	NA	NA	267570	474053	768012
Upper Limit	NA	NA	535140	948106	1536024
Lower Limit	NA	NA	133785	237027	384006
L12090809-01	1.00	01	236769	567782	638762
L12090809-03	1.00	01	234473	418286	745147
L12090809-04	1.00	01	231875	419151	662924
L12090809-06	1.00	01	309469	577791	538242
L12090809-10	1.00	01	313714	482198	688018
L12090809-12	1.00	01	321425	475290	694494
L12090809-14	1.00	01	253308	476354	671982
L12090809-15	1.00	01	230798	546834	636436
L12090809-16	1.00	01	227554	515176	532897
L12090809-17	1.00	01	223736	415623	525112
WG410419-01	1.00	01	261645	481273	615838
WG410419-02	1.00	01	263264	482523	735240

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2615321
Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12090809
Instrument ID: HPMS6
Workgroup (AAB#): WG410853

ICAL CCV Number: WG410211-08
CAL ID: HPMS6-01-OCT-12
Matrix: WATER

278008 542908 727788

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG410211-08	NA	NA	275844	504850	685709
Upper Limit	NA	NA	551688	1009700	1371418
Lower Limit	NA	NA	137922	252425	342855
<u>L12090809-08</u>	1.00	02	259801	505193	674411
WG410853-01	1.00	01	264797	512020	677479
WG410853-02	1.00	01	268907	521988	686987

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2615321
Report generated 10/10/2012 13:57



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12090809
Instrument ID: HPMS6
Workgroup (AAB#): WG410853

ICAL CCV Number: WG410211-08
CAL ID: HPMS6-01-OCT-12
Matrix: WATER

Sample Number	Dilution	Tag	18.41	14.85	10.38
			IS-1	IS-2	IS-3
WG410211-08	NA	NA	18.4	14.85	10.37
Upper Limit	NA	NA	18.9	15.35	10.87
Lower Limit	NA	NA	17.9	14.35	9.87
L12090809-08	1.00	02	18.4	14.85	10.37
WG410853-01	1.00	01	18.41	14.85	10.37
WG410853-02	1.00	01	18.4	14.85	10.37

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 2615322
Report generated: 10/10/2012 13:57



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12090809
Instrument ID: HPMS8
Workgroup (AAB#): WG410419

ICAL CCV Number: WG410335-08
CAL ID: HPMS8 - 02-OCT-12
Matrix: WATER

16.98 13.98 10.13

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG410335-08	NA	NA	16.98	13.98	10.13
Upper Limit	NA	NA	17.48	14.48	10.63
Lower Limit	NA	NA	16.48	13.48	9.63
L12090809-01	1.00	01	16.98	13.98	10.14
L12090809-03	1.00	01	16.98	13.98	10.13
L12090809-04	1.00	01	16.98	13.98	10.13
L12090809-06	1.00	01	16.98	13.98	10.13
L12090809-10	1.00	01	16.98	13.98	10.13
L12090809-12	1.00	01	16.98	13.98	10.13
L12090809-14	1.00	01	16.98	13.98	10.13
L12090809-15	1.00	01	16.98	13.98	10.13
L12090809-16	1.00	01	16.98	13.98	10.13
L12090809-17	1.00	01	16.98	13.98	10.13
WG410419-01	1.00	01	16.98	13.98	10.13
WG410419-02	1.00	01	16.98	13.98	10.13

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 2615322
Report generated: 10/10/2012 13:57





Login Number: L12090809
Department: Semivolatiles
Analyst: Cassie A. Augenstein

METHOD

Preparation 3510C

Analysis SW-846 8270C/40 CFR 264 App. IX

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analytes: 2,4-Dinitrophenol, 4,6-Dinitro-2-Methylphenol, Pentachlorophenol. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: Benzoic Acid, 2,4-Dinitrophenol. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Butyl Benzyl Phthalate, Chrysene, Phenol. Please see the applicable QC report for a detailed presentation of the failures.

Matrix Spikes: Recoveries or RPDs out of range were observed for the following analytes: 3,3'-Dichlorobenzidine, Acenaphthylene, Benzo(a)anthracene, Butylbenzylphthalate, Chrysene, Dibenzo(a,h)Anthracene, Dibenzofuran, N-Nitrosodiphenylamine, Phenol. Please see the applicable QC report for a detailed presentation of the failures.

Benzoic acid did not recover in the MS.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by

manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 53858

Approved By: Mike Cochran



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12090809
Instrument Id: HPMS5
Workgroup (AAB#): WG410253

Method: 8270
CAL ID: HPMS5 - 18-SEP-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4	5	6
L12090809-01	1.00	01	58.0	77.0	42.5	78.0	50.6	31.5
L12090809-03	1.00	01	76.3	87.3	50.7	82.2	104	34.1
L12090809-04	1.00	01	82.6	80.8	49.0	76.8	80.5	32.5
L12090809-06	1.00	01	94.7	86.3	55.6	81.9	88.3	35.9
L12090809-08	1.00	01	91.9	75.1	51.7	70.1	114	32.1
L12090809-10	1.00	01	109	95.2	59.9	76.0	91.5	39.8
L12090809-12	1.00	01	112	94.0	61.2	75.8	96.5	38.3
L12090809-15	1.00	01	82.4	73.4	47.6	67.2	116	30.0
L12090809-16	1.00	01	97.8	85.2	54.3	78.8	113	34.9
L12090809-17	1.00	01	103	87.0	57.1	77.3	87.3	35.5
WG410127-02	1.00	01	83.6	73.1	48.8	69.2	114	29.5
WG410127-03	1.00	01	105	91.9	54.2	72.0	106	35.9

Surrogates	Surrogate Limits		
1 - 2,4,6-Tribromophenol	40	-	125 10-123
2 - 2-Fluorobiphenyl	50	-	110 43-116
3 - 2-Fluorophenol	20	-	110 21-110
4 - Nitrobenzene-d5	40	-	110 35-114
5 - p-Terphenyl-d14	50	-	135 33-141
6 - Phenol-d5	10	-	115 10-110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2604414
Report generated: 10/05/2012 16:59



METHOD BLANK SUMMARY

Login Number: L12090809
 Blank File ID: 5M68300
 Prep Date: 10/01/12 09:00
 Analyzed Date: 10/02/12 10:47
 Analyst: CAA

Work Group: WG410253
 Blank Sample ID: WG410127-02
 Instrument ID: HPMS5
 Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG410127-03	5M68301	10/02/12 11:20	01
40MW5GW92512	L12090809-06	5M68316	10/02/12 19:33	01
40MW5MSGW92512	L12090809-10	5M68317	10/02/12 20:06	01
40MW5MSDGW92512	L12090809-12	5M68318	10/02/12 20:39	01
40MW7GW92512	L12090809-01	5M68319	10/02/12 21:12	01
40EQR92512	L12090809-03	5M68320	10/02/12 21:45	01
40MW6GW92512	L12090809-04	5M68340	10/04/12 08:25	01
40DUPGW92512	L12090809-08	5M68341	10/04/12 08:57	01
40FB92612	L12090809-15	5M68342	10/04/12 09:30	01
40EQR92612	L12090809-16	5M68343	10/04/12 10:03	01
LFMW01GW92612	L12090809-17	5M68344	10/04/12 10:35	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2607792
 Report generated 10/05/2012 16:58



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/01/12 09:00 Sample ID: WG410127-02
 Instrument ID: HPMS5 Run Date: 10/02/12 10:47 Prep Method: 3510C
 File ID: 5M68300 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG410253 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS5 - 18-SEP-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
1,2,4-Trichlorobenzene	2.50	5.00	2.50	1	U
1,2-Dichlorobenzene	2.50	5.00	2.50	1	U
1,3-Dichlorobenzene	2.50	5.00	2.50	1	U
1,4-Dichlorobenzene	2.50	5.00	2.50	1	U
2,4,5-Trichlorophenol	2.50	5.00	2.50	1	U
2,4,6-Trichlorophenol	2.50	5.00	2.50	1	U
2,4-Dichlorophenol	2.50	5.00	2.50	1	U
2,4-Dimethylphenol	2.50	5.00	2.50	1	U
2,4-Dinitrophenol	12.5	25.0	12.5	1	U
2,4-Dinitrotoluene	2.50	5.00	2.50	1	U
2,6-Dinitrotoluene	2.50	5.00	2.50	1	U
2-Chloronaphthalene	2.50	5.00	2.50	1	U
2-Chlorophenol	2.50	5.00	2.50	1	U
2-Methylnaphthalene	2.50	5.00	2.50	1	U
2-Methylphenol	2.50	5.00	2.50	1	U
2-Nitroaniline	12.5	25.0	12.5	1	U
2-Nitrophenol	2.50	5.00	2.50	1	U
3,3'-Dichlorobenzidine	2.50	10.0	2.50	1	U
3-,4-Methylphenol	2.50	5.00	2.50	1	U
3-Nitroaniline	12.5	25.0	12.5	1	U
4,6-Dinitro-2-methylphenol	12.5	25.0	12.5	1	U
4-Bromophenyl-phenylether	2.50	5.00	2.50	1	U
4-Chloro-3-methylphenol	2.50	5.00	2.50	1	U
4-Chloroaniline	2.50	5.00	2.50	1	U
4-Chlorophenyl-phenyl ether	2.50	5.00	2.50	1	U
4-Nitroaniline	12.5	25.0	12.5	1	U
4-Nitrophenol	12.5	25.0	12.5	1	U
Acenaphthene	2.50	5.00	2.50	1	U
Acenaphthylene	2.50	5.00	2.50	1	U
Anthracene	2.50	5.00	2.50	1	U
Benzo(a)anthracene	2.50	5.00	2.50	1	U
Benzo(a)pyrene	2.50	5.00	2.50	1	U
Benzo(b)fluoranthene	2.50	5.00	2.50	1	U
Benzo(g,h,i)Perylene	2.50	5.00	2.50	1	U
Benzo(k)fluoranthene	2.50	5.00	2.50	1	U
Benzoic acid	12.5	25.0	12.5	1	U
Benzyl alcohol	2.50	5.00	2.50	1	U
Bis(2-Chloroethoxy)Methane	2.50	5.00	2.50	1	U
Bis(2-Chloroethyl)ether	2.50	5.00	2.50	1	U
bis(2-Chloroisopropyl)ether	2.50	5.00	2.50	1	U
bis(2-Ethylhexyl)phthalate	3.00	10.0	3.00	1	U
Butylbenzylphthalate	2.50	5.00	2.50	1	U

Report Name: BLANK

PDF ID: 2604410

05-OCT-2012 16:58



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/01/12 09:00 Sample ID: WG410127-02
 Instrument ID: HPMS5 Run Date: 10/02/12 10:47 Prep Method: 3510C
 File ID: 5M68300 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG410253 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS5 - 18-SEP-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Chrysene	2.50	5.00	2.50	1	U
Di-N-Butylphthalate	2.50	5.00	2.50	1	U
Di-n-octylphthalate	2.50	5.00	2.50	1	U
Dibenzo (a, h) Anthracene	2.50	5.00	2.50	1	U
Dibenzofuran	2.50	5.00	2.50	1	U
Diethylphthalate	2.50	5.00	2.50	1	U
Dimethylphthalate	2.50	5.00	2.50	1	U
Fluoranthene	2.50	5.00	2.50	1	U
Fluorene	2.50	5.00	2.50	1	U
Hexachlorobenzene	2.50	5.00	2.50	1	U
Hexachlorobutadiene	2.50	5.00	2.50	1	U
Hexachlorocyclopentadiene	2.50	5.00	2.50	1	U
Hexachloroethane	2.50	5.00	2.50	1	U
Indeno (1, 2, 3-cd) pyrene	2.50	5.00	2.50	1	U
Isophorone	2.50	5.00	2.50	1	U
N-Nitrosodiphenylamine	2.50	5.00	2.50	1	U
N-Nitrosodipropylamine	2.50	5.00	2.50	1	U
Naphthalene	2.50	5.00	2.50	1	U
Nitrobenzene	2.50	5.00	2.50	1	U
Pentachlorophenol	12.5	25.0	12.5	1	U
Phenanthrene	2.50	5.00	2.50	1	U
Phenol	2.50	5.00	2.50	1	U
Pyrene	2.50	5.00	2.50	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,6-Tribromophenol	83.6	40 - 125	PASS
2-Fluorobiphenyl	73.1	50 - 110	PASS
2-Fluorophenol	48.8	20 - 110	PASS
Nitrobenzene-d5	69.2	40 - 110	PASS
p-Terphenyl-d14	114	50 - 135	PASS
Phenol-d5	29.5	10 - 115	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2604410

05-OCT-2012 16:58



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410127-03
Instrument ID: HPMS5 Run Time: 11:20 Prep Method: 3510C
File ID: 5M68301 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG410253 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD53151 Cal ID: HPMS5 - 18-SEP-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
1,2,4-Trichlorobenzene	50.0	34.6	69.3	35 - 105	39-98, 28
1,2-Dichlorobenzene	50.0	40.6	81.3	35 - 100	
1,3-Dichlorobenzene	50.0	39.6	79.2	30 - 100	
1,4-Dichlorobenzene	50.0	39.9	79.9	30 - 100	36-97, 28
2,4,5-Trichlorophenol	50.0	48.2	96.4	50 - 110	
2,4,6-Trichlorophenol	50.0	45.3	90.7	50 - 115	
2,4-Dichlorophenol	50.0	38.5	77.1	50 - 105	
2,4-Dimethylphenol	50.0	38.3	76.5	30 - 110	
2,4-Dinitrophenol	50.0	42.7	85.4	15 - 140	
2,4-Dinitrotoluene	50.0	55.5	111	50 - 120	24-96, 38
2,6-Dinitrotoluene	50.0	51.3	103	50 - 115	
2-Chloronaphthalene	50.0	45.2	90.5	50 - 105	
2-Chlorophenol	50.0	37.7	75.4	35 - 105	27-123, 40
2-Methylnaphthalene	50.0	40.1	80.2	45 - 105	
2-Methylphenol	50.0	36.5	73.1	40 - 110	
2-Nitroaniline	50.0	48.7	97.5	50 - 115	
2-Nitrophenol	50.0	39.8	79.6	40 - 115	
3,3'-Dichlorobenzidine	50.0	51.4	103	20 - 110	
3-,4-Methylphenol	50.0	34.7	69.4	30 - 110	
3-Nitroaniline	50.0	47.7	95.3	20 - 125	
4,6-Dinitro-2-methylphenol	50.0	58.1	116	40 - 130	
4-Bromophenyl-phenylether	50.0	51.9	104	50 - 115	
4-Chloro-3-methylphenol	50.0	38.2	76.3	45 - 110	23-97, 42
4-Chloroaniline	50.0	36.9	73.7	15 - 110	
4-Chlorophenyl-phenyl ether	50.0	50.7	101	50 - 110	
4-Nitroaniline	50.0	49.1	98.2	35 - 120	
4-Nitrophenol	50.0	20.5	41.1	0 - 125	10-80, 50
Acenaphthene	50.0	49.2	98.5	45 - 110	46-118, 31
Acenaphthylene	50.0	51.8	104	50 - 105	
Anthracene	50.0	53.2	106	55 - 110	
Benzo(a)anthracene	50.0	54.1	108	55 - 110	
Benzo(a)pyrene	50.0	52.3	105	55 - 110	
Benzo(b)fluoranthene	50.0	48.4	96.7	45 - 120	
Benzo(g,h,i)Perylene	50.0	61.0	122	40 - 125	
Benzo(k)fluoranthene	50.0	51.9	104	45 - 125	
Benzoic acid	50.0	11.7	23.3	0 - 125	
Benzyl alcohol	50.0	39.9	79.8	30 - 110	
Bis(2-Chloroethoxy)Methane	50.0	30.8	61.6	45 - 105	
Bis(2-Chloroethyl)ether	50.0	40.2	80.3	35 - 110	
bis(2-Chloroisopropyl)ether	50.0	42.1	84.2	25 - 130	
bis(2-Ethylhexyl)phthalate	50.0	53.8	108	40 - 125	

LCS - Modified 03/06/2008
PDF File ID: 2604411
Report generated: 10/05/2012 16:58



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410127-03
Instrument ID: HPMS5 Run Time: 11:20 Prep Method: 3510C
File ID: 5M68301 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG410253 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD53151 Cal ID: HPMS5 - 18-SEP-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Butylbenzylphthalate	50.0	61.5	123	45 - 115	*
Chrysene	50.0	56.4	113	55 - 110	*
Di-N-Butylphthalate	50.0	53.3	107	55 - 115	
Di-n-octylphthalate	50.0	52.2	104	35 - 135	
Dibenzo (a,h) Anthracene	50.0	53.0	106	40 - 125	
Dibenzofuran	50.0	51.1	102	55 - 105	
Diethylphthalate	50.0	49.8	99.6	40 - 120	
Dimethylphthalate	50.0	47.8	95.6	25 - 125	
Fluoranthene	50.0	55.1	110	55 - 115	
Fluorene	50.0	50.7	101	50 - 110	
Hexachlorobenzene	50.0	52.6	105	50 - 110	
Hexachlorobutadiene	50.0	36.3	72.7	25 - 105	
Hexachlorocyclopentadiene	50.0	36.3	72.6	20 - 143	
Hexachloroethane	50.0	36.0	72.0	30 - 100	
Indeno (1,2,3-cd) pyrene	50.0	58.5	117	45 - 125	
Isophorone	50.0	39.5	79.0	50 - 110	
N-Nitrosodiphenylamine	50.0	53.7	107	50 - 110	
N-Nitrosodipropylamine	50.0	47.7	95.4	35 - 130	41-116, 38
Naphthalene	50.0	41.3	82.6	40 - 100	
Nitrobenzene	50.0	36.1	72.2	45 - 110	
Pentachlorophenol	50.0	55.8	112	40 - 115	9-103, 50
Phenanthrene	50.0	53.6	107	50 - 115	
Phenol	50.0	18.4	36.9	85 - 115	* 12-110, 42
Pyrene	50.0	55.1	110	50 - 130	26-127, 31

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,6-Tribromophenol	105	40 - 125	PASS
2-Fluorobiphenyl	91.9	50 - 110	PASS
2-Fluorophenol	54.2	20 - 110	PASS
Nitrobenzene-d5	72.0	40 - 110	PASS
p-Terphenyl-d14	106	50 - 135	PASS
Phenol-d5	35.9	10 - 115	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2604411
Report generated: 10/05/2012 16:58



MS/MSD REPORT

Loginnum: L12090809

Cal ID: HPMS5- 18-SEP-12

Worknum: WG410253

Instrument ID: HPMS5

Contract #:

Prep Method: 3510C

Parent ID: L12090809-06

File ID: 5M68316

Dil: 1

Method: 8270C

Sample ID: L12090809-10 MS

File ID: 5M68317

Dil: 1

Matrix: Water

Sample ID: L12090809-12 MSD

File ID: 5M68318

Dil: 1

Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,2,4-Trichlorobenzene	U	52.9	38.8	73.3	52.9	37.0	69.9	4.79	35 - 105	30	39-98, 28
1,2-Dichlorobenzene	U	52.9	46.7	88.3	52.9	44.1	83.4	5.73	35 - 100	30	
1,3-Dichlorobenzene	U	52.9	45.3	85.6	52.9	42.0	79.4	7.42	30 - 100	30	
1,4-Dichlorobenzene	U	52.9	45.6	86.2	52.9	42.6	80.5	6.73	30 - 100	30	36-97, 28
2,4,5-Trichlorophenol	U	52.9	53.1	100	52.9	54.9	104	3.37	50 - 110	30	
2,4,6-Trichlorophenol	U	52.9	50.7	95.9	52.9	52.2	98.7	2.84	50 - 115	30	
2,4-Dichlorophenol	U	52.9	43.3	81.8	52.9	45.0	85.1	3.99	50 - 105	30	
2,4-Dimethylphenol	U	52.9	42.9	81.1	52.9	45.1	85.2	4.86	30 - 110	30	
2,4-Dinitrophenol	U	52.9	32.7	61.8	52.9	35.4	66.9	7.96	15 - 140	30	
2,4-Dinitrotoluene	U	52.9	60.5	114	52.9	59.0	112	2.44	50 - 120	30	24-96, 38
2,6-Dinitrotoluene	U	52.9	56.2	106	52.9	55.5	105	1.09	50 - 115	30	
2-Chloronaphthalene	U	52.9	50.0	94.5	52.9	48.8	92.2	2.52	50 - 105	30	
2-Chlorophenol	U	52.9	43.4	82	52.9	45.2	85.5	4.12	35 - 105	30	27-123, 40
2-Methylnaphthalene	U	52.9	44.0	83.2	52.9	43.0	81.3	2.34	45 - 105	30	
2-Methylphenol	U	52.9	41.3	78.1	52.9	43.3	81.7	4.61	40 - 110	30	
2-Nitroaniline	U	52.9	53.1	100	52.9	52.7	99.7	0.628	50 - 115	30	
2-Nitrophenol	U	52.9	45.4	85.8	52.9	46.1	87.1	1.50	40 - 115	30	
3,3'-Dichlorobenzidine	U	52.9	61.7	117	52.9	59.4	112	3.79	20 - 110	30	*
3-,4-Methylphenol	U	52.9	39.3	74.2	52.9	40.8	77.2	3.85	30 - 110	30	
3-Nitroaniline	U	52.9	52.2	98.7	52.9	51.2	96.8	2.03	20 - 125	30	
4,6-Dinitro-2-methylphenol	U	52.9	51.5	97.4	52.9	52.7	99.7	2.36	40 - 130	30	
4-Bromophenyl-phenylether	U	52.9	57.0	108	52.9	57.2	108	0.401	50 - 115	30	
4-Chloro-3-methylphenol	U	52.9	42.1	79.5	52.9	44.4	83.8	5.31	45 - 110	30	23-97, 42
4-Chloroaniline	U	52.9	41.5	78.4	52.9	40.7	77	1.76	15 - 110	30	
4-Chlorophenyl-phenyl ether	U	52.9	56.1	106	52.9	55.9	106	0.369	50 - 110	30	
4-Nitroaniline	U	52.9	57.5	109	52.9	52.9	100	8.31	35 - 120	30	
4-Nitrophenol	U	52.9	24.1	45.6	52.9	22.7	43	5.99	0 - 125	30	10-80, 50
Acenaphthene	U	52.9	53.1	100	52.9	52.3	98.9	1.44	45 - 110	30	46-118, 31
Acenaphthylene	U	52.9	57.9	109	52.9	56.8	107	1.91	50 - 105	30	*
Anthracene	U	52.9	57.2	108	52.9	56.7	107	0.996	55 - 110	30	
Benzo (a) anthracene	U	52.9	58.8	111	52.9	56.9	108	3.36	55 - 110	30	*
Benzo (a) pyrene	U	52.9	57.3	108	52.9	56.2	106	1.93	55 - 110	30	
Benzo (b) fluoranthene	U	52.9	53.8	102	52.9	52.1	98.5	3.28	45 - 120	30	
Benzo (g,h,i) Perylene	U	52.9	65.4	124	52.9	63.7	120	2.68	40 - 125	30	
Benzo (k) fluoranthene	U	52.9	60.9	115	52.9	59.8	113	1.69	45 - 125	30	
Benzoic acid	U	52.9	0	0	52.9	15.7	29.7	200	0 - 125	30	#
Benzyl alcohol	U	52.9	45.1	85.1	52.9	45.2	85.5	0.416	30 - 110	30	
Bis (2-Chloroethoxy) Methane	U	52.9	34.6	65.4	52.9	34.1	64.5	1.42	45 - 105	30	
Bis (2-Chloroethyl) ether	U	52.9	46.1	87.2	52.9	45.2	85.4	2.10	35 - 110	30	
bis (2-Chloroisopropyl) ether	U	52.9	47.3	89.3	52.9	46.5	87.9	1.59	25 - 130	30	
bis (2-Ethylhexyl) phthalate	U	52.9	57.7	109	52.9	56.3	106	2.44	40 - 125	30	

MS MSD - Modified 03/06/2008

PDF File ID: 2604412

Report generated 10/05/2012 16:58



MS/MSD REPORT

Loginnum: L12090809

Cal ID: HPMS5 18-SEP-12

Worknum: WG410253

Instrument ID: HPMS5

Contract #:

Prep Method: 3510C

Parent ID: L12090809-06

File ID: 5M68316

Dil: 1

Method: 8270C

Sample ID: L12090809-10 MS

File ID: 5M68317

Dil: 1

Matrix: Water

Sample ID: L12090809-12 MSD

File ID: 5M68318

Dil: 1

Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Butylbenzylphthalate	U	52.9	66.8	126	52.9	64.4	122	3.56	45 - 115	30	*
Chrysene	U	52.9	60.9	115	52.9	59.2	112	2.79	55 - 110	30	*
Di-N-Butylphthalate	U	52.9	57.4	108	52.9	55.6	105	3.10	55 - 115	30	
Di-n-octylphthalate	U	52.9	56.6	107	52.9	55.4	105	2.16	35 - 135	30	
Dibenzo(a,h)Anthracene	U	52.9	57.5	109	52.9	37.1	70.1	43.1	40 - 125	30	#
Dibenzofuran	U	52.9	56.0	106	52.9	56.0	106	8.0368	55 - 105	30	*
Diethylphthalate	U	52.9	54.2	102	52.9	53.3	101	1.62	40 - 120	30	
Dimethylphthalate	U	52.9	52.2	98.6	52.9	52.5	99.2	0.604	25 - 125	30	
Fluoranthene	U	52.9	59.2	112	52.9	57.5	109	2.90	55 - 115	30	
Fluorene	U	52.9	55.7	105	52.9	54.7	103	1.76	50 - 110	30	
Hexachlorobenzene	U	52.9	57.1	108	52.9	56.4	107	1.22	50 - 110	30	
Hexachlorobutadiene	U	52.9	41.6	78.7	52.9	38.3	72.3	8.42	25 - 105	30	
Hexachlorocyclopentadiene	U	52.9	26.4	50	52.9	27.2	51.3	2.75	20 - 143	30	
Hexachloroethane	U	52.9	39.6	74.8	52.9	36.2	68.4	8.98	30 - 100	30	
Indeno(1,2,3-cd)pyrene	U	52.9	63.5	120	52.9	57.9	110	9.18	45 - 125	30	
Isophorone	U	52.9	43.1	81.4	52.9	43.2	81.7	0.310	50 - 110	30	
N-Nitrosodiphenylamine	U	52.9	58.2	110	52.9	58.7	111	0.825	50 - 110	30	*
N-Nitrosodipropylamine	U	52.9	53.2	101	52.9	52.7	99.6	1.01	35 - 130	30	41-116, 38
Naphthalene	U	52.9	46.5	87.8	52.9	44.9	84.8	3.56	40 - 100	30	
Nitrobenzene	U	52.9	40.8	77.1	52.9	40.1	75.7	1.86	45 - 110	30	
Pentachlorophenol	U	52.9	59.6	113	52.9	59.2	112	0.621	40 - 115	30	9-103, 50
Phenanthrene	U	52.9	58.8	111	52.9	56.9	108	3.24	50 - 115	30	
Phenol	U	52.9	21.7	40.9	52.9	20.8	39.3	4.08	85 - 115	30	* 12-110, 42
Pyrene	U	52.9	59.2	112	52.9	58.3	110	1.48	50 - 130	30	26-127, 31

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2604412

Report generated 10/05/2012 16:58



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12090809 Tune ID: WG409083-01
Instrument: HPMS5 Run Date: 09/18/2012
Analyst: CAA Run Time: 12:48
Workgroup: WG409083 File ID: 5M68155
Cal ID: HPMS5-18-SEP-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	46.9	404047	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	47.3	407350	PASS
70.0	69.0	0	2.00	0.733	2986	PASS
127	198	40.0	60.0	54.1	465429	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	861098	PASS
199	198	5.00	9.00	6.96	59952	PASS
275	198	10.0	30.0	27.0	232341	PASS
365	198	1.00	100	3.19	27466	PASS
441	443	0.0100	100	84.8	131962	PASS
442	198	40.0	100	93.9	808362	PASS
443	442	17.0	23.0	19.3	155634	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG409083-02	STD-CCV	01	09/18/2012 13:08	
WG409083-03	STD	01	09/18/2012 13:45	
WG409083-04	STD	01	09/18/2012 14:22	
WG409083-05	STD	01	09/18/2012 15:00	
WG409083-06	STD	01	09/18/2012 15:37	
WG409083-07	STD	01	09/18/2012 16:14	
WG409083-08	STD	01	09/18/2012 16:51	
WG409083-09	STD	01	09/18/2012 17:28	
WG409083-10	SSCV	01	09/18/2012 18:05	
WG409083-11	SSCV	01	09/18/2012 18:41	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2607871
Report generated 10/05/2012 16:59



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12090809 Tune ID: WG410247-01
Instrument: HPMS5 Run Date: 10/02/2012
Analyst: CAA Run Time: 09:56
Workgroup: WG410247 File ID: 5M68298
Cal ID: HPMS5-18-SEP-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	46.0	359921	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	45.7	357504	PASS
70.0	69.0	0	2.00	0.442	1579	PASS
127	198	40.0	60.0	51.4	401600	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	781610	PASS
199	198	5.00	9.00	6.83	53373	PASS
275	198	10.0	30.0	25.6	200200	PASS
365	198	1.00	100	2.84	22204	PASS
441	443	0.0100	100	14.7	18160	PASS
442	198	40.0	100	80.3	627840	PASS
443	442	17.0	23.0	19.7	123570	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG410247-02	CCV	01	10/02/2012 10:14	
WG410127-02	BLANK	01	10/02/2012 10:47	
WG410127-03	LCS	01	10/02/2012 11:20	
L12090809-06	40MW5GW92512	01	10/02/2012 19:33	
L12090809-10	40MW5MSGW92512	01	10/02/2012 20:06	
L12090809-12	40MW5MSDGW92512	01	10/02/2012 20:39	
L12090809-01	40MW7GW92512	01	10/02/2012 21:12	
L12090809-03	40EQR92512	01	10/02/2012 21:45	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2607871
Report generated 10/05/2012 16:59



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12090809 Tune ID: WG410392-01
Instrument: HPMS5 Run Date: 10/04/2012
Analyst: CAA Run Time: 07:35
Workgroup: WG410392 File ID: 5M68338
Cal ID: HPMS5-18-SEP-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	42.7	319304	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	43.4	324421	PASS
70.0	69.0	0	2.00	0.582	1887	PASS
127	198	40.0	60.0	50.1	374826	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	747925	PASS
199	198	5.00	9.00	6.81	50957	PASS
275	198	10.0	30.0	26.7	199530	PASS
365	198	1.00	100	2.92	21869	PASS
441	443	0.0100	100	84.1	115890	PASS
442	198	40.0	100	93.9	701930	PASS
443	442	17.0	23.0	19.6	137730	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG410392-02	CCV	01	10/04/2012 07:53	
L12090809-04	40MW6GW92512	01	10/04/2012 08:25	
L12090809-08	40DUPGW92512	01	10/04/2012 08:57	
L12090809-15	40FB92612	01	10/04/2012 09:30	
L12090809-16	40EQR92612	01	10/04/2012 10:03	
L12090809-17	LFMW01GW92612	01	10/04/2012 10:35	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2607871
Report generated 10/05/2012 16:59



Login Number: L12090809
Analytical Method: 8270C
ICAL Workgroup: WG409083

Instrument ID: HPMS5
Initial Calibration Date: 18-SEP-12 17:28
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
1,4-Dichlorobenzene	CCC	1.544	3.90		
2,4,6-Trichlorophenol	CCC	0.3718	2.56		
2,4-Dichlorophenol	CCC	0.2675	2.37		
2-Nitrophenol	CCC	0.1824	3.99		
4-Chloro-3-Methylphenol	CCC	0.3030	4.22		
Acenaphthene	CCC	1.172	9.27		
Benzo[a]pyrene	CCC	1.023	0.887		
Di-n-Octyl Phthalate	CCC	1.298	3.41		
Fluoranthene	CCC	1.062	11.9		
Hexachlorobutadiene	CCC	0.1653	4.56		
Pentachlorophenol	CCC	0.1545	4.44		
Phenol	CCC	1.710	3.53		
2,4-Dinitrophenol	SPCC	0.1794	15.6	0.99900	
4-Nitrophenol	SPCC	0.2907	5.15		
Hexachlorocyclopentadiene	SPCC	0.2812	9.73		
n-Nitrosodipropylamine	SPCC	0.9743	8.57		
1,2,4-Trichlorobenzene		0.3070	5.21		
1,2-Dichlorobenzene		1.439	3.19		
1,3-Dichlorobenzene		1.488	3.36		
2,4,5-Trichlorophenol		0.3879	2.31		
2,4-Dimethylphenol		0.3135	6.27		
2,4-Dinitrotoluene		0.3856	7.60		
2,6-Dinitrotoluene		0.3157	1.88		
2-Chloronaphthalene		1.150	4.91		
2-Chlorophenol		1.391	1.34		
2-Methylnaphthalene		0.6531	7.61		
2-Methylphenol		1.175	2.00		
2-Nitroaniline		0.3827	3.98		
3,3'-Dichlorobenzidine		0.3423	4.18		
3-Nitroaniline		0.3618	2.46		
4,6-Dinitro-2-Methylphenol		0.1319	5.17		
4-Bromophenyl Phenyl Ether		0.2053	5.56		
4-Chloroaniline		0.4338	2.08		
4-Chlorophenyl Phenyl Ether		0.6212	14.2		
4-Nitroaniline		0.3672	3.85		
Acenaphthylene		1.773	7.18		
Anthracene		1.069	11.1		
Benzo[a]anthracene		1.019	7.11		
Benzo[b]fluoranthene		1.215	5.70		
Benzo[ghi]perylene		0.8291	14.1		
Benzo[k]fluoranthene		1.010	6.59		
Benzoic Acid		0.2371	16.2	0.99900	
Benzyl Alcohol		0.9313	2.89		
Butyl Benzyl Phthalate		0.4477	19.5		0.99900
Chrysene		0.9629	9.56		

INT_CAL - Modified 03/06/2008
PDF File ID: 2607869
Report generated 10/05/2012 16:58



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12090809
Analytical Method: 8270C
ICAL Workgroup: WG409083

Instrument ID: HPMS5
Initial Calibration Date: 18-SEP-12 17:28
Column ID: F

Analyte	AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Di-n-Butyl Phthalate	1.150	11.0		
Dibenz [ah]anthracene	0.8578	12.4		
Dibenzofuran	1.527	12.5		
Diethylphthalate	1.331	5.83		
Dimethylphthalate	1.298	5.15		
Fluorene	1.354	9.41		
Hexachlorobenzene	0.2165	6.69		
Hexachloroethane	0.6091	2.01		
Indeno [1,2,3-cd]pyrene	1.020	12.7		
Isophorone	0.6511	3.91		
Naphthalene	1.017	7.43		
Nitrobenzene	0.3712	3.95		
Phenanthrene	1.044	11.0		
Pyrene	1.000	13.5		
bis (2-Chloroethoxy) methane	0.5001	9.87		
bis (2-Chloroethyl) ether	0.9985	5.48		
bis (2-Chloroisopropyl) ether	2.066	4.79		
bis (2-Ethylhexyl) phthalate	0.7107	12.8		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
PDF File ID: 2607869
Report generated 10/05/2012 16:58



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12090809
Analytical Method: 8270C

Instrument ID: HPMS5
Initial Calibration Date: 18-SEP-12 17:28
Column ID: F

Analyte	WG409083-02			WG409083-03			WG409083-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,4-Dichlorobenzene	50.0	590694.000	1.568	3.00	34599.0000	1.615	10.0	113545.000	1.590
2,4,6-Trichlorophenol	50.0	329655.000	0.3791	3.00	15723.0000	0.3690	10.0	54627.0000	0.3729
2,4-Dichlorophenol	50.0	430076.000	0.2711	3.00	21961.0000	0.2638	10.0	76946.0000	0.2733
2-Nitrophenol	50.0	299857.000	0.1890	3.00	14425.0000	0.1733	10.0	52151.0000	0.1852
4-Chloro-3-Methylphenol	50.0	499602.000	0.3150	3.00	25626.0000	0.3078	10.0	87390.0000	0.3103
Acenaphthene	50.0	1027464.00	1.182	3.00	53863.0000	1.264	10.0	187062.000	1.277
Benzo[a]pyrene	50.0	1684699.00	1.035	3.00	80792.0000	1.014	10.0	285678.000	1.031
Di-n-Octyl Phthalate	50.0	2128858.00	1.307	3.00	96160.0000	1.207	10.0	351442.000	1.269
Fluoranthene	50.0	1783823.00	1.053	3.00	93733.0000	1.212	10.0	321752.000	1.175
Hexachlorobutadiene	50.0	262813.000	0.1657	3.00	14411.0000	0.1731	10.0	47913.0000	0.1701
Pentachlorophenol	50.0	278217.000	0.1643	NA	NA	NA	10.0	39205.0000	0.1431
Phenol	50.0	662982.000	1.759	3.00	37881.0000	1.768	10.0	125101.000	1.752
2,4-Dinitrophenol	50.0	153245.000	0.1762	NA	NA	NA	NA	NA	NA
4-Nitrophenol	50.0	255295.000	0.2936	NA	NA	NA	10.0	39387.0000	0.2689
Hexachlorocyclopentadiene	50.0	271471.000	0.3122	3.00	10791.0000	0.2532	10.0	42871.0000	0.2927
n-Nitrosodipropylamine	50.0	383796.000	1.019	3.00	22115.0000	1.032	10.0	75053.0000	1.051
1,2,4-Trichlorobenzene	50.0	489481.000	0.3086	3.00	26907.0000	0.3232	10.0	90962.0000	0.3230
1,2-Dichlorobenzene	50.0	549921.000	1.459	3.00	32188.0000	1.502	10.0	105191.000	1.473
1,3-Dichlorobenzene	50.0	567973.000	1.507	3.00	33065.0000	1.543	10.0	109433.000	1.533
2,4,5-Trichlorophenol	50.0	344691.000	0.3964	3.00	16048.0000	0.3766	10.0	57128.0000	0.3900
2,4-Dimethylphenol	50.0	508079.000	0.3203	3.00	27476.0000	0.3300	10.0	92736.0000	0.3293
2,4-Dinitrotoluene	50.0	346498.000	0.3985	3.00	16108.0000	0.3780	10.0	60781.0000	0.4150
2,6-Dinitrotoluene	50.0	279666.000	0.3216	3.00	13177.0000	0.3092	10.0	46377.0000	0.3166
2-Chloronaphthalene	50.0	1003750.00	1.154	3.00	51900.0000	1.218	10.0	174067.000	1.188
2-Chlorophenol	50.0	536282.000	1.423	3.00	30023.0000	1.401	10.0	99531.0000	1.394
2-Methylnaphthalene	50.0	1059231.00	0.6678	3.00	57926.0000	0.6958	10.0	194919.000	0.6922
2-Methylphenol	50.0	459312.000	1.219	3.00	24364.0000	1.137	10.0	83115.0000	1.164
2-Nitroaniline	50.0	349394.000	0.4018	NA	NA	NA	10.0	57150.0000	0.3902
3,3'-Dichlorobenzidine	50.0	631641.000	0.3466	3.00	29076.0000	0.3524	10.0	101667.000	0.3481
3-Nitroaniline	50.0	321349.000	0.3696	NA	NA	NA	10.0	50881.0000	0.3474
4,6-Dinitro-2-Methylphenol	50.0	230285.000	0.1360	NA	NA	NA	NA	NA	NA
4-Bromophenyl Phenyl Ether	50.0	352472.000	0.2081	3.00	16852.0000	0.2178	10.0	58578.0000	0.2139
4-Chloroaniline	50.0	704463.000	0.4441	3.00	35976.0000	0.4321	10.0	123160.000	0.4374
4-Chlorophenyl Phenyl Ether	50.0	561048.000	0.6452	3.00	29661.0000	0.6960	10.0	102004.000	0.6964
4-Nitroaniline	50.0	336202.000	0.3866	NA	NA	NA	10.0	52088.0000	0.3556
Acenaphthylene	50.0	1568543.00	1.804	3.00	80102.0000	1.880	10.0	276756.000	1.889
Anthracene	50.0	1822092.00	1.076	3.00	91907.0000	1.188	10.0	322320.000	1.177
Benzo[a]anthracene	50.0	1847277.00	1.014	3.00	92026.0000	1.115	10.0	316095.000	1.082
Benzo[b]fluoranthene	50.0	1967875.00	1.208	3.00	91367.0000	1.147	10.0	327142.000	1.181
Benzo[ghi]perylene	50.0	1354885.00	0.8320	3.00	72759.0000	0.9132	10.0	253426.000	0.9150
Benzo[k]fluoranthene	50.0	1689516.00	1.037	3.00	81401.0000	1.022	10.0	305827.000	1.104
Benzoic Acid	50.0	382301.000	0.2410	NA	NA	NA	NA	NA	NA

INT_CAL - Modified 03/06/2008
PDF File ID: 2607869
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Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12090809
Analytical Method:8270C

Instrument ID:HPMS5
Initial Calibration Date:18-SEP-12 17:28
Column ID:F

Analyte	WG409083-02			WG409083-03			WG409083-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	50.0	368022.000	0.9766	3.00	18881.0000	0.8812	10.0	65689.0000	0.9201
Butyl Benzyl Phthalate	50.0	791635.000	0.4343	3.00	45265.0000	0.5485	10.0	155691.000	0.5331
Chrysene	50.0	1750622.00	0.9605	3.00	88166.0000	1.068	10.0	306869.000	1.051
Di-n-Butyl Phthalate	50.0	1954225.00	1.154	3.00	99139.0000	1.282	10.0	348164.000	1.271
Dibenz[ah]anthracene	50.0	1456998.00	0.8947	3.00	72999.0000	0.9162	10.0	263419.000	0.9510
Dibenzofuran	50.0	1346531.00	1.549	3.00	73163.0000	1.717	10.0	248475.000	1.696
Diethylphthalate	50.0	1185639.00	1.364	3.00	59259.0000	1.391	10.0	205043.000	1.400
Dimethylphthalate	50.0	1129958.00	1.300	3.00	58015.0000	1.361	10.0	199634.000	1.363
Fluorene	50.0	1198536.00	1.378	3.00	62291.0000	1.462	10.0	215667.000	1.472
Hexachlorobenzene	50.0	369357.000	0.2181	3.00	17951.0000	0.2320	10.0	63008.0000	0.2300
Hexachloroethane	50.0	239106.000	0.6345	3.00	13057.0000	0.6094	10.0	43162.0000	0.6045
Indeno[1,2,3-cd]pyrene	50.0	1739953.00	1.068	3.00	87899.0000	1.103	10.0	313314.000	1.131
Isophorone	50.0	1046433.00	0.6597	3.00	56403.0000	0.6775	10.0	189907.000	0.6744
Naphthalene	50.0	1645838.00	1.038	3.00	90796.0000	1.091	10.0	303593.000	1.078
Nitrobenzene	50.0	597032.000	0.3764	3.00	32207.0000	0.3869	10.0	107885.000	0.3831
Phenanthrene	50.0	1762229.00	1.041	3.00	91820.0000	1.187	10.0	314179.000	1.147
Pyrene	50.0	1794897.00	0.9848	3.00	94609.0000	1.147	10.0	328225.000	1.124
bis(2-Chloroethoxy)methane	50.0	815666.000	0.5142	3.00	45390.0000	0.5452	10.0	151965.000	0.5397
bis(2-Chloroethyl)ether	50.0	388472.000	1.031	3.00	22950.0000	1.071	10.0	74325.0000	1.041
bis(2-Chloroisopropyl)ether	50.0	812615.000	2.157	3.00	46597.0000	2.175	10.0	152376.000	2.134
bis(2-Ethylhexyl)phthalate	50.0	1249438.00	0.6855	3.00	69651.0000	0.8441	10.0	232197.000	0.7951

INT_CAL - Modified 03/06/2008
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Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12090809
Analytical Method: 8270C

Instrument ID: HPMS5
Initial Calibration Date: 18-SEP-12 17:28
Column ID: F

Analyte	WG409083-05			WG409083-06			WG409083-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,4-Dichlorobenzene	15.0	179857.000	1.579	25.0	326567.000	1.564	80.0	1049918.00	1.520
2,4,6-Trichlorophenol	15.0	91442.0000	0.3827	25.0	170261.000	0.3803	80.0	573485.000	0.3718
2,4-Dichlorophenol	15.0	123759.000	0.2741	25.0	228949.000	0.2735	80.0	764227.000	0.2642
2-Nitrophenol	15.0	84895.0000	0.1880	25.0	159130.000	0.1901	80.0	532779.000	0.1842
4-Chloro-3-Methylphenol	15.0	141672.000	0.3138	25.0	260638.000	0.3113	80.0	856719.000	0.2962
Acenaphthene	15.0	301907.000	1.264	25.0	556589.000	1.243	80.0	1688052.00	1.094
Benzo[a]pyrene	15.0	459644.000	1.027	25.0	849924.000	1.025	80.0	2642165.00	1.025
Di-n-Octyl Phthalate	15.0	580636.000	1.297	25.0	1073173.00	1.294	80.0	3413677.00	1.324
Fluoranthene	15.0	521526.000	1.162	25.0	960755.000	1.125	80.0	2830070.00	0.9699
Hexachlorobutadiene	15.0	77867.0000	0.1725	25.0	142191.000	0.1698	80.0	465010.000	0.1608
Pentachlorophenol	15.0	67864.0000	0.1512	25.0	134723.000	0.1577	80.0	463953.000	0.1590
Phenol	15.0	198950.000	1.747	25.0	359552.000	1.722	80.0	1163337.00	1.684
2,4-Dinitrophenol	15.0	31885.0000	0.1335	25.0	72825.0000	0.1626	80.0	301296.000	0.1953
4-Nitrophenol	15.0	65510.0000	0.2742	25.0	128141.000	0.2862	80.0	461781.000	0.2994
Hexachlorocyclopentadiene	15.0	72592.0000	0.3038	25.0	138060.000	0.3083	80.0	433156.000	0.2808
n-Nitrosodipropylamine	15.0	118751.000	1.042	25.0	212686.000	1.019	80.0	632524.000	0.9156
1,2,4-Trichlorobenzene	15.0	142910.000	0.3165	25.0	264965.000	0.3165	80.0	861179.000	0.2977
1,2-Dichlorobenzene	15.0	166133.000	1.458	25.0	301790.000	1.445	80.0	982685.000	1.423
1,3-Dichlorobenzene	15.0	173275.000	1.521	25.0	313724.000	1.503	80.0	1004990.00	1.455
2,4,5-Trichlorophenol	15.0	94360.0000	0.3949	25.0	177691.000	0.3969	80.0	602513.000	0.3906
2,4-Dimethylphenol	15.0	148325.000	0.3285	25.0	273102.000	0.3262	80.0	874773.000	0.3024
2,4-Dinitrotoluene	15.0	99160.0000	0.4150	25.0	185868.000	0.4151	80.0	565679.000	0.3667
2,6-Dinitrotoluene	15.0	76810.0000	0.3215	25.0	143174.000	0.3198	80.0	489657.000	0.3175
2-Chloronaphthalene	15.0	284233.000	1.190	25.0	530203.000	1.184	80.0	1727320.00	1.120
2-Chlorophenol	15.0	158275.000	1.389	25.0	291566.000	1.396	80.0	956548.000	1.385
2-Methylnaphthalene	15.0	313097.000	0.6935	25.0	574527.000	0.6863	80.0	1798522.00	0.6218
2-Methylphenol	15.0	132910.000	1.167	25.0	243991.000	1.169	80.0	821093.000	1.189
2-Nitroaniline	15.0	93078.0000	0.3896	25.0	175374.000	0.3917	80.0	585258.000	0.3794
3,3'-Dichlorobenzidine	15.0	170084.000	0.3552	25.0	322207.000	0.3565	80.0	1027493.00	0.3359
3-Nitroaniline	15.0	84323.0000	0.3529	25.0	162512.000	0.3630	80.0	570029.000	0.3696
4,6-Dinitro-2-Methylphenol	15.0	53992.0000	0.1203	25.0	111467.000	0.1305	80.0	407964.000	0.1398
4-Bromophenyl Phenyl Ether	15.0	96165.0000	0.2142	25.0	179852.000	0.2105	80.0	581119.000	0.1992
4-Chloroaniline	15.0	197524.000	0.4375	25.0	370065.000	0.4420	80.0	1251402.00	0.4326
4-Chlorophenyl Phenyl Ether	15.0	164855.000	0.6900	25.0	305068.000	0.6813	80.0	868502.000	0.5631
4-Nitroaniline	15.0	87557.0000	0.3665	25.0	168742.000	0.3769	80.0	584949.000	0.3792
Acenaphthylene	15.0	448620.000	1.878	25.0	825968.000	1.845	80.0	2614352.00	1.695
Anthracene	15.0	525029.000	1.170	25.0	972183.000	1.138	80.0	2881933.00	0.9877
Benzo[a]anthracene	15.0	513054.000	1.071	25.0	943179.000	1.044	80.0	2971513.00	0.9714
Benzo[b]fluoranthene	15.0	536064.000	1.198	25.0	927818.000	1.119	80.0	3319307.00	1.288
Benzo[ghi]perylene	15.0	406729.000	0.9087	25.0	750538.000	0.9050	80.0	1774194.00	0.6883
Benzo[k]fluoranthene	15.0	478335.000	1.069	25.0	849723.000	1.025	80.0	2449855.00	0.9505
Benzoic Acid	15.0	77379.0000	0.1714	25.0	178273.000	0.2129	80.0	763901.000	0.2641

INT_CAL - Modified 03/06/2008
PDF File ID: 2607869
Report generated 10/05/2012 16:58



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12090809
Analytical Method:8270C

Instrument ID:HPMS5
Initial Calibration Date:18-SEP-12 17:28
Column ID:F

Analyte	WG409083-05			WG409083-06			WG409083-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	15.0	106238.000	0.9326	25.0	194562.000	0.9318	80.0	654650.000	0.9477
Butyl Benzyl Phthalate	15.0	248656.000	0.5192	25.0	444571.000	0.4918	80.0	1152829.00	0.3769
Chrysene	15.0	492077.000	1.028	25.0	912760.000	1.010	80.0	2778858.00	0.9084
Di-n-Butyl Phthalate	15.0	563895.000	1.256	25.0	1032344.00	1.208	80.0	3092842.00	1.060
Dibenz[ah]anthracene	15.0	424987.000	0.9495	25.0	786107.000	0.9479	80.0	2006658.00	0.7785
Dibenzofuran	15.0	401392.000	1.680	25.0	735795.000	1.643	80.0	2135555.00	1.385
Diethylphthalate	15.0	333880.000	1.397	25.0	613448.000	1.370	80.0	1983268.00	1.286
Dimethylphthalate	15.0	324714.000	1.359	25.0	594593.000	1.328	80.0	1938168.00	1.257
Fluorene	15.0	349922.000	1.465	25.0	638428.000	1.426	80.0	1952887.00	1.266
Hexachlorobenzene	15.0	102023.000	0.2273	25.0	191028.000	0.2236	80.0	602012.000	0.2063
Hexachloroethane	15.0	68988.0000	0.6056	25.0	127563.000	0.6109	80.0	423895.000	0.6136
Indeno[1,2,3-cd]pyrene	15.0	501331.000	1.120	25.0	935645.000	1.128	80.0	2368295.00	0.9188
Isophorone	15.0	302131.000	0.6692	25.0	555382.000	0.6634	80.0	1817227.00	0.6282
Naphthalene	15.0	486773.000	1.078	25.0	885590.000	1.058	80.0	2820738.00	0.9751
Nitrobenzene	15.0	172836.000	0.3828	25.0	315529.000	0.3769	80.0	1040050.00	0.3595
Phenanthrene	15.0	507505.000	1.131	25.0	930407.000	1.089	80.0	2827855.00	0.9692
Pyrene	15.0	532352.000	1.112	25.0	977417.000	1.081	80.0	2775415.00	0.9073
bis(2-Chloroethoxy)methane	15.0	244774.000	0.5422	25.0	444258.000	0.5307	80.0	1338940.00	0.4629
bis(2-Chloroethyl)ether	15.0	116506.000	1.023	25.0	211119.000	1.011	80.0	661653.000	0.9578
bis(2-Chloroisopropyl)ether	15.0	241254.000	2.118	25.0	433330.000	2.075	80.0	1386290.00	2.007
bis(2-Ethylhexyl)phthalate	15.0	374140.000	0.7812	25.0	654591.000	0.7242	80.0	1988313.00	0.6500

INT_CAL - Modified 03/06/2008
PDF File ID: 2607869
Report generated 10/05/2012 16:58



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12090809
Analytical Method: 8270C

Instrument ID: HPMS5
Initial Calibration Date: 18-SEP-12 17:28
Column ID: F

Analyte	WG409083-08			WG409083-09		
	CONC	RESP	RF	CONC	RESP	RF
1,4-Dichlorobenzene	100	1330438.00	1.470	120	1485577.00	1.444
2,4,6-Trichlorophenol	100	728823.000	0.3650	120	810485.000	0.3536
2,4-Dichlorophenol	100	984381.000	0.2629	120	1100295.00	0.2571
2-Nitrophenol	100	666644.000	0.1780	120	733335.000	0.1713
4-Chloro-3-Methylphenol	100	1083775.00	0.2894	120	1200457.00	0.2805
Acenaphthene	100	2096007.00	1.050	120	2299335.00	1.003
Benzo[a]pyrene	100	3233248.00	1.024	120	3498389.00	1.007
Di-n-Octyl Phthalate	100	4242066.00	1.344	120	4652383.00	1.339
Fluoranthene	100	3451949.00	0.9193	120	3753867.00	0.8777
Hexachlorobutadiene	100	588376.000	0.1571	120	654359.000	0.1529
Pentachlorophenol	100	583274.000	0.1553	120	644637.000	0.1507
Phenol	100	1484518.00	1.641	120	1651662.00	1.605
2,4-Dinitrophenol	100	407080.000	0.2039	120	469531.000	0.2048
4-Nitrophenol	100	610975.000	0.3060	120	703443.000	0.3069
Hexachlorocyclopentadiene	100	511768.000	0.2563	120	556041.000	0.2426
n-Nitrosodipropylamine	100	791567.000	0.8748	120	865649.000	0.8414
1,2,4-Trichlorobenzene	100	1088564.00	0.2907	120	1198005.00	0.2799
1,2-Dichlorobenzene	100	1256037.00	1.388	120	1401574.00	1.362
1,3-Dichlorobenzene	100	1293612.00	1.430	120	1449657.00	1.409
2,4,5-Trichlorophenol	100	767547.000	0.3844	120	856027.000	0.3734
2,4-Dimethylphenol	100	1092626.00	0.2918	120	1196160.00	0.2795
2,4-Dinitrotoluene	100	707452.000	0.3543	120	785149.000	0.3425
2,6-Dinitrotoluene	100	626775.000	0.3139	120	699381.000	0.3051
2-Chloronaphthalene	100	2189148.00	1.096	120	2410862.00	1.052
2-Chlorophenol	100	1245458.00	1.376	120	1398606.00	1.359
2-Methylnaphthalene	100	2230849.00	0.5958	120	2444830.00	0.5712
2-Methylphenol	100	1071410.00	1.184	120	1207113.00	1.173
2-Nitroaniline	100	736524.000	0.3688	120	819382.000	0.3574
3,3'-Dichlorobenzidine	100	1282816.00	0.3250	120	1426232.00	0.3184
3-Nitroaniline	100	738566.000	0.3699	120	825984.000	0.3603
4,6-Dinitro-2-Methylphenol	100	507369.000	0.1351	120	554268.000	0.1296
4-Bromophenyl Phenyl Ether	100	723854.000	0.1928	120	795669.000	0.1860
4-Chloroaniline	100	1608637.00	0.4296	120	1777125.00	0.4152
4-Chlorophenyl Phenyl Ether	100	1032219.00	0.5169	120	1102025.00	0.4807
4-Nitroaniline	100	712579.000	0.3569	120	799271.000	0.3487
Acenaphthylene	100	3256028.00	1.631	120	3577847.00	1.561
Anthracene	100	3488380.00	0.9290	120	3803160.00	0.8893
Benzo[a]anthracene	100	3706611.00	0.9389	120	4087893.00	0.9125
Benzo[b]fluoranthene	100	3961130.00	1.255	120	4591586.00	1.321
Benzo[ghi]perylene	100	2026570.00	0.6418	NA	NA	NA
Benzo[k]fluoranthene	100	3075535.00	0.9741	120	3118504.00	0.8972
Benzoic Acid	100	1008740.00	0.2694	120	1128568.00	0.2637

INT_CAL - Modified 03/06/2008
PDF File ID: 2607869
Report generated 10/05/2012 16:58



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12090809
Analytical Method:8270C

Instrument ID:HPMS5
Initial Calibration Date:18-SEP-12 17:28
Column ID:F

Analyte	WG409083-08			WG409083-09		
	CONC	RESP	RF	CONC	RESP	RF
Benzyl Alcohol	100	848132.000	0.9373	120	949938.000	0.9233
Butyl Benzyl Phthalate	100	1378233.00	0.3491	120	1473264.00	0.3289
Chrysene	100	3362134.00	0.8517	120	3700226.00	0.8259
Di-n-Butyl Phthalate	100	3779743.00	1.007	120	4098139.00	0.9582
Dibenz[ah]anthracene	100	2297522.00	0.7277	120	2421330.00	0.6967
Dibenzofuran	100	2603875.00	1.304	120	2846745.00	1.242
Diethylphthalate	100	2488535.00	1.246	120	2746911.00	1.198
Dimethylphthalate	100	2442924.00	1.223	120	2733562.00	1.192
Fluorene	100	2412568.00	1.208	120	2640386.00	1.152
Hexachlorobenzene	100	752600.000	0.2004	120	829204.000	0.1939
Hexachloroethane	100	544719.000	0.6020	120	609114.000	0.5920
Indeno[1,2,3-cd]pyrene	100	2717725.00	0.8607	120	2869824.00	0.8257
Isophorone	100	2331283.00	0.6226	120	2626587.00	0.6137
Naphthalene	100	3472148.00	0.9273	120	3824177.00	0.8935
Nitrobenzene	100	1334559.00	0.3564	120	1486871.00	0.3474
Phenanthrene	100	3435217.00	0.9148	120	3739635.00	0.8744
Pyrene	100	3318024.00	0.8405	120	3613467.00	0.8066
bis(2-Chloroethoxy)methane	100	1658165.00	0.4428	120	1812028.00	0.4234
bis(2-Chloroethyl)ether	100	846030.000	0.9350	120	945142.000	0.9186
bis(2-Chloroisopropyl)ether	100	1760450.00	1.946	120	1969334.00	1.914
bis(2-Ethylhexyl)phthalate	100	2424550.00	0.6142	120	2650490.00	0.5916

INT_CAL - Modified 03/06/2008
PDF File ID: 2607869
Report generated 10/05/2012 16:58



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12090809	Run Date: 09/18/2012	Sample ID: WG409083-10
Instrument ID: HPMS5	Run Time: 18:05	Method: 8270C
File ID: 5M68164	Analyst: CAA	QC Key: DOD4
ICal Workgroup: WG409083	Cal ID: HPMS5 - 18-SEP-12	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,4-Dichlorobenzene	CCC	50000	54100	ug/L	1.67	8.10	20	
2,4,6-Trichlorophenol	CCC	50000	54800	ug/L	0.407	9.50	20	
2,4-Dichlorophenol	CCC	50000	52700	ug/L	0.282	5.30	20	
2-Nitrophenol	CCC	50000	54300	ug/L	0.198	8.60	20	
4-Chloro-3-Methylphenol	CCC	50000	52000	ug/L	0.315	3.90	20	
Acenaphthene	CCC	50000	52500	ug/L	1.23	5.00	20	
Benzo[a]pyrene	CCC	50000	52600	ug/L	1.08	5.10	20	
Di-n-Octyl Phthalate	CCC	50000	51600	ug/L	1.34	3.10	20	
Fluoranthene	CCC	50000	52600	ug/L	1.12	5.30	20	
Hexachlorobutadiene	CCC	50000	56000	ug/L	0.185	12.0	20	
n-Nitrosodiphenylamine	CCC	50000	54600	ug/L	0.673	9.20	20	
Pentachlorophenol	CCC	50000	61300	ug/L	0.189	22.5	20	*
Phenol	CCC	50000	53400	ug/L	1.83	6.90	20	
2,4-Dinitrophenol	SPCC	50000	67100	ug/L	0.261	34.2	20	*
4-Nitrophenol	SPCC	50000	53700	ug/L	0.312	7.40	20	
Hexachlorocyclopentadiene	SPCC	50000	59600	ug/L	0.336	19.3	20	
n-Nitrosodipropylamine	SPCC	50000	54700	ug/L	1.07	9.40	20	
1,2,4-Trichlorobenzene		50000	51700	ug/L	0.318	3.40	20	
1,2-Dichlorobenzene		50000	54300	ug/L	1.56	8.70	20	
1,3-Dichlorobenzene		50000	53800	ug/L	1.60	7.50	20	
2,4,5-Trichlorophenol		50000	56300	ug/L	0.437	12.6	20	
2,4-Dimethylphenol		50000	53400	ug/L	0.335	6.80	20	
2,4-Dinitrotoluene		50000	53800	ug/L	0.415	7.60	20	
2,6-Dinitrotoluene		50000	53400	ug/L	0.337	6.80	20	
2-Chloronaphthalene		50000	59300	ug/L	1.36	18.5	20	
2-Chlorophenol		50000	55300	ug/L	1.54	10.7	20	
2-Methylnaphthalene		50000	53000	ug/L	0.693	6.10	20	
2-Methylphenol		50000	53800	ug/L	1.26	7.60	20	
2-Nitroaniline		50000	52700	ug/L	0.403	5.30	20	
3,3'-Dichlorobenzidine		50000	52800	ug/L	0.361	5.50	20	
3-,4-Methylphenol		50000	53800	ug/L	1.60	7.60	20	
3-Nitroaniline		50000	52800	ug/L	0.382	5.50	20	
4,6-Dinitro-2-Methylphenol		50000	62600	ug/L	0.165	25.2	20	*
4-Bromophenyl Phenyl Ether		50000	53000	ug/L	0.218	6.00	20	
4-Chloroaniline		50000	53800	ug/L	0.466	7.50	20	
4-Chlorophenyl Phenyl Ether		50000	53200	ug/L	0.661	6.30	20	
4-Nitroaniline		50000	55400	ug/L	0.407	10.8	20	
Acenaphthylene		50000	56100	ug/L	1.99	12.2	20	
Anthracene		50000	54500	ug/L	1.17	9.00	20	
Benzo[a]anthracene		50000	51800	ug/L	1.05	3.50	20	
Benzo[b]fluoranthene		50000	49100	ug/L	1.19	1.70	20	
Benzo[ghi]perylene		50000	52900	ug/L	0.878	5.90	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2607870
Report generated 10/05/2012 16:56



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L12090809</u>	Run Date: <u>09/18/2012</u>	Sample ID: <u>WG409083-10</u>
Instrument ID: <u>HPMS5</u>	Run Time: <u>18:05</u>	Method: <u>8270C</u>
File ID: <u>5M68164</u>	Analyst: <u>CAA</u>	QC Key: <u>DOD4</u>
ICal Workgroup: <u>WG409083</u>	Cal ID: <u>HPMS5 - 18-SEP-12</u>	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Benzo[k]fluoranthene	50000	50000	ug/L	1.01	0	20	
Benzoic Acid	50000	52000	ug/L	0.259	4.00	20	
Benzyl Alcohol	50000	58100	ug/L	1.08	16.2	20	
bis(2-Chloroethoxy)methane	50000	55300	ug/L	0.553	10.6	20	
bis(2-Chloroethyl)ether	50000	52500	ug/L	1.05	5.10	20	
bis(2-Chloroisopropyl)ether	50000	51200	ug/L	2.12	2.50	20	
bis(2-Ethylhexyl)phthalate	50000	50300	ug/L	0.715	0.600	20	
Butyl Benzyl Phthalate	50000	57100	ug/L	0.476	14.2	20	
Chrysene	50000	54100	ug/L	1.04	8.10	20	
Di-n-Butyl Phthalate	50000	52200	ug/L	1.20	4.40	20	
Dibenz[ah]anthracene	50000	54400	ug/L	0.933	8.80	20	
Dibenzofuran	50000	53900	ug/L	1.65	7.80	20	
Diethylphthalate	50000	52000	ug/L	1.39	4.10	20	
Dimethylphthalate	50000	51800	ug/L	1.34	3.50	20	
Fluorene	50000	52800	ug/L	1.43	5.60	20	
Hexachlorobenzene	50000	52500	ug/L	0.228	5.10	20	
Hexachloroethane	50000	53400	ug/L	0.651	6.80	20	
Indeno[1,2,3-cd]pyrene	50000	55000	ug/L	1.12	10.1	20	
Isophorone	50000	50200	ug/L	0.654	0.500	20	
Naphthalene	50000	53400	ug/L	1.09	6.90	20	
Nitrobenzene	50000	51000	ug/L	0.379	2.00	20	
Phenanthrene	50000	53700	ug/L	1.12	7.40	20	
Pyrene	50000	53500	ug/L	1.07	7.10	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2607870
Report generated 10/05/2012 16:56



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410247-02
 Instrument ID: HPMS5 Run Time: 10:14 Method: 8270C
 File ID: 5M68299 Analyst: CAA QC Key: DOD4
 Workgroup (AAB#): WG410253 Cal ID: HPMS5 - 18-SEP-12
 Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,4-Dichlorobenzene	CCC	50000	53300	ug/L	1.65	6.61	20	
2,4,6-Trichlorophenol	CCC	50000	49500	ug/L	0.368	1.02	20	
2,4-Dichlorophenol	CCC	50000	52500	ug/L	0.281	4.91	20	
2-Nitrophenol	CCC	50000	53700	ug/L	0.196	7.31	20	
4-Chloro-3-Methylphenol	CCC	50000	50700	ug/L	0.308	1.47	20	
Acenaphthene	CCC	50000	51500	ug/L	1.21	2.95	20	
Benzo[a]pyrene	CCC	50000	51700	ug/L	1.06	3.43	20	
Di-n-Octyl Phthalate	CCC	50000	49000	ug/L	1.27	2.04	20	
Fluoranthene	CCC	50000	51900	ug/L	1.10	3.82	20	
Hexachlorobutadiene	CCC	50000	51300	ug/L	0.170	2.61	20	
n-Nitrosodiphenylamine	CCC	50000	53200	ug/L	0.655	6.31	20	
Pentachlorophenol	CCC	50000	47400	ug/L	0.147	5.17	20	
Phenol	CCC	50000	51600	ug/L	1.76	3.20	20	
2,4-Dinitrophenol	SPCC	50000	43200	ug/L	0.157	13.6	20	
4-Nitrophenol	SPCC	50000	45500	ug/L	0.265	9.02	20	
Hexachlorocyclopentadiene	SPCC	50000	51300	ug/L	0.288	2.56	20	
n-Nitrosodipropylamine	SPCC	50000	52500	ug/L	1.02	5.09	20	
1,2,4-Trichlorobenzene		50000	51200	ug/L	0.314	2.34	20	
1,2-Dichlorobenzene		50000	53000	ug/L	1.52	5.90	20	
1,3-Dichlorobenzene		50000	53000	ug/L	1.58	6.03	20	
2,4,5-Trichlorophenol		50000	48600	ug/L	0.377	2.79	20	
2,4-Dimethylphenol		50000	50600	ug/L	0.317	1.13	20	
2,4-Dinitrotoluene		50000	52900	ug/L	0.408	5.87	20	
2,6-Dinitrotoluene		50000	51300	ug/L	0.324	2.66	20	
2-Chloronaphthalene		50000	51000	ug/L	1.17	1.96	20	
2-Chlorophenol		50000	51900	ug/L	1.44	3.70	20	
2-Methylnaphthalene		50000	51100	ug/L	0.668	2.30	20	
2-Methylphenol		50000	52900	ug/L	1.24	5.89	20	
2-Nitroaniline		50000	50000	ug/L	0.383	0.0474	20	
3,3'-Dichlorobenzidine		50000	55300	ug/L	0.379	10.6	20	
3-,4-Methylphenol		50000	54000	ug/L	1.60	7.99	20	
3-Nitroaniline		50000	51200	ug/L	0.371	2.44	20	
4,6-Dinitro-2-Methylphenol		50000	52700	ug/L	0.139	5.37	20	
4-Bromophenyl Phenyl Ether		50000	53100	ug/L	0.218	6.25	20	
4-Chloroaniline		50000	49900	ug/L	0.433	0.198	20	
4-Chlorophenyl Phenyl Ether		50000	52300	ug/L	0.650	4.61	20	
4-Nitroaniline		50000	52300	ug/L	0.384	4.62	20	
Acenaphthylene		50000	49900	ug/L	1.77	0.254	20	
Anthracene		50000	51700	ug/L	1.11	3.47	20	
Benzo[a]anthracene		50000	51700	ug/L	1.05	3.36	20	
Benzo[b]fluoranthene		50000	50300	ug/L	1.22	0.570	20	
Benzo[ghi]perylene		50000	56600	ug/L	0.938	13.2	20	

CCV - Modified 03/05/2008
 PDF File ID: 2607872
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410247-02
Instrument ID: HPMS5 Run Time: 10:14 Method: 8270C
File ID: 5M68299 Analyst: CAA QC Key: DOD4
Workgroup (AAB#): WG410253 Cal ID: HPMS5 - 18-SEP-12
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Benzo[k]fluoranthene	50000	51800	ug/L	1.05	3.59	20	
Benzoic Acid	50000	13200	ug/L	0.0405	73.6	20	*
Benzyl Alcohol	50000	53700	ug/L	0.999	7.31	20	
bis(2-Chloroethoxy)methane	50000	50000	ug/L	0.500	0.0416	20	
bis(2-Chloroethyl) ether	50000	50400	ug/L	1.01	0.810	20	
bis(2-Chloroisopropyl) ether	50000	51500	ug/L	2.13	3.02	20	
bis(2-Ethylhexyl) phthalate	50000	50300	ug/L	0.716	0.667	20	
Butyl Benzyl Phthalate	50000	56500	ug/L	0.472	13.0	20	
Chrysene	50000	51300	ug/L	0.989	2.65	20	
Di-n-Butyl Phthalate	50000	51800	ug/L	1.19	3.57	20	
Dibenz[ah]anthracene	50000	56500	ug/L	0.969	13.0	20	
Dibenzofuran	50000	51000	ug/L	1.56	2.03	20	
Diethylphthalate	50000	49900	ug/L	1.33	0.140	20	
Dimethylphthalate	50000	50800	ug/L	1.32	1.64	20	
Fluorene	50000	51000	ug/L	1.38	1.92	20	
Hexachlorobenzene	50000	51800	ug/L	0.224	3.52	20	
Hexachloroethane	50000	52800	ug/L	0.643	5.52	20	
Indeno[1,2,3-cd]pyrene	50000	56800	ug/L	1.16	13.5	20	
Isophorone	50000	48600	ug/L	0.632	2.87	20	
Naphthalene	50000	49700	ug/L	1.01	0.670	20	
Nitrobenzene	50000	49000	ug/L	0.364	2.08	20	
Phenanthrene	50000	51200	ug/L	1.07	2.39	20	
Pyrene	50000	52400	ug/L	1.05	4.72	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 2607872
Report generated 10/05/2012 16:59



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410392-02
Instrument ID: HPMS5 Run Time: 07:53 Method: 8270C
File ID: 5M68339 Analyst: CAA QC Key: DOD4
Workgroup (AAB#): WG410253 Cal ID: HPMS5 - 18-SEP-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,4-Dichlorobenzene	CCC	50000	52900	ug/L	1.63	5.86	20	
2,4,6-Trichlorophenol	CCC	50000	49100	ug/L	0.365	1.71	20	
2,4-Dichlorophenol	CCC	50000	53100	ug/L	0.284	6.28	20	
2-Nitrophenol	CCC	50000	52800	ug/L	0.193	5.69	20	
4-Chloro-3-Methylphenol	CCC	50000	52200	ug/L	0.316	4.34	20	
Acenaphthene	CCC	50000	52000	ug/L	1.22	3.92	20	
Benzo[a]pyrene	CCC	50000	51800	ug/L	1.06	3.61	20	
Di-n-Octyl Phthalate	CCC	50000	47400	ug/L	1.23	5.12	20	
Fluoranthene	CCC	50000	52100	ug/L	1.11	4.20	20	
Hexachlorobutadiene	CCC	50000	52300	ug/L	0.173	4.55	20	
n-Nitrosodiphenylamine	CCC	50000	52200	ug/L	0.643	4.40	20	
Pentachlorophenol	CCC	50000	42600	ug/L	0.132	14.9	20	
Phenol	CCC	50000	50400	ug/L	1.72	0.783	20	
2,4-Dinitrophenol	SPCC	50000	39500	ug/L	0.141	21.0	20	*
4-Nitrophenol	SPCC	50000	45000	ug/L	0.262	10.0	20	
Hexachlorocyclopentadiene	SPCC	50000	43700	ug/L	0.246	12.6	20	
n-Nitrosodipropylamine	SPCC	50000	52500	ug/L	1.02	5.09	20	
1,2,4-Trichlorobenzene		50000	51800	ug/L	0.318	3.59	20	
1,2-Dichlorobenzene		50000	52700	ug/L	1.52	5.42	20	
1,3-Dichlorobenzene		50000	52900	ug/L	1.58	5.88	20	
2,4,5-Trichlorophenol		50000	48900	ug/L	0.379	2.18	20	
2,4-Dimethylphenol		50000	50000	ug/L	0.314	0.0340	20	
2,4-Dinitrotoluene		50000	55100	ug/L	0.425	10.1	20	
2,6-Dinitrotoluene		50000	51200	ug/L	0.323	2.45	20	
2-Chloronaphthalene		50000	50700	ug/L	1.17	1.40	20	
2-Chlorophenol		50000	51500	ug/L	1.43	2.99	20	
2-Methylnaphthalene		50000	52500	ug/L	0.685	4.95	20	
2-Methylphenol		50000	51400	ug/L	1.21	2.88	20	
2-Nitroaniline		50000	49300	ug/L	0.378	1.31	20	
3,3'-Dichlorobenzidine		50000	55100	ug/L	0.377	10.2	20	
3-,4-Methylphenol		50000	53900	ug/L	1.60	7.84	20	
3-Nitroaniline		50000	52200	ug/L	0.377	4.31	20	
4,6-Dinitro-2-Methylphenol		50000	49400	ug/L	0.130	1.12	20	
4-Bromophenyl Phenyl Ether		50000	52800	ug/L	0.217	5.59	20	
4-Chloroaniline		50000	50600	ug/L	0.439	1.24	20	
4-Chlorophenyl Phenyl Ether		50000	52900	ug/L	0.658	5.85	20	
4-Nitroaniline		50000	55000	ug/L	0.404	10.0	20	
Acenaphthylene		50000	50100	ug/L	1.77	0.115	20	
Anthracene		50000	51900	ug/L	1.11	3.70	20	
Benzo[a]anthracene		50000	52000	ug/L	1.06	3.96	20	
Benzo[b]fluoranthene		50000	47200	ug/L	1.15	5.58	20	
Benzo[ghi]perylene		50000	57300	ug/L	0.949	14.5	20	

CCV - Modified 03/05/2008

PDF File ID: 2607872

Report generated 10/05/2012 16:59



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410392-02
 Instrument ID: HPMS5 Run Time: 07:53 Method: 8270C
 File ID: 5M68339 Analyst: CAA QC Key: DOD4
 Workgroup (AAB#): WG410253 Cal ID: HPMS5 - 18-SEP-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Benzo[k]fluoranthene	50000	55800	ug/L	1.13	11.7	20	
Benzoic Acid	50000	17100	ug/L	0.0622	65.9	20	*
Benzyl Alcohol	50000	52600	ug/L	0.980	5.18	20	
bis(2-Chloroethoxy)methane	50000	49700	ug/L	0.497	0.681	20	
bis(2-Chloroethyl) ether	50000	48700	ug/L	0.972	2.65	20	
bis(2-Chloroisopropyl) ether	50000	49500	ug/L	2.04	1.09	20	
bis(2-Ethylhexyl) phthalate	50000	48600	ug/L	0.692	2.71	20	
Butyl Benzyl Phthalate	50000	53400	ug/L	0.451	6.72	20	
Chrysene	50000	51600	ug/L	0.994	3.17	20	
Di-n-Butyl Phthalate	50000	50800	ug/L	1.17	1.63	20	
Dibenz[ah]anthracene	50000	58000	ug/L	0.995	15.9	20	
Dibenzofuran	50000	52200	ug/L	1.59	4.32	20	
Diethylphthalate	50000	50300	ug/L	1.34	0.650	20	
Dimethylphthalate	50000	51100	ug/L	1.33	2.14	20	
Fluorene	50000	52800	ug/L	1.43	5.60	20	
Hexachlorobenzene	50000	52100	ug/L	0.226	4.29	20	
Hexachloroethane	50000	52200	ug/L	0.636	4.44	20	
Indeno[1,2,3-cd]pyrene	50000	57900	ug/L	1.18	15.8	20	
Isophorone	50000	47800	ug/L	0.623	4.39	20	
Naphthalene	50000	50100	ug/L	1.02	0.152	20	
Nitrobenzene	50000	48400	ug/L	0.359	3.24	20	
Phenanthrene	50000	51100	ug/L	1.07	2.28	20	
Pyrene	50000	52100	ug/L	1.04	4.27	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

CCV - Modified 03/05/2008

PDF File ID: 2607872

Report generated 10/05/2012 16:59



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12090809
Instrument ID: HPMS5
Workgroup (AAB#): WG410253
ICAL CCV Number: WG409083-02
CAL ID: HPMS5 - 18-SEP-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5	IS-6
WG409083-02	NA	NA	301460	695647	1458089	1268947	1302849	1354691
Upper Limit	NA	NA	602920	1391294	2916178	2537894	2605698	2709382
Lower Limit	NA	NA	150730	347824	729045	634474	651425	677346
L12090809-01	1.00	01	324815	686414	1305693	1305685	1283040	1234410
L12090809-03	1.00	01	276030	594482	1128024	1123372	1105254	1064689
L12090809-04	1.00	01	193835	418141	818362	782277	810157	771474
L12090809-06	1.00	01	306575	651077	1255288	1237427	1243839	1182768
L12090809-08	1.00	01	187541	405696	815107	761992	791786	750088
L12090809-10	1.00	01	320128	735572	1498938	1554970	1437386	1356922
L12090809-12	1.00	01	327523	752712	1503054	1586314	1430063	1376488
L12090809-15	1.00	01	182941	395077	769465	737216	765079	727325
L12090809-16	1.00	01	193983	424373	828379	785604	816963	773653
L12090809-17	1.00	01	201449	430944	843530	808036	841359	802397
WG410127-02	1.00	01	301043	637632	1205184	1203027	1185114	1134384
WG410127-03	1.00	01	318067	733233	1466708	1539554	1416542	1340410

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Acenaphthene-d10
IS-3 - Chrysene-d12
IS-4 - Naphthalene-D8
IS-5 - Perylene-d12
IS-6 - Phenanthrene-d10

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12090809
Instrument ID: HPMS5
Workgroup (AAB#): WG410253

ICAL CCV Number: WG409083-02
CAL ID: HPMS5 - 18-SEP-12
Matrix: WATER

			10/2	9.29	13.01	17.50	10.89	20.01	14.62
Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5	IS-6	
WG409083-02	NA	NA	9.29	13.02	17.51	10.9	20.03	14.63	
Upper Limit	NA	NA	9.79	13.52	18.01	11.4	20.53	15.13	
Lower Limit	NA	NA	8.79	12.52	17.01	10.4	19.53	14.13	
L12090809-01	1.00	01	9.28	13	17.49	10.89	20	14.62	
L12090809-03	1.00	01	9.28	13	17.49	10.89	20	14.61	
L12090809-04	1.00	01	9.16	12.88	17.32	10.76	19.71	14.49	
L12090809-06	1.00	01	9.28	13	17.49	10.89	20	14.62	
L12090809-08	1.00	01	9.16	12.88	17.32	10.76	19.71	14.49	
L12090809-10	1.00	01	9.28	13	17.5	10.89	20.01	14.62	
L12090809-12	1.00	01	9.28	13.01	17.5	10.89	20.01	14.62	
L12090809-15	1.00	01	9.16	12.88	17.33	10.76	19.71	14.49	
L12090809-16	1.00	01	9.16	12.88	17.33	10.76	19.71	14.49	
L12090809-17	1.00	01	9.16	12.88	17.33	10.76	19.71	14.49	
WG410127-02	1.00	01	9.28	13	17.49	10.89	20	14.62	
WG410127-03	1.00	01	9.28	13.01	17.5	10.89	20.01	14.62	

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Acenaphthene-d10
IS-3 - Chrysene-d12
IS-4 - Naphthalene-D8
IS-5 - Perylene-d12
IS-6 - Phenanthrene-d10

Underline = Response outside limits





Login Number: L12090809
Department: Semivolatiles
Analyst: Cassie A. Augenstein

METHOD

Preparation 3510C

Analysis SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: The MS/MSD pair exceeded % RPD criteria for three analytes, however the recoveries for both the MS and MSD are within specified limits. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected

via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 53901

Approved By: Mike Cochran



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12090809
Instrument Id: HPMS7
Workgroup (AAB#): WG410396

Method: 8270L
CAL ID: HPMS7 - 26-SEP-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3
L12090809-01	1.00	01	76.8	84.7	91.6
L12090809-03	1.00	01	54.9	58.0	87.0
L12090809-04	1.00	01	80.9	83.7	91.8
L12090809-06	1.00	01	88.5	96.6	108
L12090809-08	1.00	01	81.6	86.4	93.9
L12090809-10	1.00	01	80.4	85.4	102
L12090809-12	1.00	01	78.1	81.9	86.1
L12090809-15	1.00	01	81.7	85.5	98.0
L12090809-16	1.00	01	66.7	73.4	91.9
L12090809-17	1.00	01	66.0	72.2	86.4
WG410242-03	1.00	01	61.9	64.4	91.1
WG410242-04	1.00	01	78.3	78.8	93.4

Surrogates	Surrogate Limits		
1 - 2-Fluorobiphenyl	50	-	110 43-116
2 - Nitrobenzene-d5	35	-	114
3 - p-Terphenyl-d14	33	-	141

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2606171
Report generated: 10/08/2012 14:37



METHOD BLANK SUMMARY

Login Number: L12090809
 Blank File ID: 7M56040
 Prep Date: 10/02/12 07:00
 Analyzed Date: 10/03/12 09:03
 Analyst: CAA

Work Group: WG410396
 Blank Sample ID: WG410242-03
 Instrument ID: HPMS7
 Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG410242-04	7M56041	10/03/12 09:29	01
40MW7GW92512	L12090809-01	7M56044	10/03/12 10:48	01
40EQR92512	L12090809-03	7M56045	10/03/12 11:14	01
40MW6GW92512	L12090809-04	7M56046	10/03/12 11:40	01
40DUPGW92512	L12090809-08	7M56047	10/03/12 12:07	01
40MW5GW92512	L12090809-06	7M56048	10/03/12 12:33	01
40MW5MSGW92512	L12090809-10	7M56049	10/03/12 12:59	01
40MW5MSDGW92512	L12090809-12	7M56050	10/03/12 13:25	01
40FB92612	L12090809-15	7M56051	10/03/12 13:51	01
40EQR92612	L12090809-16	7M56052	10/03/12 14:17	01
LFMW01GW92612	L12090809-17	7M56053	10/03/12 14:43	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2606160
 Report generated 10/08/2012 14:37



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/02/12 07:00 Sample ID: WG410242-03
 Instrument ID: HPMS7 Run Date: 10/03/12 09:03 Prep Method: 3510C
 File ID: 7M56040 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG410396 Matrix: Water Units: ug/L
 Contract #: Cal ID: HPMS7 - 26-SEP-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Naphthalene	0.0250	0.0500	0.0250	1	U
Acenaphthylene	0.0250	0.0500	0.0250	1	U
Acenaphthene	0.0250	0.0500	0.0250	1	U
Fluorene	0.0250	0.0500	0.0250	1	U
Phenanthrene	0.0250	0.0500	0.0250	1	U
Anthracene	0.0250	0.0500	0.0250	1	U
Fluoranthene	0.0250	0.0500	0.0250	1	U
Pyrene	0.0250	0.0500	0.0250	1	U
Benzo (a) anthracene	0.0250	0.0500	0.0250	1	U
Chrysene	0.0250	0.0500	0.0250	1	U
Benzo (b) fluoranthene	0.0250	0.0500	0.0250	1	U
Benzo (k) fluoranthene	0.0250	0.0500	0.0250	1	U
Benzo (a) pyrene	0.0250	0.0500	0.0250	1	U
Indeno (1,2,3-cd) pyrene	0.0250	0.0500	0.0250	1	U
Dibenzo (a,h) anthracene	0.0250	0.0500	0.0250	1	U
Benzo (g,h,i) perylene	0.0250	0.0500	0.0250	1	U
1-Methylnaphthalene	0.0250	0.0500	0.0250	1	U
2-Methylnaphthalene	0.0250	0.0500	0.0250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	64.4	35 - 114	PASS
2-Fluorobiphenyl	61.9	50 - 110	PASS
p-Terphenyl-d14	91.1	33 - 141	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2606161

08-OCT-2012 14:37



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410242-04
Instrument ID: HPMS7 Run Time: 09:29 Prep Method: 3510C
File ID: 7M56041 Analyst: CAA Method: 8270C
Workgroup (AAB#): WG410396 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD53041 Cal ID: HPMS7 - 26-SEP-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Naphthalene	1.00	0.754	75.4	40 - 100	
Acenaphthylene	1.00	0.792	79.2	50 - 105	
Acenaphthene	1.00	0.791	79.1	45 - 110	46-118, 31
Fluorene	1.00	0.803	80.3	50 - 110	
Phenanthrene	1.00	0.855	85.5	50 - 115	
Anthracene	1.00	0.866	86.6	55 - 110	
Fluoranthene	1.00	0.939	93.9	55 - 115	
Pyrene	1.00	0.981	98.1	50 - 130	26-127, 31
Benzo (a) anthracene	1.00	0.857	85.7	55 - 110	
Chrysene	1.00	0.925	92.5	55 - 110	
Benzo (b) fluoranthene	1.00	0.876	87.6	45 - 120	
Benzo (k) fluoranthene	1.00	0.881	88.1	45 - 125	
Benzo (a) pyrene	1.00	0.900	90.0	55 - 110	
Indeno (1,2,3-cd) pyrene	1.00	0.695	69.5	45 - 125	
Dibenzo (a,h) anthracene	1.00	0.583	58.3	40 - 125	
Benzo (g,h,i) perylene	1.00	0.628	62.8	40 - 125	
1-Methylnaphthalene	1.00	0.757	75.7	31 - 111	
2-Methylnaphthalene	1.00	0.790	79.0	45 - 105	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Nitrobenzene-d5	78.8	35 - 114	PASS
2-Fluorobiphenyl	78.3	50 - 110	PASS
p-Terphenyl-d14	93.4	33 - 141	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2606162
Report generated: 10/08/2012 14:37



MS/MSD REPORT

Loginnum: L12090809

Cal ID: HPMS7- 26-SEP-12

Worknum: WG410396

Instrument ID: HPMS7

Contract #:

Prep Method: 3510C

Parent ID: L12090809-06

File ID: 7M56048

Dil: 1

Method: 8270C

Sample ID: L12090809-10 MS

File ID: 7M56049

Dil: 1

Matrix: Water

Sample ID: L12090809-12 MSD

File ID: 7M56050

Dil: 1

Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Naphthalene	U	1.02	0.802	78.6	1.02	0.794	77.9	0.953	40 - 100	30	
Acenaphthylene	U	1.02	0.835	81.8	1.02	0.816	79.9	2.34	50 - 105	30	
Acenaphthene	U	1.02	0.834	81.7	1.02	0.823	80.7	1.21	45 - 110	30	46-118, 31
Fluorene	U	1.02	0.834	81.7	1.02	0.829	81.2	0.625	50 - 110	30	
Phenanthrene	U	1.02	0.870	85.3	1.02	0.864	84.7	0.725	50 - 115	30	
Anthracene	U	1.02	0.870	85.3	1.02	0.859	84.2	1.25	55 - 110	30	
Fluoranthene	U	1.02	0.956	93.7	1.02	0.902	88.4	5.91	55 - 115	30	
Pyrene	U	1.02	1.01	98.7	1.02	0.947	92.8	6.07	50 - 130	30	26-127, 31
Benzo(a)anthracene	U	1.02	0.929	91.1	1.02	0.808	79.2	14.0	55 - 110	30	
Chrysene	U	1.02	1.04	102	1.02	0.877	85.9	16.9	55 - 110	30	
Benzo(b)fluoranthene	U	1.02	1.04	102	1.02	0.801	78.5	25.9	45 - 120	30	
Benzo(k)fluoranthene	U	1.02	1.05	103	1.02	0.858	84.1	20.1	45 - 125	30	
Benzo(a)pyrene	U	1.02	1.06	104	1.02	0.840	82.3	23.5	55 - 110	30	
Indeno(1,2,3-cd)pyrene	U	1.02	0.960	94	1.02	0.698	68.4	31.6	45 - 125	30	#
Dibenzo(a,h)anthracene	U	1.02	0.943	92.4	1.02	0.577	56.5	48.2	40 - 125	30	#
Benzo(g,h,i)perylene	U	1.02	0.981	96.2	1.02	0.643	63	41.6	40 - 125	30	#
1-Methylnaphthalene	U	1.02	0.809	79.2	1.02	0.795	77.9	1.70	31 - 111	30	
2-Methylnaphthalene	U	1.02	0.835	81.8	1.02	0.823	80.6	1.48	45 - 105	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2606163

Report generated 10/08/2012 14:37



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12090809 Tune ID: WG409793-01
Instrument: HPMS7 Run Date: 09/26/2012
Analyst: CAA Run Time: 08:28
Workgroup: WG409793 File ID: 7M56009
Cal ID: HPMS7-26-SEP-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	47.2	55678	PASS
68.0	69.0	0	2.00	0.733	400	PASS
69.0	198	0	100	46.3	54547	PASS
70.0	69.0	0	2.00	1.51	821	PASS
127	198	40.0	60.0	55.4	65256	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	117896	PASS
199	198	5.00	9.00	6.93	8172	PASS
275	198	10.0	30.0	25.2	29722	PASS
365	198	1.00	100	2.76	3255	PASS
441	443	0.0100	100	77.4	14937	PASS
442	198	40.0	100	85.7	101074	PASS
443	442	17.0	23.0	19.1	19289	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG409793-02	STD-CCV	01	09/26/2012 09:10	
WG409793-03	STD	01	09/26/2012 09:36	
WG409793-04	STD	01	09/26/2012 10:02	
WG409793-06	STD	01	09/26/2012 10:54	
WG409793-07	STD	01	09/26/2012 11:20	
WG409793-08	STD	01	09/26/2012 11:46	
WG409793-09	SSCV	01	09/26/2012 12:12	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2606168
Report generated 10/08/2012 14:37



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L12090809 Tune ID: WG410397-01
Instrument: HPMS7 Run Date: 10/03/2012
Analyst: CAA Run Time: 08:22
Workgroup: WG410397 File ID: 7M56038
Cal ID: HPMS7-26-SEP-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	58.3	49835	PASS
68.0	69.0	0	2.00	0.688	314	PASS
69.0	198	0	100	53.4	45644	PASS
70.0	69.0	0	2.00	1.41	645	PASS
127	198	40.0	60.0	59.1	50557	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	85493	PASS
199	198	5.00	9.00	6.67	5702	PASS
275	198	10.0	30.0	23.7	20271	PASS
365	198	1.00	100	2.79	2381	PASS
441	443	0.0100	100	80.2	9729	PASS
442	198	40.0	100	72.1	61661	PASS
443	442	17.0	23.0	19.7	12135	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG410397-02	CCV	01	10/03/2012 08:37	
WG410242-03	BLANK	01	10/03/2012 09:03	
WG410242-04	LCS	01	10/03/2012 09:29	
L12090809-01	40MW7GW92512	01	10/03/2012 10:48	
L12090809-03	40EQR92512	01	10/03/2012 11:14	
L12090809-04	40MW6GW92512	01	10/03/2012 11:40	
L12090809-08	40DUPGW92512	01	10/03/2012 12:07	
L12090809-06	40MW5GW92512	01	10/03/2012 12:33	
L12090809-10	40MW5MSGW92512	01	10/03/2012 12:59	
L12090809-12	40MW5MSDGW92512	01	10/03/2012 13:25	
L12090809-15	40FB92612	01	10/03/2012 13:51	
L12090809-16	40EQR92612	01	10/03/2012 14:17	
L12090809-17	LFMW01GW92612	01	10/03/2012 14:43	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 2606168
Report generated 10/08/2012 14:37



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12090809
Analytical Method: 8270C
ICAL Workgroup: WG409793

Instrument ID: HPMS7
Initial Calibration Date: 26-SEP-12 11:46
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Acenaphthene	CCC	1.142	3.11		
Benzo[a]pyrene	CCC	1.124	3.81		
Fluoranthene	CCC	1.170	3.80		
1-Methylnaphthalene		0.6999	2.73		
2-Methylnaphthalene		0.6819	4.77		
Acenaphthylene		2.116	3.53		
Anthracene		1.109	4.93		
Benzo[a]anthracene		1.068	4.67		
Benzo[b]fluoranthene		1.142	3.70		
Benzo[ghi]perylene		1.136	2.26		
Benzo[k]fluoranthene		1.187	7.09		
Chrysene		1.107	7.97		
Dibenz[ah]anthracene		1.114	3.77		
Fluorene		1.317	4.18		
Indeno[1,2,3-cd]pyrene		1.345	3.06		
Naphthalene		1.100	4.30		
Phenanthrene		1.085	2.96		
Pyrene		1.314	7.59		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

If the %RSD is greater than the limit specified by the method or project QAP, then linear or quadratic equations will be used.

INT_CAL - Modified 03/06/2008
PDF File ID: 2606164
Report generated 10/08/2012 14:37



Login Number: L12090809
Analytical Method: 8270C

Instrument ID: HPMS7
Initial Calibration Date: 26-SEP-12 11:46
Column ID: F

Analyte	WG409793-02			WG409793-03			WG409793-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	1.00	126542.000	1.146	10.0	1220573.00	1.073	5.00	598577.000	1.203
Benzo[a]pyrene	1.00	219008.000	1.212	10.0	2038874.00	1.116	5.00	1007301.00	1.220
Fluoranthene	1.00	234021.000	1.222	10.0	2140960.00	1.108	5.00	1085055.00	1.274
1-Methylnaphthalene	1.00	138743.000	0.7067	10.0	1386672.00	0.6628	5.00	671087.000	0.7476
2-Methylnaphthalene	1.00	136870.000	0.6972	10.0	1408095.00	0.6730	5.00	674754.000	0.7517
Acenaphthylene	1.00	239969.000	2.172	10.0	2305020.00	2.027	5.00	1155725.00	2.322
Anthracene	1.00	222716.000	1.163	10.0	2094330.00	1.083	5.00	1053365.00	1.237
Benzo[a]anthracene	1.00	214192.000	1.133	10.0	1971723.00	1.017	5.00	990818.000	1.141
Benzo[b]fluoranthene	1.00	216956.000	1.201	10.0	2171713.00	1.189	5.00	1021009.00	1.237
Benzo[ghi]perylene	1.00	217289.000	1.203	10.0	2086292.00	1.142	5.00	1007117.00	1.220
Benzo[k]fluoranthene	1.00	221103.000	1.224	10.0	2024296.00	1.108	5.00	986021.000	1.195
Chrysene	1.00	217877.000	1.153	10.0	1941947.00	1.002	5.00	988460.000	1.138
Dibenz[ah]anthracene	1.00	217729.000	1.205	10.0	2054751.00	1.125	5.00	1007152.00	1.220
Fluorene	1.00	150126.000	1.359	10.0	1481713.00	1.303	5.00	721192.000	1.449
Indeno[1,2,3-cd]pyrene	1.00	260949.000	1.445	10.0	2454902.00	1.344	5.00	1202725.00	1.457
Naphthalene	1.00	214416.000	1.092	10.0	2077160.00	0.9928	5.00	1025428.00	1.142
Phenanthrene	1.00	212219.000	1.108	10.0	2006435.00	1.038	5.00	1000038.00	1.174
Pyrene	1.00	257496.000	1.362	10.0	2313681.00	1.194	5.00	1185949.00	1.366

INT_CAL - Modified 03/06/2008
PDF File ID: 2606164
Report generated 10/08/2012 14:37



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12090809
Analytical Method:8270C

Instrument ID:HPMS7
Initial Calibration Date:26-SEP-12 11:46
Column ID:F

Analyte	WG409793-06			WG409793-07			WG409793-08		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	0.500	57405.0000	1.133	0.100	11511.0000	1.124	0.0500	6386.00000	1.174
Benzo[a]pyrene	0.500	90899.0000	1.076	0.100	17684.0000	1.067	0.0500	9370.00000	1.054
Fluoranthene	0.500	99614.0000	1.126	0.100	20105.0000	1.144	0.0500	10750.0000	1.144
1-Methylnaphthalene	0.500	61210.0000	0.6918	0.100	12426.0000	0.6953	0.0500	6600.00000	0.6949
2-Methylnaphthalene	0.500	59301.0000	0.6702	0.100	11664.0000	0.6527	0.0500	6139.00000	0.6464
Acenaphthylene	0.500	104675.000	2.066	0.100	20789.0000	2.029	0.0500	11313.0000	2.080
Anthracene	0.500	95819.0000	1.083	0.100	18295.0000	1.041	0.0500	9847.00000	1.048
Benzo[a]anthracene	0.500	88944.0000	1.010	0.100	17882.0000	1.038	0.0500	9817.00000	1.070
Benzo[b]fluoranthene	0.500	92908.0000	1.099	0.100	17285.0000	1.043	0.0500	9645.00000	1.085
Benzo[ghi]perylene	0.500	90168.0000	1.067	0.100	18246.0000	1.101	0.0500	9615.00000	1.082
Benzo[k]fluoranthene	0.500	97179.0000	1.150	0.100	19733.0000	1.191	0.0500	11176.0000	1.257
Chrysene	0.500	92609.0000	1.052	0.100	19630.0000	1.140	0.0500	10612.0000	1.156
Dibenz[ah]anthracene	0.500	89044.0000	1.054	0.100	17278.0000	1.043	0.0500	9225.00000	1.038
Fluorene	0.500	64853.0000	1.280	0.100	12864.0000	1.256	0.0500	6822.00000	1.254
Indeno[1,2,3-cd]pyrene	0.500	107157.000	1.268	0.100	21305.0000	1.286	0.0500	11274.0000	1.268
Naphthalene	0.500	96495.0000	1.091	0.100	20202.0000	1.130	0.0500	10915.0000	1.149
Phenanthrene	0.500	91905.0000	1.039	0.100	18770.0000	1.068	0.0500	10194.0000	1.085
Pyrene	0.500	110890.000	1.259	0.100	22893.0000	1.329	0.0500	12592.0000	1.372

INT_CAL - Modified 03/06/2008
PDF File ID: 2606164
Report generated 10/08/2012 14:37



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L12090809</u>	Run Date: <u>09/26/2012</u>	Sample ID: <u>WG409793-09</u>
Instrument ID: <u>HPMS7</u>	Run Time: <u>12:12</u>	Method: <u>8270C</u>
File ID: <u>7M56018</u>	Analyst: <u>CAA</u>	QC Key: <u>DOD4</u>
ICal Workgroup: <u>WG409793</u>	Cal ID: <u>HPMS7 - 26-SEP-12</u>	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1030	ug/L	1.08	2.90	30	
Fluoranthene	CCC	1000	1050	ug/L	1.22	4.60	30	
Benzo[a]pyrene	CCC	1000	1070	ug/L	1.15	7.00	30	
Naphthalene		1000	1040	ug/L	1.09	3.60	30	
Acenaphthylene		1000	1040	ug/L	2.01	3.80	30	
Fluorene		1000	1050	ug/L	1.26	4.80	30	
Phenanthrene		1000	1030	ug/L	1.11	3.20	30	
Anthracene		1000	1060	ug/L	1.17	6.30	30	
Pyrene		1000	1070	ug/L	1.38	7.50	30	
Benzo[a]anthracene		1000	1020	ug/L	1.07	2.40	30	
Chrysene		1000	1020	ug/L	1.10	1.50	30	
Benzo[b]fluoranthene		1000	1030	ug/L	1.12	2.60	30	
Benzo[k]fluoranthene		1000	1020	ug/L	1.16	2.20	30	
Indeno[1,2,3-cd]pyrene		1000	1040	ug/L	1.34	4.30	30	
Dibenz[ah]anthracene		1000	1040	ug/L	1.11	4.10	30	
Benzo[ghi]perylene		1000	1040	ug/L	1.13	3.90	30	
1-Methylnaphthalene		1000	1040	ug/L	0.694	3.70	30	
2-Methylnaphthalene		1000	1090	ug/L	0.711	9.00	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2606167
Report generated 10/08/2012 14:37



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410397-02
 Instrument ID: HPMS7 Run Time: 08:37 Method: 8270C
 File ID: 7M56039 Analyst: CAA QC Key: DOD4
 Workgroup (AAB#): WG410396 Cal ID: HPMS7 - 26-SEP-12
 Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1080	ug/L	1.13	7.93	20	
Fluoranthene	CCC	1000	1050	ug/L	1.22	4.84	20	
Benzo[a]pyrene	CCC	1000	1050	ug/L	1.13	4.54	20	
Naphthalene		1000	1010	ug/L	1.07	1.47	20	
Acenaphthylene		1000	1080	ug/L	2.08	7.67	20	
Fluorene		1000	1050	ug/L	1.26	5.04	20	
Phenanthrene		1000	1020	ug/L	1.10	1.58	20	
Anthracene		1000	1040	ug/L	1.15	4.02	20	
Pyrene		1000	1030	ug/L	1.32	3.07	20	
Benzo[a]anthracene		1000	1040	ug/L	1.09	4.01	20	
Chrysene		1000	1020	ug/L	1.11	2.30	20	
Benzo[b]fluoranthene		1000	1060	ug/L	1.16	6.29	20	
Benzo[k]fluoranthene		1000	1050	ug/L	1.19	4.52	20	
Indeno[1,2,3-cd]pyrene		1000	1040	ug/L	1.33	3.64	20	
Dibenz[ah]anthracene		1000	1040	ug/L	1.11	3.62	20	
Benzo[ghi]perylene		1000	1030	ug/L	1.12	2.67	20	
1-Methylnaphthalene		1000	1050	ug/L	0.704	5.17	20	
2-Methylnaphthalene		1000	1030	ug/L	0.673	3.25	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
 SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
 PDF File ID: 2606169
 Report generated 10/08/2012 14:37



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12090809
Instrument ID: HPMS7
Workgroup (AAB#): WG410396

ICAL CCV Number: WG409793-02
CAL ID: HPMS7 - 26-SEP-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG409793-02	NA	NA	120935	201548	204256	197335	196487
Upper Limit	NA	NA	241870	403096	408512	394670	392974
Lower Limit	NA	NA	60468	100774	102128	98668	98244
L12090809-01	1.00	01	158041	245546	257336	245224	247057
L12090809-03	1.00	01	153543	238522	251690	233329	239346
L12090809-04	1.00	01	152974	239567	250955	234410	239575
L12090809-06	1.00	01	154210	235091	251087	231335	239748
L12090809-08	1.00	01	153071	234889	250950	228760	237755
L12090809-10	1.00	01	155634	243102	255056	234436	243190
L12090809-12	1.00	01	150384	238278	247816	229290	237709
L12090809-15	1.00	01	151159	230348	246388	223576	234094
L12090809-16	1.00	01	149692	231624	243506	224302	233897
L12090809-17	1.00	01	147867	228746	241892	222131	233712
WG410242-03	1.00	01	161015	246892	264769	248670	249042
WG410242-04	1.00	01	157693	246360	259907	245242	245087

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 2606170
Report generated 10/08/2012 14:37



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L12090809
Instrument ID: HPMS7
Workgroup (AAB#): WG410396

ICAL CCV Number: WG409793-02
CAL ID: HPMS7 - 26-SEP-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG409793-02	NA	NA	8.04	13.27	5.85	15.37	9.9
Upper Limit	NA	NA	8.54	13.77	6.35	15.87	10.4
Lower Limit	NA	NA	7.54	12.77	5.35	14.87	9.4
L12090809-01	1.00	01	8.03	13.27	5.85	15.37	9.9
L12090809-03	1.00	01	8.03	13.27	5.85	15.37	9.9
L12090809-04	1.00	01	8.04	13.27	5.85	15.37	9.9
L12090809-06	1.00	01	8.03	13.27	5.85	15.37	9.9
L12090809-08	1.00	01	8.04	13.27	5.85	15.37	9.9
L12090809-10	1.00	01	8.03	13.27	5.85	15.37	9.9
L12090809-12	1.00	01	8.03	13.27	5.85	15.37	9.9
L12090809-15	1.00	01	8.03	13.27	5.85	15.37	9.9
L12090809-16	1.00	01	8.03	13.27	5.85	15.37	9.9
L12090809-17	1.00	01	8.04	13.27	5.85	15.37	9.9
WG410242-03	1.00	01	8.03	13.27	5.85	15.37	9.9
WG410242-04	1.00	01	8.03	13.27	5.85	15.37	9.9

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 2606172
Report generated: 10/08/2012 14:37





Login Number: L12090809
Department: General Chromatography
Analyst: Anthony Canter

METHOD

Analysis SW-846 6850

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Perchlorate. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration

is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 53752

Approved By: Mike Cochran



METHOD BLANK SUMMARY

Login Number: <u>L12090809</u>	Work Group: <u>WG410340</u>
Blank File ID: <u>1LM.LM17922</u>	Blank Sample ID: <u>WG410340-02</u>
Prep Date: <u>10/02/12 16:00</u>	Instrument ID: <u>LCMS1</u>
Analyzed Date: <u>10/03/12 00:16</u>	Method: <u>6850</u>
Analyst: <u>ADC</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG410340-07	1LM.LM17919	10/02/12 23:19	01
MCT	WG410340-01	1LM.LM17921	10/02/12 23:57	01
LCS	WG410340-03	1LM.LM17923	10/03/12 00:35	01
40MW7GW92512	L12090809-01	1LM.LM17924	10/03/12 00:54	01
40EQR92512	L12090809-03	1LM.LM17925	10/03/12 01:13	01
40MW6GW92512	L12090809-04	1LM.LM17926	10/03/12 01:32	01
40MW5GW92512	L12090809-06	1LM.LM17927	10/03/12 01:51	01
40DUPGW92512	L12090809-08	1LM.LM17928	10/03/12 02:10	01
40MW5MSGW92512	L12090809-10	1LM.LM17929	10/03/12 02:29	01
40MW5MSDGW92512	L12090809-12	1LM.LM17930	10/03/12 02:48	01
QCMRL	WG410340-08	1LM.LM17932	10/03/12 03:26	01
QCMRL	WG410340-09	1LM.LM17945	10/03/12 07:32	01
QCMRL	WG410340-10	1LM.LM17948	10/03/12 09:21	01
40FB92612	L12090809-15	1LM.LM17950	10/03/12 09:59	01
40EQR92612	L12090809-16	1LM.LM17951	10/03/12 10:18	01
LFMW01GW92612	L12090809-17	1LM.LM17952	10/03/12 10:37	01
QCMRL	WG410340-11	1LM.LM17961	10/03/12 13:28	01

Report Name: BLANK_SUMMARY
PDF File ID: 2606870
Report generated 10/04/2012 12:54



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/02/12 16:00 Sample ID: WG410340-02
Instrument ID: LCMS1 Run Date: 10/03/12 00:16 Prep Method: 6850
File ID: 1LM.LM17922 Analyst: ADC Method: 6850
Workgroup (AAB#): WG410340 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-01-OCT-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Perchlorate	0.100	0.200	0.100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2605739

04-OCT-2012 11:07



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410340-03
Instrument ID: LCMS1 Run Time: 00:35 Prep Method: 6850
File ID: 1LM.LM17923 Analyst: ADC Method: 6850
Workgroup (AAB#): WG410340 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD53636 Cal ID: LCMS1-01-OCT-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	0.200	0.197	98.5	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2605740
Report generated: 10/04/2012 11:07



MS/MSD REPORT

Loginnum: L12090809 Cal ID: LCMS1- 01-OCT-12 Worknum: WG410340
 Instrument ID: LCMS1 Contract #: _____ Prep Method: 6850
 Parent ID: L12090809-06 File ID: ILM.LM17927 Dil: 1 Method: 6850
 Sample ID: L12090809-10 MS File ID: ILM.LM17929 Dil: 1 Matrix: Water
 Sample ID: L12090809-12 MSD File ID: ILM.LM17930 Dil: 1 Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Perchlorate	1.71	0.200	1.99	136	0.200	1.98	134	0.262	80 - 120	15	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
 PDF File ID: 2605757
 Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12090809
Analytical Method: 6850
ICAL Workgroup: WG410198

Instrument ID: LCMS1
Initial Calibration Date: 01-OCT-12 20:18
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		1.353	2.71	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2606872
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12090809
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 01-OCT-12 20:18
Column ID: F

Analyte	WG410198-02			WG410198-03			WG410198-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	11400.0000	1.395	0.200	22700.0000	1.382	0.500	55100.0000	1.346

INT_CAL - Modified 03/06/2008
PDF File ID: 2606872
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12090809
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 01-OCT-12 20:18
Column ID: F

Analyte	WG410198-05			WG410198-06			WG410198-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	109000.000	1.342	2.00	220000.000	1.343	5.00	536000.000	1.322

INT_CAL - Modified 03/06/2008
PDF File ID: 2606872
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12090809
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 01-OCT-12 20:18
Column ID: F

Analyte	WG410198-08		
	CONC	RESP	RF
Perchlorate	10.0	1060000.00	1.340

INT_CAL - Modified 03/06/2008
PDF File ID: 2606872
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410198-09
Instrument ID: LCMS1 Run Time: 20:36 Method: 6850
File ID: 1LM.LM17857 Analyst: ADC QC Key: DOD4
ICal Workgroup: WG410198 Cal ID: LCMS1 - 01-OCT-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	0.987	ug/L	1.32	1.30	15	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2606873
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410339-06
Instrument ID: LCMS1 Run Time: 23:38 Method: 6850
File ID: 1LM.LM17920 Analyst: ADC Units: ug/L
Workgroup (AAB#): WG410340 Cal ID: LCMS1 - 01-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2605744
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410339-08
Instrument ID: LCMS1 Run Time: 03:44 Method: 6850
File ID: 1LM.LM17933 Analyst: ADC Units: ug/L
Workgroup (AAB#): WG410340 Cal ID: LCMS1 - 01-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2605744
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410339-12
Instrument ID: LCMS1 Run Time: 09:40 Method: 6850
File ID: 1LM.LM17949 Analyst: ADC Units: ug/L
Workgroup (AAB#): WG410340 Cal ID: LCMS1 - 01-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2605744
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410339-14
Instrument ID: LCMS1 Run Time: 13:47 Method: 6850
File ID: 1LM.LM17962 Analyst: ADC Units: ug/L
Workgroup (AAB#): WG410340 Cal ID: LCMS1 - 01-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2605744
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410339-05
Instrument ID: LCMS1 Run Time: 23:00 Method: 6850
File ID: 1LM.LM17918 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG410340 Cal ID: LCMS1 - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.983	ug/L	1.32	1.66	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2605743
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410339-07
Instrument ID: LCMS1 Run Time: 03:07 Method: 6850
File ID: 1LM.LM17931 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG410340 Cal ID: LCMS1 - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.976	ug/L	1.31	2.36	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2605743
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410339-11
Instrument ID: LCMS1 Run Time: 09:03 Method: 6850
File ID: 1LM.LM17947 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG410340 Cal ID: LCMS1 - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.983	ug/L	1.32	1.72	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2605743
Report generated 10/04/2012 11:07



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410339-13
Instrument ID: LCMS1 Run Time: 13:09 Method: 6850
File ID: 1LM.LM17960 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG410340 Cal ID: LCMS1 - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.986	ug/L	1.32	1.42	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2605743
Report generated 10/04/2012 11:07



QCMRL SAMPLE

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410340-07
Instrument ID: LCMS1 Run Time: 23:19 Prep Method: 6850
File ID: 1LM.LM17919 Analyst: ADC Method: 6850
Workgroup (AAB#): WG410340 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-01-OCT-12

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.195	97.7	70 - 130	



QCMRL SAMPLE

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410340-08
Instrument ID: LCMS1 Run Time: 03:26 Prep Method: 6850
File ID: 1LM.LM17932 Analyst: ADC Method: 6850
Workgroup (AAB#): WG410340 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-01-OCT-12

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.201	101	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 2605742
Report generated 10/04/2012 12:54



QCMRL SAMPLE

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410340-10
Instrument ID: LCMS1 Run Time: 09:21 Prep Method: 6850
File ID: 1LM.LM17948 Analyst: ADC Method: 6850
Workgroup (AAB#): WG410340 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-01-OCT-12

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.250	125	70 - 130	



QCMRL SAMPLE

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410340-11
Instrument ID: LCMS1 Run Time: 13:28 Prep Method: 6850
File ID: 1LM.LM17961 Analyst: ADC Method: 6850
Workgroup (AAB#): WG410340 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-01-OCT-12

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.207	103	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 2605742
Report generated 10/04/2012 12:54



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number: L12090809
Instrument ID: LCMS1
Workgroup (AAB#): WG410340

ICAL CCV Number: WG410198-05
CAL ID: LCMS1-01-OCT-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG410198	NA	NA	406000
Upper Limit	NA	NA	609000
Lower Limit	NA	NA	203000
L12090809-01	1.00	01	381000
L12090809-03	1.00	01	420000
L12090809-04	1.00	01	358000
L12090809-06	1.00	01	354000
L12090809-08	1.00	01	353000
L12090809-10	1.00	01	358000
L12090809-12	1.00	01	358000
L12090809-15	1.00	01	374000
L12090809-16	1.00	01	387000
L12090809-17	1.00	01	302000
WG410340-02	1.00	01	417000
WG410340-03	1.00	01	426000

IS-1 - 018LP

Underline = Response outside limits



Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 00:54

Samplenum: L12090809-01
File ID: 1LM.LM17924
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	373000	123000	3.03	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 01:13

Samplenum: L12090809-03
File ID: 1LM.LM17925
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	473	215	2.20	2.3	3.8	*

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 01:32

Samplenum: L12090809-04
File ID: 1LM.LM17926
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	120000	39900	3.01	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 01:51

Samplenum: L12090809-06
File ID: 1LM.LM17927
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	163000	52900	3.08	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 02:10

Samplenum: L12090809-08
File ID: 1LM.LM17928
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	171000	57400	2.98	2.3	3.8	

Login #: L12090809	Prep Method: 6850	Samplenum: L12090809-10
Instrument: LCMS1	Prep Date: 10/02/2012 16:00	File ID: 1LM.LM17929
Analyst: ADC	Anal Method: 6850	Matrix: Water
Worknum: WG410340	Analysis Date: 10/03/2012 02:29	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	190000	61900	3.07	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 02:48

Samplenum: L12090809-12
File ID: 1LM.LM17930
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	190000	61300	3.10	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 09:59

Samplenum: L12090809-15
File ID: 1LM.LM17950
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	2880	1660	1.73	2.3	3.8	*

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 10:18

Samplenum: L12090809-16
File ID: 1LM.LM17951
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	3100	0.000	0.000	2.3	3.8	*

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 10:37

Samplenum: L12090809-17
File ID: 1LM.LM17952
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	706000	229000	3.08	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 10/01/2012 18:24

Samplenum: WG410198-02
File ID: 1LM.LM17850
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	11400	4110	2.77	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 10/01/2012 18:43

Samplenum: WG410198-03
File ID: 1LM.LM17851
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	22700	7440	3.05	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 10/01/2012 19:02

Samplenum: WG410198-04
File ID: 1LM.LM17852
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	55100	18500	2.98	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 10/01/2012 19:21

Samplenum: WG410198-05
File ID: 1LM.LM17853
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	109000	37200	2.93	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 10/01/2012 19:40

Samplenum: WG410198-06
File ID: 1LM.LM17854
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	220000	71700	3.07	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 10/01/2012 19:59

Samplenum: WG410198-07
File ID: 1LM.LM17855
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	536000	173000	3.10	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 10/01/2012 20:18

Samplenum: WG410198-08
File ID: 1LM.LM17856
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	1060000	339000	3.13	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 10/01/2012 20:36

Samplenum: WG410198-09
File ID: 1LM.LM17857
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	106000	36300	2.92	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 10/02/2012 23:00

Samplenum: WG410339-05
File ID: 1LM.LM17918
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	101000	33100	3.05	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 10/02/2012 23:38

Samplenum: WG410339-06
File ID: 1LM.LM17920
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 10/03/2012 03:07

Samplenum: WG410339-07
File ID: 1LM.LM17931
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	109000	35300	3.09	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 10/03/2012 03:44

Samplenum: WG410339-08
File ID: 1LM.LM17933
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 10/03/2012 09:03

Samplenum: WG410339-11
File ID: 1LM.LM17947
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	98700	33300	2.96	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method:
Prep Date:
Anal Method: 6850
Analysis Date: 10/03/2012 09:40

Samplenum: WG410339-12
File ID: 1LM.LM17949
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	619	0.000	2.3	3.8	*

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 10/03/2012 13:09

Samplenum: WG410339-13
File ID: 1LM.LM17960
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	101000	33300	3.03	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 10/03/2012 13:47

Samplenum: WG410339-14
File ID: 1LM.LM17962
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	574	0.000	2.3	3.8	*

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/02/2012 23:57

Samplenum: WG410340-01
File ID: 1LM.LM17921
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	21200	6350	3.34	2.3	3.8	

Login #: L12090809	Prep Method: 6850	Samplenum: WG410340-02
Instrument: LCMS1	Prep Date: 10/02/2012 16:00	File ID: 1LM.LM17922
Analyst: ADC	Anal Method: 6850	Matrix: Water
Worknum: WG410340	Analysis Date: 10/03/2012 00:16	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 00:35

Samplenum: WG410340-03
File ID: 1LM.LM17923
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	23000	7410	3.10	2.3	3.8	

Login #: L12090809	Prep Method: 6850	Samplenum: WG410340-07
Instrument: LCMS1	Prep Date: 10/02/2012 16:00	File ID: 1LM.LM17919
Analyst: ADC	Anal Method: 6850	Matrix: Water
Worknum: WG410340	Analysis Date: 10/02/2012 23:19	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	20700	7310	2.83	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 03:26

Samplenum: WG410340-08
File ID: 1LM.LM17932
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	23800	7780	3.06	2.3	3.8	

Login #: L12090809
Instrument: LCMS1
Analyst: ADC
Worknum: WG410340

Prep Method: 6850
Prep Date: 10/02/2012 16:00
Anal Method: 6850
Analysis Date: 10/03/2012 09:21

Samplenum: WG410340-10
File ID: 1LM.LM17948
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	25300	6520	3.88	2.3	3.8	*

Login #: L12090809	Prep Method: 6850	Samplenum: WG410340-11
Instrument: LCMS1	Prep Date:	File ID: 1LM.LM17961
Analyst: ADC	Anal Method: 6850	Matrix: Water
Worknum: WG410340	Analysis Date: 10/03/2012 13:28	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	21700	7130	3.04	2.3	3.8	



Login Number: L12090809
Department: General Chromatography
Analyst: Eric Lawson

METHOD

Analysis SW-846 8081A

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 20%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Surrogates: Recoveries out of range were observed for the following surrogate (low) at >10%: Decachlorobiphenyl. Please see the applicable QC report for a detailed presentation of the failures.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

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

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration

is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 53830

Approved By: Mike Cochran



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12090809
Instrument Id: HP15
Workgroup (AAB#): WG410265

Method: 8081
CAL ID: HP15 - 01-OCT-12
Matrix: Water

Sample Number	Dilution	Tag	1	2
L12090809-01	1.00	01	69.2	26.2
L12090809-03	1.00	01	64.3	25.5
L12090809-04	1.00	01	63.4	49.0
L12090809-06	1.00	01	86.5	69.1
L12090809-08	1.00	01	78.7	84.3
L12090809-10	1.00	01	72.2	69.2
L12090809-12	1.00	01	59.0	54.2
L12090809-15	1.00	01	70.4	35.5
L12090809-16	1.00	01	83.7	36.2
L12090809-17	1.00	01	78.3	40.7
WG410197-02	1.00	01	71.0	92.0
WG410197-03	1.00	01	80.0	78.7
WG410197-04	1.00	02	76.9	96.1

Surrogates	Surrogate Limits
1 - 2,4,5,6-Tetrachloro-m-xylene	25 - 140 60-150
2 - Decachlorobiphenyl	30 - 135 60-150

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 2605811
Report generated: 10/05/2012 13:44



METHOD BLANK SUMMARY

Login Number: L12090809
 Blank File ID: 15G34670.F
 Prep Date: 10/01/12 13:45
 Analyzed Date: 10/02/12 16:48
 Analyst: ECL

Work Group: WG410265
 Blank Sample ID: WG410197-02
 Instrument ID: HP15
 Method: 8081A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG410197-03	15G34671.F	10/02/12 17:16	01
LCS_TOX	WG410197-04	15G34672.F	10/02/12 17:43	02
40MW7GW92512	L12090809-01	15G34675.F	10/02/12 19:07	01
40EQR92512	L12090809-03	15G34676.F	10/02/12 19:35	01
40MW6GW92512	L12090809-04	15G34677.F	10/02/12 20:03	01
40DUPGW92512	L12090809-08	15G34678.F	10/02/12 20:30	01
40FB92612	L12090809-15	15G34679.F	10/02/12 20:58	01
40MW5GW92512	L12090809-06	15G34682.F	10/02/12 22:22	01
40MW5MSGW92512	L12090809-10	15G34683.F	10/02/12 22:50	01
40MW5MSDGW92512	L12090809-12	15G34684.F	10/02/12 23:17	01
40EQR92612	L12090809-16	15G34685.F	10/02/12 23:46	01
LFMW01GW92612	L12090809-17	15G34686.F	10/03/12 00:13	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2605815
 Report generated 10/05/2012 13:43



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/01/12 13:45 Sample ID: WG410197-02
 Instrument ID: HP15 Run Date: 10/02/12 16:48 Prep Method: 3510C
 File ID: 15G34670.F Analyst: ECL Method: 8081A
 Workgroup (AAB#): WG410265 Matrix: Water Units: ug/L
 Contract #: Cal ID: HP15 - 01-OCT-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
4,4'-DDD	0.0100	0.0500	0.0100	1	U
4,4'-DDE	0.0100	0.0500	0.0100	1	U
4,4'-DDT	0.0100	0.0500	0.0100	1	U
Aldrin	0.0100	0.0500	0.0100	1	U
alpha Chlordane	0.0100	0.0500	0.0100	1	U
alpha-BHC	0.0100	0.0500	0.0100	1	U
beta-BHC	0.0100	0.0500	0.0100	1	U
delta-BHC	0.0100	0.0500	0.0100	1	U
Dieldrin	0.0100	0.0500	0.0100	1	U
Endosulfan I	0.0100	0.0500	0.0100	1	U
Endosulfan II	0.0100	0.0500	0.0100	1	U
Endosulfan sulfate	0.0100	0.0500	0.0100	1	U
Endrin	0.0100	0.0500	0.0100	1	U
Endrin aldehyde	0.0100	0.0500	0.0100	1	U
Endrin ketone	0.0100	0.0500	0.0100	1	U
gamma Chlordane	0.0100	0.0500	0.0100	1	U
gamma-BHC (Lindane)	0.0100	0.0500	0.0100	1	U
Heptachlor	0.0100	0.0500	0.0100	1	U
Heptachlor epoxide	0.0100	0.0500	0.0100	1	U
Methoxychlor	0.0100	0.0500	0.0100	1	U
Toxaphene	0.300	1.00	0.300	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	71.0	25 - 140	PASS
Decachlorobiphenyl	92.0	30 - 135	PASS

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2605816

05-OCT-2012 13:43



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410197-03
Instrument ID: HP15 Run Time: 17:16 Prep Method: 3510C
File ID: 15G34671.F Analyst: ECL Method: 8081A
Workgroup (AAB#): WG410265 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD53606 Cal ID: HP15 - 01-OCT-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
4,4'-DDD	0.500	0.479	95.8	25 - 150	
4,4'-DDE	0.500	0.472	94.4	35 - 140	
4,4'-DDT	0.500	0.501	100	45 - 140	38-127, 27
Aldrin	0.500	0.429	85.8	25 - 140	40-120, 22
alpha Chlordane	0.500	0.455	91.0	65 - 125	
alpha-BHC	0.500	0.450	89.9	60 - 130	
beta-BHC	0.500	0.447	89.5	65 - 125	
delta-BHC	0.500	0.466	93.2	45 - 135	
Dieldrin	0.500	0.470	94.0	60 - 130	52-126, 18
Endosulfan I	0.500	0.375	75.1	50 - 110	
Endosulfan II	0.500	0.494	98.7	30 - 130	
Endosulfan sulfate	0.500	0.534	107	55 - 135	
Endrin	0.500	0.489	97.7	55 - 135	56-121, 21
Endrin aldehyde	0.500	0.463	92.5	55 - 135	
Endrin ketone	0.500	0.513	103	75 - 125	
gamma Chlordane	0.500	0.453	90.6	60 - 125	
gamma-BHC (Lindane)	0.500	0.446	89.2	25 - 135	56-123, 14
Heptachlor	0.500	0.442	88.3	40 - 130	40-131, 20
Heptachlor epoxide	0.500	0.482	96.5	60 - 130	
Methoxychlor	0.500	0.480	96.0	55 - 150	

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	80.0	25 - 140	PASS
Decachlorobiphenyl	78.7	30 - 135	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2605809
Report generated: 10/05/2012 13:43



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410197-04
Instrument ID: HP15 Run Time: 17:43 Prep Method: 3510C
File ID: 15G34672.F Analyst: ECL Method: 8081A
Workgroup (AAB#): WG410265 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD53606 Cal ID: HP15 - 01-OCT-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Toxaphene	2.00	2.03	101	41 - 126	

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,5,6-Tetrachloro-m-xylene	76.9	25 - 140	PASS
Decachlorobiphenyl	96.1	30 - 135	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 2605809
Report generated: 10/05/2012 13:43



MS/MSD REPORT

Loginnum: L12090809Cal ID: HP15- 01-OCT-12Worknum: WG410265Instrument ID: HP15

Contract #:

Prep Method: 3510CParent ID: L12090809-06File ID: 15G34682.FDil: 1Method: 8081ASample ID: L12090809-10 MSFile ID: 15G34683.FDil: 1Matrix: WaterSample ID: L12090809-12 MSDFile ID: 15G34684.FDil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
4,4'-DDD	U	0.510	0.476	93.3	0.500	0.416	83.3	13.4	25 - 150	30	
4,4'-DDE	U	0.510	0.464	90.9	0.500	0.406	81.3	13.2	35 - 140	30	
4,4'-DDT	U	0.510	0.499	97.7	0.500	0.436	87.1	13.5	45 - 140	30	38-127, 27
Aldrin	U	0.510	0.332	65	0.500	0.264	52.8	22.7	25 - 140	30	40-120, 22
alpha Chlordane	U	0.510	0.444	86.9	0.500	0.379	75.9	15.6	65 - 125	30	
alpha-BHC	U	0.510	0.432	84.6	0.500	0.344	68.7	22.7	60 - 130	30	
beta-BHC	U	0.510	0.449	88.1	0.500	0.376	75.2	17.8	65 - 125	30	
delta-BHC	U	0.510	0.473	92.8	0.500	0.395	79.1	18.0	45 - 135	30	
Dieldrin	U	0.510	0.466	91.4	0.500	0.390	78	17.9	60 - 130	30	52-126, 18
Endosulfan I	U	0.510	0.328	64.3	0.500	0.276	55.1	17.4	50 - 110	30	
Endosulfan II	U	0.510	0.499	97.8	0.500	0.420	83.9	17.3	30 - 130	30	
Endosulfan sulfate	U	0.510	0.550	108	0.500	0.457	91.5	18.4	55 - 135	30	
Endrin	U	0.510	0.490	96.1	0.500	0.411	82.2	17.6	55 - 135	30	56-121, 21
Endrin aldehyde	U	0.510	0.422	82.8	0.500	0.352	70.3	18.3	55 - 135	30	
Endrin ketone	U	0.510	0.538	105	0.500	0.448	89.6	18.3	75 - 125	30	
gamma Chlordane	U	0.510	0.442	86.7	0.500	0.380	76	15.2	60 - 125	30	
gamma-BHC (Lindane)	U	0.510	0.433	84.8	0.500	0.349	69.8	21.5	25 - 135	30	56-132, 14
Heptachlor	U	0.510	0.404	79.3	0.500	0.329	65.9	20.5	40 - 130	30	40-131, 20
Heptachlor epoxide	U	0.510	0.442	86.7	0.500	0.362	72.4	19.9	60 - 130	30	
Methoxychlor	U	0.510	0.493	96.6	0.500	0.432	86.3	13.3	55 - 150	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2605810

Report generated 10/05/2012 13:43



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12090809
Analytical Method: 8081A
ICAL Workgroup: WG410219

Instrument ID: HP15
Initial Calibration Date: 01-OCT-12 17:23
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Toxaphene-1		2166000	5.50		
Toxaphene-2		3704000	3.13		
Toxaphene-3		5685000	1.91		
Toxaphene-4		3867000	2.05		
Toxaphene-5		2141000	5.42		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2605819
Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L12090809
Analytical Method: 8081A
ICAL Workgroup: WG410221

Instrument ID: HP15
Initial Calibration Date: 01-OCT-12 20:38
Column ID: F

Analyte	AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
4,4'-DDD	226600000	2.08		
4,4'-DDE	279000000	2.89		
4,4'-DDT	221000000	5.41		
Aldrin	332600000	5.90		
Dieldrin	271800000	5.99		
Endosulfan I	277500000	11.1		
Endosulfan II	242300000	7.81		
Endosulfan Sulfate	182900000	9.10		
Endrin	242000000	5.69		
Endrin Aldehyde	182200000	10.7		
Endrin Ketone	205000000	7.74		
Heptachlor	310800000	4.12		
Heptachlor Epoxide	268400000	11.9		
Methoxychlor	93600000	7.58		
alpha-BHC	390100000	1.09		
alpha-Chlordane	291100000	5.91		
beta-BHC	151800000	2.87		
delta-BHC	355100000	5.00		
gamma-BHC	362100000	3.77		
gamma-Chlordane	300100000	4.15		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 2605819
Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12090809
Analytical Method: 8081A

Instrument ID: HP15
Initial Calibration Date: 01-OCT-12 17:23
Column ID: F

Analyte	WG410219-01			WG410219-02			WG410219-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Toxaphene-1	2000	4494408550	2247000	1000	2149814760	2150000	500	1095550550	2191000
Toxaphene-2	2000	7219627300	3610000	1000	3579946430	3580000	500	1913632660	3827000
Toxaphene-3	2000	11488831200	5744000	1000	5668399380	5668000	500	2914694160	5829000
Toxaphene-4	2000	7793625100	3897000	1000	3831152630	3831000	500	1964730980	3929000
Toxaphene-5	2000	4588684650	2294000	1000	2201181900	2201000	500	1078264990	2157000

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PDF File ID: 2605819
Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L12090809
Analytical Method: 8081A

Instrument ID: HP15
Initial Calibration Date: 01-OCT-12 17:23
Column ID: F

Analyte	WG410219-04			WG410219-05		
	CONC	RESP	RF	CONC	RESP	RF
Toxaphene-1	200	394241034	1971000	100	227293168	2273000
Toxaphene-2	200	764317985	3822000	100	368182385	3682000
Toxaphene-3	200	1107960520	5540000	100	564459905	5645000
Toxaphene-4	200	749010869	3745000	100	393202339	3932000
Toxaphene-5	200	403198549	2016000	100	203696770	2037000

INT_CAL - Modified 03/06/2008
PDF File ID: 2605819
Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12090809
Analytical Method:8081A

Instrument ID:HP15
Initial Calibration Date:01-OCT-12 20:38
Column ID:F

Analyte	WG410221-01			WG410221-02			WG410221-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
4,4'-DDD	100	21880962900	218800000	50.0	11353024100	227100000	20.0	4595815300	229800000
4,4'-DDE	100	26822503300	268200000	50.0	13873429200	277500000	20.0	5657652210	282900000
4,4'-DDT	100	20950769500	209500000	50.0	10723825200	214500000	20.0	4439878170	222000000
Aldrin	100	30444806600	304400000	50.0	16075194900	321500000	20.0	6587662540	329400000
Dieldrin	100	25535007200	255400000	50.0	13532110800	270600000	20.0	5528813600	276400000
Endosulfan I	100	23489959900	234900000	50.0	12852720300	257100000	20.0	5402605190	270100000
Endosulfan II	100	21248426500	212500000	50.0	11326032200	226500000	20.0	5017094820	250900000
Endosulfan Sulfate	100	16317389600	163200000	50.0	8604433690	172100000	20.0	3576156430	178800000
Endrin	100	21808926600	218100000	50.0	11688051300	233800000	20.0	4921704880	246100000
Endrin Aldehyde	100	15774443100	157700000	50.0	8366831720	167300000	20.0	3575123260	178800000
Endrin Ketone	100	18350224800	183500000	50.0	9713196190	194300000	20.0	4014632890	200700000
Heptachlor	100	29063653100	290600000	50.0	15329530100	306600000	20.0	6199048760	310000000
Heptachlor Epoxide	100	25030734100	250300000	50.0	13414253800	268300000	20.0	5247228710	262400000
Methoxychlor	100	8213545500	82140000	50.0	4404260570	88090000	20.0	1887084680	94350000
alpha-BHC	100	38574411100	385700000	50.0	19683771200	393700000	20.0	7861949720	393100000
alpha-Chlordane	100	26972873700	269700000	50.0	14013302600	280300000	20.0	5706401990	285300000
beta-BHC	100	14620277400	146200000	50.0	7562007960	151200000	20.0	3132848230	156600000
delta-BHC	100	35865238500	358700000	50.0	18339024000	366800000	20.0	7296672120	364800000
gamma-BHC	100	34942590400	349400000	50.0	17882608800	357700000	20.0	7132170810	356600000
gamma-Chlordane	100	28302827400	283000000	50.0	14651767700	293000000	20.0	5932127290	296600000

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PDF File ID: 2605819
Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number:L12090809
Analytical Method:8081A

Instrument ID:HP15
Initial Calibration Date:01-OCT-12 20:38
Column ID:F

Analyte	WG410221-04			WG410221-05			WG410221-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
4,4'-DDD	10.0	2324450230	232400000	4.00	909370320	227300000	1.00	224206226	224200000
4,4'-DDE	10.0	2919768680	292000000	4.00	1096500700	274100000	1.00	279082882	279100000
4,4'-DDT	10.0	2386952200	238700000	4.00	840135996	210000000	1.00	231252334	231300000
Aldrin	10.0	3621142370	362100000	4.00	1336420660	334100000	1.00	343818152	343800000
Dieldrin	10.0	2507440600	250700000	4.00	1147347020	286800000	1.00	290833627	290800000
Endosulfan I	10.0	2846784850	284700000	4.00	1177966700	294500000	1.00	323707917	323700000
Endosulfan II	10.0	2523240150	252300000	4.00	992227839	248100000	1.00	263353473	263400000
Endosulfan Sulfate	10.0	1807858630	180800000	4.00	768126338	192000000	1.00	210765077	210800000
Endrin	10.0	2511642310	251200000	4.00	991569877	247900000	1.00	255190134	255200000
Endrin Aldehyde	10.0	1881208480	188100000	4.00	749062869	187300000	1.00	214194673	214200000
Endrin Ketone	10.0	2083296570	208300000	4.00	856255170	214100000	1.00	228830812	228800000
Heptachlor	10.0	3100655660	310100000	4.00	1272785830	318200000	1.00	329182400	329200000
Heptachlor Epoxide	10.0	2214993100	221500000	4.00	1195630330	298900000	1.00	308887044	308900000
Methoxychlor	10.0	980422044	98040000	4.00	398695410	99670000	1.00	99312301.0	99310000
alpha-BHC	10.0	3946504050	394700000	4.00	1540238800	385100000	1.00	388421017	388400000
alpha-Chlordane	10.0	2939254530	293900000	4.00	1189948920	297500000	1.00	319788868	319800000
beta-BHC	10.0	1542056080	154200000	4.00	621400376	155400000	1.00	147195507	147200000
delta-BHC	10.0	3685075190	368500000	4.00	1400160750	350000000	1.00	321511269	321500000
gamma-BHC	10.0	3644013600	364400000	4.00	1425066410	356300000	1.00	388167783	388200000
gamma-Chlordane	10.0	3043154680	304300000	4.00	1215434880	303900000	1.00	319870674	319900000

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PDF File ID: 2605819
Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410219-06
Instrument ID: HP15 Run Time: 17:23 Method: 8081A
File ID: 15G34625.F Analyst: ECL QC Key: DOD4
ICal Workgroup: WG410219 Cal ID: HP15 - 01-OCT-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Toxaphene		500	443	ug/L	3140000	11.4	20	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2605820
Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12090809	Run Date: 10/01/2012	Sample ID: WG410221-07
Instrument ID: HP15	Run Time: 20:38	Method: 8081A
File ID: 15G34632.F	Analyst: ECL	QC Key: DOD4
ICal Workgroup: WG410221	Cal ID: HP15 - 01-OCT-12	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
4,4'-DDD	20.0	18.9	ug/L	215000000	5.30	20	
4,4'-DDE	20.0	18.7	ug/L	261000000	6.50	20	
4,4'-DDT	20.0	18.0	ug/L	199000000	9.90	20	
Aldrin	20.0	18.3	ug/L	304000000	8.60	20	
alpha-Chlordane	20.0	18.4	ug/L	268000000	7.90	20	
alpha-BHC	20.0	18.7	ug/L	365000000	6.50	20	
beta-BHC	20.0	18.3	ug/L	139000000	8.50	20	
delta-BHC	20.0	19.5	ug/L	345000000	2.70	20	
Dieldrin	20.0	18.9	ug/L	257000000	5.30	20	
Endosulfan I	20.0	18.5	ug/L	257000000	7.40	20	
Endosulfan II	20.0	18.1	ug/L	219000000	9.50	20	
Endosulfan Sulfate	20.0	18.3	ug/L	168000000	8.30	20	
Endrin	20.0	17.3	ug/L	209000000	13.6	20	
Endrin Aldehyde	20.0	18.4	ug/L	168000000	7.90	20	
Endrin Ketone	20.0	20.3	ug/L	208000000	1.60	20	
gamma-Chlordane	20.0	18.5	ug/L	278000000	7.50	20	
gamma-BHC	20.0	18.3	ug/L	332000000	8.30	20	
Heptachlor	20.0	19.0	ug/L	295000000	4.90	20	
Heptachlor Epoxide	20.0	19.6	ug/L	263000000	1.90	20	
Methoxychlor	20.0	18.9	ug/L	88700000	5.30	20	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 2605820
Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410368-02
Instrument ID: HP15 Run Time: 15:52 Method: 8081A
File ID: 15G34668.F Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG410265 Cal ID: HP15 - 01-OCT-12
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	20.0	20.8	ug/L	235000000	3.90	20	
4,4'-DDE	20.0	20.6	ug/L	287000000	2.76	20	
4,4'-DDT	20.0	19.8	ug/L	219000000	0.785	20	
Aldrin	20.0	20.5	ug/L	341000000	2.47	20	
alpha-Chlordane	20.0	20.3	ug/L	295000000	1.33	20	
alpha-BHC	20.0	20.8	ug/L	407000000	4.24	20	
beta-BHC	20.0	20.2	ug/L	153000000	0.938	20	
delta-BHC	20.0	21.4	ug/L	379000000	6.78	20	
Dieldrin	20.0	21.1	ug/L	287000000	5.49	20	
Endosulfan I	20.0	21.9	ug/L	280000000	9.64	20	
Endosulfan II	20.0	19.8	ug/L	240000000	0.834	20	
Endosulfan Sulfate	20.0	19.7	ug/L	180000000	1.49	20	
Endrin	20.0	20.8	ug/L	252000000	3.93	20	
Endrin Aldehyde	20.0	21.1	ug/L	179000000	5.72	20	
Endrin Ketone	20.0	19.6	ug/L	201000000	2.05	20	
gamma-Chlordane	20.0	20.4	ug/L	306000000	2.11	20	
gamma-BHC	20.0	20.5	ug/L	370000000	2.26	20	
Heptachlor	20.0	21.1	ug/L	327000000	5.34	20	
Heptachlor Epoxide	20.0	22.4	ug/L	289000000	12.1	20	
Methoxychlor	20.0	20.3	ug/L	94900000	1.36	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2605821
Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410369-01
Instrument ID: HP15 Run Time: 16:20 Method: 8081A
File ID: 15G34669.F Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG410265 Cal ID: HP15 - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		500	517	ug/L	3670000	3.49	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2605821
Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410368-03
Instrument ID: HP15 Run Time: 21:26 Method: 8081A
File ID: 15G34680.F Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG410265 Cal ID: HP15 - 01-OCT-12
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	10.0	10.3	ug/L	233000000	2.88	20	
4,4'-DDE	10.0	10.3	ug/L	287000000	2.97	20	
4,4'-DDT	10.0	10.1	ug/L	223000000	0.741	20	
Aldrin	10.0	10.3	ug/L	342000000	2.84	20	
alpha-Chlordane	10.0	10.3	ug/L	299000000	2.73	20	
alpha-BHC	10.0	10.4	ug/L	406000000	4.03	20	
beta-BHC	10.0	10.2	ug/L	155000000	2.33	20	
delta-BHC	10.0	10.5	ug/L	372000000	4.91	20	
Dieldrin	10.0	10.8	ug/L	293000000	7.96	20	
Endosulfan I	10.0	10.3	ug/L	289000000	3.44	20	
Endosulfan II	10.0	10.2	ug/L	246000000	1.57	20	
Endosulfan Sulfate	10.0	10.2	ug/L	186000000	1.60	20	
Endrin	10.0	10.6	ug/L	256000000	5.81	20	
Endrin Aldehyde	10.0	10.2	ug/L	186000000	2.27	20	
Endrin Ketone	10.0	10.0	ug/L	206000000	0.480	20	
gamma-Chlordane	10.0	10.3	ug/L	310000000	3.25	20	
gamma-BHC	10.0	10.2	ug/L	370000000	2.28	20	
Heptachlor	10.0	10.6	ug/L	330000000	6.30	20	
Heptachlor Epoxide	10.0	11.5	ug/L	303000000	15.2	20	
Methoxychlor	10.0	10.6	ug/L	99300000	6.12	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2605821
Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410369-02
Instrument ID: HP15 Run Time: 21:54 Method: 8081A
File ID: 15G34681.F Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG410265 Cal ID: HP15 - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		200	198	ug/L	3460000	1.01	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2605821
Report generated 10/05/2012 13:44



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410368-05
 Instrument ID: HP15 Run Time: 01:37 Method: 8081A
 File ID: 15G34689.F Analyst: ECL QC Key: DOD4
 Workgroup (AAB#): WG410265 Cal ID: HP15 - 01-OCT-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
4,4'-DDD	20.0	19.7	ug/L	223000000	1.47	20	
4,4'-DDE	20.0	19.6	ug/L	273000000	2.03	20	
4,4'-DDT	20.0	18.9	ug/L	209000000	5.63	20	
Aldrin	20.0	19.4	ug/L	323000000	2.98	20	
alpha-Chlordane	20.0	19.1	ug/L	279000000	4.27	20	
alpha-BHC	20.0	20.0	ug/L	391000000	0.221	20	
beta-BHC	20.0	19.4	ug/L	147000000	3.24	20	
delta-BHC	20.0	20.4	ug/L	362000000	1.94	20	
Dieldrin	20.0	20.1	ug/L	274000000	0.633	20	
Endosulfan I	20.0	20.7	ug/L	265000000	3.32	20	
Endosulfan II	20.0	18.8	ug/L	228000000	6.01	20	
Endosulfan Sulfate	20.0	18.7	ug/L	171000000	6.58	20	
Endrin	20.0	19.5	ug/L	237000000	2.26	20	
Endrin Aldehyde	20.0	20.5	ug/L	174000000	2.60	20	
Endrin Ketone	20.0	18.8	ug/L	192000000	6.24	20	
gamma-Chlordane	20.0	19.4	ug/L	290000000	3.22	20	
gamma-BHC	20.0	19.6	ug/L	355000000	1.93	20	
Heptachlor	20.0	20.1	ug/L	312000000	0.252	20	
Heptachlor Epoxide	20.0	21.5	ug/L	277000000	7.44	20	
Methoxychlor	20.0	19.3	ug/L	90400000	3.47	20	
Toxaphene	NA		ug/L			20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2605821
 Report generated 10/05/2012 13:44



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410369-03
Instrument ID: HP15 Run Time: 02:04 Method: 8081A
File ID: 15G34690.F Analyst: ECL QC Key: DOD4
Workgroup (AAB#): WG410265 Cal ID: HP15 - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Toxaphene		500	495	ug/L	3470000	0.946	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 2605821
Report generated 10/05/2012 13:44



ENDRIN/4,4'-DDT BREAKDOWN (BRKDWN)

Login Number: L12090809 Run Date: 10/02/2012 Sample ID: WG410368-01
Instrument ID: HP15 Run Time: 15:24 Method: 8081
File ID: 15G34667.F Analyst: ECL Column ID: FRONT

DDT BREAKDOWN	
Analyte	Response
4,4'-DDD	596424792
4,4'-DDE	441568154
4,4'-DDT	11658809708
DDT % BREAKDOWN: 8.18	

ENDRIN BREAKDOWN	
Analyte	Response
ENDRIN	12634258924
ENDRIN ALDEHYDE	262093972
ENDRIN KETONE	600278024
ENDRIN % BREAKDOWN: 6.39	

* Exceeds 15% Criteria

Report Name: BRKDWN
PDF File ID: 2605818
Report generated 10/05/2012 13:43



ENDRIN/4,4'-DDT BREAKDOWN (BRKDWN)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410368-04
Instrument ID: HP15 Run Time: 01:09 Method: 8081
File ID: 15G34688.F Analyst: ECL Column ID: FRONT

DDT BREAKDOWN	
Analyte	Response
4,4'-DDD	422458852
4,4'-DDE	404361074
4,4'-DDT	10962137362
DDT % BREAKDOWN: 7.01	

ENDRIN BREAKDOWN	
Analyte	Response
ENDRIN	11854861091
ENDRIN ALDEHYDE	210176873
ENDRIN KETONE	519040740
ENDRIN % BREAKDOWN: 5.79	

* Exceeds 15% Criteria

Report Name: BRKDWN
PDF File ID: 2605818
Report generated 10/05/2012 13:43





Login Number: L12090809
Department: Metals
Analyst: Kim Rhodes

METHOD

Preparation: SW-846 3005

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG410204 - All acceptance criteria were met.

Matrix Spikes: WG410204 - Sample 06 was chosen by the client for MS/MSD analysis. Samples 10(MS) and 12(MSD) yielded noncompliant recoveries for calcium. Sample 07 was chosen by the client for MS/MSD analysis. Samples 11(MS) and 13(MSD) yielded noncompliant recoveries for calcium.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 53778

Approved By: Maren Beery

Maren Beery

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG410165
Analyst: REK
Spike Analyst: REK
Method: 3005A
Run Date: 10/01/2012 09:23
Hotblock Start Temp: 94.9 @ 07:35
Hotblock End Temp: 95 @ 11:35
Instrument: HB6

SOP: ME401 Revision 14
Spike Solution: STD53997
Spike Witness: VC
ICP;WG401305 Filter Lot COA16240
HCL Lot #: COA16368
Digestion Tubes Lot #: COA16400
HNO3 Lot #: COA16409

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG410165-03	BLANK	1	50 mL	50 mL		
2	WG410165-04	LCS	1	50 mL	50 mL	5 mL	
3	L12090809-01	SAMP	1	50 mL	50 mL		10/08/12
4	L12090809-02	SAMP	1	50 mL	50 mL		10/08/12
5	L12090809-03	SAMP	1	50 mL	50 mL		10/08/12
6	L12090809-04	SAMP	1	50 mL	50 mL		10/08/12
7	L12090809-05	SAMP	1	50 mL	50 mL		10/08/12
8	WG410165-01	REF	1	50 mL	50 mL		
9	L12090809-06	RS01	1	50 mL	50 mL		10/08/12
10	WG410165-02	REF	1	50 mL	50 mL		
11	L12090809-07	RS02	1	50 mL	50 mL		10/08/12
12	L12090809-08	SAMP	1	50 mL	50 mL		10/08/12
13	L12090809-09	SAMP	1	50 mL	50 mL		10/08/12
14	WG410165-05	MS	1	50 mL	50 mL	5 mL	
15	L12090809-10	MS01	1	50 mL	50 mL	5 mL	10/08/12
16	WG410165-07	MS	1	50 mL	50 mL	5 mL	
17	L12090809-11	MS02	1	50 mL	50 mL	5 mL	10/08/12
18	WG410165-06	MSD	1	50 mL	50 mL	5 mL	
19	L12090809-12	SD01	1	50 mL	50 mL	5 mL	10/08/12
20	WG410165-08	MSD	1	50 mL	50 mL	5 mL	
21	L12090809-13	SD02	1	50 mL	50 mL	5 mL	10/08/12
22	L12090809-15	SAMP	1	50 mL	50 mL		10/08/12
23	L12090809-16	SAMP	1	50 mL	50 mL		10/08/12
24	L12090809-17	SAMP	1	50 mL	50 mL		10/08/12
25	L12090809-18	SAMP	1	50 mL	50 mL		10/08/12
26	L12090854-07	SAMP	1	50 mL	50 mL		10/12/12
27	L12090854-08	SAMP	1	50 mL	50 mL		10/12/12
28	L12090854-09	SAMP	1	50 mL	50 mL		10/12/12
29	L12090854-10	SAMP	1	50 mL	50 mL		10/12/12
30	L12090854-11	SAMP	1	50 mL	50 mL		10/12/12

L12090809-17 FILTERED DIGESTATE

Analyst: REK

Reviewer: Eun Potten

HB_DIG - Modified 07/26/2012
PDF ID: 2602346
Report generated: 10/01/2012 12:17



METHOD BLANK SUMMARY

Login Number: <u>L12090809</u>	Work Group: <u>WG410204</u>
Blank File ID: <u>P2.100412.135750</u>	Blank Sample ID: <u>WG410165-03</u>
Prep Date: <u>10/01/12 09:23</u>	Instrument ID: <u>PE-ICP2</u>
Analyzed Date: <u>10/04/12 13:57</u>	Method: <u>6010B</u>
Analyst: <u>KHR</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG410165-04	P2.100412.140445	10/04/12 14:04	01
40MW7GW92512	L12090809-01	P2.100412.141044	10/04/12 14:10	01
40MW7GW92512	L12090809-02	P2.100412.141642	10/04/12 14:16	01
40EQR92512	L12090809-03	P2.100412.142338	10/04/12 14:23	01
40MW6GW92512	L12090809-04	P2.100412.143033	10/04/12 14:30	01
40MW6GW92512	L12090809-05	P2.100412.152327	10/04/12 15:23	01
40MW5GW92512	L12090809-06	P2.100412.153021	10/04/12 15:30	01
40MW5GW92512	L12090809-07	P2.100412.153715	10/04/12 15:37	01
40DUPGW92512	L12090809-08	P2.100412.154410	10/04/12 15:44	01
40DUPGW92512	L12090809-09	P2.100412.155105	10/04/12 15:51	01
40MW5MSGW92512	L12090809-10	P2.100412.155759	10/04/12 15:57	01
40MW5MSGW92512	L12090809-11	P2.100412.160357	10/04/12 16:03	01
40MW5MSDGW92512	L12090809-12	P2.100412.160956	10/04/12 16:09	01
40MW5MSDGW92512	L12090809-13	P2.100412.161555	10/04/12 16:15	01
40FB92612	L12090809-15	P2.100412.162154	10/04/12 16:21	01
40EQR92612	L12090809-16	P2.100412.164144	10/04/12 16:41	01
LFMW01GW92612	L12090809-17	P2.100412.164841	10/04/12 16:48	01
LFMW01GW92612	L12090809-18	P2.100412.165441	10/04/12 16:54	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2607772
 Report generated 10/05/2012 07:32



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/01/12 09:23 Sample ID: WG410165-03
Instrument ID: PE-ICP2 Run Date: 10/04/12 13:57 Prep Method: 3005A
File ID: P2.100412.135750 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG410204 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: PE-ICP - 04-OCT-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Beryllium, Total	0.00100	0.00200	0.00100	1	U
Calcium, Total	0.100	0.200	0.100	1	U
Iron, Total	0.0500	0.100	0.0500	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Potassium, Total	0.500	1.00	0.500	1	U
Sodium, Total	0.250	0.500	0.250	1	U
Vanadium, Total	0.00500	0.0100	0.00500	1	U
Zinc, Total	0.0100	0.0200	0.0100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2607773

05-OCT-2012 07:32



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410165-04
Instrument ID: PE-ICP2 Run Time: 14:04 Prep Method: 3005A
File ID: P2.100412.140445 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG410204 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD53997 Cal ID: PE-ICP - 04-OCT-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Aluminum, Total	5.00	4.91	98.2	80 - 120	
Beryllium, Total	0.0250	0.0237	94.9	80 - 120	
Calcium, Total	5.00	5.07	101	80 - 120	
Iron, Total	2.00	2.01	101	80 - 120	
Magnesium, Total	5.00	5.06	101	80 - 120	
Potassium, Total	25.0	24.8	99.4	80 - 120	
Sodium, Total	25.0	24.6	98.2	80 - 120	
Vanadium, Total	0.500	0.502	100	80 - 120	
Zinc, Total	0.500	0.501	100	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2607774
Report generated: 10/05/2012 07:32



MS/MSD REPORT

Loginnum: L12090809Cal ID: PE-ICP2- 04-OCT-12Worknum: WG410204Instrument ID: PE-ICP2

Contract #:

Prep Method: 3005AParent ID: L12090809-06File ID: P2.100412.153021Dil: 1Method: 6010BSample ID: L12090809-10 MSFile ID: P2.100412.155759Dil: 1Matrix: WaterSample ID: L12090809-12 MSDFile ID: P2.100412.160956Dil: 1Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Total	0.266	5.00	4.97	94.1	5.00	5.06	95.8	1.64	80 - 120	20	
Beryllium, Total	U	0.0250	0.0240	96.1	0.0250	0.0247	98.7	2.70	80 - 120	20	
Calcium, Total	86.9	5.00	93.8	138	5.00	97.9	219	4.23	80 - 120	20	*
Iron, Total	0.217	2.00	2.02	90.4	2.00	2.08	93	2.56	80 - 120	20	
Magnesium, Total	32.0	5.00	36.2	82.6	5.00	36.4	86.6	0.561	80 - 120	20	
Potassium, Total	1.30	25.0	25.4	96.5	25.0	25.5	96.9	0.369	80 - 120	20	
Sodium, Total	5.73	25.0	30.0	96.9	25.0	30.3	98.1	0.996	80 - 120	20	
Vanadium, Total	U	0.500	0.494	98.8	0.500	0.504	101	2.06	80 - 120	20	
Zinc, Total	U	0.500	0.477	95.3	0.500	0.480	96.1	0.799	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2607775

Report generated 10/05/2012 07:32



MS/MSD REPORT

Loginnum: L12090809Cal ID: PE-ICP2- 04-OCT-12Worknum: WG410204Instrument ID: PE-ICP2

Contract #:

Prep Method: 3005AParent ID: L12090809-07File ID: P2.100412.153715Dil: 1Method: 6010BSample ID: L12090809-11 MSFile ID: P2.100412.160357Dil: 1Matrix: WaterSample ID: L12090809-13 MSDFile ID: P2.100412.161555Dil: 1Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Dissolved	U	5.00	4.95	98.9	5.00	5.06	101	2.17	80 - 120	20	
Beryllium, Dissolved	U	0.0250	0.0245	98.1	0.0250	0.0254	102	3.55	80 - 120	20	
Calcium, Dissolved	89.2	5.00	99.1	200	5.00	99.5	207	0.344	80 - 120	20	*
Iron, Dissolved	U	2.00	2.03	102	2.00	2.02	101	0.655	80 - 120	20	
Magnesium, Dissolved	32.3	5.00	38.3	119	5.00	37.3	99.9	2.57	80 - 120	20	
Potassium, Dissolved	1.23	25.0	25.8	98.3	25.0	26.4	101	2.21	80 - 120	20	
Sodium, Dissolved	5.43	25.0	30.0	98.3	25.0	31.9	106	6.22	80 - 120	20	
Vanadium, Dissolved	U	0.500	0.507	101	0.500	0.521	104	2.67	80 - 120	20	
Zinc, Dissolved	U	0.500	0.483	96.5	0.500	0.496	99.2	2.76	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2607775

Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12090809 Worknum: WG410204
Instrument: PE-ICP2 Method: 6010B
Serial Dil: WG410204-02 File ID: P2.100412.144330 Dil: 5 Units: mg/L
Sample: L12090809-04 File ID: P2.100412.143033 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Aluminum	0.467	X	0.445	F	4.72	
Beryllium	ND	U	ND	U		
Calcium	88.2		90.2		2.32	
Iron	0.393	X	0.400	F	1.72	
Magnesium	33.7		34.1		1.36	
Potassium	1.22	X	ND	U		
Sodium	5.24	X	5.10	X	2.68	
Vanadium	ND	U	ND	U		
Zinc	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 50 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2607769

10/05/2012 07:32



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12090809
Instrument ID: PE-ICP2
Post Spike ID: WG410204-01
Sample ID: L12090809-04

Worknum: WG410204
Method: 6010B
Units: mg/L
Matrix: Water

File ID: P2.100412.143729 Dil: 1
File ID: P2.100412.143033 Dil: 1

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
ALUMINUM	5.45		0.467		5	100.7	75 - 125	
BERYLLIUM	0.0248		0	U	.025	99.4	75 - 125	
CALCIUM	91.7		88.2		5	246.1	75 - 125	N
IRON	2.30		0.393		2	97.5	75 - 125	
MAGNESIUM	34.8		33.7		5	90.3	75 - 125	
POTASSIUM	26.5		1.22		25	101.8	75 - 125	
SODIUM	29.9		5.24		25	100.7	75 - 125	
VANADIUM	0.520		0	U	.5	103.9	75 - 125	
ZINC	0.493		0	U	.5	98.5	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2607785
Report generated: 10/05/2012 07:32



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12090809</u>	Workgroup (AAB#):	<u>WG410204</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>PE-ICP2</u>
ICAL Worknum:	<u>WG410603</u>	Initial Calibration Date:	<u>04-OCT-2012 12:26</u>

	WG410603-01		WG410603-02		WG410603-03		WG410603-04		WG410603-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ALUMINUM	0	62.3	.1	479	.2	968	10	47100	20	94000	.999999	
BERYLLIUM	0	-1430	.0005	545	.001	1100	.05	52300	.1	105000	.999999	
CALCIUM	0	-48.4	NA	NA	.2	66.5	10	3590	20	7220	.999996	
IRON	0	12.9	.04	254	.08	518	4	26100	8	52300	.999999	
MAGNESIUM	0	64.9	.1	216	.2	419	10	20700	20	41600	.999994	
POTASSIUM	0	-226	.5	1330	1	2720	50	131000	100	263000	1	
SODIUM	0	1860	.5	7480	1	15000	50	756000	100	1490000	1	
VANADIUM	0	7780	.01	2130	.02	4330	1	215000	2	426000	.999988	
ZINC	0	24.5	.01	473	.02	935	1	46400	2	93400	.999994	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2607778
Report generated: 05-OCT-2012 07:32



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-07
Instrument ID: PE-ICP2 Run Time: 12:38 Method: 6010B
File ID: P2.100412.123841 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG410204 Cal ID: PE-ICP2 - 04-OCT-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BERYLLIUM	.001	.002	.001	U
CALCIUM	.1	.2	.1	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
POTASSIUM	.5	1	.5	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2607780
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-11
Instrument ID: PE-ICP2 Run Time: 13:03 Method: 6010B
File ID: P2.100412.130328 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG410204 Cal ID: PE-ICP - 04-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607783
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-14
Instrument ID: PE-ICP2 Run Time: 13:50 Method: 6010B
File ID: P2.100412.135057 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG410204 Cal ID: PE-ICP - 04-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607783
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-16
Instrument ID: PE-ICP2 Run Time: 15:16 Method: 6010B
File ID: P2.100412.151634 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG410204 Cal ID: PE-ICP - 04-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607783
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-18
Instrument ID: PE-ICP2 Run Time: 16:34 Method: 6010B
File ID: P2.100412.163451 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG410204 Cal ID: PE-ICP - 04-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607783
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-20
Instrument ID: PE-ICP2 Run Time: 17:42 Method: 6010B
File ID: P2.100412.174219 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG410204 Cal ID: PE-ICP - 04-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Beryllium	0.00100	0.00200	0.00100	U
Calcium	0.100	0.200	0.100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Potassium	0.500	1.00	0.500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607783
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-06
Instrument ID: PE-ICP2 Run Time: 12:32 Method: 6010B
File ID: P2.100412.123242 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG410204 Cal ID: PE-ICP - 04-OCT-12
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	10.0	100	90 - 110	
Beryllium	.05	0.0495	99.1	90 - 110	
Calcium	10	10.3	103	90 - 110	
Iron	4	3.99	99.7	90 - 110	
Magnesium	10	10.0	100	90 - 110	
Potassium	50	49.6	99.2	90 - 110	
Sodium	50	49.5	99.0	90 - 110	
Vanadium	1	1.00	100	90 - 110	
Zinc	1	1.01	101	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2607779
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-10
Instrument ID: PE-ICP2 Run Time: 12:57 Method: 6010B
File ID: P2.100412.125727 Analyst: KHR QC Key: DOD4
Workgroup (AAB#): WG410204 Cal ID: PE-ICP - 04-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.1	mg/L	101	90 - 110		
Beryllium		0.0500	0.0498	mg/L	99.7	90 - 110		
Calcium		10.0	10.4	mg/L	104	90 - 110		
Iron		4.00	4.03	mg/L	101	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Potassium		50.0	50.8	mg/L	102	90 - 110		
Sodium		50.0	51.4	mg/L	103	90 - 110		
Vanadium		1.00	1.02	mg/L	102	90 - 110		
Zinc		1.00	1.02	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607782
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-13
Instrument ID: PE-ICP2 Run Time: 13:44 Method: 6010B
File ID: P2.100412.134457 Analyst: KHR QC Key: DOD4
Workgroup (AAB#): WG410204 Cal ID: PE-ICP - 04-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.1	mg/L	101	90 - 110		
Beryllium		0.0500	0.0505	mg/L	101	90 - 110		
Calcium		10.0	10.5	mg/L	105	90 - 110		
Iron		4.00	4.08	mg/L	102	90 - 110		
Magnesium		10.0	10.3	mg/L	103	90 - 110		
Potassium		50.0	51.1	mg/L	102	90 - 110		
Sodium		50.0	51.3	mg/L	103	90 - 110		
Vanadium		1.00	1.05	mg/L	105	90 - 110		
Zinc		1.00	1.04	mg/L	104	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607782
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-15
Instrument ID: PE-ICP2 Run Time: 14:50 Method: 6010B
File ID: P2.100412.145026 Analyst: KHR QC Key: DOD4
Workgroup (AAB#): WG410204 Cal ID: PE-ICP - 04-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.89	mg/L	98.9	90 - 110		
Beryllium		0.0500	0.0509	mg/L	102	90 - 110		
Calcium		10.0	10.5	mg/L	105	90 - 110		
Iron		4.00	3.97	mg/L	99.2	90 - 110		
Magnesium		10.0	10.0	mg/L	100	90 - 110		
Potassium		50.0	50.2	mg/L	100	90 - 110		
Sodium		50.0	50.1	mg/L	100	90 - 110		
Vanadium		1.00	1.04	mg/L	104	90 - 110		
Zinc		1.00	1.03	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607782
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-17
Instrument ID: PE-ICP2 Run Time: 16:28 Method: 6010B
File ID: P2.100412.162850 Analyst: KHR QC Key: DOD4
Workgroup (AAB#): WG410204 Cal ID: PE-ICP - 04-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.71	mg/L	97.1	90 - 110		
Beryllium		0.0500	0.0497	mg/L	99.5	90 - 110		
Calcium		10.0	10.3	mg/L	103	90 - 110		
Iron		4.00	4.01	mg/L	100	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Potassium		50.0	48.3	mg/L	96.6	90 - 110		
Sodium		50.0	48.0	mg/L	96.1	90 - 110		
Vanadium		1.00	1.00	mg/L	100	90 - 110		
Zinc		1.00	1.01	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607782
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603-19
Instrument ID: PE-ICP2 Run Time: 17:36 Method: 6010B
File ID: P2.100412.173618 Analyst: KHR QC Key: DOD4
Workgroup (AAB#): WG410204 Cal ID: PE-ICP - 04-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	9.72	mg/L	97.2	90 - 110		
Beryllium		0.0500	0.0500	mg/L	100	90 - 110		
Calcium		10.0	10.3	mg/L	103	90 - 110		
Iron		4.00	4.07	mg/L	102	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	48.5	mg/L	97.1	90 - 110		
Sodium		50.0	48.9	mg/L	97.8	90 - 110		
Vanadium		1.00	1.02	mg/L	102	90 - 110		
Zinc		1.00	1.02	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607782
Report generated 10/05/2012 07:32



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12090809
Instrument ID: PE-ICP2
Sol. A : WG410603-08
Sol. AB : WG410603-09

File ID: P2.100412.124534
File ID: P2.100412.125130

Workgroup (AAB#): WG410204
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	255	102	250	242	96.8	
Beryllium	NS	-0.000650	NS	0.250	0.251	100	
Calcium	250	266	106	250	263	105	
Iron	100	94.7	94.7	100	90.5	90.5	
Magnesium	250	252	101	250	241	96.4	
Potassium	NS	-0.0423	NS	5.00	5.14	103	
Sodium	NS	0.00730	NS	5.00	5.12	102	
Vanadium	NS	-0.0000700	NS	0.250	0.252	101	
Zinc	NS	-0.00701	NS	0.500	0.479	95.8	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2607781
Report generated 10/05/2012 07:32



LRC SAMPLE

Login Number: L12090809 Run Date: 10/04/2012 Sample ID: WG410603
Instrument ID: PE-ICP2 Run Time: 12:26 Prep Method: 3005A
Analyst: KHR Method: 6010B
Workgroup (AAB#): WG410204 Matrix: Water Units: mg/L
Cal ID: 04-OCT-12 - 04-OCT-2012 12:26

Analytes	Expected	Found	% Rec	Limits	Q
Calcium	500	516	103	90 - 110	
Magnesium	500	468	93.6	90 - 110	
Sodium	200	194	97.0	90 - 110	

KEMRON FORMS - Modified 08/28/2006
Version 1.5 PDF File ID: 2607789
Report generated 10/05/2012 10:10

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12090809

Date: 09/28/2012

Instrument ID: PE-ICP2

Method: 6010B

Analyte	Integration Time (Sec.)	Concentration (mg/L)
Aluminum	10.00	450.0
Antimony	10.00	45.0
Arsenic	10.00	9.0
Barium	10.00	9.0
Beryllium	10.00	4.5
Boron	10.00	45.0
Cadmium	10.00	4.5
Calcium	10.00	450.0
Chromium	10.00	45.0
Cobalt	10.00	45.0
Copper	10.00	45.0
Iron	10.00	450.0
Lead	10.00	90.0
Lithium	10.00	0.9
Magnesium	10.00	450.0
Manganese	10.00	27.0
Molybdenum	10.00	45.0
Nickel	10.00	45.0
Potassium	10.00	80.0
Selenium	10.00	45.0
Silicon	10.00	36.0
Silver	10.00	4.5
Sodium	10.00	180.0
Strontium	10.00	2.7
Thallium	10.00	45.0
Tin	10.00	45.0
Titanium	10.00	18.0
Vanadium	10.00	45.0
Zinc	10.00	45.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 2607776
Report generated: 10/05/2012 07:32





Login Number: L12090809
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: WG410082 - Due to continuing calibration verification failure for manganese on 01-Oct-2012 at 12:07, client samples 17 and 18 were reanalyzed on a later calibration which was compliant for manganese.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG410082 - All acceptance criteria were met.

Matrix Spikes: WG410082 - Sample 06 was chosen by the client for MS/MSD analysis. Samples 10 (MS) and 12 (MSD) met all acceptance criteria. Sample 07 was chosen by the client for MS/MSD analysis. Samples 11 (MS) and 13 (MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 53654

Approved By: Maren Beery

Maren Beery

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup:WG410044
Analyst:VC
Spike Analyst:VC
Run Date:09/28/2012 09:02
Method:3015
Balance:BA016
Instrument:MW-2

SOP:ME407 Revision 13
Spike Solution:STD53715
Spike Witness:ERP
HNO3 Lot #:COA16409
MS WG# 401311 SYRINGE FICOA16241
Digestion Tubes Lot #:COA16400

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG410044-03	BLANK	1	40 mL	100 mL	208.807 g	208.796 g		
2	WG410044-04	LCS	1	40 mL	100 mL	205.236 g	205.204 g	.25 mL	
3	L12090809-01	SAMP	1	40 mL	100 mL	205.364 g	205.353 g		10/08/12
4	L12090809-02	SAMP	1	40 mL	100 mL	207.058 g	207.039 g		10/08/12
5	L12090809-03	SAMP	1	40 mL	100 mL	208.291 g	208.283 g		10/08/12
6	L12090809-04	SAMP	1	40 mL	100 mL	204.964 g	204.958 g		10/08/12
7	L12090809-05	SAMP	1	40 mL	100 mL	206.089 g	206.067 g		10/08/12
8	WG410044-01	REF	1	40 mL	100 mL	208.907 g	208.905 g		
9	L12090809-06	RS01	1	40 mL	100 mL	208.907 g	208.905 g		10/08/12
10	WG410044-02	REF	1	40 mL	100 mL	208.995 g	208.988 g		
11	L12090809-07	RS02	1	40 mL	100 mL	208.995 g	208.988 g		10/08/12
12	L12090809-08	SAMP	1	40 mL	100 mL	209.077 g	209.068 g		10/08/12
13	L12090809-09	SAMP	1	40 mL	100 mL	206.563 g	206.557 g		10/08/12
14	WG410044-05	MS	1	40 mL	100 mL	208.765 g	208.756 g	.25 mL	
15	L12090809-10	MS01	1	40 mL	100 mL	208.765 g	208.756 g	.25 mL	10/08/12
16	WG410044-07	MS	1	40 mL	100 mL	207.656 g	207.647 g	.25 mL	
17	L12090809-11	MS02	1	40 mL	100 mL	207.656 g	207.647 g	.25 mL	10/08/12
18	WG410044-06	MSD	1	40 mL	100 mL	206.091 g	206.081 g	.25 mL	
19	L12090809-12	SD01	1	40 mL	100 mL	206.091 g	206.081 g	.25 mL	10/08/12
20	WG410044-08	MSD	1	40 mL	100 mL	206.748 g	206.733 g	.25 mL	
21	L12090809-13	SD02	1	40 mL	100 mL	206.748 g	206.733 g	.25 mL	10/08/12
22	L12090809-15	SAMP	1	40 mL	100 mL	206.704 g	206.691 g		10/08/12
23	L12090809-16	SAMP	1	40 mL	100 mL	206.645 g	206.631 g		10/08/12
24	L12090809-17	SAMP	1	40 mL	100 mL	206.465 g	206.46 g		10/08/12
25	L12090809-18	SAMP	1	40 mL	100 mL	208.078 g	208.066 g		10/08/12

L12090809-01	filtered digestate
L12090809-17	filtered digestate

Analyst: Vicki Collier

Reviewer: Erin Pottin



Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup:WG410044
Analyst:VC
Spike Analyst:VC
Run Date:09/28/2012 09:02
Method:3015
Balance:BAL016
Instrument:MW-2

SOP:ME407 Revision 13
Spike Solution:STD53715
Spike Witness:ERP
HNO3 Lot #:COA16409
MS WG# 401311 SYRINGE FICOA16241
Digestion Tubes Lot #:COA16400

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG410044-03	BLANK	1	40 mL	100 mL	208.807 g	208.796 g		
2	WG410044-04	LCS	1	40 mL	100 mL	205.236 g	205.204 g	.25 mL	
3	L12090809-01	SAMP	1	40 mL	100 mL	205.364 g	205.353 g		10/08/12
4	L12090809-02	SAMP	1	40 mL	100 mL	207.058 g	207.039 g		10/08/12
5	L12090809-03	SAMP	1	40 mL	100 mL	208.291 g	208.283 g		10/08/12
6	L12090809-04	SAMP	1	40 mL	100 mL	204.964 g	204.958 g		10/08/12
7	L12090809-05	SAMP	1	40 mL	100 mL	206.089 g	206.067 g		10/08/12
8	WG410044-01	REF	1	40 mL	100 mL	208.907 g	208.905 g		
9	L12090809-06	RS01	1	40 mL	100 mL	208.907 g	208.905 g		10/08/12
10	WG410044-02	REF	1	40 mL	100 mL	208.995 g	208.988 g		
11	L12090809-07	RS02	1	40 mL	100 mL	208.995 g	208.988 g		10/08/12
12	L12090809-08	SAMP	1	40 mL	100 mL	209.077 g	209.068 g		10/08/12
13	L12090809-09	SAMP	1	40 mL	100 mL	206.563 g	206.557 g		10/08/12
14	WG410044-05	MS	1	40 mL	100 mL	208.765 g	208.756 g	.25 mL	
15	L12090809-10	MS01	1	40 mL	100 mL	208.765 g	208.756 g	.25 mL	10/08/12
16	WG410044-07	MS	1	40 mL	100 mL	207.656 g	207.647 g	.25 mL	
17	L12090809-11	MS02	1	40 mL	100 mL	207.656 g	207.647 g	.25 mL	10/08/12
18	WG410044-06	MSD	1	40 mL	100 mL	206.091 g	206.081 g	.25 mL	
19	L12090809-12	SD01	1	40 mL	100 mL	206.091 g	206.081 g	.25 mL	10/08/12
20	WG410044-08	MSD	1	40 mL	100 mL	206.748 g	206.733 g	.25 mL	
21	L12090809-13	SD02	1	40 mL	100 mL	206.748 g	206.733 g	.25 mL	10/08/12
22	L12090809-15	SAMP	1	40 mL	100 mL	206.704 g	206.691 g		10/08/12
23	L12090809-16	SAMP	1	40 mL	100 mL	206.645 g	206.631 g		10/08/12
24	L12090809-17	SAMP	1	40 mL	100 mL	206.465 g	206.46 g		10/08/12
25	L12090809-18	SAMP	1	40 mL	100 mL	208.078 g	208.066 g		10/08/12

L12090809-01	filtered digestate
L12090809-17	filtered digestate

Analyst: Vicki Collier

Reviewer: Erin Pottin



METHOD BLANK SUMMARY

Login Number: <u>L12090809</u>	Work Group: <u>WG410082</u>
Blank File ID: <u>NI.100112.104514</u>	Blank Sample ID: <u>WG410044-03</u>
Prep Date: <u>09/28/12 09:02</u>	Instrument ID: <u>ICP-MS2</u>
Analyzed Date: <u>10/01/12 10:45</u>	Method: <u>6020</u>
Analyst: <u>JYH</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG410044-04	NI.100112.104830	10/01/12 10:48	01
40MW5GW92512	L12090809-06	NI.100112.105147	10/01/12 10:51	01
40MW5MSGW92512	L12090809-10	NI.100112.105504	10/01/12 10:55	01
40MW5MSDGW92512	L12090809-12	NI.100112.105819	10/01/12 10:58	01
40MW7GW92512	L12090809-01	NI.100112.110135	10/01/12 11:01	01
40MW7GW92512	L12090809-02	NI.100112.110450	10/01/12 11:04	01
40EQR92512	L12090809-03	NI.100112.112115	10/01/12 11:21	01
40MW6GW92512	L12090809-04	NI.100112.112432	10/01/12 11:24	01
40MW6GW92512	L12090809-05	NI.100112.112750	10/01/12 11:27	01
40MW5GW92512	L12090809-07	NI.100112.113106	10/01/12 11:31	01
40DUPGW92512	L12090809-08	NI.100112.113424	10/01/12 11:34	01
40DUPGW92512	L12090809-09	NI.100112.113740	10/01/12 11:37	01
40MW5MSGW92512	L12090809-11	NI.100112.114057	10/01/12 11:40	01
40MW5MSDGW92512	L12090809-13	NI.100112.114413	10/01/12 11:44	01
40FB92612	L12090809-15	NI.100112.114730	10/01/12 11:47	01
40EQR92612	L12090809-16	NI.100112.115046	10/01/12 11:50	01
LFMW01GW92612	L12090809-17	NI.100112.120038	10/01/12 12:00	01
LFMW01GW92612	L12090809-18	NI.100112.120356	10/01/12 12:03	01
LFMW01GW92612	L12090809-17	NI.100112.155309	10/01/12 15:53	02
LFMW01GW92612	L12090809-18	NI.100112.155726	10/01/12 15:57	02

Report Name: BLANK_SUMMARY
PDF File ID: 2603112
Report generated 10/02/2012 12:42



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 09/28/12 09:02 Sample ID: WG410044-03
 Instrument ID: ICP-MS2 Run Date: 10/01/12 10:45 Prep Method: 3015
 File ID: NI.100112.104514 Analyst: JYH Method: 6020
 Workgroup (AAB#): WG410082 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: ICP-MS - 01-OCT-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Antimony, Total	0.000500	0.00100	0.000500	1	U
Arsenic, Total	0.000500	0.00100	0.000500	1	U
Barium, Total	0.00150	0.00300	0.00150	1	U
Cadmium, Total	0.000300	0.000600	0.000300	1	U
Chromium, Total	0.00100	0.00200	0.00100	1	U
Cobalt, Total	0.000500	0.00100	0.000500	1	U
Copper, Total	0.00100	0.00200	0.00100	1	U
Lead, Total	0.000500	0.00100	0.000500	1	U
Manganese, Total	0.00100	0.00200	0.00100	1	U
Nickel, Total	0.00200	0.00400	0.00200	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Silver, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit
 LOQ Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > 1/2 RL

Report Name: BLANK
 PDF ID: 2603114
 02-OCT-2012 12:42



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L12090809</u>	Run Date: <u>10/01/2012</u>	Sample ID: <u>WG410044-04</u>
Instrument ID: <u>ICP-MS2</u>	Run Time: <u>10:48</u>	Prep Method: <u>3015</u>
File ID: <u>NI.100112.104830</u>	Analyst: <u>JYH</u>	Method: <u>6020</u>
Workgroup (AAB#): <u>WG410082</u>	Matrix: <u>Water</u>	Units: <u>mg/L</u>
QC Key: <u>DOD4</u>	Lot#: <u>STD53715</u>	Cal ID: <u>ICP-MS - 01-OCT-12</u>

Analytes	Expected	Found	% Rec	LCS Limits	Q
Antimony, Total	0.0625	0.0644	103	80 - 120	
Arsenic, Total	0.0625	0.0642	103	80 - 120	
Barium, Total	0.0625	0.0644	103	80 - 120	
Cadmium, Total	0.0625	0.0640	102	80 - 120	
Chromium, Total	0.0625	0.0670	107	80 - 120	
Cobalt, Total	0.0625	0.0658	105	80 - 120	
Copper, Total	0.0625	0.0678	108	80 - 120	
Lead, Total	0.0625	0.0637	102	80 - 120	
Manganese, Total	0.0625	0.0666	107	80 - 120	
Nickel, Total	0.0625	0.0654	105	80 - 120	
Selenium, Total	0.0625	0.0642	103	80 - 120	
Silver, Total	0.0625	0.0660	106	80 - 120	
Thallium, Total	0.0625	0.0640	102	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2603116
Report generated: 10/02/2012 12:42



MS/MSD REPORT

Loginnum: L12090809Cal ID: ICP-MS2- 01-OCT-12Worknum: WG410082Instrument ID: ICP-MS2

Contract #:

Prep Method: 3015Parent ID: L12090809-06File ID: NI.100112.105147Dil: 1Method: 6020Sample ID: L12090809-10 MSFile ID: NI.100112.105504Dil: 1Matrix: WaterSample ID: L12090809-12 MSDFile ID: NI.100112.105819Dil: 1Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Total	U	0.0625	0.0659	105	0.0625	0.0675	108	2.34	80 - 120	20	
Arsenic, Total	U	0.0625	0.0677	108	0.0625	0.0685	110	1.20	80 - 120	20	
Barium, Total	0.0562	0.0625	0.123	106	0.0625	0.126	112	2.71	80 - 120	20	
Cadmium, Total	U	0.0625	0.0653	105	0.0625	0.0670	107	2.46	80 - 120	20	
Chromium, Total	0.00250	0.0625	0.0699	108	0.0625	0.0715	110	2.37	80 - 120	20	
Cobalt, Total	U	0.0625	0.0680	109	0.0625	0.0690	110	1.41	80 - 120	20	
Copper, Total	0.00259	0.0625	0.0668	103	0.0625	0.0676	104	1.18	80 - 120	20	
Lead, Total	U	0.0625	0.0650	104	0.0625	0.0673	108	3.39	80 - 120	20	
Manganese, Total	0.00213	0.0625	0.0702	109	0.0625	0.0705	109	0.500	80 - 120	20	
Nickel, Total	0.00730	0.0625	0.0733	106	0.0625	0.0752	109	2.58	80 - 120	20	
Selenium, Total	0.000845	0.0625	0.0676	107	0.0625	0.0700	111	3.46	80 - 120	20	
Silver, Total	U	0.0625	0.0645	103	0.0625	0.0667	107	3.41	80 - 120	20	
Thallium, Total	U	0.0625	0.0671	107	0.0625	0.0687	110	2.35	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS MSD - Modified 03/06/2008

PDF File ID: 2603117

Report generated 10/02/2012 12:42



MS/MSD REPORT

Loginnum: <u>L12090809</u>	Cal ID: <u>ICP-MS2- 01-OCT-12</u>	Worknum: <u>WG410082</u>
Instrument ID: <u>ICP-MS2</u>	Contract #: _____	Prep Method: <u>3015</u>
Parent ID: <u>L12090809-07</u>	File ID: <u>NI.100112.113106</u>	Dil: <u>1</u>
Sample ID: <u>L12090809-11 MS</u>	File ID: <u>NI.100112.114057</u>	Dil: <u>1</u>
Sample ID: <u>L12090809-13 MSD</u>	File ID: <u>NI.100112.114413</u>	Dil: <u>1</u>
		Method: <u>6020</u>
		Matrix: <u>Water</u>
		Units: <u>mg/L</u>

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Dissolved	U	0.0625	0.0641	103	0.0625	0.0633	101	1.35	80 - 120	20	
Arsenic, Dissolved	U	0.0625	0.0655	105	0.0625	0.0652	104	0.562	80 - 120	20	
Barium, Dissolved	0.0587	0.0625	0.122	101	0.0625	0.121	99.6	0.862	80 - 120	20	
Cadmium, Dissolved	U	0.0625	0.0638	102	0.0625	0.0632	101	0.932	80 - 120	20	
Chromium, Dissolved	0.00230	0.0625	0.0703	109	0.0625	0.0715	111	1.76	80 - 120	20	
Cobalt, Dissolved	U	0.0625	0.0656	105	0.0625	0.0665	106	1.33	80 - 120	20	
Copper, Dissolved	0.00124	0.0625	0.0654	103	0.0625	0.0655	103	0.0531	80 - 120	20	
Lead, Dissolved	U	0.0625	0.0638	102	0.0625	0.0639	102	0.105	80 - 120	20	
Manganese, Dissolved	U	0.0625	0.0694	111	0.0625	0.0692	111	0.366	80 - 120	20	
Nickel, Dissolved	0.00821	0.0625	0.0727	103	0.0625	0.0737	105	1.33	80 - 120	20	
Selenium, Dissolved	0.00105	0.0625	0.0667	105	0.0625	0.0665	105	0.247	80 - 120	20	
Silver, Dissolved	U	0.0625	0.0660	106	0.0625	0.0658	105	0.267	80 - 120	20	
Thallium, Dissolved	U	0.0625	0.0667	107	0.0625	0.0665	106	0.266	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
 PDF File ID: 2603117
 Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12090809 Worknum: WG410082
Instrument: ICP-MS2 Method: 6020
Serial Dil: WG410082-02 File ID: NI.100112.111122 Dil: 5 Units: ug/L
Sample: L12090809-02 File ID: NI.100112.110450 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	ND	U	ND	U		
Barium	67.9		64.4		5.17	
Cadmium	ND	U	ND	U		
Chromium	1.09	X	ND	U		
Cobalt	0.330	F	ND	U		
Copper	ND	U	ND	U		
Lead	ND	U	ND	U		
Manganese	1.51	X	ND	U		
Nickel	2.82	X	ND	U		
Selenium	0.365	F	ND	U		
Silver	ND	U	ND	U		
Thallium	ND	U	ND	U		

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2603109

10/02/2012 12:42



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12090809
Instrument ID: ICP-MS2
Post Spike ID: WG410082-01
Sample ID: L12090809-02

Worknum: WG410082
Method: 6020
File ID: NI.100112.110805 Dil: 1 Units: ug/L
File ID: NI.100112.110450 Dil: 1 Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
ANTIMONY	47.5		0	U	50	94.9	75 - 125	
ARSENIC	47.9		0	U	50	95.7	75 - 125	
BARIUM	116		67.9		50	96.0	75 - 125	
CADMIUM	47.1		0	U	50	94.2	75 - 125	
CHROMIUM	54.0		1.09		50	105.9	75 - 125	
COBALT	51.0		0.330	F	50	101.3	75 - 125	
COPPER	49.5		0	U	50	98.9	75 - 125	
LEAD	49.5		0	U	50	99.1	75 - 125	
MANGANESE	54.6		1.51		50	106.1	75 - 125	
NICKEL	52.6		2.82		50	99.5	75 - 125	
SELENIUM	47.2		0.365	F	50	93.7	75 - 125	
SILVER	50.1		0	U	50	100.2	75 - 125	
THALLIUM	51.1		0	U	50	102.1	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2603110
Report generated: 10/02/2012 12:42



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12090809</u>	Workgroup (AAB#):	<u>WG410082</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ICP-MS2</u>
ICAL Worknum:	<u>WG410332</u>	Initial Calibration Date:	<u>01-OCT-2012 10:11</u>

	WG410332-01		WG410332-02		WG410332-03		WG410332-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	101	.4	904	50	269000	100	518000	.999973	
ARSENIC	0	-328	.4	-299	50	62000	100	121000	.999998	
BARIUM	0	19.3	.4	140	50	112000	100	214000	.999994	
CADMIUM	0	53.6	.4	174	50	117000	100	226000	.999947	
CHROMIUM	0	10300	.4	10700	50	532000	100	1030000	.999997	
COBALT	0	26.0	.4	227	50	211000	100	406000	.999985	
COPPER	0	90.3	.4	235	50	115000	100	219000	.999938	
LEAD	0	449	.4	1230	50	697000	100	1320000	.999971	
MANGANESE	0	869	.4	1510	50	673000	100	1290000	.999971	
NICKEL	0	82.0	.4	211	50	132000	100	258000	.999999	
SELENIUM	0	10.5	.4	11.0	50	7950	100	15300	.999983	
SILVER	0	76.7	.4	461	50	390000	100	732000	.999981	
THALLIUM	0	9.70	.4	353	50	340000	100	641000	.999991	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2603121
Report generated: 02-OCT-2012 12:42



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12090809</u>	Workgroup (AAB#):	<u>WG410082</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ICP-MS2</u>
ICAL Worknum:	<u>WG410337</u>	Initial Calibration Date:	<u>01-OCT-2012 12:50</u>

	WG410337-01		WG410337-02		WG410337-03		WG410337-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	147	.4	322	50	245000	100	484000	.999908	
ARSENIC	0	-391	.4	-332	50	60800	100	121000	.999857	
BARIUM	0	14.3	.4	130	50	105000	100	208000	.999882	
CADMIUM	0	48.6	.4	161	50	108000	100	212000	.99994	
CHROMIUM	0	12200	.4	12800	50	587000	100	1180000	.99957	
COBALT	0	24.7	.4	243	50	211000	100	428000	.999598	
COPPER	0	98.7	.4	208	50	118000	100	231000	.999975	
LEAD	0	484	.4	1170	50	661000	100	1290000	.999903	
MANGANESE	0	1170	.4	1790	50	759000	100	1520000	.999776	
NICKEL	0	78.0	.4	215	50	138000	100	272000	.999911	
SELENIUM	0	12.4	.4	14.9	50	7940	100	15600	.999911	
SILVER	0	58.7	.4	467	50	391000	100	746000	.999994	
THALLIUM	0	6.70	.4	329	50	308000	100	592000	.999982	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 2603121
Report generated: 02-OCT-2012 12:42



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410332-07
Instrument ID: ICP-MS2 Run Time: 10:21 Method: 6020
File ID: NI.100112.102110 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS2 - 01-OCT-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2603123
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410337-06
Instrument ID: ICP-MS2 Run Time: 12:56 Method: 6020
File ID: NI.100112.125644 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS2 - 01-OCT-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.264	F
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2603123
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410337-07
Instrument ID: ICP-MS2 Run Time: 13:06 Method: 6020
File ID: NI.100112.130644 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS2 - 01-OCT-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

U = Result is less than 2 x MDL

F = Result is between MDL and 2 x MDL

* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2603123
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410332-12
Instrument ID: ICP-MS2 Run Time: 10:41 Method: 6020
File ID: NI.100112.104157 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2603126
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410332-14
Instrument ID: ICP-MS2 Run Time: 11:17 Method: 6020
File ID: NI.100112.111759 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2603126
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410332-16
Instrument ID: ICP-MS2 Run Time: 11:57 Method: 6020
File ID: NI.100112.115722 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2603126
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410332-18
Instrument ID: ICP-MS2 Run Time: 12:10 Method: 6020
File ID: NI.100112.121033 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2603126
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410337-12
Instrument ID: ICP-MS2 Run Time: 13:25 Method: 6020
File ID: NI.100112.132555 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410337-20
Instrument ID: ICP-MS2 Run Time: 15:46 Method: 6020
File ID: NI.100112.154633 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.223	F
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410337-22
Instrument ID: ICP-MS2 Run Time: 16:07 Method: 6020
File ID: NI.100112.160734 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410332-05
Instrument ID: ICP-MS2 Run Time: 10:14 Method: 6020
File ID: NI.100112.101421 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	50.2	100	90 - 110	
Arsenic	50	48.9	97.8	90 - 110	
Barium	50	49.8	99.6	90 - 110	
Cadmium	50	49.9	99.8	90 - 110	
Chromium	50	48.4	96.9	90 - 110	
Cobalt	50	49.6	99.1	90 - 110	
Copper	50	49.0	98.0	90 - 110	
Lead	50	49.6	99.2	90 - 110	
Manganese	50	48.2	96.4	90 - 110	
Nickel	50	49.0	98.0	90 - 110	
Selenium	50	48.7	97.3	90 - 110	
Silver	50	49.4	98.8	90 - 110	
Thallium	50	49.7	99.5	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
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Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410337-05
Instrument ID: ICP-MS2 Run Time: 12:53 Method: 6020
File ID: NI.100112.125324 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	49.8	99.6	90 - 110	
Arsenic	50	49.6	99.3	90 - 110	
Barium	50	49.6	99.1	90 - 110	
Cadmium	50	49.5	98.9	90 - 110	
Chromium	50	49.7	99.4	90 - 110	
Cobalt	50	49.9	99.8	90 - 110	
Copper	50	50.2	100	90 - 110	
Lead	50	48.8	97.7	90 - 110	
Manganese	50	49.1	98.2	90 - 110	
Nickel	50	50.2	100	90 - 110	
Selenium	50	49.7	99.4	90 - 110	
Silver	50	50.4	101	90 - 110	
Thallium	50	49.6	99.1	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2603122
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410332-11
Instrument ID: ICP-MS2 Run Time: 10:37 Method: 6020
File ID: NI.100112.103735 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.9	ug/L	99.9	90 - 110		
Arsenic		50.0	49.7	ug/L	99.4	90 - 110		
Barium		50.0	49.6	ug/L	99.1	90 - 110		
Cadmium		50.0	49.8	ug/L	99.6	90 - 110		
Chromium		50.0	50.3	ug/L	101	90 - 110		
Cobalt		50.0	49.4	ug/L	98.9	90 - 110		
Copper		50.0	49.6	ug/L	99.2	90 - 110		
Lead		50.0	49.7	ug/L	99.5	90 - 110		
Manganese		50.0	50.6	ug/L	101	90 - 110		
Nickel		50.0	49.7	ug/L	99.5	90 - 110		
Selenium		50.0	49.6	ug/L	99.2	90 - 110		
Silver		50.0	50.2	ug/L	100	90 - 110		
Thallium		50.0	49.9	ug/L	99.7	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2603125
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410332-13
Instrument ID: ICP-MS2 Run Time: 11:14 Method: 6020
File ID: NI.100112.111441 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.4	ug/L	98.8	90 - 110		
Arsenic		50.0	49.2	ug/L	98.4	90 - 110		
Barium		50.0	50.1	ug/L	100	90 - 110		
Cadmium		50.0	49.5	ug/L	99.0	90 - 110		
Chromium		50.0	52.0	ug/L	104	90 - 110		
Cobalt		50.0	50.2	ug/L	100	90 - 110		
Copper		50.0	50.4	ug/L	101	90 - 110		
Lead		50.0	49.7	ug/L	99.3	90 - 110		
Manganese		50.0	51.9	ug/L	104	90 - 110		
Nickel		50.0	50.6	ug/L	101	90 - 110		
Selenium		50.0	49.5	ug/L	99.1	90 - 110		
Silver		50.0	51.1	ug/L	102	90 - 110		
Thallium		50.0	50.1	ug/L	100	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410332-15
Instrument ID: ICP-MS2 Run Time: 11:54 Method: 6020
File ID: NI.100112.115405 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	49.0	ug/L	98.0	90 - 110		
Arsenic		50.0	49.0	ug/L	98.0	90 - 110		
Barium		50.0	49.9	ug/L	99.7	90 - 110		
Cadmium		50.0	49.2	ug/L	98.3	90 - 110		
Chromium		50.0	51.5	ug/L	103	90 - 110		
Cobalt		50.0	50.7	ug/L	101	90 - 110		
Copper		50.0	50.2	ug/L	100	90 - 110		
Lead		50.0	49.0	ug/L	97.9	90 - 110		
Manganese		50.0	51.5	ug/L	103	90 - 110		
Nickel		50.0	50.6	ug/L	101	90 - 110		
Selenium		50.0	48.7	ug/L	97.5	90 - 110		
Silver		50.0	50.1	ug/L	100	90 - 110		
Thallium		50.0	50.4	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2603125
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410332-17
Instrument ID: ICP-MS2 Run Time: 12:07 Method: 6020
File ID: NI.100112.120715 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	47.7	ug/L	95.4	90 - 110		
Arsenic		50.0	48.4	ug/L	96.8	90 - 110		
Barium		50.0	49.8	ug/L	99.6	90 - 110		
Cadmium		50.0	48.5	ug/L	97.0	90 - 110		
Chromium		50.0	54.3	ug/L	109	90 - 110		
Cobalt		50.0	49.8	ug/L	99.5	90 - 110		
Copper		50.0	51.4	ug/L	103	90 - 110		
Lead		50.0	49.6	ug/L	99.2	90 - 110		
Manganese		50.0	56.7	ug/L	113	90 - 110		*
Nickel		50.0	51.7	ug/L	103	90 - 110		
Selenium		50.0	49.9	ug/L	99.9	90 - 110		
Silver		50.0	54.5	ug/L	109	90 - 110		
Thallium		50.0	50.5	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410337-11
Instrument ID: ICP-MS2 Run Time: 13:21 Method: 6020
File ID: NI.100112.132140 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	51.5	ug/L	103	90 - 110		
Arsenic		50.0	50.8	ug/L	102	90 - 110		
Barium		50.0	51.4	ug/L	103	90 - 110		
Cadmium		50.0	51.2	ug/L	102	90 - 110		
Chromium		50.0	52.6	ug/L	105	90 - 110		
Cobalt		50.0	50.2	ug/L	100	90 - 110		
Copper		50.0	50.6	ug/L	101	90 - 110		
Lead		50.0	51.1	ug/L	102	90 - 110		
Manganese		50.0	52.4	ug/L	105	90 - 110		
Nickel		50.0	50.6	ug/L	101	90 - 110		
Selenium		50.0	51.5	ug/L	103	90 - 110		
Silver		50.0	52.7	ug/L	105	90 - 110		
Thallium		50.0	50.5	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2603125
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410337-19
Instrument ID: ICP-MS2 Run Time: 15:43 Method: 6020
File ID: NI.100112.154303 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.3	ug/L	101	90 - 110		
Arsenic		50.0	50.1	ug/L	100	90 - 110		
Barium		50.0	49.7	ug/L	99.4	90 - 110		
Cadmium		50.0	50.0	ug/L	100	90 - 110		
Chromium		50.0	50.6	ug/L	101	90 - 110		
Cobalt		50.0	48.9	ug/L	97.9	90 - 110		
Copper		50.0	49.3	ug/L	98.7	90 - 110		
Lead		50.0	50.3	ug/L	101	90 - 110		
Manganese		50.0	49.6	ug/L	99.1	90 - 110		
Nickel		50.0	49.5	ug/L	99.1	90 - 110		
Selenium		50.0	51.3	ug/L	103	90 - 110		
Silver		50.0	49.8	ug/L	99.6	90 - 110		
Thallium		50.0	49.9	ug/L	99.8	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2603125
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/01/2012 Sample ID: WG410337-21
Instrument ID: ICP-MS2 Run Time: 16:03 Method: 6020
File ID: NI.100112.160323 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG410082 Cal ID: ICP-MS - 01-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		50.0	50.3	ug/L	101	90 - 110		
Arsenic		50.0	50.0	ug/L	100	90 - 110		
Barium		50.0	49.4	ug/L	98.8	90 - 110		
Cadmium		50.0	50.1	ug/L	100	90 - 110		
Chromium		50.0	49.3	ug/L	98.6	90 - 110		
Cobalt		50.0	48.9	ug/L	97.8	90 - 110		
Copper		50.0	48.8	ug/L	97.6	90 - 110		
Lead		50.0	51.0	ug/L	102	90 - 110		
Manganese		50.0	48.5	ug/L	97.1	90 - 110		
Nickel		50.0	49.2	ug/L	98.4	90 - 110		
Selenium		50.0	51.2	ug/L	102	90 - 110		
Silver		50.0	49.3	ug/L	98.7	90 - 110		
Thallium		50.0	49.6	ug/L	99.1	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2603125
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12090809
Instrument ID: ICP-MS2
Sol. A : WG410332-09
Sol. AB : WG410332-10

File ID: NI.100112.103042
File ID: NI.100112.103401

Workgroup (AAB#): WG410082
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	-0.0484	NS	100	99.7	99.7	
Arsenic	NS	0.0135	NS	100	99.3	99.3	
Barium	NS	0.0246	NS	100	98.9	98.9	
Cadmium	NS	-0.0706	NS	100	99.0	99.0	
Chromium	NS	0.0896	NS	100	97.0	97.0	
Cobalt	NS	0.0386	NS	100	96.7	96.7	
Copper	NS	0.218	NS	100	96.7	96.7	
Lead	NS	0.0120	NS	100	99.5	99.5	
Manganese	NS	0.0691	NS	100	97.1	97.1	
Nickel	NS	0.790	NS	100	96.3	96.3	
Selenium	NS	0.0480	NS	100	99.1	99.1	
Silver	NS	0.00440	NS	100	97.6	97.6	
Thallium	NS	0.00580	NS	100	99.2	99.2	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 2603124
Report generated 10/02/2012 12:42



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12090809
Instrument ID: ICP-MS2
Sol. A : WG410337-09
Sol. AB : WG410337-10

File ID: NI.100112.131451
File ID: NI.100112.131815

Workgroup (AAB#): WG410082
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0456	NS	100	100	100	
Arsenic	NS	0.00460	NS	100	101	101	
Barium	NS	0.0291	NS	100	99.3	99.3	
Cadmium	NS	-0.0663	NS	100	99.8	99.8	
Chromium	NS	0.0892	NS	100	101	101	
Cobalt	NS	0.0327	NS	100	97.3	97.3	
Copper	NS	0.257	NS	100	97.8	97.8	
Lead	NS	0.0161	NS	100	101	101	
Manganese	NS	0.0629	NS	100	102	102	
Nickel	NS	0.908	NS	100	99.3	99.3	
Selenium	NS	0.0531	NS	100	104	104	
Silver	NS	0.0174	NS	100	95.2	95.2	
Thallium	NS	0.00740	NS	100	99.3	99.3	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

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PDF File ID: 2603124
Report generated 10/02/2012 12:42



INTERNAL STANDARD REPORT

Login: L12090809 Analytical Method: 6020
 Analytical Workgroup: WG410082 Matrix: 1
 Instrument: ICP-MS2 Analyst: JYH
 ICAL Date: 01-OCT-2012 10:01

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
L12090809-01	SAMP	01-OCT-2012 11:01	82.779	89.055	87.543
L12090809-02	SAMP	01-OCT-2012 11:04	82.2	89.066	86.055
L12090809-03	SAMP	01-OCT-2012 11:21	87.026	92.491	88.977
L12090809-04	SAMP	01-OCT-2012 11:24	81.935	91.156	87.81
L12090809-05	SAMP	01-OCT-2012 11:27	82.124	91.449	88.202
L12090809-06	SAMP	01-OCT-2012 10:51	82.349	88.862	86.17
L12090809-07	SAMP	01-OCT-2012 11:31	82.282	90.814	87.893
L12090809-08	SAMP	01-OCT-2012 11:34	83.163	91.753	88.527
L12090809-09	SAMP	01-OCT-2012 11:37	83.685	93.181	89.05
L12090809-10	SAMP	01-OCT-2012 10:55	84.456	89.756	88.41
L12090809-11	SAMP	01-OCT-2012 11:40	86.24	95.289	91.718
L12090809-12	SAMP	01-OCT-2012 10:58	83.209	89.739	87.722
L12090809-13	SAMP	01-OCT-2012 11:44	84.556	93.672	90.961
L12090809-15	SAMP	01-OCT-2012 11:47	87.951	94.09	91.429
L12090809-16	SAMP	01-OCT-2012 11:50	85.836	93.57	89.99
L12090809-17	SAMP	01-OCT-2012 12:00	80.567	91.816	87.787
L12090809-18	SAMP	01-OCT-2012 12:03	82.753	92.997	89.977
WG410044-03	BLANK	01-OCT-2012 10:45	87.233	90.559	88.869
WG410044-04	LCS	01-OCT-2012 10:48	89.3	91.755	91.114
WG410082-01	PSPK	01-OCT-2012 11:08	85.966	94	91.826
WG410082-02	SERIAL	01-OCT-2012 11:11	76.816	80.085	75.796
WG410332-05	ICV	01-OCT-2012 10:14	89.44	94.036	91.647
WG410332-07	ICB	01-OCT-2012 10:21	91.055	92.965	91.769
WG410332-09	ICS	01-OCT-2012 10:30	85.156	87.984	84.842
WG410332-10	ICS	01-OCT-2012 10:34	89.271	94.172	91.53
WG410332-11	CCV	01-OCT-2012 10:37	87.421	92.374	90.534
WG410332-12	CCB	01-OCT-2012 10:41	87.077	90.669	88.871
WG410332-13	CCV	01-OCT-2012 11:14	85.31	92.218	88.422
WG410332-14	CCB	01-OCT-2012 11:17	86.092	91.076	87.935
WG410332-15	CCV	01-OCT-2012 11:54	83.506	91.543	87.874
WG410332-16	CCB	01-OCT-2012 11:57	83.931	90.27	87.466
WG410332-17	CCV	01-OCT-2012 12:07	90.012	102.157	95.834
WG410332-18	CCB	01-OCT-2012 12:10	89.084	99.418	93.512

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2603120
 Report generated: 10/02/2012 12:42



INTERNAL STANDARD REPORT

Login: L12090809 Analytical Method: 6020
 Analytical Workgroup: WG410082 Matrix: 1
 Instrument: ICP-MS2 Analyst: JYH
 ICAL Date: 01-OCT-2012 12:40

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
L12090809-17	SAMP	01-OCT-2012 15:53	86.895	93.248	92.704
L12090809-18	SAMP	01-OCT-2012 15:57	94.136	97.272	97.344
WG410337-05	ICV	01-OCT-2012 12:53	90.735	94.691	93.565
WG410337-06	ICB	01-OCT-2012 12:56	92.235	94.636	94.442
WG410337-07	ICB	01-OCT-2012 13:06	94.27	96.087	96.089
WG410337-08	LLICV	01-OCT-2012 13:11	95.799	97.98	96.859
WG410337-09	ICS	01-OCT-2012 13:14	86.457	88.816	87.411
WG410337-10	ICS	01-OCT-2012 13:18	92.48	97.295	95.101
WG410337-11	CCV	01-OCT-2012 13:21	90.901	96.074	93.19
WG410337-12	CCB	01-OCT-2012 13:25	91.029	93.057	92.33
WG410337-19	CCV	01-OCT-2012 15:43	90.355	94.347	94.855
WG410337-20	CCB	01-OCT-2012 15:46	90.927	91.278	93.539
WG410337-21	CCV	01-OCT-2012 16:03	89.408	93.786	92.959
WG410337-22	CCB	01-OCT-2012 16:07	90.162	92.293	92.088
WG410337-23	LLCCV	01-OCT-2012 16:11	90.573	92.502	93.283

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2603120
 Report generated: 10/02/2012 12:42



Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12090809

Date: 09/24/2012

Instrument ID: ICP-MS2

Method: 6020

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Uranium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 2603118
Report generated: 10/02/2012 12:42





Login Number: L12090809
Department: Metals - AA
Analyst: Pierce Morris

METHOD

Preparation: SW-846 7470

Analysis: SW-846 7470

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG410286 - All acceptance criteria were met.

Matrix Spikes: WG410286 - Sample 06 was chosen by the client for MS/MSD analysis. Samples 10(MS) and 12(MSD) met all acceptance criteria. Sample 07 was chosen by the client for MS/MSD analysis. Samples 11(MS) and 13(MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 53779

Approved By: Sheri Pfalzgraf

A handwritten signature in black ink, appearing to read "Sheri L. Pfalzgraf".

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG410178
Analyst: REK
Spike Analyst: REK
Method: 7470A
Run Date: 10/01/2012 10:41
Hotblock Start Temp: 94.5 @ 10:35
Hotblock End Temp: 94.5 @ 12:35
Instrument: HB5

SOP: ME404 Revision 13
Spike Solution: STD54141
Spike Witness: VC
Digestion Tubes Lot #: COA16400
HNO3 Lot #: COA16409
H2SO4 Lot #: COA16424
K2S2O8 1:1 Lot #: RGT16987
KMnO4 1:1 Lot #: RGT17739
Mercury Water ICV Lot #: STD54143
HG H2O STDS 10PPM Lot #: STD54149

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG410178-03	BLANK	1	40 mL	40 mL		
2	WG410178-04	LCS	1	40 mL	40 mL	4 mL	
3	L12090809-01	SAMP	1	40 mL	40 mL		10/08/12
4	L12090809-02	SAMP	1	40 mL	40 mL		10/08/12
5	L12090809-03	SAMP	1	40 mL	40 mL		10/08/12
6	L12090809-04	SAMP	1	40 mL	40 mL		10/08/12
7	L12090809-05	SAMP	1	40 mL	40 mL		10/08/12
8	WG410178-01	REF	1	40 mL	40 mL		
9	L12090809-06	RS01	1	40 mL	40 mL		10/08/12
10	WG410178-02	REF	1	40 mL	40 mL		
11	L12090809-07	RS02	1	40 mL	40 mL		10/08/12
12	L12090809-08	SAMP	1	40 mL	40 mL		10/08/12
13	L12090809-09	SAMP	1	40 mL	40 mL		10/08/12
14	WG410178-05	MS	1	36 mL	40 mL	4 mL	
15	L12090809-10	MS01	1	36 mL	40 mL	4 mL	10/08/12
16	WG410178-07	MS	1	36 mL	40 mL	4 mL	
17	L12090809-11	MS02	1	36 mL	40 mL	4 mL	10/08/12
18	WG410178-06	MSD	1	36 mL	40 mL	4 mL	
19	L12090809-12	SD01	1	36 mL	40 mL	4 mL	10/08/12
20	WG410178-08	MSD	1	36 mL	40 mL	4 mL	
21	L12090809-13	SD02	1	36 mL	40 mL	4 mL	10/08/12
22	L12090809-15	SAMP	1	40 mL	40 mL		10/08/12
23	L12090809-16	SAMP	1	40 mL	40 mL		10/08/12
24	L12090809-17	SAMP	1	40 mL	40 mL		10/08/12
25	L12090809-18	SAMP	1	40 mL	40 mL		10/08/12
26	L12090854-07	SAMP	1	40 mL	40 mL		10/12/12
27	L12090854-08	SAMP	1	40 mL	40 mL		10/12/12
28	L12090854-09	SAMP	1	40 mL	40 mL		10/12/12
29	L12090854-10	SAMP	1	40 mL	40 mL		10/12/12
30	L12090854-11	SAMP	1	40 mL	40 mL		10/12/12

Analyst: REK

Reviewer: Eun Potten

HB_DIG - Modified 07/26/2012
PDF ID: 2602493
Report generated: 10/01/2012 13:04



METHOD BLANK SUMMARY

Login Number: <u>L12090809</u>	Work Group: <u>WG410286</u>
Blank File ID: <u>HY.100312.111751</u>	Blank Sample ID: <u>WG410178-03</u>
Prep Date: <u>10/01/12 10:41</u>	Instrument ID: <u>HYDRA</u>
Analyzed Date: <u>10/03/12 11:17</u>	Method: <u>7470A</u>
Analyst: <u>PDM</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG410178-04	HY.100312.111931	10/03/12 11:19	01
40MW7GW92512	L12090809-01	HY.100312.112113	10/03/12 11:21	01
40MW7GW92512	L12090809-02	HY.100312.112541	10/03/12 11:25	01
40EQR92512	L12090809-03	HY.100312.112741	10/03/12 11:27	01
40MW6GW92512	L12090809-04	HY.100312.112918	10/03/12 11:29	01
40MW6GW92512	L12090809-05	HY.100312.113057	10/03/12 11:30	01
40MW5GW92512	L12090809-06	HY.100312.113309	10/03/12 11:33	01
40MW5GW92512	L12090809-07	HY.100312.113459	10/03/12 11:34	01
40DUPGW92512	L12090809-08	HY.100312.114031	10/03/12 11:40	01
40DUPGW92512	L12090809-09	HY.100312.114210	10/03/12 11:42	01
40MW5MSGW92512	L12090809-10	HY.100312.114419	10/03/12 11:44	01
40MW5MSGW92512	L12090809-11	HY.100312.114556	10/03/12 11:45	01
40MW5MSDGW92512	L12090809-12	HY.100312.114748	10/03/12 11:47	01
40MW5MSDGW92512	L12090809-13	HY.100312.114946	10/03/12 11:49	01
40FB92612	L12090809-15	HY.100312.115126	10/03/12 11:51	01
40EQR92612	L12090809-16	HY.100312.115305	10/03/12 11:53	01
LFMW01GW92612	L12090809-17	HY.100312.115444	10/03/12 11:54	01
LFMW01GW92612	L12090809-18	HY.100312.115626	10/03/12 11:56	01

Report Name: BLANK_SUMMARY
PDF File ID: 2607202
Report generated 10/04/2012 13:57



METHOD BLANK SUMMARY

Login Number: <u>L12090809</u>	Work Group: <u>WG410286</u>
Blank File ID: <u>HY.100312.111751</u>	Blank Sample ID: <u>WG410178-03</u>
Prep Date: <u>10/01/12 10:41</u>	Instrument ID: <u>HYDRA</u>
Analyzed Date: <u>10/03/12 11:17</u>	Method: <u>7470A</u>
Analyst: <u>PDM</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG410178-04	HY.100312.111931	10/03/12 11:19	01
40MW7GW92512	L12090809-01	HY.100312.112113	10/03/12 11:21	01
40MW7GW92512	L12090809-02	HY.100312.112541	10/03/12 11:25	01
40EQR92512	L12090809-03	HY.100312.112741	10/03/12 11:27	01
40MW6GW92512	L12090809-04	HY.100312.112918	10/03/12 11:29	01
40MW6GW92512	L12090809-05	HY.100312.113057	10/03/12 11:30	01
40MW5GW92512	L12090809-06	HY.100312.113309	10/03/12 11:33	01
40MW5GW92512	L12090809-07	HY.100312.113459	10/03/12 11:34	01
40DUPGW92512	L12090809-08	HY.100312.114031	10/03/12 11:40	01
40DUPGW92512	L12090809-09	HY.100312.114210	10/03/12 11:42	01
40MW5MSGW92512	L12090809-10	HY.100312.114419	10/03/12 11:44	01
40MW5MSGW92512	L12090809-11	HY.100312.114556	10/03/12 11:45	01
40MW5MSDGW92512	L12090809-12	HY.100312.114748	10/03/12 11:47	01
40MW5MSDGW92512	L12090809-13	HY.100312.114946	10/03/12 11:49	01
40FB92612	L12090809-15	HY.100312.115126	10/03/12 11:51	01
40EQR92612	L12090809-16	HY.100312.115305	10/03/12 11:53	01
LFMW01GW92612	L12090809-17	HY.100312.115444	10/03/12 11:54	01
LFMW01GW92612	L12090809-18	HY.100312.115626	10/03/12 11:56	01

Report Name: BLANK_SUMMARY
PDF File ID: 2607214
Report generated 10/04/2012 13:57



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/01/12 10:41 Sample ID: WG410178-03
Instrument ID: HYDRA Run Date: 10/03/12 11:17 Prep Method: 7470A
File ID: HY.100312.111751 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG410286 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA - 03-OCT-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2607203

04-OCT-2012 13:57



METHOD BLANK REPORT

Login Number: L12090809 Prep Date: 10/01/12 10:41 Sample ID: WG410178-03
Instrument ID: HYDRA Run Date: 10/03/12 11:17 Prep Method: 7470A
File ID: HY.100312.111751 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG410286 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA - 03-OCT-12

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Mercury, Dissolved	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit

LOQ Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > 1/2 RL

Report Name: BLANK

PDF ID: 2607215

04-OCT-2012 13:57



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410178-04
Instrument ID: HYDRA Run Time: 11:19 Prep Method: 7470A
File ID: HY.100312.111931 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG410286 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD54141 Cal ID: HYDRA - 03-OCT-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00458	115	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2607204
Report generated: 10/04/2012 13:57



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410178-04
Instrument ID: HYDRA Run Time: 11:19 Prep Method: 7470A
File ID: HY.100312.111931 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG410286 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD54141 Cal ID: HYDRA - 03-OCT-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury, Dissolved	0.00400	0.00458	115	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2607216
Report generated: 10/04/2012 13:57



MS/MSD REPORT

Loginnum: L12090809 Cal ID: HYDRA- 03-OCT-12 Worknum: WG410286
Instrument ID: HYDRA Contract #: _____ Prep Method: 7470A
Parent ID: L12090809-06 File ID: HY.100312.113309 Dil: 1 Method: 7470A
Sample ID: L12090809-10 MS File ID: HY.100312.114419 Dil: 1 Matrix: Water
Sample ID: L12090809-12 MSD File ID: HY.100312.114748 Dil: 1 Units: mg/L

Analyte	Parent	MS	MS	MS	MSD	MSD	MSD	%RPD	%Rec Limits	RPD Limit	Q
		Spiked	Found	%Rec	Spiked	Found	%Rec				
Mercury	U	0.00444	0.00493	111	0.00444	0.00487	110	1.36	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
PDF File ID: 2607205
Report generated 10/04/2012 13:57



MS/MSD REPORT

Loginnum: L12090809 Cal ID: HYDRA- 03-OCT-12 Worknum: WG410286
Instrument ID: HYDRA Contract #: _____ Prep Method: 7470A
Parent ID: L12090809-07 File ID: HY.100312.113459 Dil: 1 Method: 7470A
Sample ID: L12090809-11 MS File ID: HY.100312.114556 Dil: 1 Matrix: Water
Sample ID: L12090809-13 MSD File ID: HY.100312.114946 Dil: 1 Units: mg/L

Analyte	Parent	MS	MS	MS	MSD	MSD	MSD	%RPD	%Rec Limits	RPD Limit	Q
		Spiked	Found	%Rec	Spiked	Found	%Rec				
Mercury, Dissolved	U	0.00444	0.00481	108	0.00444	0.00496	112	2.96	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
PDF File ID: 2607217
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12090809

Worknum: WG410286

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG410286-01

File ID: HY.100312.112334

Dil: 1

Units: ug/L

Sample ID: L12090809-01

File ID: HY.100312.112113

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
MERCURY	1.11		0	U	1	111.0	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2607200
Report generated: 10/04/2012 13:57



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12090809

Worknum: WG410286

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG410286-01

File ID: HY.100312.112334

Dil: 1

Units: ug/L

Sample ID: L12090809-01

File ID: HY.100312.112113

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added (SA)	% R	Control Limit %R	Q
MERCURY	1.11		0	U	1	111.0	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2607212
Report generated: 10/04/2012 13:57



Login Number: L12090809
Analytical Method: 7470A
ICAL Worknum: WG410598

Workgroup (AAB#): WG410286
Instrument ID: HYDRA
Initial Calibration Date: 10/03/2012 09:36

Analyte	WG410598-01		WG410598-02		WG410598-03		WG410598-04		WG410598-05		WG410598-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	-1819	0.200	10291	1.00	57265	2.00	104245	5.00	283951	10.0	551068

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2607206
Report generated 10/04/2012 13:57



Login Number: L12090809
Analytical Method: 7470A
ICAL Worknum: WG410598

Workgroup (AAB#): WG410286
Instrument ID: HYDRA
Initial Calibration Date: 10/03/2012 09:36

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; $R < 0.995$

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2607206
Report generated 10/04/2012 13:57



Login Number: L12090809
Analytical Method: 7470A
ICAL Worknum: WG410598

Workgroup (AAB#): WG410286
Instrument ID: HYDRA
Initial Calibration Date: 10/03/2012 09:36

Analyte	WG410598-01		WG410598-02		WG410598-03		WG410598-04		WG410598-05		WG410598-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	-1819	0.200	10291	1.00	57265	2.00	104245	5.00	283951	10.0	551068

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2607218
Report generated 10/04/2012 13:57



Login Number: L12090809
Analytical Method: 7470A
ICAL Worknum: WG410598

Workgroup (AAB#): WG410286
Instrument ID: HYDRA
Initial Calibration Date: 10/03/2012 09:36

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2607218
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-08
Instrument ID: HYDRA Run Time: 09:43 Method: 7470A
File ID: HY.100312.094352 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2607208
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-08
Instrument ID: HYDRA Run Time: 09:43 Method: 7470A
File ID: HY.100312.094352 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 2607220
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-10
Instrument ID: HYDRA Run Time: 09:47 Method: 7470A
File ID: HY.100312.094718 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607210
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-20
Instrument ID: HYDRA Run Time: 11:16 Method: 7470A
File ID: HY.100312.111614 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607210
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-22
Instrument ID: HYDRA Run Time: 11:38 Method: 7470A
File ID: HY.100312.113842 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607210
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-24
Instrument ID: HYDRA Run Time: 11:59 Method: 7470A
File ID: HY.100312.115945 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607210
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-10
Instrument ID: HYDRA Run Time: 09:47 Method: 7470A
File ID: HY.100312.094718 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607222
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-20
Instrument ID: HYDRA Run Time: 11:16 Method: 7470A
File ID: HY.100312.111614 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607222
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-22
Instrument ID: HYDRA Run Time: 11:38 Method: 7470A
File ID: HY.100312.113842 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607222
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-24
Instrument ID: HYDRA Run Time: 11:59 Method: 7470A
File ID: HY.100312.115945 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2607222
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-07
Instrument ID: HYDRA Run Time: 09:41 Method: 7470A
File ID: HY.100312.094155 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.08	104	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2607207
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-07
Instrument ID: HYDRA Run Time: 09:41 Method: 7470A
File ID: HY.100312.094155 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.08	104	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 2607219
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-09
Instrument ID: HYDRA Run Time: 09:45 Method: 7470A
File ID: HY.100312.094540 Analyst: PDM QC Key: DOD4
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00214	mg/L	107	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607209
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-19
Instrument ID: HYDRA Run Time: 11:14 Method: 7470A
File ID: HY.100312.111428 Analyst: PDM QC Key: DOD4
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00193	mg/L	96.5	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607209
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-21
Instrument ID: HYDRA Run Time: 11:37 Method: 7470A
File ID: HY.100312.113701 Analyst: PDM QC Key: DOD4
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00198	mg/L	99.0	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607209
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-23
Instrument ID: HYDRA Run Time: 11:58 Method: 7470A
File ID: HY.100312.115805 Analyst: PDM QC Key: DOD4
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00194	mg/L	97.0	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607209
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-09
Instrument ID: HYDRA Run Time: 09:45 Method: 7470A
File ID: HY.100312.094540 Analyst: PDM QC Key: DOD4
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00214	mg/L	107	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607221
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-19
Instrument ID: HYDRA Run Time: 11:14 Method: 7470A
File ID: HY.100312.111428 Analyst: PDM QC Key: DOD4
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00193	mg/L	96.5	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607221
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-21
Instrument ID: HYDRA Run Time: 11:37 Method: 7470A
File ID: HY.100312.113701 Analyst: PDM QC Key: DOD4
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00198	mg/L	99.0	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607221
Report generated 10/04/2012 13:57



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12090809 Run Date: 10/03/2012 Sample ID: WG410598-23
Instrument ID: HYDRA Run Time: 11:58 Method: 7470A
File ID: HY.100312.115805 Analyst: PDM QC Key: DOD4
Workgroup (AAB#): WG410286 Cal ID: HYDRA - 03-OCT-12
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00194	mg/L	97.0	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2607221
Report generated 10/04/2012 13:57



Kemron–Radford Army Ammunition Plant Data Validation Summary Worksheet

SDG#: L12090809	Laboratory: Microbac	Validator: Jeanne Peterson	Validation Start Date: 10/29/2012
Site: Radford	AR/COC#: 4132		Validation Level: ☐ III ☒ IV
Matrix: Water	# of Samples: 11*	Tracking docs present: See sample receipt and log-in documentation	
COCs present: yes	COCs signed: yes	COCs dated: yes	Sample Container Integrity: OK

Analyses:

☒ VOCs ☒ SVOCs ☒ PAHs ☐ GRO ☐ DRO ☒ Pests ☐ PCBs ☒ Metals ☐ Gen Chem
☒ Other: CLO4

Requested Analyses Not Reported		
Client Sample ID	Lab Sample ID	Analysis
None		

Hold Time/Preservation Outliers						
Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date	Analysis Date
None						

Comments: Collected 9/25, 9/26/2012

*Sample count includes MS/MSD.

Kemron-Radford Army Ammunition Plant Organic Worksheet (GCMS)

SDG: L12090809	Method: 8260	Matrix: Water	Level III Lab Sample IDs: NA
Batch #s: ² WG410419/ ³ WG410853		Level IV Lab Sample IDs: L12090809-01, -03, -04, -06, -08, -10 (MS), -12 (MSD), -14, -15, -16, -17	
Tuning: ☒ Pass ☐ Fail		TICs Required? ☐ Yes ☒ No	

Analyte (outliers)		Calibration			Method Blank	5X (10X) Method Blank	LCS %R	MS %R (-10)	MSD %R (-12)	MS/D RPD	TB (-14)	FB (-15)	EQR (-03)	EQR (-16)
		RF ≥0.05	RSD/r ≤30% ≥0.995	ICV %D ±2.5%										
Acetone ²		0.049*	✓	✓	✓	NA	✓							
Chloromethane ²		✓	✓	27.4	✓	NA	✓							
2-Chloroethyl vinyl ether ²		✓	✓	29.6	✓	NA	✓							
Dichlorodifluoromethane ²		✓	✓	50	✓	NA	✓							
cis-1,3-Dichloropropene ²		✓	✓	✓	✓	NA	✓							
1,2-Dibromo-3-chloropropane ²		✓	✓	✓	✓	NA	132							
1,2-Dichlorobenzene ²		✓	✓	✓	✓	NA	126							
Acetone ³		0.025	✓	✓	✓	NA	✓							
2-Butanone ³		0.041	✓	✓	✓	NA	✓							
1,2-Dibromo-3-chloropropane ³		0.048**	✓	✓	✓	NA	✓							
4-Methyl-2-pentanone ³		0.043	✓	✓	✓	NA	✓							
Dichlorodifluoromethane ³		✓	✓	26.4	✓	NA	✓							
2-Chloroethyl vinyl ether								0	0	✓	✓	✓	✓	✓
4-Chlorotoluene								73.6	✓	✓	✓	✓	✓	✓
Acetone								✓	✓	✓	✓	2.70	✓	✓
Chloroform								✓	✓	✓	✓	0.195	0.358	0.422
Methylene chloride								✓	✓	✓	✓	0.327	✓	0.294

(Limits ¹ : 1,2-DCA-d4 76-114%) Surrogate Recovery Outliers (BFB 86-115% Tol-d8 88-110%)									
Sample ID	1,2-DCA-d4	DBFM	BFB	Tol-d8	Sample ID	1,2-DCA-d4	DBFM	BFB	Tol-d8
-06	✓	✓	✓	86.6	-16	116	✓	✓	✓
-10	✓	✓	80.5	✓	-17	117	✓	✓	✓
-12	✓	✓	82.3	✓	MB	✓	✓	✓	122

IS Outliers (-50% to +100% of CCV)									
Sample ID	Area	RT	Area	RT	Area	RT	Area	RT	Area
None									

Comments: HTs OK. ²All samples except -08; ³Sample -08 DUP RPD 24.15
 * One ICAL RF and CCV
 **Lowest ICAL concentration only;J/UJ
 ISs compared to midpoint on summaries; compared to CCV for validation.

¹Derived laboratory limits used for compounds not listed. Revised 12/2010

Kemron-Radford Army Ammunition Plant Organic Worksheet (GCMS)

SDG: L12090809	Method: 8270C	Matrix: Water	Level III Lab Sample IDs: NA
Batch #: WG410253		Level IV Lab Sample IDs: L12090809-01, -03, -04, -06, -08, -10 (MS), -12 (MSD), -15, -16, -17	
Tuning: ☒ Pass ☐ Fail		TICs Required? ☐ Yes ☒ No	

Analyte (outliers)		TICs Required? ☐ Yes ☒ No				(EPA Region III Limits) ¹									
		RF ≥0.05	RSD/r ≤30% ≥0.995	ICV %D ±25%	CCV %D ±25%	Method Blank	5X (10X) Method Blank	LCS %R	MS %R (-10)	MSD %R (-12)	MS/D RPD	FB (-15)	EQR (-03)	EQR (-16)	FD (06/08)
2,4-Dinitrophenol		✓	✓	34.2	✓	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓
4,6-Dinitro-2-methylphenol		✓	✓	25.2	✓	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓
Benzoic acid (10/2/12) ²		0.0405*	✓	✓	-73.6	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓
Benzoic acid (10/4/12) ³		✓	✓	✓	-65.9	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓
2,4-Dinitrotoluene		✓	✓	✓	✓	✓	NA	111	114	112	✓	✓	✓	✓	✓
Butylbenzylphthalate		✓	✓	✓	✓	✓	NA	123	126	122	✓	✓	✓	✓	✓
Chrysene		✓	✓	✓	✓	✓	NA	113	115	112	✓	✓	✓	✓	✓
Pentachlorophenol		✓	✓	✓	✓	✓	NA	112	113	112	✓	✓	✓	✓	✓
3,3'-Dichlorobenzidine		✓	✓	✓	✓	✓	NA	✓	117	112	✓	✓	✓	✓	✓
Acenaphthylene		✓	✓	✓	✓	✓	NA	✓	109	107	✓	✓	✓	✓	✓
Benzo(a)anthracene		✓	✓	✓	✓	✓	NA	✓	111	118	✓	✓	✓	✓	✓
Benzoic acid		✓	✓	✓	✓	✓	NA	✓	0	✓	200	✓	✓	✓	✓
Dibenzo(a,h)anthracene		✓	✓	✓	✓	✓	NA	✓	✓	✓	43.1	✓	✓	✓	✓
Dibenzofuran		✓	✓	✓	✓	✓	NA	✓	106	106	✓	✓	✓	✓	✓
n-Nitrosodiphenylamine		✓	✓	✓	✓	✓	NA	✓	✓	111	✓	✓	✓	✓	✓
bis(2-Ethylhexyl)phthalate		✓	✓	✓	✓	✓	NA	✓	✓	✓	✓	✓	✓	19.1	✓
(Limits: p-Terp-dl 4 33-141% Phen-d5 10-110% NB-d5 35-114%) Surrogate Recovery Outliers (2-Flph 21-110% 2-Flbiph 43-116% 2,4,6-TBP 10-123%)															
Sample ID	2,4,6-TBP	2-Flbiph	2-Flph	NB-d5	p-Terp-d14	Phen-d5									
None															
IS Outliers (-50% to +100% of CCV)															
Sample ID	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	
None															

Comments: HTs OK
 Lab reports "r" for linear curves on ICAL Summary. This is actually r².
 *CCV only; ICAL OK
²Samples -01, -03, -06, -10, -12; ³Samples -04, -08, -15, -16, -17
 ISs compared to midpoint on summaries; compared to CCV for validation.

¹Derived laboratory limits used for compounds not listed.

Kemron-Radford Army Ammunition Plant Organic Worksheet (GCMS)

SDG: L12090809	Method: 8270C SIM	Matrix: Water	Level III Lab Sample IDs: NA
Batch #s: WG410396			Level IV Lab Sample IDs: L12090809-01, -03, -04, -06, -08, -10 (MS), -12 (MSD), -15, -16, -17

[illegible][illegible]

Comments: HTs OK

[†]Derived laboratory limits used for compounds not listed.

Kemron-Radford Army Ammunition Plant Organic Worksheet (GC)

SDG: L12090809	Method: 8081A	Matrix: Water	Level III Lab Sample IDs: NA
Batch #s: WG410265		Level IV Lab Sample IDs: L12090809-01, -03, -04, -06, -08, -10 (MS), -12 (MSD), -15,-16,-17	
Cleanup: ☐ GPC ☐ Sulfur ☒ Florisil ☐ H ₂ SO ₄ ☐ KMnO ₄	Resolution Check: ☒ Pass ☐ Fail	(EPA Region III Limits ¹)	

Analyte (outliers)	Calibration (1 = front/primary column, 2 = back/confirm. column)								Method Blank	5X Blank	LCS %R	MS %R	MSD %R	MS/ MSD RPD	FB/ EQR
	RSD/r ² <i>Mean</i> ≤20% <i>Ind</i> ≤30%		2nd Source ICV %D ≤20%		CCV %D ≤15%		RT Windows								
	1	2	1	2	1	2	1	2							
Heptachlor epoxide	✓	NA	✓	NA	15.2	NA	✓	NA	✓	NA	✓	✓	✓	✓	✓
Aldrin	✓	NA	✓	NA	✓	NA	✓	NA	✓	NA	✓	✓	22.7	✓	✓
gamma-BHC	✓	NA	✓	NA	✓	NA	✓	NA	✓	NA	✓	✓	21.5	✓	✓
Heptachlor	✓	NA	✓	NA	✓	NA	✓	NA	✓	NA	✓	✓	20.5	✓	✓
Breakdown (ind. ≤20%; comb. ≤30%) ²															
TCMX (60-150%)				Surrogates				DCB (60-150%)				Breakdown (ind. ≤20%; comb. ≤30%) ²			
Sample ID	Surrogate	%R		Sample ID	Surrogate	%R		Instrument	Date	Analyte	%R				
		1	2			1	2				1	2			
-01	DCB	26.2	NA	-12 (MSD)	DCB	54.2	NA	None							
-03	DCB	26.2	NA	-15	DCB	35.5	NA								
-04	DCB	25.5	NA	-16	DCB	36.2	NA								
-12 (MSD)	TCMX	59	NA	-17	DCB	40.7	NA								

Confirmation Outliers (EPA Region III Limits ¹)					
Sample ID	Analyte	%D	Sample ID	Analyte	%D
NA					

Comments: HTs OK. Samples all ND, reported from column 1 (front).
 No resolution check; however, CCV c-gram used to check resolution.
 RTs OK.

¹Derived laboratory limits used for compounds not listed. ²See QAPP for more details

Kemron – Radford Army Ammunition Plant Inorganic Metals Worksheet

[illegible]

Comments: HTs OK. *>>4X spike amount

For 6010: PS and SD performed on sample -04; No CRIs and ICS at beginning only; -03 EQR Ca 0.167 mg/L; -15 FB ND; -16 EQR Ca 0.171 mg/L

For 6020: PS and SD performed on sample -02 for dissolved only, not for total; No CRIs except for reanalysis of -17 and -18 for Mn, but unsure of true value; ICS at beginning only; -03 EQR Mn 0.00339 mg/L; -15 FB ND; -16 EQR ND; the raw data for dataset 100112B.REP (Run Log ID 49210) are missing from the raw data and have been requested from the laboratory.

7470A: PS performed on sample -04; No CRA, but low std at RL; <90%; All sample results ND; qualified UJ.

²For sample results <5X RL, $\pm$ RL

Revised 12/2010

VOC Calibration Verification for SDG L12090809

Calibration: WG410211 HPMS6 10/1/12

Average RF		Int. Std. =		25	33	59	84	84	Surr
					Chloroform	Toluene	Bromobenzene	4-BFB	
Conc.	Internal Area #1	Internal Area #2	Internal Area #3	Area	RRF	RRF	Area	RRF	Area
0.3	708154	518685	283349	3073	0.362		2017	0.593	
0.4	683034	506898	275899	3899	0.357	1.326	2491	0.564	
1	690920	505452	277033	11284	0.408	1.390	6947	0.627	5412
2	683680	499722	274642	22613	0.413	1.305	15001	0.683	9256
5	679062	504153	277605	57019	0.420	1.397	40537	0.730	22281
20	687812	503953	273397	239254	0.435	1.430	167093	0.764	83789
50	685709	504850	275844	574438	0.419	1.399	417649	0.757	222347
100	710794	516930	281353	1221160	0.430	1.386	843267	0.749	456793
200	740621	535919	288581	2477134	0.418	1.304	1674721	0.725	914576
300	708085	523368	279958	3544357	0.417	1.248	2436008	0.725	1346296
Multiplier					1	1		1	
AveRF					0.408	1.354		0.6918	0.8250
RSD					6.553	4.4363		10.4180	7.8638

WG410853

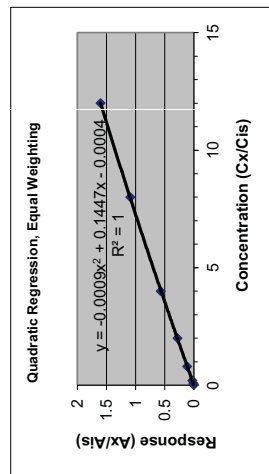
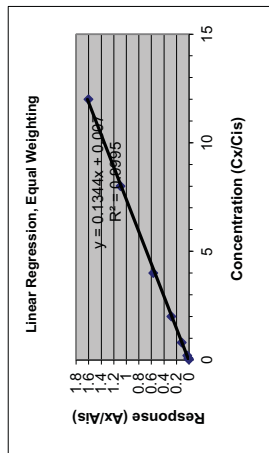
CCV		Chloroform	Ethylbenzene	1,4-DCB
Int. Std. Response		727788	542908	278008
Analyte Response		641306	523208	800915
Analyte Concentration		50	50	50
Int. Std. Concentration		25	25	25
CCRF		0.441	0.482	1.44
Ave RF		0.408	0.4731	1.3131
Calc'd Concentration		54.0	50.9	54.8
CCV %D		7.99	1.85	9.70

ICV 10/1/2012		Acetone	Chlorobenzene	1,1,2,2-PCA
Int. Std. Response		736624	538476	292573
Analyte Response		38383	1025068	236442
Analyte Concentration		50	50	50
Int. Std. Concentration		25	25	25
CCRF		0.0261	0.952	0.404
Ave RF		0.024	0.9004	0.3866
Calc'd Concentration		54.3	52.9	52.3
CCV %D		8.555	5.71	4.52

10/8/2012		MB	LCS	-08
Dilution/DF		1	1	1
Final Volume (mL)		5	5	5
Sample Aliquot (mL)		5	5	5
Internal STD Response		677479	686987	505193
Surr Response		157614	141383	579395
Surrogate		DBFM	1,2-DCA-d4	Tol-d8
Calibration R.F.		0.215	0.2093	1.1927
Surr spike Conc. (ug/L)		25	25	25
Surr spike Conc. (ug/L)		25	25	25
Surr Conc. (ug/L)		27.1	24.6	24.0
Surr %REC		108	98	96
Internal STD Response		TC	TCE	Chloroform
TC Response			686987	674411
Calibration R.F.			149767	30065
TC Conc. (ug/L)			0.2629	0.408
Amount Spiked			20.731	2.732
%R			20	
RPD			103.65	

Internal Standard Initial Calibration Weighted Linear (1/a) Equation WG410211 Bromochloromethane

Workgroup:	WG410211
Method:	8260B
Instrument:	HPMS6
Curve Date:	10/1/2012
Compound:	Bromochloromethane
Internal Standard:	Fluorobenzene



Initial Calibration Model Worksheet

Compound Area Ax	ISTD Area AIs	Compound Conc Cx	ISTD Conc CIs	Y-Values Ax/AIs	X-Values Cx/CIs	X ² (Cx/CIs) ²	RF (Ax ² CIs)/(AIs ² Cx)
737	683034	0.4	25	0.001079009	0.016	0.000256	0.067
3747	690920	1	25	0.005423204	0.04	0.0016	0.136
7218	683680	2	25	0.010557571	0.08	0.0064	0.132
19202	679062	5	25	0.028277241	0.2	0.04	0.141
80134	687812	20	25	0.116505673	0.8	0.64	0.146
193577	685709	50	25	0.282301968	2	4	0.141
405495	710794	100	25	0.570481743	4	16	0.143
809136	740621	200	25	1.092510204	8	64	0.137
1135856	708085	300	25	1.604123799	12	144	0.134
SUM OF EACH COLUMN :				3.7113	27.136	228.688256	1.7760

CALIBRATION MODELS:

Average Response Factor:

$$C_x = A_x^* C_{is} / A_{is} / RF$$

Linear Regression:

$$y = mx + b$$

$$C_x = (((A_x/A_{is}) - b)/m) * C_{is}$$

Quadratic Regression:

$$v = ax^2 + bx + c$$

$$Cx = (SQRT(b^2 - (4^*a^*(c - (Ax/Ais)))) - b)/(2^*a)^*Cis$$

Sample Concentration Calculations

[illegible]

Regression Calculator for a Quadratic RF Curve - Conc. Ratio on X-Axis HPMS6 WG410211 Bromomethane

	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10	ICAL11	ICAL12
Counts Analyte	1026	3429	6070	15594	74558	204872	447898	952311	1402553	0	0	0
Counts IS	683034	690920	683680	679062	687812	385709	710794	740621	708085	1	1	1
Conc Analyte	0.4	1.0	2.0	5.0	20.0	50.00	100	200	300	0	0	0
Conc IS	25.0	25.0	25.0	25.0	25.0	25.00	25	25	25	1	1	1
x-axis	0.016	0.040	0.080	0.200	0.800	2.000	4.000	8.000	12.000	0.000	0.000	0.000
x-axis^2	0.0003	0.0016	0.0064	0.0400	0.6400	4.0000	16.0000	64.0000	144.0000	0.0000	0.0000	0.0000
y-axis	0.0015	0.0050	0.0089	0.0230	0.1084	0.5312	0.6301	1.2858	1.9808	0.0000	0.0000	0.0000
RF	0.0939	0.1241	0.1110	0.1148	0.1355	0.2656	0.158	0.161	0.165			

Perform Regression

Perform Regression
(Forced Zero)

Lab used weighted curve;
Unable to reproduce
coefficients.

Coefficients			
b	m1	m2	r ²
1.1228E-02	1.7086E-01	-7.1246E-04	0.98963

Lab reported -1.46E-03 1.47E-01 1.56E-03 1.000

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

$$C_x = \frac{-m1 \pm \sqrt{m1^2 - 4 \times m2 \times \left(b - \frac{(A_x)}{(A_{IS})}\right)}}{2 \times m2} \times C_{IS}$$

	ICV	CCV
Counts Analyte	182476	178011
Counts IS	736624	727788
Conc IS	25	25
Amount On Col	41.641	41.128
True Value	50	50
%R	83.28	82.26
%D	-16.72	-17.74

WG410853		LCS
Counts Analyte	52916.0	
Counts IS	686987	
Conc IS	25	
Amount On Col (ug/L)	13.273	
Dilution factor	1	
Sample Aliquot (mL)	5	
Final Volume (mL)	5	
Final Conc (ug/L)	13.3	
Amount Spiked	20	
%Rec	66.4	
RPD		

VOC Calibration Verification for SDG L12090809

Calibration: WG410335 HPMS8 10/02/12

Average RF

Int. Std. = 25

Surr 33 77 91

Conc.	Internal Area #1	Internal Area #2	Internal Area #3	Area	Chloroform	Toluene-d8	Isopropylbenzene	sec-Butylbenzene
0.3	628350	499100	278467	3293	0.437			
0.4	761125	488882	271153	6466	0.531			
1	592637	474655	268554	12320	0.520		15568	16291
2	595182	480154	303348	23788	0.500		34750	36532
5	701151	473407	271390	67612	0.482	1.298	79294	80205
20	796019	588701	259316	300628	0.472	1.250	199215	200939
50	768012	474053	267570	769707	0.501	1.484	766480	684209
100	786490	599531	267659	1537809	0.489	1.193	1728857	1771058
200	808359	525323	291088	3034917	0.469	1.327	3871271	3423498
300	751053	524830	343623	3724582	0.413	1.308	6389364	6435476
Multiplier				1	0.5	1	8969528	10445725
AveRF				0.481	1.3102	1.7776	1	3.23998
RSD				7.449	7.480	13.767		12.2747

WG410419

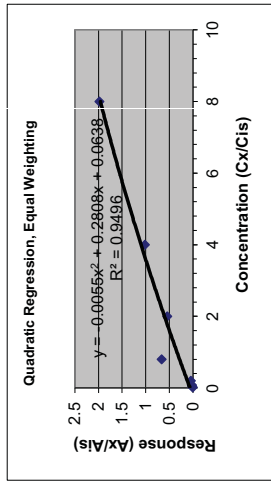
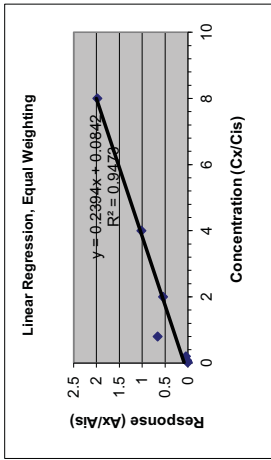
ICV 10/2/2012	Acetone	m,p-Xylene	Bromobenzene
Int. Std. Response	637270	549741	297013
Analyte Response	69054	1538282	511360
Analyte Concentration	50	100	50
Int. Std. Concentration	25	25	25
CCRF	0.054	0.700	0.861
Ave RF	0.051	0.6777	0.7704
Calc'd Concentration	53.1	103.2	55.9
CCV %D	6.234	3.22	11.74

Chloroform	PCE	n-BuBenzene
672341	535065	285079
660612	377986	1367610
50	50	50
25	25	25
0.491	0.353	2.399
0.481	0.3207	2.3600
51.1	55.1	50.4
2.14	10.128	0.78

10/3/2012	MB	LCS	-03	-04	-06	-10 MS	-12 MSD	-14	-15	-16	-17
Dilution/DF	1	1	1	1	1	1	1	1	1	1	1
Final Volume (mL)	5	5	5	5	5	5	5	5	5	5	5
Sample Aliquot (mL)	5	5	5	5	5	5	5	5	5	5	5
Internal STD Response	615838	735240	234473	662924	538242	482198	321425	671982	636436	515176	223736
Surr Response	181896	207225	219451	208593	175889	591033	261429	169009	205529	701213	215329
Surrogate	DBFM	1,2-DCA-d4	BFB	DBFM	1,2-DCA-d4	Tol-d8	BFB	DBFM	1,2-DCA-d4	Tol-d8	BFB
Calibration R.F.	0.285	0.28838	0.98799	0.285	0.28838	1.31016	0.98799	0.285	0.28838	1.31016	0.98799
Surr spike Conc. (ug/L)	25	25	25	25	25	25	25	25	25	25	25
Surr spike Conc. (ug/L)	25	25	25	25	25	25	25	25	25	25	25
Surr Conc. (ug/L)	25.9	24.4	23.7	27.6	28.3	23.4	20.6	22.1	28.0	26.0	24.4
Surr %REC	104	98	95	110	113	94	82	88	112	104	97
Internal STD Response	TC	1,1-DCE	Chloroform	Chloroform	Chloroform	Toluene	Toluene	TC	Acetone	Chloroform	Chloroform
TC Response		735240	745147	662924	538242	482198	475290		636436	532897	525112
Calibration R.F.		322363	5131	34670	36045	543410	526692		3480	4367	10954
TC Conc. (ug/L)		0.538	0.481	0.481	0.481	1.52019	1.52019		0.051	0.481	0.481
Amount Spiked		20.37	0.358	2.718	3.481	18.533	18.224		2.680	0.426	1.084
%R		20		92.66		20					
RPD		101.87		91.12							
											1.68

Internal Standard Initial Calibration Weighted Linear (1/a) Equation WG410335 Methylene chloride

Workgroup: WG410335
 Method: 8260B
 Instrument: HPMS8
 Curve Date: 10/2/2012
 Compound: Methylene chloride
 Internal Standard: Fluorobenzene



Initial Calibration Model Worksheet

Compound Area Ax	ISTD Area AIs	Compound Conc Cx	ISTD Conc CIs	Y-Values Ax/AIs	X-Values Cx/CIs	X ² (Cx/CIs) ²	RF (Ax*Cis)/(AIs*Cx)
4503	761125	0.4	25	0.005916242	0.016	0.000256	0.370
9362	592637	1	25	0.015797191	0.04	0.0016	0.395
13148	595182	2	25	0.022090722	0.08	0.0064	0.276
32112	701151	5	25	0.045798979	0.2	0.04	0.229
528542	796019	20	25	0.663981639	0.8	0.64	0.830
418981	768012	50	25	0.545539653	2	4	0.273
800753	786490	100	25	1.018135005	4	16	0.255
1601082	808359	200	25	1.980657109	8	64	0.248
SUM OF EACH COLUMN :			4.2979	15.136	84.688266	2.8747	

CALIBRATION MODELS:
 Average Response Factor:
 $Cx = Ax \cdot CIs / AIs \cdot RF$

Average RF	0.359	AVERAGE(RF)
RSD	55.4%	STDEV(RF)/(AveRF)

Linear Regression:

$y = mx + b$
 $Cx = (((Ax/AIs) - b) / m) \cdot CIs$

Weighting	Equal	1/X	Equation
Slope (m)	0.21706	0.24908	SLOPE(RatioY,RatioX)
Intercept (b)	0.16875	0.00263	INTERCEPT(RatioY,RatioX)
CC (R)	1.02327	0.99958	CORREL(RatioY,RatioX)
COD (R ²)	1.04708	0.99915	POWER(R,2)

Quadratic Regression:

$y = ax^2 + bx + c$
 $Cx = (\text{SQRT}((b^2 - 4 \cdot a \cdot (c - (Ax/AIs)))) - b) / (2 \cdot a) \cdot CIs$

Weighting	Equal	1/X	Equation
x ² Coefficient (a)	-0.00547	-0.01282	LINEST(RatioY,RatioX,RatioX ² ,1,1)
x Coefficient (b)	0.28083	0.34477	INDEX(LINEST(RatioY,RatioX,RatioX ² ,1,1),1,2)
Intercept (c)	0.06381	0.02752	INDEX(LINEST(RatioY,RatioX,RatioX ² ,1,1),1,3)
COD (R ²)	0.94957		INDEX(LINEST(RatioY,RatioX,RatioX ² ,1,1),3,1)

Sample Concentration Calculations

Sample ID	File ID	Compound Area Ax	ISTD Area AIs	ISTD Conc CIs	Ave RF On-column Conc Ax*Cis/AIs/RF	Linear Cal On-column Conc Equal Weighting ((Ax/AIs)/m)*Cis	Linear Cal On-column Conc 1/X Weighting 1/X	Quadratic Cal On-column Conc Equal Weighting (SQRT((b^2 - 4*a*(c - (Ax/AIs)))) - b) / (2*a) * Cis	Quadratic Cal On-column Conc 1/X Weighting 1/X	Quadratic Cal On-column Conc 1/X ² Weighting 1/X ²
Equations:										
ICV	8M382328.d	344679	637270	25	0.006	42.859	54.023	43.975	39.551	37.085
CCV	8M382332.d	391580	672341	25	0.005	47.644	58.193	47.959	42.985	40.465
LOS	8M382335.d	131914	735240	25	0.005	1.228	17.744	10.375	11.201	9.511
-15 FB	8M382352.d	3771	636436	25	0.006	-18.753	0.330	-5.133	-1.562	-2.738

SVOC Calibration Verification L12090809

Calibration: WG409083 HPMS5 9/18/2012

Average RF

Int. Std. = 40

13

43

71

Conc.	Internal Area #1	Internal Area #2	Internal Area #3	Phenol		Naphthalene		Acenaphthene	
				Area	RRF	Area	RRF	Area	RRF
3	285694	1110021	568182	37881	1.768	90796	1.091	53863	1.264
10	285587	1126372	585898	125101	1.752	303593	1.078	187062	1.277
15	303775	1203901	637125	198950	1.746	486773	1.078	301907	1.264
25	334086	1339497	716401	359552	1.722	885590	1.058	556589	1.243
50	301460	1268947	695647	662982	1.759	1645838	1.038	1027464	1.182
80	345405	1446327	771220	1163337	1.684	2820738	0.975	1688052	1.094
100	361947	1497728	798730	1484518	1.641	3472148	0.927	2096007	1.050
120	342946	1426620	764131	1651662	1.605	3824177	0.894	2299335	1.003
AveRF				1.710		1.017		1.172	
RSD				3.53		7.43		9.27	

104

127

137

Conc.	Internal Area #4	Internal Area #5	Internal Area #6	Anthracene		Chrysene		Benzo(g,h,i)perylene	
				Area	RRF	Area	RRF	Area	RRF
3	1031463	1100260	1062334	91907	1.188	88166	1.068	72759	0.913
10	1095633	1168115	1107917	322320	1.177	306869	1.051	253426	0.915
15	1196969	1277065	1193560	525029	1.170	492077	1.028	406729	0.909
25	1366844	1446203	1326881	972183	1.138	912760	1.010	750538	0.905
50	1354691	1458089	1302849	1822092	1.076	1750622	0.961	1354885	0.832
80	1458900	1529460	1288748	2881933	0.988	2778858	0.908	1774194	0.688
100	1502019	1579058	1262973	3488380	0.929	3362134	0.852	2026570	0.642
120	1425580	1493345	1158547	3803160	0.889	3700226	0.826		
AveRF				1.069		0.963		0.8291	
RSD				11.14		9.56		14.05	

Surrogates

Conc.	Internal Area #1	Internal Area #1	Internal Area #2	2-Fluorophenol		Phenol-d5		Nitrobenzene-d5	
				Area	RRF	Area	RRF	Area	RRF
3	285694	285694	1110021	27223	1.270	35305	1.648	31865	0.383
10	285587	285587	1126372	90900	1.273	117130	1.641	108539	0.385
15	303775	303775	1203901	142924	1.255	186248	1.635	173946	0.385
25	334086	334086	1339497	257774	1.235	336932	1.614	319645	0.382
50	301460	301460	1268947	475468	1.262	616457	1.636	603483	0.380
80	345405	345405	1446327	850649	1.231	1081748	1.566	1062506	0.367
100	361947	361947	1497728	1099723	1.215	1386735	1.533	1366463	0.365
120	342946	342946	1426620	1243736	1.209	1554723	1.511	1530989	0.358
AveRF				1.244		1.598		0.376	
RSD				1.99		3.36		2.86	

Surrogates

Conc.	Internal Area #3	Internal Area #4	Internal Area #5	2-Fluorobiphenyl		2,4,6-Tribromophenol		p-Terphenyl-d14	
				Area	RRF	Area	RRF	Area	RRF
3	568182	1031463	1100260	61334	1.396	7175	0.093	61272	0.743
10	585898	1095633	1168115	207992	1.420	27069	0.099	214123	0.733
15	637125	1196969	1277065	335489	1.404	45974	0.102	343442	0.717
25	716401	1366844	1446203	618785	1.382	88535	0.104	630054	0.697
50	695647	1354691	1458089	1160922	1.335	176558	0.104	1159353	0.636
80	771220	1458900	1529460	1972742	1.279	289851	0.099	1752546	0.573
100	798730	1502019	1579058	2453368	1.229	363353	0.097	2107615	0.534
120	764131	1425580	1493345	2690639	1.174	398596	0.093	2276311	0.508
AveRF				1.327		0.099		0.643	
RSD				6.85		4.50		14.59	

CCV Verification Worksheet AVG RF L12090809

$$CCRF = \frac{(AnalyteResponse)(ISConc.)}{(ISResponse)(AnalyteConc.)}$$

SVOC ICV # WG409083 9/18/2012

Int. Std. = 40

	Phenol	Naphthalene	Acenaphthene	Anthracene	Chrysene	Benzo(g,h,i)
Int. Std. Response	299500	1279425	671829	1274562	1361893	1233028
Analyte Response	684165	1739006	1033974	1857078	1772462	1352747
Analyte Concentration	50	50	50	50	50	50
Int. Std. Concentration	40	40	40	40	40	40
CCRF	1.8275	1.0874	1.2312	1.1656	1.0412	0.8777
Ave RF	1.7100	1.0170	1.1720	1.0690	0.9629	0.8291
CCV %D	6.87	6.92	5.05	9.04	8.13	5.86

SVOC CCV # WG410253 10/2/2012

	Benzyl alcohol	Isophorone	2,4,6-TCP	Hexachlorobenzene	Benzo(a)anthracene	Benzo(a)pyrene
Int. Std. Response	353036	1518813	828210	1521453	1612173	1542940
Analyte Response	441014	1200685	380979	426185	2121594	2041574
Analyte Concentration	50	50	50	50	50	50
Int. Std. Concentration	40	40	40	40	40	40
CCRF	0.9994	0.6324	0.3680	0.2241	1.0528	1.0585
Ave RF	0.9313	0.6511	0.3718	0.2165	1.0190	1.0230
CCV %D	7.31	-2.87	-1.02	3.51	3.32	3.47

SVOC CCV # WG410253 10/4/2012

	Hexachloroethane	2-Nitrophenol	2,4,5-TCP	PCP	bis(2-EthHex)phthalate	Indeno(1,2,3-cd)
Int. Std. Response	226648	985487	562010	1077796	1163693	1118770
Analyte Response	180213	237480	266566	177219	1005827	1650604
Analyte Concentration	50	50	50	50	50	50
Int. Std. Concentration	40	40	40	40	40	40
CCRF	0.6361	0.1928	0.3794	0.1315	0.6915	1.1803
Ave RF	0.6091	0.1824	0.3879	0.1545	0.7107	1.0200
CCV %D	4.43	5.69	-2.18	-14.86	-2.71	15.72

WG410253	MB	LCS	-01	-03	-04	-06
Dilution/DF	1	1	1	1	1	1
Final Volume (mL)	1	1	1	1	1	1
Sample Aliquot (mL)	1000	1000	880	925	950	945
Internal STD Response	301043	318067	1305685	594482	771474	1255288
Surr Response	457036	456353	478553	864670	160764	890401
Surrogate	2-Fluorophenol	Phenol-d5	Nitrobenzene-d5	2-Fluorobiphenyl	2,4,6-Tribromophenol	p-Terphenyl-d14
Calibration R.F.	1.24378	1.59779	0.37572	1.32729	0.09890	0.64262
Surr spike Conc. (ug/L)	100	100	50	50	100	50
Surr spike Conc. (ug/L)	100.0	100.0	56.8	54.1	105.3	52.9
Surr Conc. ug/L	48.8	35.9	44.3	47.4	88.7	46.7
Surr %REC	49	36	78	88	84	88
	TC	Phenol	TC	TC	TC	TC
Internal STD Response		318067				
TC Response		250825				
Calibration R.F.		1.7100				
TC Conc. (ug/L)		18.4				
Amount Spiked		50				
%R		36.89				

2,4,6-TBP results off; lab may have used alternate curve.

WG410253	-08	-10 MS	-12 MSD	-15	-16	-17
Dilution/DF	1	1	1	1	1	1
Final Volume (mL)	1	1	1	1	1	1
Sample Aliquot (mL)	1000	945	945	940	950	930
Internal STD Response	187541	320128	1586314	395077	773653	843530
Surr Response	301352	508375	564929	482804	193179	591502
Surrogate	2-Fluorophenol	Phenol-d5	Nitrobenzene-d5	2-Fluorobiphenyl	2,4,6-Tribromophenol	p-Terphenyl-d14
Calibration R.F.	1.24378	1.59779	0.37572	1.32729	0.09890	0.64262
Surr spike Conc. (ug/L)	100	100	50	50	100	50
Surr spike Conc. (ug/L)	100.0	105.8	52.9	53.2	105.3	53.8
Surr Conc. ug/L	51.7	42.1	40.1	39.2	106.3	46.9
Surr %REC	52	40	76	74	101	87
	bis(2-Ethhex)phthalate	PCP	PCP	TC	bis(2-Ethhex)phthalate	TC
Internal STD Response	815107	1356922	1376488		828379	
TC Response	46415	295180	297583		266893	
Calibration R.F.	0.7107	0.1545	0.1545		0.7107	
TC Conc. (ug/L)	3.2	59.6	59.2		19.1	
Amount Spiked		53	53			
%R		112.66	111.96			
RPD			0.62			

PAH Calibration Verification L12090809

Calibration: WG409793 HPMS7 9/26/2012

Average RF		1		Int. Std. = 1		6		3		4		5		8		9		10		
		Naphthalene		2-Methylnaphthalene		1-Methylnaphthalene		Acenaphthylene		Acenaphthene		Fluorene								
Conc.	Internal Area #1	Internal Area #2	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF
0.05	201656	122217	10915	1.083	6139	0.609	6600	0.655	11313	1.851	6386	1.045	6822	1.116						
0.1	187570	106355	20202	1.077	11664	0.622	12426	0.662	20789	1.955	11511	1.082	12864	1.210						
0.5	178066	108245	96495	1.084	59301	0.666	61210	0.687	104675	1.934	57405	1.061	64853	1.198						
1	204256	120935	214416	1.050	136870	0.670	138743	0.679	239969	1.984	126542	1.046	150126	1.241						
5	195210	114234	1025428	1.051	674754	0.691	671087	0.688	1155725	2.023	598577	1.048	721192	1.263						
10	215347	123946	2077160	0.965	1408095	0.654	1386672	0.644	2305020	1.860	1220573	0.985	1481713	1.195						
AveRF			1.051		0.652		0.669			1.935	1.045		1.204							
RSD			4.30		4.77		2.73			3.53	3.11		4.18							

11		15	Phenanthrene		12	Anthracene		13	Fluoranthene		14	Pyrene		16	Benzo(a)anthracene		18	Chrysene		19
Conc.	Internal Area #3	Internal Area #4	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF
0.05	188579	183711	10194	1.081	9847	1.044	10750	1.140	12592	1.371	9817	1.069	10612	1.155						
0.1	173596	169481	18770	1.081	18295	1.054	20105	1.158	22893	1.351	17882	1.055	19630	1.158						
0.5	166247	163994	91905	1.106	95819	1.153	99614	1.198	110890	1.353	88944	1.085	92609	1.130						
1	196487	201548	212219	1.080	222716	1.133	234021	1.191	257496	1.278	214192	1.063	217877	1.081						
5	180694	190663	1000038	1.107	1053365	1.166	1085055	1.201	1185949	1.244	990818	1.039	988460	1.037						
10	196905	207788	2006435	1.019	2094330	1.064	2140960	1.087	2313681	1.113	1971723	0.949	1941947	0.935						
AveRF			1.079		1.102		1.163				1.285		1.083							
RSD			2.96		4.93		3.80				7.59		7.97							

20		21	Benzo(b)fluoranthene		22	Benzo(k)fluoranthene		23	Indeno(1,2,3-cd)pyrene		24	Dibenz(a,h)anthracene		25	Benzo(g,h,i)perylene		26
Conc.	Internal Area #5	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF	Area	RRF
0.05	180876	9645	1.066	11176	1.236	9370	1.036	11274	1.247	9225	1.020	9615	1.063				
0.1	167265	17285	1.033	19733	1.180	17684	1.057	21305	1.274	17278	1.033	18246	1.091				
0.5	161558	92908	1.150	97179	1.203	90899	1.125	107157	1.327	89044	1.102	90168	1.116				
1	197335	216956	1.099	221103	1.120	219008	1.110	260949	1.322	217729	1.103	217289	1.101				
5	182690	1021009	1.118	986021	1.079	1007301	1.103	1202725	1.317	1007152	1.103	1007117	1.103				
10	198076	2177173	1.096	2024296	1.022	2038874	1.029	2454902	1.239	2054751	1.037	2086292	1.053				
AveRF			1.094		1.140		1.077		1.288		1.066		1.088				
RSD			3.70		7.09		3.81		3.06		3.77		2.26				

Surrogates		Nitrobenzene-d5		2-Fluorobiphenyl		p-Terphenyl-d14	
Conc.	Internal Area #1	Internal Area #2	Internal Area #4	Area	RRF	Area	RRF
0.05	201656	122217	183711	2295	0.228	7049	0.767
0.1	187570	106355	169481	4381	0.234	12507	0.738
0.5	178066	108245	163894	24047	0.270	58819	0.718
1	204256	120935	201548	55481	0.272	144639	0.718
5	195210	114234	190663	293761	0.301	677456	0.711
10	215347	123946	207788	650357	0.302	1360154	0.655
AveRF				0.268		0.718	
RSD				11.91		5.18	

Lab ICAL summary RRFs incorrect.
ICV/CCVs and samples calculated with correct RRFs.

$$CCRF = \frac{(AnalyteResponse)(ISConc.)}{(ISResponse)(AnalyteConc)}$$

PAH ICV # WG409793-09 09/26/2012

Int. Std. = 1

	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene
Int. Std. Response	197648	197648	197648	119255	119255	119255
Analyte Response	215187	140504	137108	239490	128206	150504
Analyte Concentration	1	1	1	1	1	1
Int. Std. Concentration	1	1	1	1	1	1
CCRF	1.09	0.71	0.69	2.01	1.08	1.26
Ave RF	1.0514	0.6520	0.6692	1.9346	1.0445	1.2039
Calc'd Concentration	1.0355	1.0903	1.0366	1.0381	1.0292	1.0483
CCV %D	3.55	9.03	3.66	3.81	2.92	4.83

	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene
Int. Std. Response	187032	187032	187032	184163	184163	184163
Analyte Response	208196	219115	227366	254272	196772	202377
Analyte Concentration	1	1	1	1	1	1
Int. Std. Concentration	1	1	1	1	1	1
CCRF	1.11	1.17	1.22	1.38	1.07	1.10
Ave RF	1.0790	1.1023	1.1627	1.2850	1.0434	1.0827
Calc'd Concentration	1.0317	1.0628	1.0456	1.0745	1.0241	1.0150
CCV %D	3.17	6.28	4.56	7.45	2.41	1.50

	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene
Int. Std. Response	178869	178869	178869	178869	178869	178869
Analyte Response	200739	208324	205990	240255	198503	202191
Analyte Concentration	1	1	1	1	1	1
Int. Std. Concentration	1	1	1	1	1	1
CCRF	1.12	1.16	1.15	1.34	1.11	1.13
Ave RF	1.0939	1.1401	1.0768	1.2875	1.0664	1.0879
Calc'd Concentration	1.0259	1.0216	1.0695	1.0432	1.0406	1.0391
CCV %D	2.59	2.16	6.95	4.32	4.06	3.91

$$CCRF = \frac{(AnalyteResponse)(ISConc.)}{(ISResponse)(AnalyteConc)}$$

PAH CCV # WG410397-02 10/03/2012		Int. Std. = 1				
	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene
Int. Std. Response	295683	295683	295683	170663	170663	170663
Analyte Response	315448	199045	208115	355481	192396	215816
Analyte Concentration	1	1	1	1	1	1
Int. Std. Concentration	1	1	1	1	1	1
CCRF	1.07	0.67	0.70	2.08	1.13	1.26
Ave RF	1.0514	0.6520	0.6692	1.9346	1.0445	1.2039
Calc'd Concentration	1.0147	1.0325	1.0517	1.0767	1.0793	1.0504
CCV %D	1.47	3.25	5.17	7.67	7.93	5.04

	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene
Int. Std. Response	275910	275910	275910	279902	279902	279902
Analyte Response	302416	316375	336326	370700	303763	310003
Analyte Concentration	1	1	1	1	1	1
Int. Std. Concentration	1	1	1	1	1	1
CCRF	1.10	1.15	1.22	1.32	1.09	1.11
Ave RF	1.0790	1.1023	1.1627	1.2850	1.0434	1.0827
Calc'd Concentration	1.0158	1.0402	1.0484	1.0307	1.0401	1.0230
CCV %D	1.58	4.02	4.84	3.07	4.01	2.30

	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene
Int. Std. Response	280749	280749	280749	280749	280749	280749
Analyte Response	326451	334552	316019	374631	310247	313574
Analyte Concentration	1	1	1	1	1	1
Int. Std. Concentration	1	1	1	1	1	1
CCRF	1.16	1.19	1.13	1.33	1.11	1.12
Ave RF	1.0939	1.1401	1.0768	1.2875	1.0664	1.0879
Calc'd Concentration	1.0629	1.0452	1.0454	1.0364	1.0362	1.0267
CCV %D	6.29	4.52	4.54	3.64	3.62	2.67

PAH Sample Calculation Worksheet for SDG L12090809

$$CCRF = \frac{(Analyte Response)(ISConc.)}{(ISResponse)(AnalyteConc)}$$

Int. Std. = 1									
WG410396	MB								
Dilution/DF	1	1							
Final Volume (mL)	1	1							
Sample Aliquot (mL)	1000	1000							
Internal STD Response	264769	157693							
Surr Response	114117	361983							
Surrogate	NB-d5	2-FBP	p-Terp-d14	NB-d5	2-FBP	2-FBP	2-FBP	p-Terp-d14	
Calibration R.F.	0.2676	1.1751	0.7177	0.2676	1.1751	1.1751	1.1751	0.7177	
Surr spike Conc. (ug/L)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Surr spike Conc. (ug/L)	2.5	2.5	2.5	2.9	2.8	2.8	2.8	3.4	
Surr Conc. ug/L	1.6	2.0	2.3	1.7	2.3	2.3	2.3	3.7	
Surr %REC	64.4	78.1	91.6	58.0	80.7	80.7	80.7	108.5	
Internal STD Response	TC	Acenaphthene	TC	TC	Pyrene	Pyrene	Pyrene	Pyrene	
TC Response		157693							
Calibration R.F.		130249							
TC Conc. (ug/L)		1.0445							
Amount Spiked		0.791							
%R		1.00							
		79.1							

WG410396	-08	-10 MS	-12 MSD	-15	-16	-17			
Dilution/DF	1	1	1	1	1	1			
Final Volume (mL)	1	1	1	1	1	1			
Sample Aliquot (mL)	980	980	980	905	940	980			
Internal STD Response	250950	155634	238278	246388	149692	228746			
Surr Response	145079	366825	368199	140944	292764	354451			
Surrogate	NB-d5	2-FBP	p-Terp-d14	NB-d5	2-FBP	p-Terp-d14			
Calibration R.F.	0.2676	1.1751	0.7177	0.2676	1.1751	0.7177			
Surr spike Conc. (ug/L)	2.5	2.5	2.5	2.5	2.5	2.5			
Surr spike Conc. (ug/L)	2.6	2.6	2.6	2.8	2.7	2.6			
Surr Conc. ug/L	2.2	2.0	2.2	2.4	1.8	2.2			
Surr %REC	86.4	80.2	86.1	85.5	66.6	86.4			
Internal STD Response	TC	Naphthalene	Naphthalene	TC	TC	TC			
TC Response		255056	247816						
Calibration R.F.		210775	202849						
TC Conc. (ug/L)		1.0514	1.0514						
Amount Spiked		0.802	0.794						
%R		1.00	1.03						
		80.2	77.1						
RPD			0.95						

Regression Calculator for a Linear RF Curve - Conc. Ratio On X-Axis WG410198 Perchlorate for SDG L12090809

10/01/2012	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10
Counts Analyte (³⁵ Cl)	11400	22700	55100	109000	220000	536000	1060000	0	0	0
Counts IS	409000	410000	409000	407000	409000	405000	395000	1	1	1
Conc Analyte	0.10	0.20	0.50	1.00	2.00	5.00	10.00	0	0	0
Conc IS	5.00	5.00	5.00	5.00	5.00	5.00	5.00	1	1	1
RF	1.394	1.384	1.347	1.339	1.345	1.323	1.342			
x-axis	0.020	0.040	0.100	0.200	0.400	1.000	2.000	0.000	0.000	0.000
y-axis	0.02787	0.05537	0.13472	0.26781	0.53790	1.32346	2.68354	0.00000	0.00000	0.00000

Perform Regression

Perform Regression
(Forced Zero)

Enter 0 for Counts Analyte and Conc Analyte if a standard is not used
Enter 1 for Counts IS and Conc IS if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

Calcs slightly off due to rounding.

Offset b	Slope m1	r ²
-3.6128E-04	1.3386E+00	0.99995
Lab reported 1.41E-03 1.33E+00 1.0000		

$$C_X = C_{IS} \left[\frac{(A_X)}{(A_{IS})} \right] \left(\frac{m1}{m1} \right) - \frac{b}{m1}$$

LOD= 0.100
LOQ= 0.200

WG410340	SSV	CCV5	QCMRL 5	CCB5	CCV6	QCMRL 6	CCB6	CCV8	QCMRL 8	CCB8	CCV9	QCMRL 9
Counts Analyte (³⁵ Cl)	106000	101000	20700	0	109000	23800	0	98700	25300	0	101000	21700
Counts IS	400000	383000	386000	400000	417000	432000	443000	374000	372000	372000	382000	384000
Conc IS	5	5	5	5	5	5	5	5	5	5	5	5
Amount On Col (ug/L)	0.9912	1	0.2017	0	0.9777	0.2071	0	0.9871	0.2554	0	0.9889	0.2124
True value	1.0	1.0	0.2	1.0	1.0	0.2		1.0	0.2		1.0	0.2
%R	99.12	98.63	100.83	<LOD	97.77	103.57	<LOD	98.71	127.69	<LOD	98.89	106.21
%D	-0.88	-1.37	0.83	-2.23	-2.23	3.57		-1.29	27.69		-1.11	6.21
Perchlorate Conf (³⁷ Cl)	36300	33100	7310	0	35300	7780	0	33300	6520	619	33300	7130
Ion Ratio	2.92	3.05	2.83	0.00	3.09	3.06	0.00	2.96	3.88	0.00	3.03	3.04
WG410340	MB	LCS	-01	-03	-04	-06	-08	-10 MS	-12 MSD	-15	-16	-17
Counts Analyte (³⁵ Cl)	0	23000	373000	473	120000	163000	171000	190000	190000	2880	3100	706000
Counts IS	417000	426000	381000	420000	358000	354000	353000	358000	358000	374000	387000	302000
Conc IS	5	5	5	5	5	5	5	5	5	5	5	5
Amount On Col (ug/L)	0	0.2030	3.6581	0.0056	1.2534	1.7212	1.8108	1.9837	1.9837	0.0301	0.0313	8.7333
Dilution factor	1	1	1	1	1	1	1	1	1	1	1	1
Sample Aliquot (mL)	1	1	1	1	1	1	1	1	1	1	1	1
Final Volume (mL)	1	1	1	1	1	1	1	1	1	1	1	1
Final Conc (ug/L)	0.00	0.20	3.66	0.01	1.25	1.72	1.81	1.98	1.98	0.030	0.031	8.73
Amount Spiked		0.2			0.2			0.2	0.2			
%Rec	<LOD	101.51	<LOD	<LOD	<LOD	131.24	131.24	131.24	131.24	<LOD	<LOD	<LOD
RPD						0.00						
Perchlorate Conf (³⁷ Cl)	0	7410	123000	215	39900	52900	57400	61900	61300	1660	0	229000
Ion Ratio	0.00	3.10	3.03	2.20	3.01	3.08	2.98	3.07	3.10	1.73	0.00	3.08
ICAL												
Perchlorate Conf (³⁷ Cl)	4110	7440	18500	37200	71700	173000	339000					
Ion Ratio	2.77	3.05	2.98	2.93	3.07	3.10	3.13					

PESTICIDE CALCULATIONS FOR SDG L12090809

Calibration: HP15 WG410221 10/01/2012 Front Column

Average CF

Calcs slightly off due to rounding.

Conc.	Area	CF	TCMX	Area	DCB	CF
1	224200000	224200000	225800000	157000000	157000000	157000000
4	909400000	227350000	263200000	566600000	141650000	141650000
10	2324500000	232450000	2629400000	1334100000	133410000	133410000
20	4595800000	229790000	5133700000	2489300000	124465000	124465000
50	11353000000	227060000	12597900000	5924200000	118484000	118484000
100	21881000000	218810000	24539100000	11474700000	114747000	114747000
Multiplier	1.00		1.00	1.00	1.00	1.00
AveRF	226610000		250995667	131626000		
RSD	2.08		5.61	12.04		

ICV 10/01/2012

Anal Resp	Aldrin	TCMX	DCB
6077200000	20	20	20
3038600000	239075000	122470000	
Conc (ug/L)	18.272	19.050	18.609
Avg RF	332600000	250995667	131626000
CCV%D	-8.64	-4.75	-6.96

10/2/2012

CCV 15:52

Analyte Response	4,4'-DDE	TCMX	DCB
5733200000	5265600000	2466800000	
20	20	20	20
2866600000	263280000	123340000	
Conc. (ug/L)	20.549	20.979	18.741
Ave RF	279000000	250995667	131626000
CCV %D	2.75	4.89	-6.30

10/2/2012

CCV 21:26

Endosulfan I	TCMX	DCB
2885700000	2664700000	1315900000
10	10	10
2885700000	2664700000	1315900000
Conc. (ug/L)	10.399	10.617
Ave RF	277500000	250995667
CCV %D	3.99	6.17

10/3/2012

CCV 01:37

Heptachlor	TCMX	DCB
6231000000	5070800000	2391600000
20	20	20
3115500000	2535400000	1195800000
Conc. (ug/L)	20.048	20.203
Ave RF	310800000	250995667
CCV %D	0.241	1.01

WG410265	MB	LCS	-01	-03	-04	-06	-08	-10 MS	-12 MSD	-15	-16	-17
Dilution/DF	1	1	1	1	1	1	1	1	1	1	1	1
Final Volume (mL)	10	10	10	10	10	10	10	10	10	10	10	10
Sample Aliquot (mL)	1000	1000	950	910	970	930	980	980	1000	960	920	950
Surrogate	TCMX	DCB	TCMX	DCB	TCMX	DCB	TCMX	DCB	TCMX	DCB	TCMX	DCB
Surr Response	3632100000	1938700000	3540600000	6701000000	3242200000	1817400000	4029200000	1820700000	3019400000	9327000000	4284200000	10707000000
Calibration RF	250995667	131626000	250995667	131626000	250995667	131626000	250995667	131626000	250995667	131626000	250995667	131626000
Surr spike Conc. (ug/L)	20	20	20	20	20	20	20	20	20	20	20	20
Surr spike Conc. (ug/L)	0.200	0.200	0.211	0.220	0.206	0.215	0.204	0.204	0.200	0.208	0.217	0.211
Surr Conc. (ug/L)	0.145	0.147	0.148	0.056	0.133	0.148	0.164	0.141	0.120	0.074	0.186	0.086
Surr %REC	72.4	73.6	70.5	25.5	64.6	69.0	80.3	69.2	60.1	35.4	85.3	40.7
TC Response	TC	4,4'-DDT	TC	TC	TC	TC	TC	Endrin	Endrin	TC	TC	TC
Calibration RF		11081000000						11629500000	9947100000			
TC Conc. (ug/L)		221000000						2420000000	2420000000			
Final Conc (ug/L)		50.140						48.056	41.104			
Amount Spiked		0.501						0.49	0.41			
%R		0.50						0.51	0.50			
RPD		100.28						96.15	82.21			
									17.60			

CALCULATION WORKSHEET FOR 6010 METALS WATER RESULTS FOR SDG L12090809

Water Sample Calculations:

WG410204	MDL (mg/L)	CRQL (mg/L)	MB		LCS		-01		-02		-03		-04		-05	
Final Volume (ml) Sample Aliquot (ml)	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF
Al	0.050	0.100	U	4.91	4.91	1.73	1.73	0.00848	U	0.00013	U	-0.00757	U	0.467	0.000124	U
Be	0.001	0.002	U	0.00237	0.0237	0.00035	U	0.00013	U	0.00009	U	0.00009	U	0.00013	U	0.00011
Ca	0.100	0.200	U	5.07	5.07	101	101	77.7	77.7	0.167	0.167	88.2	88.2	89.4	89.4	89.4
Fe	0.050	0.100	U	2.01	2.01	1.62	1.62	0.00637	U	0.0046	U	0.0046	U	0.393	0.0074	U
Mg	0.250	0.500	U	5.06	5.06	41.1	41.1	36.1	36.1	0.0163	U	33.7	33.7	33.5	33.5	33.5
K	0.500	1.000	U	24.8	24.8	2.13	2.13	1.77	1.77	-0.00019	U	1.22	1.22	1.14	1.14	1.14
Na	0.250	0.500	U	24.6	24.6	3.51	3.51	3.36	3.36	-0.00591	U	5.24	5.24	5.18	5.18	5.18
V	0.005	0.010	U	0.502	0.502	0.00487	U	0.00001	U	-0.00107	U	-0.0002	U	-0.00132	U	U
Zn	0.010	0.020	U	0.501	0.501	0.00875	U	0.00482	U	0.00364	U	0.00364	U	0.00399	U	U

WG410204	MDL (mg/L)	CRQL (mg/L)	-06		-07		-08		-09		-10		-11		-12	
Final Volume (ml) Sample Aliquot (ml)	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF
Al	0.050	0.100	0.266	0.00066	U	0.14	0.140	0.0046	U	4.97	4.97	4.95	4.95	5.06	5.06	5.06
Be	0.001	0.002	0.00012	U	0.00011	U	0.00016	U	0.00013	U	0.024	0.0240	0.0245	0.0247	0.0247	0.0247
Ca	0.100	0.200	86.9	89.2	89.2	84.9	84.9	86.1	86.1	93.8	93.8	99.1	99.1	97.9	97.9	97.9
Fe	0.050	0.100	0.217	0.00613	U	0.123	0.123	0.0111	U	2.02	2.02	2.03	2.03	2.08	2.08	2.08
Mg	0.250	0.500	32	32.0	32.3	32.5	32.5	32.1	32.1	36.2	36.2	38.3	38.3	36.4	36.4	36.4
K	0.500	1.000	1.3	1.30	1.23	1.23	1.26	1.23	1.23	254	254	25.8	25.8	25.5	25.5	25.5
Na	0.250	0.500	5.73	5.73	5.43	5.27	5.27	5.42	5.42	30	30	30.0	30.0	30.3	30.3	30.3
V	0.005	0.010	-0.0017	U	-0.00084	U	-0.00211	U	-0.00159	U	0.494	0.4940	0.507	0.507	0.504	0.504
Zn	0.010	0.020	0.00665	U	0.00433	U	0.00413	U	0.00487	U	0.477	0.4770	0.483	0.483	0.48	0.480

WG410204	MDL (mg/L)	CRQL (mg/L)	-13		-15		-16		-17		-18	
Final Volume (ml) Sample Aliquot (ml)	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF	mg/L	DF
Al	0.050	0.100	5.06	-0.00521	U	-0.00565	U	9.15	9.15	0.0929	0.0929	0.0929
Be	0.001	0.002	0.0254	0.00004	U	0.00004	U	0.00085	U	0.00016	U	U
Ca	0.100	0.200	99.5	99.5	0.022	U	0.171	105	105	85.7	85.7	85.7
Fe	0.050	0.100	2.02	0.0042	U	0.00238	U	8.95	8.95	0.0741	0.0741	0.0741
Mg	0.250	0.500	37.3	0.00857	U	-0.0023	U	51.1	51.1	35.4	35.4	35.4
K	0.500	1.000	26.4	0.0134	U	0.0192	U	3.7	3.70	1.69	1.69	1.69
Na	0.250	0.500	31.9	0.0127	U	-0.0125	U	6.64	6.64	7.1	7.10	7.10
V	0.005	0.010	0.521	-0.00104	U	-0.00104	U	0.0181	0.0181	-0.00185	U	U
Zn	0.010	0.020	0.496	0.00357	U	0.00466	U	0.0526	0.0526	0.00372	U	U

CALCULATION WORKSHEET FOR 6020 METALS WATER RESULTS FOR SDG L12030257

Water Sample Calculations:

		MDL (mg/L)	CRQL (mg/L)	MB		LCS		-01		-02		-03		-04		-05	
WG410082	Final Volume (ml) Sample Aliquot (ml)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
		40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
		ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF
		DF															
Sb		0.00050	0.0010	-0.0513	U	25.7777	0.0644	0.0655	U	-0.0072	U	-0.0471	U	-0.0671	U	-0.0724	U
As		0.00050	0.0010	0.0141	U	25.6798	0.0642	0.2461	0.000615	0.1007	U	0.0207	U	0.1055	U	0.111	U
Ba		0.00150	0.0030	0.0035	U	25.7759	0.0644	68.6234	0.172	67.9172	0.170	0.3266	U	20.5617	0.0514	20.6119	0.0515
Cd 111		0.00030	0.0006	0.0025	U	25.5967	0.0640	0.022	U	0.0122	U	0.0067	U	0.0092	U	0.0071	U
Cr 52		0.00100	0.0020	0.0292	U	26.8184	0.0670	1.7687	0.00442	1.0923	0.00273	0.203	U	1.1426	0.00286	1.0361	0.00259
Co		0.00050	0.0010	0.0049	U	26.3248	0.0658	0.4087	0.00102	0.33	0.000825	0.0362	U	0.1562	U	0.1383	U
Cu		0.00100	0.0020	-0.0096	U	27.1215	0.0678	0.927	0.00232	0.3152	U	0.1002	U	0.4195	0.00105	0.3534	U
Pb 208		0.00050	0.0010	0.0015	U	25.4695	0.0637	0.645	0.00161	0.0151	U	0.0454	U	0.2933	0.000733	0.0417	U
Mn		0.00100	0.0020	0.0074	U	26.6387	0.0666	10.6148	0.0265	1.5082	0.00377	1.3566	0.00339	0.9645	0.00241	0.4275	0.00107
Ni		0.00200	0.0040	0.0254	U	26.1623	0.0654	4.1538	0.0104	2.8232	0.00706	0.1363	U	3.1511	0.00788	3.2564	0.00814
Se 82		0.00050	0.0010	0.0489	U	25.6757	0.0642	0.3392	0.000848	0.3651	0.000913	0.0507	U	0.3772	0.000943	0.4446	0.00111
Ag		0.00050	0.0010	0.0041	U	26.4013	0.0660	0.0172	U	0.0021	U	0.0041	U	0.0066	U	0.0071	U
Tl 203		0.00010	0.0002	0.0005	U	25.6177	0.0640	0.0235	U	0.0085	U	0.0106	U	0.0074	U	0.0074	U

WG410082	MDL (mg/L)		CRQL (mg/L)		-06		-07		-08		-09		-10		-11		-12	
	Final Volume (ml)		(mg/L)		100		100		100		100		100		100		100	
	Sample Aliquot (ml)		(mg/L)		40		40		40		40		40		40		40	
	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF
Sb	0.00050	0.0010	0.0010	0.0020	-0.0058	U	-0.0808	U	-0.0906	U	-0.0849	U	26.3722	0.0659	25.6552	0.0641	26.9964	0.0675
As	0.00050	0.0010	0.0010	0.0020	0.1001	U	0.1252	U	0.1031	U	0.1295	U	27.0898	0.0677	26.2195	0.0655	27.4178	0.0685
Ba	0.00150	0.0030	0.0030	0.0060	0.0562	U	23.4964	0.0587	23.2344	0.0581	22.502	0.0563	49.0421	0.123	48.8049	0.122	50.3907	0.126
Cd 111	0.00030	0.0006	0.0006	0.0012	0.0094	U	0.0071	U	0.0079	U	0.0021	U	26.1384	0.0633	25.5214	0.0638	26.7889	0.0670
Cr 52	0.00100	0.0020	0.0020	0.0040	1.0005	0.00250	0.9184	0.00230	1.0368	0.00260	0.9217	0.00230	27.946	0.0699	28.1158	0.0703	28.6149	0.0715
Co	0.00050	0.0010	0.0010	0.0020	0.1289	U	0.137	U	0.1499	U	0.1216	U	27.2029	0.0680	26.2324	0.0656	27.5881	0.0690
Cu	0.00100	0.0020	0.0020	0.0040	0.1327	U	0.036	U	0.0922	U	0.0191	U	26.7117	0.0668	26.1883	0.0654	27.0296	0.0676
Pb 208	0.00050	0.0010	0.0010	0.0020	0.3521	0.00213	0.3477	U	1.5982	0.00400	0.1589	U	28.076	0.0702	27.7734	0.0694	28.2167	0.0705
Mn	0.00100	0.0020	0.0020	0.0040	0.9181	0.00730	3.2843	0.00821	3.3547	0.00839	3.185	0.00796	29.3033	0.0733	29.0801	0.0727	30.0681	0.0752
Ni	0.00200	0.0040	0.0040	0.0080	0.3381	0.000845	0.4216	0.00105	0.4076	0.00102	0.4671	0.00117	27.0287	0.0676	26.6814	0.0667	27.9804	0.0700
Se 82	0.00050	0.0010	0.0010	0.0020	0.0088	U	-0.0002	U	0.0028	U	0	U	25.8011	0.0645	26.3813	0.0660	26.6984	0.0667
Ag	0.00050	0.0010	0.0010	0.0020	0.0093	U	0.0055	U	0.0105	U	0.0079	U	26.827	0.0671	26.6887	0.0667	27.4641	0.0687
Tl 203	0.00010	0.0002	0.0002	0.0004	0.0005	U	0.0055	U	0.0105	U	0.0079	U	26.827	0.0671	26.6887	0.0667	27.4641	0.0687

WG410082	MDL (mg/L)		CRQL (mg/L)		-13		-15		-16		-17		-18	
	Final Volume (ml)		(mg/L)		100		100		100		100		100	
	Sample Aliquot (ml)		(mg/L)		40		40		40		40		40	
	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF	ug/L	DF
Sb	0.00050	0.0010	0.0010	0.0020	25.31	0.0633	0.0173	U	-0.0777	U	-0.0045	U	-0.029	U
As	0.00050	0.0010	0.0010	0.0020	26.0726	0.0652	-0.0026	U	0.0305	U	0.5725	0.00143	0.112	U
Ba	0.00150	0.0030	0.0030	0.0060	48.386	0.121	0.0217	U	0.0489	U	49.8462	0.125	37.039	0.0926
Cd 111	0.00030	0.0006	0.0006	0.0012	25.2847	0.0632	0.0041	U	0.0076	U	0.0122	U	0.0064	U
Cr 52	0.00100	0.0020	0.0020	0.0040	28.6153	0.0715	0.3614	U	0.2874	U	5.0139	0.0125	1.1191	0.00280
Co	0.00050	0.0010	0.0010	0.0020	26.5825	0.0665	0.0122	U	0.007	U	1.2549	0.00314	0.3613	0.000903
Cu	0.00100	0.0020	0.0020	0.0040	26.1822	0.0655	0.2138	U	0.0852	U	3.5489	0.00887	0.3959	U
Pb 208	0.00050	0.0010	0.0010	0.0020	25.5438	0.0639	0.0119	U	0.0113	U	2.1827	0.00546	0.0596	U
Mn	0.00100	0.0020	0.0020	0.0040	27.6719	0.0692	0.0642	U	0.158	U				
Ni	0.00200	0.0040	0.0040	0.0080	29.4686	0.0737	0.0433	U	0.0618	U	7.0748	0.0177	3.3751	0.00844
Se 82	0.00050	0.0010	0.0010	0.0020	26.6155	0.0665	0.0583	U	0.0658	U	0.4703	0.00118	0.4239	0.00106
Ag	0.00050	0.0010	0.0010	0.0020	26.3109	0.0658	0.009	U	0.0005	U	0.0237	U	0.0056	U
Tl 203	0.00010	0.0002	0.0002	0.0004	26.6177	0.0665	0.0086	U	0.001	U	0.0491	0.000123	0.0128	U
Mn (RE)	0.00100	0.0020	0.0020	0.0040							21.0514	0.0526	0.0515	U

CALCULATION WORKSHEET FOR METALS RESULTS FOR SDG L12090809

6010 Water:

				13:44	14:50	16:28	17:36
10/04/12	ICV	ICSA	ICSAB	CCV	CCV	CCV	CCV
Analyte	Al	Ca	Be	Fe	Mg	K	Na
True Conc	10.0	250.0	0.250	4.0	10.0	50.0	50.0
Reported Conc	10.0	266	0.251	4.08	10.0	48.3	48.9
%D	0.00	6.20	0.40	1.98	0.00	-3.46	-2.22
%R	100.0	106.4	100.4	102.0	100.0	96.6	97.8

6020 Water:

				10:37	11:14	11:54	12:07
10/1/2012	ICV	ICSA	ICSAB	CCV	CCV	CCV	CCV
Analyte	Sb		As	Ba	Cd	Cr	Co
True Conc	50.0		100.0	50.00	50.0	50.0	50.0
Reported Conc	50.2		99	49.6	49.5	51.5	49.8
%D	0.47		-0.70	-0.88	-1.05	2.96	-0.49
%R	100.5		99.3	99.1	99.0	103.0	99.5

				15:43	16:03	13:11	16:11
10/1/2012	ICV	ICSA	ICSAB	CCV	CCV	LLC	LLC
Analyte	Mn		Mn	Mn	Mn	Mn	Mn
True Conc	50.0		100.0	50.0	50.0	0.5	0.5
Reported Conc	49.1		102	49.6	48.5	0.5	0.5
%D	-1.87		1.54	-0.87	-2.98	2.61	3.81
%R	98.2		101.6	99.1	97.1	102.6	103.9

CALCULATION WORKSHEET FOR METALS RESULTS FOR SDG L12090809

6010 Water:

WG410204	LCS	-10	-12
Analyte	Al	Mg	Mg
True Conc	5.0	5.0	5.0
Reported Conc	4.91	36.2	36.4
Sample Conc		32.0	32.0
%R	98.20	84.00	88.00
RPD		0.55	

WG410204		-11	-13
Analyte		K	K
True Conc		25.0	25.0
Reported Conc		25.8	26.4
Sample Conc		1.23	1.23
%R		98.28	100.68
RPD		2.30	

Analyte	MDL	-04 PS	-04	Spike Added	%R
Al	0.050	5.45	0.467	5.00	99.7
Be	0.001	0.0248	0.00013	0.0250	99.2
Ca	0.100	91.7	88.2	5.00	70.0
Fe	0.050	2.30	0.393	2.00	95.4
Mg	0.250	34.8	33.7	5.00	22.0
K	0.500	26.5	1.22	25.0	101.1
Na	0.250	29.9	5.24	25.0	98.6
V	0.005	0.520	0.001305	0.500	104.0
Zn	0.010	0.493	0.00505	0.500	98.6

Sample conc >4X spike amount.

NOTE: Lab post spike recoveries are not always calculated correctly.
Recalculated results were used for validation.

6020 Water:

WG410082	LCS	-10	-12
Analyte	Sb	Se	Se
True Conc	0.0625	0.0625	0.0625
Reported Conc	0.0644	0.0676	0.0700
Sample Conc		0.0008	0.0008
%R	103.04	106.88	110.72
RPD		3.49	

WG410082		-11	-13
Analyte		Mn	Mn
True Conc		0.0625	0.0625
Reported Conc		0.0694	0.0692
Sample Conc		0.0000	0.0000
%R		111.04	110.72
RPD		0.29	

Analyte	MDL	-02PS	-02	Spike Added	%R
Sb	0.00050	47.4641	-0.0072	50.0	94.9
As	0.00050	47.8588	0.1007	50.0	95.5
Ba	0.00150	115.9125	67.9172	50.0	96.0
Cd	0.00030	47.113	0.0122	50.0	94.2
Cr	0.00100	54.0	1.0923	50.0	105.9
Co	0.00050	51.0	0.33	50.0	101.3
Cu	0.00100	49.451	0.3152	50.0	98.3
Pb	0.00050	50.057	0.0176	50.0	100.1
Mn	0.00100	54.5675	1.5082	50.0	106.1
Ni	0.00200	52.5696	2.8232	50.0	99.5
Se	0.00050	47.2249	0.3651	50.0	93.7
Ag	0.00050	50.076	0.0021	50.0	100.1
Tl	0.00010	51.1	0.0085	50.0	102.1

SERIAL DILUTION ANALYSIS for SDG L12090809

6010 Water:

Analyte	-04	-04 SD 5X		IDL	50 * IDL	> 50*IDL?	RPD Limit	%D	>Limit?
	mg/L	mg/L	mg/L	mg/L	mg/L				
Al	0.467	0.089	0.445	0.050	2.500	N	10		
Be	0.00013	0.00005	0.00025	0.001	0.050	N	10		
Ca	88.2	18	90	0.100	5.000	N	10		
Fe	0.393	0.08	0.4	0.050	2.500	N	10		
Mg	33.7	6.82	34.1	0.250	12.500	N	10		
K	1.22	0.194	0.97	0.500	25.000	N	10		
Na	5.24	1.02	5.1	0.250	12.500	N	10		
V	-0.0002	-0.00201	-0.01005	0.005	0.250	N	10		
Zn	0.00505	0.00267	0.01335	0.010	0.500	N	10		

6020 Water:

Analyte	-02	-02 SD 5X		IDL	50 * IDL	> 50*IDL?	RPD Limit	%D	>Limit?
	ug/L	ug/L	ug/L	mg/L	mg/L				
Sb	-0.0072	0.0169	0.0845	0.00050	0.025	N	10		
As	0.1007	0.0763	0.3815	0.00050	0.025	N	10		
Ba	67.9172	12.8813	64.4065	0.00150	0.075	Y	10	5	
Cd	0.0122	-0.0099	-0.0495	0.00030	0.015	N	10		
Cr	1.0923	0.2286	1.143	0.00100	0.050	N	10		
Co	0.33	0.0641	0.3205	0.00050	0.025	N	10		
Cu	0.3152	0.0695	0.3475	0.00100	0.050	N	10		
Pb	0.0176	0.0069	0.0345	0.00050	0.025	N	10		
Mn	1.5082	0.2624	1.312	0.00100	0.050	N	10		
Ni	2.8232	0.5201	2.6005	0.00200	0.100	N	10		
Se	0.3651	0.1089	0.5445	0.00050	0.025	N	10		
Ag	0.0021	0.008	0.04	0.00050	0.025	N	10		
Tl	0.0085	0.006	0.03	0.00010	0.005	N	10		

Regression Calculator for a Linear Fitted Curve - Conc. On X-Axis Mercury for SDG L12090809

Response Analyte Conc Analyte CF	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6	ICAL7	ICAL8	ICAL9	ICAL10
	-1819	10291	57265	104245	283951	551068	0	0	0	0
	0.00	0.20	1.00	2.00	5.00	10.00	0.00	0.0	0.0	0.0
x-axis (x ²)	-1.8190E+33	51455	57265	52123	56790	55107				
y-axis (x*y)	0	0	1	4	25	100	0	0	0	0
	0	2058	57265	208490	1419755	5510680	0	0	0	0

Perform Regression

Enter 0 for Response and Concentration if a standard is not used
Unused standards must be on the far right (no gaps in the used standards)

$$C_x = \frac{A_x - C_0}{C_1}$$

MDL = 0.000100
RL = 0.000200

C0	C1	r ²
4.5026E+03	5.5146E+04	0.99993

Insufficient data to recalculate results from raw data. Results from raw data entered for final calcs.

Response Amount On Col True Value %R	ICV	CCV	CCV	CCV	ICAL1	ICAL2	ICAL3	ICAL4	ICAL5	ICAL6
	2.08	1.93	1.98	1.94	-1819	10291	57265	104245	283951	551068
	2	2	2	2	-0.115	0.105	0.957	1.809	5.067	9.911
	104.0	96.5	99.0	97.0	0.00	0.20	1.00	2.00	5.00	10.00
					<MDL	52.5	95.7	90.4	101.3	99.1

Response Amount On Col (ug/L) Dilution factor Final Volume (mL) Sample Aliquot (mL) Final Conc (mg/L) Amount Spiked %Rec RPD	MB	LCS	-01	-01 PS	-02	-03	-04	-05	-06	-07
	0.032	4.580	-0.030	1.110	0.018	0.018	0.025	0.012	0.012	0.013
	1	1	1	1	1	1	1	1	1	1
	40	40	40	40	40	40	40	40	40	40
	40	40	40	40	40	40	40	40	40	40
	0.00003	0.00458	-0.00003	0.00111	0.00002	0.00002	0.00003	0.00001	0.00001	0.00001
	<MDL	0.004	<MDL	0.001	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
		114.50		111.00						

Response Amount On Col (ug/L) Dilution factor Final Volume (mL) Sample Aliquot (mL) Final Conc (mg/L) Amount Spiked %Rec RPD	-08	-10 MS	-12 MSD	-09	-11 MS	-13 MSD	-15	-16	-17	-18
	0.043	4.440	4.380	0.054	4.330	4.460	-0.047	0.011	0.053	0.023
	1	1	1	1	1	1	1	1	1	1
	40	40	40	40	40	40	40	40	40	40
	40	36	36	40	36	36	40	40	40	40
	0.00004	0.00493	0.00487	0.00005	0.00481	0.00496	-0.00005	0.00001	0.00005	0.00002
	<MDL	0.004	0.004	<MDL	0.004	0.004	<MDL	<MDL	<MDL	<MDL
		111.00	109.50		108.25	111.50	<MDL	<MDL	<MDL	<MDL
			1.36		-2.96					