

**LONGHORN ARMY
AMMUNITION PLANT
KARNACK, TEXAS**

**ADMINISTRATIVE
RECORD**

Volume 32

2018

Bate Stamp Numbers

00884902 – 00886471

Prepared for

**Department of the Army
Longhorn Army Ammunition Plant**

1976 – 2018

***LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
ADMINISTRATIVE RECORD – CHRONOLOGICAL INDEX***

VOLUME 32

2018

- A. Title: Report (cont'd) – Draft Final, Third Annual Remedial Action Operation Report, LHAAP-50, Former Sump Water Tank (LAB DATA)
Author(s): Department of the Army
Recipient: Environmental Protection Agency
Date: August 14, 2018
Bate Stamp: 00884902 – 00886471

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 061415
 Analyst1: TMB Analyst2: DLW
 Method: 8260B SOP: MSV01 Rev: 22
 Method: 624 SOP: MSV10 Rev: 13
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: _____

Internal Standard: STD70890 Surrogate Standard: STD70872
 CCV: STD70883 LCS: STD70514 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG527475

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M08234	WG527475-01 50ng BFB STD	NA	1	1	STD70707	06/14/15 09:34
11M08235	WG527475-02 5ug/L STD8260	NA	1	1	STD70883	06/14/15 09:58
11M08236	WG527475-03 20ug/L STD8260	NA	1	1	STD70883	06/14/15 10:30
11M08237	WG527475-04 50ug/L STD8260	NA	1	1	STD70883	06/14/15 11:02
11M08238	WG527475-05 100ug/L STD8260	NA	1	1	STD70883	06/14/15 11:34
11M08239	WG527475-06 200ug/L STD8260	NA	1	1	STD70883	06/14/15 12:06
11M08240	WG527475-07 300ug/L STD8260	NA	1	1	STD70883	06/14/15 12:38
11M08241	WG527475-08 400ug/L STD8260	NA	1	1	STD70883	06/14/15 13:10
11M08242	WG527475-09 500ug/L STD8260	NA	1	1	STD70883	06/14/15 13:42
11M08243	RINSE	NA	1	1		06/14/15 14:14
11M08244	RINSE	NA	1	1		06/14/15 14:46
11M08245	WG527475-10 100ug/L ALT STD8260	NA	1	1	STD70514	06/14/15 15:18

Approved: September 15, 2015

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 050316
 Analyst1: JDS Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 24
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: 53734

Internal Standard: STD75581 Surrogate Standard: STD75929
 CCV: STD75976 LCS: STD75977 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG567372 WG567507

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M11581	RINSE	NA	1	1		05/03/16 15:55
11M11583	WG567372-01 50ng BFB STD 8260	NA	1	1	STD75485	05/03/16 16:26
11M11584	WG567372-02 0.3ug/L ICAL STD 8260	NA	1	1	STD75976	05/03/16 16:50
11M11585	WG567372-03 0.4ug/L ICAL STD 8260	NA	1	1	STD75976	05/03/16 17:22
11M11586	WG567372-04 1.0ug/L ICAL STD 8260	NA	1	1	STD75976	05/03/16 17:54
11M11587	WG567372-05 2.0ug/L ICAL STD 8260	NA	1	1	STD75976	05/03/16 18:26
11M11588	WG567372-06 5.0ug/L ICAL STD 8260	NA	1	1	STD75976	05/03/16 18:58
11M11589	WG567372-07 20ug/L ICAL STD 8260	NA	1	1	STD75976	05/03/16 19:29
11M11590	WG567372-08 50ug/L ICAL STD 8260	NA	1	1	STD75976	05/03/16 20:01
11M11591	WG567372-09 100ug/L ICAL STD 8260	NA	1	1	STD75976	05/03/16 20:33
11M11592	WG567372-10 200ug/L ICAL STD 8260	NA	1	1	STD75976	05/03/16 21:05
11M11593	WG567372-11 300ug/L ICAL STD 8260	NA	1	1	STD75976	05/03/16 21:37
11M11594	RINSE	NA	1	1		05/03/16 22:08
11M11595	RINSE	NA	1	1		05/03/16 22:40
11M11596	WG567372-12 50ug/L ALT SRC STD 8260	NA	1	1	STD75977	05/03/16 23:12
11M11597	RINSE	NA	1	1		05/03/16 23:44
11M11598	RINSE	NA	1	1		05/04/16 00:16
11M11599	WGXXXXXX-01 BLANK STD 8260	NA	1	1		05/04/16 00:47
11M11600	L16040068-01 MDL 8260	NA	1	1	STDXXXXX	05/04/16 01:19
11M11601	L16040068-02 MDL 8260	NA	1	1	STDXXXXX	05/04/16 01:51

Approved: May 06, 2016

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Microbac Laboratories Inc. Instrument Run Log

Instrument: HPMS11 Dataset: 051016
Analyst1: JDS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 624 SOP: MSV10 Rev: 14
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID:

Internal Standard: STD75581 Surrogate Standard: STD75929
CCV: STD75976 LCS: STD75977 MS/MSD: NA
Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG568233 WG568260

Comments:

Table with columns: File ID, Sample Information, pH, Mat, Dil, Reference, Date/Time. Rows include various sample IDs like 11M11722, 11M11723, etc., with corresponding sample descriptions and analysis dates.

Approved: May 17, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 051016
 Analyst1: JDS Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 24
 Method: 624 SOP: MSV10 Rev: 14
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
 Maintenance Log ID: _____

Internal Standard: STD75581 Surrogate Standard: STD75929
 CCV: STD75976 LCS: STD75977 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG568233 WG568260

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M11756	L16050489-08 624-SPE	<2	2	1		05/11/16 08:31
11M11757	L16050489-09 624-SPE	<2	2	1		05/11/16 09:03
11M11758	L16050489-10 624-SPE	<2	2	1		05/11/16 09:35
11M11759	L16050508-01 624-SPE	5	2	1		05/11/16 10:07
11M11760	L16050508-02 624-SPE	5	2	1		05/11/16 10:39
11M11761	L16050508-03 624-SPE	5	2	1		05/11/16 11:10
11M11762	L16050536-01 A 624-SPE2	6	2	1		05/11/16 11:42
11M11763	L16050481-02 A 624-SPE	6	2	1		05/11/16 12:14
11M11764	L16050481-04 624-SPE	6	2	1		05/11/16 12:46
11M11765	L16050526-01 A 624-SPE	5	2	1		05/11/16 13:18
11M11766	L16050526-02 A 624-SPE	5	2	1		05/11/16 13:50
11M11767	L16050526-03 A 624-SPE	5	2	1		05/11/16 14:23

Comments

Seq.	Rerun	Dil.	Reason	Analytes
21	X	5	Over Calibration Range	TCE
File ID: 11M11742				
L16050151-05				
22	X	1	Analyzed too dilute	
File ID: 11M11743				
L16050151-01				

Approved: May 17, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 051116
Analyst1: JDS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 23
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD75581 Surrogate Standard: STD75929
CCV: STD76070 LCS: STD76109 MS/MSD: NA
Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG568444

Comments:

Table with columns: File ID, Sample Information, pH, Mat, Dil, Reference, Date/Time. Rows include sample IDs like 11M11771 to 11M11797 and sample descriptions.

Approved: May 13, 2016

[Handwritten Signature]



Microbac Laboratories Inc.

Data Checklist

Date: 14-JUN-2015
 Analyst: TMB
 Analyst: DLW
 Method: 8260B/624
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 69930
 Analytical Workgroups: WG527475

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	NA
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	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
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:
20-AUG-2015

Tiffany Bailey

Secondary Reviewer:
15-SEP-2015

F. J. Bailey



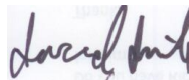
Microbac Laboratories Inc.

Data Checklist

Date: 03-MAY-2016
 Analyst: JDS
 Analyst: NA
 Method: 8260B/624
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 74945
 Analytical Workgroups: WG567372 WG567507

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)	NA
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	NA
Spectra of TCL Hits	NA
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	JDS
Secondary Reviewer	FJB
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:
06-MAY-2016



Secondary Reviewer:
06-MAY-2016



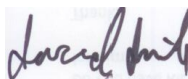

Microbac Laboratories Inc.

Data Checklist

Date: 10-MAY-2016
 Analyst: JDS
 Analyst: NA
 Method: 8260B
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 75038
 Analytical Workgroups: WG568233 WG568260

System Performance Check	X
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	X
TCL Hits	X
Spectra of TCL Hits	JDS
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	FJB
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:
15-MAY-2016



Secondary Reviewer:
17-MAY-2016



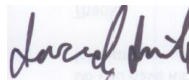

Microbac Laboratories Inc.

Data Checklist

Date: 11-MAY-2016
 Analyst: JDS
 Analyst: NA
 Method: 8260B
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 75040
 Analytical Workgroups: WG568444

System Performance Check	X
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	JDS
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	JDS
Secondary Reviewer	FJB
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:
13-MAY-2016



Secondary Reviewer:
13-MAY-2016




Analytical Method:8260B
Login Number:L16050151

AAB#:WG568233

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
50WW14-050316	03	05/03/16					05/10/2016	7.6	14		05/10/16	7.6	14	
50WW08-050316	05	05/03/16					05/11/2016	7.6	14		05/11/16	7.6	14	
50WW18-050316	07	05/03/16					05/11/2016	7.5	14		05/11/16	7.5	14	
50WW25-050316	09	05/03/16					05/11/2016	7.4	14		05/11/16	7.4	14	
TRIP BLANK	11	05/03/16					05/10/2016	8	14		05/10/16	8	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4765469
Report generated 05/17/2016 14:52



Analytical Method:8260B
Login Number:L16050151

AAB#:WG568444

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
50WW08-050316	05	05/03/16					05/11/2016	8.4	14		05/11/16	8.4	14	

* = SEE PROJECT QAPP REQUIREMENTS



Login Number: L16050151
Instrument Id: HPMS11
Workgroup (AAB#): WG568233

Method: 8260
CAL ID: HPMS11-03-MAY-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16050151-03	1.00	01	97.6	106	103	101
L16050151-05	1.00	01	94.2	103	99.3	101
L16050151-07	1.00	01	97.1	106	101	99.4
L16050151-09	1.00	01	90.8	98.7	97.1	97.1
L16050151-11	1.00	01	96.1	103	102	101
WG568233-01	1.00	01	93.6	101	98.4	97.2
WG568233-02	1.00	01	94.4	105	99.4	98.1
WG568233-03	1.00	01	92.8	103	99.5	98.4

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



Login Number: L16050151
 Instrument Id: HPMS11
 Workgroup (AAB#): WG568444

Method: 8260
 CAL ID: HPMS11-03-MAY-16
 Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16050151-05	5.00	DL01	80.7	93.1	101	96.6
WG568444-01	1.00	01	82.6	92.1	102	96.8
WG568444-02	1.00	01	82.0	95.5	98.8	95.5
WG568444-03	1.00	01	80.1	92.6	100	95.6

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



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG568233
 Blank File ID: 11M11726 Blank Sample ID: WG568233-01
 Prep Date: 05/10/16 16:35 Instrument ID: HPMS11
 Analyzed Date: 05/10/16 16:35 Method: 8260B
 Analyst: JDS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG568233-02	11M11731	05/10/16 19:15	01
LCS2	WG568233-03	11M11732	05/10/16 19:47	01
TRIP BLANK	L16050151-11	11M11738	05/10/16 22:58	01
50WW14-050316	L16050151-03	11M11739	05/10/16 23:30	01
50WW25-050316	L16050151-09	11M11740	05/11/16 00:02	01
50WW18-050316	L16050151-07	11M11741	05/11/16 00:34	01
50WW08-050316	L16050151-05	11M11742	05/11/16 01:06	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4765470
 Report generated 05/17/2016 14:52



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG568444
 Blank File ID: 11M11775 Blank Sample ID: WG568444-01
 Prep Date: 05/11/16 18:14 Instrument ID: HPMS11
 Analyzed Date: 05/11/16 18:14 Method: 8260B
 Analyst: JDS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG568444-02	11M11776	05/11/16 18:46	01
LCS2	WG568444-03	11M11777	05/11/16 19:17	01
50WW08-050316	L16050151-05	11M11778	05/11/16 19:49	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 4765470
 Report generated 05/17/2016 14:52



Login Number: L16050151 Prep Date: 05/10/16 16:35 Sample ID: WG568233-01
 Instrument ID: HPMS11 Run Date: 05/10/16 16:35 Prep Method: 5030B/5030C/503
 File ID: 11M11726 Analyst: JDS Method: 8260B
 Workgroup (AAB#): WG568233 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11-03-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
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	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	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	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	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
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name: BLANK
 PDF ID: 4765471
 17-MAY-2016 14:52



Login Number: L16050151 Prep Date: 05/10/16 16:35 Sample ID: WG568233-01
 Instrument ID: HPMS11 Run Date: 05/10/16 16:35 Prep Method: 5030B/5030C/503
 File ID: 11M11726 Analyst: JDS Method: 8260B
 Workgroup (AAB#): WG568233 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11-03-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	101	85 - 115	PASS
1,2-Dichloroethane-d4	93.6	70 - 120	PASS
Toluene-d8	97.2	85 - 120	PASS
4-Bromofluorobenzene	98.4	75 - 120	PASS

DL 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: 4765471
 17-MAY-2016 14:52



Login Number: L16050151 Prep Date: 05/11/16 18:14 Sample ID: WG568444-01
 Instrument ID: HPMS11 Run Date: 05/11/16 18:14 Prep Method: 5030B/5030C/503
 File ID: 11M11775 Analyst: JDS Method: 8260B
 Workgroup (AAB#): WG568444 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11-03-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Trichloroethene	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	92.1	85 - 115	PASS
1,2-Dichloroethane-d4	82.6	70 - 120	PASS
Toluene-d8	96.8	85 - 120	PASS
4-Bromofluorobenzene	102	75 - 120	PASS

DL 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: 4765471
 17-MAY-2016 14:52



Login Number: L16050151 Analyst: JDS Prep Method: 5030B/5030C/503
 Instrument ID: HPMS11 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG568444 Units: ug/L
 QC Key: DOD4 Lot #: STD76109
 Sample ID: WG568444-02 LCS File ID: 11M11776 Run Date: 05/11/2016 18:46
 Sample ID: WG568444-03 LCS2 File ID: 11M11777 Run Date: 05/11/2016 19:17

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Trichloroethene	20.0	19.6	98.2	20.0	19.4	97.1	1.04	70 - 125	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	82.0	80.1	70 - 120	PASS
Dibromofluoromethane	95.5	92.6	85 - 115	PASS
4-Bromofluorobenzene	98.8	100	75 - 120	PASS
Toluene-d8	95.5	95.6	85 - 120	PASS

* EXCEEDS %REC LIMIT

EXCEEDS RPD LIMIT



Login Number: L16050151 Analyst: JDS Prep Method: 5030B/5030C/503
 Instrument ID: HPMS11 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG568233 Units: ug/L
 QC Key: DOD4 Lot #: STD75977

Sample ID: WG568233-02 LCS File ID: 11M11731 Run Date: 05/10/2016 19:15
 Sample ID: WG568233-03 LCS2 File ID: 11M11732 Run Date: 05/10/2016 19:47

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1,2-Tetrachloroethane	20.0	21.0	105	20.0	20.7	103	1.76	80 - 130	30	
1,1,1-Trichloroethane	20.0	22.4	112	20.0	21.6	108	3.55	65 - 130	30	
1,1,2,2-Tetrachloroethane	20.0	17.3	86.6	20.0	17.3	86.7	0.122	65 - 130	30	
1,1,2-Trichloroethane	20.0	19.8	99.2	20.0	19.6	97.8	1.46	75 - 125	30	
1,1-Dichloroethane	20.0	20.2	101	20.0	19.8	99.2	1.88	70 - 135	30	
1,1-Dichloroethene	20.0	20.4	102	20.0	20.1	101	1.60	70 - 130	30	
1,1-Dichloropropene	20.0	20.8	104	20.0	20.6	103	0.905	75 - 130	30	
1,2,3-Trichlorobenzene	20.0	18.4	91.9	20.0	18.8	94.0	2.23	55 - 140	30	
1,2,3-Trichloropropane	20.0	19.4	96.9	20.0	19.0	95.1	1.95	75 - 125	30	
1,2,4-Trichlorobenzene	20.0	19.2	96.2	20.0	19.6	98.2	2.04	65 - 135	30	
1,2,4-Trimethylbenzene	20.0	21.5	108	20.0	21.3	107	0.823	75 - 130	30	
1,2-Dibromo-3-chloropropane	20.0	17.0	85.1	20.0	18.1	90.6	6.21	50 - 130	30	
1,2-Dibromoethane	20.0	19.3	96.4	20.0	19.2	95.8	0.687	80 - 120	30	
1,2-Dichlorobenzene	20.0	20.2	101	20.0	20.1	100	0.736	70 - 120	30	
1,2-Dichloroethane	20.0	21.3	106	20.0	21.6	108	1.28	70 - 130	30	
1,2-Dichloropropane	20.0	21.0	105	20.0	20.5	102	2.55	75 - 125	30	
1,3,5-Trimethylbenzene	20.0	21.7	108	20.0	21.6	108	0.429	75 - 130	30	
1,3-Dichlorobenzene	20.0	20.7	104	20.0	20.5	102	1.15	75 - 125	30	
1,3-Dichloropropane	20.0	20.6	103	20.0	20.2	101	2.21	75 - 125	30	
1,4-Dichlorobenzene	20.0	20.6	103	20.0	20.5	102	0.567	75 - 125	30	
2,2-Dichloropropane	20.0	21.4	107	20.0	21.7	109	1.56	70 - 135	30	
2-Butanone	20.0	18.1	90.4	20.0	18.5	92.4	2.20	30 - 150	30	
2-Chlorotoluene	20.0	21.9	109	20.0	21.8	109	0.272	75 - 125	30	
2-Hexanone	20.0	17.6	88.0	20.0	17.8	89.1	1.25	55 - 130	30	
4-Chlorotoluene	20.0	21.1	105	20.0	20.7	103	1.76	75 - 130	30	
4-Methyl-2-pentanone	20.0	17.6	87.8	20.0	17.7	88.4	0.689	60 - 135	30	
Acetone	20.0	18.7	93.3	20.0	19.9	99.6	6.57	40 - 140	30	
Benzene	20.0	20.5	103	20.0	20.1	101	2.04	80 - 120	30	
Bromobenzene	20.0	19.6	98.0	20.0	19.2	95.9	2.21	75 - 125	30	
Bromochloromethane	20.0	20.2	101	20.0	19.6	97.8	3.23	65 - 130	30	
Bromodichloromethane	20.0	21.4	107	20.0	20.5	102	4.65	75 - 120	30	
Bromoform	20.0	16.7	83.7	20.0	17.0	85.0	1.53	70 - 130	30	
Bromomethane	20.0	16.6	82.9	20.0	17.6	87.9	5.82	30 - 145	30	
Carbon disulfide	20.0	18.8	93.8	20.0	18.2	91.2	2.80	35 - 160	30	
Carbon tetrachloride	20.0	23.1	116	20.0	21.6	108	6.80	65 - 140	30	
Chlorobenzene	20.0	21.3	107	20.0	20.7	103	3.21	80 - 120	30	
Chloroethane	20.0	22.4	112	20.0	22.4	112	0.309	60 - 135	30	
Chloroform	20.0	21.5	107	20.0	21.0	105	2.08	65 - 135	30	
Chloromethane	20.0	16.4	81.9	20.0	16.8	84.0	2.50	40 - 125	30	
cis-1,2-Dichloroethene	20.0	21.4	107	20.0	20.9	104	2.31	70 - 125	30	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4765472
 Report generated: 05/17/2016 14:52



Login Number: L16050151 Analyst: JDS Prep Method: 5030B/5030C/503
 Instrument ID: HPMS11 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG568233 Units: ug/L
 QC Key: DOD4 Lot #: STD75977

Sample ID: WG568233-02 LCS File ID: 11M11731 Run Date: 05/10/2016 19:15
 Sample ID: WG568233-03 LCS2 File ID: 11M11732 Run Date: 05/10/2016 19:47

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
cis-1,3-Dichloropropene	20.0	22.6	113	20.0	22.0	110	2.53	70 - 130	30	
Chlorodibromomethane	20.0	20.7	103	20.0	20.0	100	3.15	60 - 135	30	
Dibromomethane	20.0	19.3	96.5	20.0	19.2	95.8	0.749	75 - 125	30	
Dichlorodifluoromethane	20.0	24.1	120	20.0	23.5	118	2.19	30 - 155	30	
Ethylbenzene	20.0	21.1	106	20.0	20.5	103	2.95	75 - 125	30	
Hexachlorobutadiene	20.0	20.5	103	20.0	19.6	97.9	4.60	50 - 140	30	
Isopropylbenzene	20.0	22.4	112	20.0	22.0	110	1.85	75 - 125	30	
m-,p-Xylene	40.0	43.6	109	40.0	42.4	106	2.74	75 - 130	30	
Methylene chloride	20.0	20.2	101	20.0	19.6	98.2	2.91	55 - 140	30	
n-Butylbenzene	20.0	21.3	106	20.0	21.0	105	1.40	70 - 135	30	
n-Propylbenzene	20.0	22.7	113	20.0	22.2	111	2.26	70 - 130	30	
Naphthalene	20.0	17.5	87.4	20.0	17.8	89.0	1.86	55 - 140	30	
o-Xylene	20.0	21.3	107	20.0	21.3	106	0.243	80 - 120	30	
p-Isopropyltoluene	20.0	22.2	111	20.0	21.7	109	2.45	75 - 130	30	
sec-Butylbenzene	20.0	22.4	112	20.0	22.0	110	2.10	70 - 125	30	
Styrene	20.0	21.1	106	20.0	20.7	104	1.87	65 - 135	30	
tert-Butylbenzene	20.0	21.7	109	20.0	21.1	106	2.64	70 - 130	30	
Tetrachloroethene	20.0	20.4	102	20.0	20.5	103	0.580	45 - 150	30	
Toluene	20.0	21.3	106	20.0	20.6	103	3.49	75 - 120	30	
trans-1,2-Dichloroethene	20.0	21.0	105	20.0	20.5	102	2.34	60 - 140	30	
trans-1,3-Dichloropropene	20.0	20.3	101	20.0	19.8	99.2	2.19	55 - 140	30	
Trichloroethene	20.0	20.5	103	20.0	20.5	102	0.204	70 - 125	30	
Trichlorofluoromethane	20.0	22.1	111	20.0	21.4	107	3.66	60 - 145	30	
Vinyl chloride	20.0	20.8	104	20.0	21.0	105	0.973	50 - 145	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	94.4	92.8	70 - 120	PASS
Dibromofluoromethane	105	103	85 - 115	PASS
4-Bromofluorobenzene	99.4	99.5	75 - 120	PASS
Toluene-d8	98.1	98.4	85 - 120	PASS

* EXCEEDS %REC LIMIT
 # EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4765472
 Report generated: 05/17/2016 14:52



BFB

Login Number: L16050151 Tune ID: WG527475-01
 Instrument: HPMS11 Run Date: 06/14/2015
 Analyst: TMB /DLW Run Time: 09:34
 Workgroup: WG527475 File ID: 11M08234
 Cal ID: HPMS11-14-JUN-15

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	7754	PASS
75.0	95.0	30.0	60.0	49.9	19472	PASS
95.0	95.0	100	100	100	38997	PASS
96.0	95.0	5.00	9.00	7.00	2731	PASS
173	174	0	2.00	0.338	111	PASS
174	95.0	50.0	100	84.2	32837	PASS
175	174	5.00	9.00	7.18	2357	PASS
176	174	95.0	101	97.9	32146	PASS
177	176	5.00	9.00	7.11	2284	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG527475-02	STD	01	06/14/2015 09:58	
WG527475-03	STD	01	06/14/2015 10:30	
WG527475-04	STD	01	06/14/2015 11:02	
WG527475-05	STD-CCV	01	06/14/2015 11:34	
WG527475-06	STD	01	06/14/2015 12:06	
WG527475-07	STD	01	06/14/2015 12:38	
WG527475-08	STD	01	06/14/2015 13:10	
WG527475-09	STD	01	06/14/2015 13:42	
WG527475-10	SSCV	01	06/14/2015 15:18	

* Sample past 12 hour tune limit



BFB

Login Number: L16050151 Tune ID: WG567372-01
 Instrument: HPMS11 Run Date: 05/03/2016
 Analyst: JDS Run Time: 16:26
 Workgroup: WG567372 File ID: 11M11583
 Cal ID: HPMS11-03-MAY-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	23.9	16246	PASS
75.0	95.0	30.0	60.0	48.9	33205	PASS
95.0	95.0	100	100	100	67968	PASS
96.0	95.0	5.00	9.00	6.70	4555	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	85.6	58200	PASS
175	174	5.00	9.00	7.98	4642	PASS
176	174	95.0	101	96.8	56354	PASS
177	176	5.00	9.00	6.47	3645	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG567372-02	STD	01	05/03/2016 16:50	
WG567372-03	STD	01	05/03/2016 17:22	
WG567372-04	STD	01	05/03/2016 17:54	
WG567372-05	STD	01	05/03/2016 18:26	
WG567372-06	STD	01	05/03/2016 18:58	
WG567372-07	STD	01	05/03/2016 19:29	
WG567372-08	STD-CCV	01	05/03/2016 20:01	
WG567372-09	STD	01	05/03/2016 20:33	
WG567372-10	STD	01	05/03/2016 21:05	
WG567372-11	STD	01	05/03/2016 21:37	
WG567372-12	SSCV	01	05/03/2016 23:12	

* Sample past 12 hour tune limit



BFB

Login Number: L16050151 Tune ID: WG568232-01
 Instrument: HPMS11 Run Date: 05/10/2016
 Analyst: JDS Run Time: 14:34
 Workgroup: WG568232 File ID: 11M11722
 Cal ID: HPMS11-03-MAY-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	24.1	11466	PASS
75.0	95.0	30.0	60.0	51.8	24669	PASS
95.0	95.0	100	100	100	47589	PASS
96.0	95.0	5.00	9.00	6.78	3225	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	84.6	40245	PASS
175	174	5.00	9.00	8.19	3295	PASS
176	174	95.0	101	99.2	39936	PASS
177	176	5.00	9.00	6.73	2686	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG568232-02	CCV	01	05/10/2016 15:30	
WG568234-01	CCV	01	05/10/2016 16:03	
WG568233-01	BLANK	01	05/10/2016 16:35	
WG568233-02	LCS	01	05/10/2016 19:15	
WG568233-03	LCS2	01	05/10/2016 19:47	
L16050151-11	TRIP BLANK	01	05/10/2016 22:58	
L16050151-03	50WW14-050316	01	05/10/2016 23:30	
L16050151-09	50WW25-050316	01	05/11/2016 00:02	
L16050151-07	50WW18-050316	01	05/11/2016 00:34	
L16050151-05	50WW08-050316	01	05/11/2016 01:06	

* Sample past 12 hour tune limit



BFB

Login Number: L16050151 Tune ID: WG568443-01
 Instrument: HPMS11 Run Date: 05/11/2016
 Analyst: JDS Run Time: 16:13
 Workgroup: WG568443 File ID: 11M11771
 Cal ID: HPMS11-03-MAY-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	24.5	8967	PASS
75.0	95.0	30.0	60.0	49.7	18222	PASS
95.0	95.0	100	100	100	36653	PASS
96.0	95.0	5.00	9.00	6.54	2397	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	81.1	29732	PASS
175	174	5.00	9.00	7.51	2232	PASS
176	174	95.0	101	96.2	28607	PASS
177	176	5.00	9.00	6.38	1826	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG568443-02	CCV	01	05/11/2016 17:10	
WG568444-01	BLANK	01	05/11/2016 18:14	
WG568444-02	LCS	01	05/11/2016 18:46	
WG568444-03	LCS2	01	05/11/2016 19:17	
L16050151-05	50WW08-050316	DL01	05/11/2016 19:49	
WG567638-01	FBLK1	DL01	05/12/2016 04:51	*
WG568183-01	FBLK1	DL01	05/12/2016 05:23	*

* Sample past 12 hour tune limit



Calibration Table Report

Method: A9FOOWT.M

Title: Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Calibration: Thu Aug 20 11:41:47 2015

Curve: WG527475

Calibration Files

Compound	500								Avg	%RSD	Linear	Quad
	11M08235.D	11M08236.D	11M08237.D	11M08238.D	11M08239.D	11M08240.D	11M08241.D	11M08242.D				
I Fluorobenzene	ISTD											
T Acetonitrile	0.024	0.022	0.018	0.018	0.018	0.018	0.018	0.018	0.019	13.425		
T 3-Chloro-1-propene	0.380	0.372	0.371	0.380	0.375	0.379	0.368	0.385	0.376	1.470		
T 2-Chloro-1,3-butadiene	0.421	0.418	0.426	0.444	0.450	0.482	0.477	0.496	0.452	6.648		
T Methacrylonitrile	0.124	0.115	0.112	0.114	0.112	0.114	0.120	0.119	0.116	3.530		
T Isobutyl Alcohol		0.006	0.006	0.006	0.005	0.006	0.006	0.006	0.006	5.929		
T 1-Butanol			0.003	0.003	0.003	0.003	0.003	0.003	0.003	5.214		
T Cyclohexanone		0.031	0.028	0.031	0.030	0.027	0.028	0.026	0.029	6.768		
T 2-Nitropropane			0.028	0.032	0.035	0.039	0.042	0.044	0.037	16.955	0.996	
T Ethyl Acetate	0.133	0.145	0.133	0.140	0.137	0.136	0.141	0.139	0.138	3.039		
T Methyl methacrylate	0.151	0.161	0.151	0.158	0.158	0.161	0.170	0.172	0.160	4.681		
I Chlorobenzene-d5	ISTD											
I 1,4-Dichlorobenzene-d4	ISTD											

Thu Aug 20 11:49:17 2015

Calibration Table Report

Method: 8260_WT.M

Title: 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11

Last Calibration: Wed May 04 09:44:01 2016

Curve: WG567372

Calibration Files

Compound	0.3 0.4 1 2 5 20 50 100 200 300										Avg	%RSD	Linear	Quadratic
	11M1584.D	11M1585.D	11M1586.D	11M1587.D	11M1588.D	11M1589.D	11M1590.D	11M1591.D	11M1592.D	11M1593.D				
I Fluorobenzene	ISTD													
T Dichlorodifluoromethane			0.300	0.311	0.312	0.382	0.410	0.402	0.394	0.424	0.367	13.841		
P Chloromethane			0.336	0.328	0.301	0.319	0.338	0.346	0.342	0.356	0.333	5.111		
C Vinyl Chloride		0.290	0.254	0.246	0.238	0.259	0.271	0.274	0.272	0.290	0.266	6.898		
T 1,3-Butadiene					0.249	0.258	0.257	0.252	0.247	0.242	0.251	2.406		
T Bromomethane			0.164	0.153	0.143	0.153	0.161	0.174	0.190	0.213	0.169	13.680		
T Chloroethane			0.161	0.170	0.172	0.181	0.187	0.185	0.186	0.199	0.180	6.660		
T Trichlorofluoromethane		0.509	0.451	0.468	0.465	0.494	0.520	0.503	0.503	0.520	0.493	5.113		
T Diethyl ether			0.219	0.212	0.217	0.236	0.237	0.224		0.224	0.224	4.182		
T Isoprene					0.313	0.330	0.338	0.346	0.353	0.363	0.341	5.200		
T Acrolein			0.019	0.018	0.022	0.027	0.032	0.030		0.034	0.026	24.092		0.997
T 1,1,2-Trichloro-1,2,2-Trifluor			0.219	0.222	0.244	0.249	0.265	0.254	0.258	0.274	0.248	7.860		
T Acetone					0.070	0.084	0.080	0.069	0.079	0.066	0.075	10.088		
C 1,1-Dichloroethene		0.461	0.422	0.451	0.443	0.461	0.485	0.467	0.469	0.483	0.460	4.297		
T Tert-Butyl Alcohol			0.017	0.017	0.018	0.023	0.023	0.020		0.021	0.020	14.386		
T Dimethyl Sulfide					0.188	0.207	0.219	0.211	0.221	0.206	0.209	5.723		
T Iodomethane			0.105	0.157	0.188	0.215	0.235	0.233	0.236	0.230	0.200	23.719		1.000
T Methyl acetate				0.181	0.223	0.296	0.302	0.253	0.282	0.248	0.255	16.960		0.994
T Methylene Chloride			0.248	0.251	0.255	0.258	0.269	0.256	0.267	0.257	0.258	2.807		
T Carbon Disulfide			0.782	0.771	0.772	0.803	0.831	0.838	0.832	0.816	0.805	3.427		
T Acrylonitrile			0.087	0.077	0.083	0.104	0.111	0.100		0.109	0.096	13.827		
T Methyl Tert Butyl Ether			0.618	0.609	0.602	0.722	0.734	0.660	0.736	0.671	0.669	8.470		
T trans-1,2-Dichloroethene		0.261	0.266	0.250	0.253	0.261	0.269	0.265	0.269	0.275	0.263	2.961		
T n-Hexane				0.419	0.405	0.416	0.441	0.444	0.445	0.452	0.432	4.144		
T Diisopropyl ether			1.120	1.125	1.150	1.182	1.169	1.145		1.103	1.142	2.473		
T Vinyl Acetate					0.019	0.052	0.124	0.137	0.294	0.335	0.160	79.916		0.999
P 1,1-Dichloroethane		0.495	0.475	0.501	0.494	0.530	0.554	0.536	0.543	0.537	0.518	5.270		
T Ethyl-Tert-Butyl ether			0.912	0.900	0.915	0.986	0.980	0.938		0.918	0.935	3.660		
T 2-Butanone					0.092	0.121	0.119	0.106	0.124	0.109	0.112	10.546		
T Propionitrile			0.031	0.028	0.030	0.036	0.037	0.033		0.034	0.033	10.200		
T 2,2-Dichloropropane			0.383	0.359	0.380	0.362	0.349	0.370	0.376	0.386	0.405	0.374	4.517	
T cis-1,2-Dichloroethene			0.268	0.274	0.293	0.283	0.299	0.309	0.295	0.307	0.304	0.292	4.937	
C Chloroform		0.460	0.463	0.452	0.473	0.479	0.501	0.519	0.494	0.505	0.494	4.545		
T 1-Bromopropane			0.026	0.046	0.046	0.051	0.051	0.054	0.054	0.055	0.048	19.842		1.000
T Bromochloromethane			0.139	0.178	0.184	0.178	0.203	0.206	0.194	0.208	0.194	11.369		
T Tetrahydrofuran			0.091	0.067	0.068	0.083	0.083	0.072		0.073	0.077	11.605		
S Dibromofluoromethane					0.222	0.262	0.298	0.308	0.285	0.316	0.296	0.284	11.354	
T 1,1,1-Trichloroethane		0.504	0.387	0.453	0.449	0.469	0.499	0.476	0.482	0.494	0.468	7.675		
T Cyclohexane			0.555	0.520	0.546	0.545	0.556	0.584	0.590	0.596	0.604	0.566	5.010	
T 1,1-Dichloropropene			0.351	0.312	0.337	0.351	0.354	0.377	0.359	0.363	0.379	0.354	5.762	
T Carbon Tetrachloride			0.427	0.399	0.426	0.416	0.436	0.478	0.456	0.462	0.476	0.442	6.234	
T Tert-Amyl-Methyl ether					0.645	0.621	0.642	0.707	0.707	0.668	0.669	0.66555	4.90406	
S 1,2-Dichloroethane-d4					0.317	0.345	0.333	0.361	0.367	0.331	0.364	0.334	0.34385	5.29102
T 1,2-Dichloroethane			0.358	0.384	0.395	0.392	0.456	0.462	0.429	0.453	0.41	0.41542	8.78859	
T Benzene			1.098	1.022	1.014	0.975	1.016	1.044	1.004	0.994	0.94	1.01191	4.35727	
T Trichloroethene			0.38	0.334	0.328	0.316	0.323	0.328	0.32	0.318	0.322	0.32979	5.98456	
T Methylcyclohexane			0.405	0.346	0.369	0.385	0.392	0.415	0.422	0.428	0.437	0.39995	7.44128	
C 1,2-Dichloropropane			0.285	0.272	0.274	0.269	0.293	0.301	0.29	0.306	0.297	0.28739	4.63775	
T 1,4-Dioxane					0.001	0.002	0.002	0.002		0.002	0.00174	17.7282		
T Bromodichloromethane			0.337	0.351	0.37	0.351	0.396	0.415	0.393	0.419	0.397	0.38092	7.7972	
T Dibromomethane			0.134	0.133	0.134	0.138	0.163	0.169	0.156	0.173	0.157	0.15071	10.7131	
T 2-Chloroethyl Vinyl Ether						0.128	0.162	0.158	0.144	0.16	0.148	0.14985	8.65986	
T 4-Methyl-2-Pentanone						0.072	0.096	0.098	0.087	0.104	0.094	0.09188	12.0832	
T cis-1,3-Dichloropropene			0.359	0.339	0.388	0.367	0.424	0.441	0.42	0.447	0.424	0.40095	9.67314	
T Dimethyl Disulfide						0.204	0.245	0.263	0.253	0.278	0.258	0.25013	9.97615	

Login Number: L16050151 Run Date: 05/03/2016 Sample ID: WG567372-12
 Instrument ID: HPMS11 Run Time: 23:12 Method: 8260B
 File ID: 11M11596 Analyst: JDS QC Key: DOD4
 ICal Workgroup: WG567372 Cal ID: HPMS11 - 03-MAY-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	51.5	ug/L	0.499	3.00	20	
1,1-Dichloroethene	CCC	50.0	50.4	ug/L	0.464	0.800	20	
1,2-Dichloropropane	CCC	50.0	54.4	ug/L	0.313	8.80	20	
Ethylbenzene	CCC	50.0	54.2	ug/L	0.524	8.40	20	
Toluene	CCC	50.0	55.4	ug/L	1.44	10.9	20	
Vinyl Chloride	CCC	50.0	58.0	ug/L	0.308	16.0	20	
Bromoform	SPCC	50.0	46.0	ug/L	0.225	7.90	20	
Chlorobenzene	SPCC	50.0	54.6	ug/L	1.04	9.30	20	
Chloromethane	SPCC	50.0	64.7	ug/L	0.431	29.3	20	*
1,1-Dichloroethane	SPCC	50.0	51.1	ug/L	0.530	2.20	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	51.9	ug/L	0.490	3.90	20	
Acetone		50.0	55.0	ug/L	0.0823	10.0	20	
Benzene		50.0	52.3	ug/L	1.06	4.50	20	
Bromobenzene		50.0	51.5	ug/L	0.803	3.00	20	
Bromochloromethane		50.0	52.1	ug/L	0.195	4.10	20	
Bromodichloromethane		50.0	51.5	ug/L	0.392	2.90	20	
Bromomethane		50.0	51.0	ug/L	0.172	2.00	20	
2-Butanone		50.0	50.7	ug/L	0.113	1.40	20	
n-Butylbenzene		50.0	54.9	ug/L	2.27	9.80	20	
sec-Butylbenzene		50.0	57.8	ug/L	2.92	15.5	20	
tert-Butylbenzene		50.0	55.5	ug/L	0.520	10.9	20	
Carbon Disulfide		50.0	47.9	ug/L	0.771	4.20	20	
Carbon Tetrachloride		50.0	51.2	ug/L	0.453	2.40	20	
Dibromochloromethane		50.0	54.7	ug/L	0.382	9.30	20	
Chloroethane		50.0	56.4	ug/L	0.203	12.8	20	
2-Chlorotoluene		50.0	54.4	ug/L	2.26	8.80	20	
4-Chlorotoluene		50.0	56.0	ug/L	1.90	11.9	20	
1,2-Dibromo-3-Chloropropane		50.0	51.4	ug/L	0.0973	2.80	20	
1,2-Dibromoethane		50.0	54.0	ug/L	0.266	8.00	20	
Dibromomethane		50.0	50.5	ug/L	0.152	1.00	20	
1,2-Dichlorobenzene		50.0	53.7	ug/L	1.47	7.40	20	
1,3-Dichlorobenzene		50.0	53.5	ug/L	1.55	7.00	20	
1,4-Dichlorobenzene		50.0	53.5	ug/L	1.58	6.90	20	
Dichlorodifluoromethane		50.0	65.0	ug/L	0.477	30.1	20	*
1,2-Dichloroethane		50.0	51.5	ug/L	0.428	3.00	20	
cis-1,2-Dichloroethene		50.0	53.7	ug/L	0.314	7.50	20	
trans-1,2-Dichloroethene		50.0	52.8	ug/L	0.278	5.60	20	
1,3-Dichloropropane		50.0	57.0	ug/L	0.459	14.0	20	
2,2-Dichloropropane		50.0	43.8	ug/L	0.328	12.4	20	
cis-1,3-Dichloropropene		50.0	57.2	ug/L	0.459	14.5	20	
trans-1,3-Dichloropropene		50.0	53.3	ug/L	0.452	6.70	20	
1,1-Dichloropropene		50.0	51.8	ug/L	0.366	3.60	20	

ALT - Modified 09/06/2007
 Version 1.5 PDF File ID: 4765473
 Report generated 05/17/2016 14:52



Login Number: L16050151 Run Date: 05/03/2016 Sample ID: WG567372-12
 Instrument ID: HPMS11 Run Time: 23:12 Method: 8260B
 File ID: 11M11596 Analyst: JDS QC Key: DOD4
 ICal Workgroup: WG567372 Cal ID: HPMS11 - 03-MAY-16

Analyte	Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone	50.0	54.0	ug/L	0.216	7.90	20	
Hexachlorobutadiene	50.0	54.8	ug/L	0.452	9.60	20	
Isopropylbenzene	50.0	57.2	ug/L	1.66	14.4	20	
p-Isopropyltoluene	50.0	56.6	ug/L	2.60	13.1	20	
4-Methyl-2-Pentanone	50.0	51.9	ug/L	0.0953	3.70	20	
Methylene Chloride	50.0	52.7	ug/L	0.272	5.40	20	
Naphthalene	50.0	55.8	ug/L	2.17	11.7	20	
n-Propylbenzene	50.0	58.1	ug/L	3.26	16.2	20	
Styrene	50.0	55.7	ug/L	1.08	11.4	20	
1,1,1,2-Tetrachloroethane	50.0	53.9	ug/L	0.394	7.80	20	
Tetrachloroethene	50.0	53.7	ug/L	0.314	7.40	20	
1,2,3-Trichlorobenzene	50.0	55.4	ug/L	1.05	10.7	20	
1,2,4-Trichlorobenzene	50.0	55.2	ug/L	1.12	10.4	20	
1,1,1-Trichloroethane	50.0	51.8	ug/L	0.485	3.60	20	
1,1,2-Trichloroethane	50.0	55.5	ug/L	0.269	11.0	20	
Trichloroethene	50.0	52.2	ug/L	0.344	4.40	20	
Trichlorofluoromethane	50.0	50.7	ug/L	0.500	1.40	20	
1,2,3-Trichloropropane	50.0	54.7	ug/L	0.167	9.40	20	
1,2,4-Trimethylbenzene	50.0	54.8	ug/L	2.40	9.70	20	
1,3,5-Trimethylbenzene	50.0	56.1	ug/L	2.40	12.3	20	
o-Xylene	50.0	55.7	ug/L	0.639	11.4	20	
m-,p-Xylene	100	111	ug/L	0.641	11.4	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
 SPCC System Performance Check Compounds



Login Number: L16050151 Run Date: 05/10/2016 Sample ID: WG568232-02
Instrument ID: HPMS11 Run Time: 15:30 Method: 8260B
File ID: 11M11724 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG568233 Cal ID: HPMS11 - 03-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	52.8	ug/L	0.511	5.58	20	
1,1-Dichloroethene	CCC	50.0	51.3	ug/L	0.472	2.65	20	
1,2-Dichloropropane	CCC	50.0	48.8	ug/L	0.281	2.34	20	
Ethylbenzene	CCC	50.0	49.5	ug/L	0.479	0.964	20	
Toluene	CCC	50.0	50.3	ug/L	1.30	0.675	20	
Vinyl Chloride	CCC	50.0	47.0	ug/L	0.250	5.93	20	
Bromoform	SPCC	50.0	45.3	ug/L	0.222	9.31	20	
Chlorobenzene	SPCC	50.0	49.4	ug/L	0.941	1.19	20	
Chloromethane	SPCC	50.0	39.4	ug/L	0.262	21.3	20	*
1,1-Dichloroethane	SPCC	50.0	51.8	ug/L	0.537	3.65	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	46.4	ug/L	0.437	7.18	20	
Xylenes		150	151	ug/L	0.577	0.523	20	
Acetone		50.0	42.0	ug/L	0.0628	16.0	20	
Benzene		50.0	49.4	ug/L	1.00	1.12	20	
Bromobenzene		50.0	48.2	ug/L	0.752	3.64	20	
Bromochloromethane		50.0	50.3	ug/L	0.188	0.672	20	
Bromodichloromethane		50.0	52.5	ug/L	0.400	5.00	20	
Bromomethane		50.0	41.0	ug/L	0.139	18.0	20	
2-Butanone		50.0	43.5	ug/L	0.0973	13.0	20	
n-Butylbenzene		50.0	53.6	ug/L	2.22	7.23	20	
sec-Butylbenzene		50.0	53.8	ug/L	2.72	7.60	20	
tert-Butylbenzene		50.0	50.5	ug/L	0.473	0.966	20	
Carbon Disulfide		50.0	45.3	ug/L	0.730	9.42	20	
Carbon Tetrachloride		50.0	55.8	ug/L	0.493	11.5	20	
Dibromochloromethane		50.0	52.9	ug/L	0.370	5.88	20	
Chloroethane		50.0	49.7	ug/L	0.179	0.578	20	
2-Chlorotoluene		50.0	52.7	ug/L	2.19	5.47	20	
4-Chlorotoluene		50.0	49.6	ug/L	1.69	0.750	20	
1,2-Dibromo-3-Chloropropane		50.0	48.6	ug/L	0.0920	2.73	20	
1,2-Dibromoethane		50.0	47.4	ug/L	0.233	5.11	20	
Dibromomethane		50.0	50.9	ug/L	0.154	1.88	20	
1,2-Dichlorobenzene		50.0	50.1	ug/L	1.37	0.107	20	
1,3-Dichlorobenzene		50.0	50.6	ug/L	1.47	1.22	20	
1,4-Dichlorobenzene		50.0	49.9	ug/L	1.48	0.166	20	
Dichlorodifluoromethane		50.0	46.1	ug/L	0.338	7.89	20	
1,2-Dichloroethane		50.0	52.7	ug/L	0.438	5.43	20	
cis-1,2-Dichloroethene		50.0	51.1	ug/L	0.299	2.17	20	
trans-1,2-Dichloroethene		50.0	49.6	ug/L	0.261	0.735	20	
1,3-Dichloropropane		50.0	47.3	ug/L	0.380	5.48	20	
2,2-Dichloropropane		50.0	52.4	ug/L	0.392	4.77	20	
cis-1,3-Dichloropropene		50.0	51.8	ug/L	0.416	3.65	20	
trans-1,3-Dichloropropene		50.0	51.3	ug/L	0.436	2.70	20	

CCV - Modified 03/05/2008
PDF File ID: 4765475
Report generated 05/17/2016 14:52



Login Number: L16050151 Run Date: 05/10/2016 Sample ID: WG568232-02
Instrument ID: HPMS11 Run Time: 15:30 Method: 8260B
File ID: 11M11724 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG568233 Cal ID: HPMS11 - 03-MAY-16
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	51.2	ug/L	0.363	2.47	20	
2-Hexanone	50.0	45.9	ug/L	0.183	8.30	20	
Hexachlorobutadiene	50.0	50.8	ug/L	0.419	1.65	20	
Isopropylbenzene	50.0	53.2	ug/L	1.54	6.49	20	
p-Isopropyltoluene	50.0	54.5	ug/L	2.51	9.05	20	
4-Methyl-2-Pentanone	50.0	44.5	ug/L	0.0818	10.9	20	
Methylene Chloride	50.0	48.3	ug/L	0.249	3.35	20	
Naphthalene	50.0	51.9	ug/L	2.02	3.84	20	
n-Propylbenzene	50.0	53.0	ug/L	2.98	5.98	20	
Styrene	50.0	51.5	ug/L	1.00	2.93	20	
1,1,1,2-Tetrachloroethane	50.0	51.7	ug/L	0.378	3.44	20	
Tetrachloroethene	50.0	50.6	ug/L	0.296	1.18	20	
1,2,3-Trichlorobenzene	50.0	49.6	ug/L	0.942	0.821	20	
1,2,4-Trichlorobenzene	50.0	51.0	ug/L	1.04	2.08	20	
1,1,1-Trichloroethane	50.0	53.8	ug/L	0.504	7.65	20	
1,1,2-Trichloroethane	50.0	48.7	ug/L	0.236	2.63	20	
Trichloroethene	50.0	48.5	ug/L	0.320	2.97	20	
Trichlorofluoromethane	50.0	52.9	ug/L	0.522	5.84	20	
1,2,3-Trichloropropane	50.0	48.5	ug/L	0.148	2.97	20	
1,2,4-Trimethylbenzene	50.0	52.9	ug/L	2.31	5.74	20	
1,3,5-Trimethylbenzene	50.0	52.4	ug/L	2.24	4.89	20	
o-Xylene	50.0	50.2	ug/L	0.576	0.416	20	
m-,p-Xylene	100	101	ug/L	0.578	0.576	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4765475
Report generated 05/17/2016 14:52



Login Number: L16050151 Run Date: 05/11/2016 Sample ID: WG568443-02
Instrument ID: HPMS11 Run Time: 17:10 Method: 8260B
File ID: 11M11773 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG568444 Cal ID: HPMS11 - 03-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	49.6	ug/L	0.481	0.745	20	
1,1-Dichloroethene	CCC	50.0	50.2	ug/L	0.462	0.411	20	
1,2-Dichloropropane	CCC	50.0	46.8	ug/L	0.269	6.37	20	
Ethylbenzene	CCC	50.0	51.0	ug/L	0.493	2.00	20	
Toluene	CCC	50.0	51.1	ug/L	1.32	2.16	20	
Vinyl Chloride	CCC	50.0	49.6	ug/L	0.264	0.867	20	
Bromoform	SPCC	50.0	45.0	ug/L	0.220	9.99	20	
Chlorobenzene	SPCC	50.0	49.8	ug/L	0.949	0.328	20	
Chloromethane	SPCC	50.0	42.6	ug/L	0.284	14.8	20	
1,1-Dichloroethane	SPCC	50.0	48.9	ug/L	0.507	2.24	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	45.1	ug/L	0.425	9.84	20	
Trichloroethene		50.0	46.7	ug/L	0.308	6.65	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

CCV - Modified 03/05/2008

PDF File ID: 4765475

Report generated 05/17/2016 14:52



Login Number: L16050151
Instrument ID: HPMS11
Workgroup (AAB#): WG568233

ICAL CCV Number: WG567372-08
CAL ID: HPMS11-03-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG567372-08	NA	NA	358057	593030	688601
Upper Limit	NA	NA	716114	1186060	1377202
Lower Limit	NA	NA	179029	296515	344301
<u>L16050151-03</u>	1.00	01	274325	466316	527466
L16050151-05	1.00	01	294112	493249	569415
L16050151-07	1.00	01	289818	485383	550615
L16050151-09	1.00	01	303619	507969	582923
L16050151-11	1.00	01	272529	456370	523078
WG568233-01	1.00	01	285079	485483	551300
WG568233-02	1.00	01	301277	494654	566703
WG568233-03	1.00	01	295334	490813	560962

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Login Number: L16050151
Instrument ID: HPMS11
Workgroup (AAB#): WG568444

ICAL CCV Number: WG567372-08
CAL ID: HPMS11-03-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG567372-08	NA	NA	358057	593030	688601
Upper Limit	NA	NA	716114	1186060	1377202
Lower Limit	NA	NA	179029	296515	344301
<u>L16050151-05</u>	5.00	DL01	301720	531614	654471
WG568444-01	1.00	01	297038	517999	634188
WG568444-02	1.00	01	304492	520055	627683
WG568444-03	1.00	01	304070	525420	642405

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)

00884937

Login Number: L16050151
Instrument ID: HPMS11
Workgroup (AAB#): WG568233

ICAL CCV Number: WG567372-08
CAL ID: HPMS11-03-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG567372-08	NA	NA	17.07	14.26	10.62
Upper Limit	NA	NA	17.57	14.76	11.12
Lower Limit	NA	NA	16.57	13.76	10.12
<u>L16050151-03</u>	1.00	01	17.07	14.25	10.62
L16050151-05	1.00	01	17.07	14.25	10.62
L16050151-07	1.00	01	17.07	14.25	10.62
L16050151-09	1.00	01	17.07	14.25	10.62
L16050151-11	1.00	01	17.07	14.25	10.62
WG568233-01	1.00	01	17.07	14.25	10.62
WG568233-02	1.00	01	17.07	14.25	10.62
WG568233-03	1.00	01	17.07	14.25	10.62

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)

00884938

Login Number: L16050151
Instrument ID: HPMS11
Workgroup (AAB#): WG568444

ICAL CCV Number: WG567372-08
CAL ID: HPMS11-03-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG567372-08	NA	NA	17.07	14.26	10.62
Upper Limit	NA	NA	17.57	14.76	11.12
Lower Limit	NA	NA	16.57	13.76	10.12
<u>L16050151-05</u>	5.00	DL01	17.07	14.25	10.62
WG568444-01	1.00	01	17.07	14.25	10.62
WG568444-02	1.00	01	17.07	14.25	10.62
WG568444-03	1.00	01	17.07	14.25	10.62

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: 4765478
Report generated: 05/17/2016 14:52



2.1.1.3 Sample Data

Data File : C:\MSDCHEM\1\DATA\051016\11M11739.D Vial: 18
 Acq On : 10 May 2016 23:30 Operator: JDS
 Sample : L16050151-03 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 09:32:39 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	527466	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	466316	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	274325	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.64	111	159299	26.6051	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	106.44%	
43) 1,2-Dichloroethane-d4	10.24	65	177046	24.4039	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	97.60%	
57) Toluene-d8	12.48	98	553766	25.2616	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	101.04%	
78) p-Bromofluorobenzene	15.65	95	230418	25.7142	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	102.84%	
Target Compounds						
						Qvalue
13) Acetone	6.36	43	983	0.6233	ug/L	# 45
32) cis-1,2-Dichloroethene	9.16	96	8675	1.4064	ug/L	90
46) Trichloroethene	11.09	130	12152	1.7464	ug/L	98

 (#) = qualifier out of range (m) = manual integration
 11M11739.D 8260_WT.M Thu May 12 09:32:40 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051016\11M11739.D

Vial: 18

Acq On : 10 May 2016 23:30

Operator: JDS

Sample : L16050151-03 A 826-LOW

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 12 9:32 2016

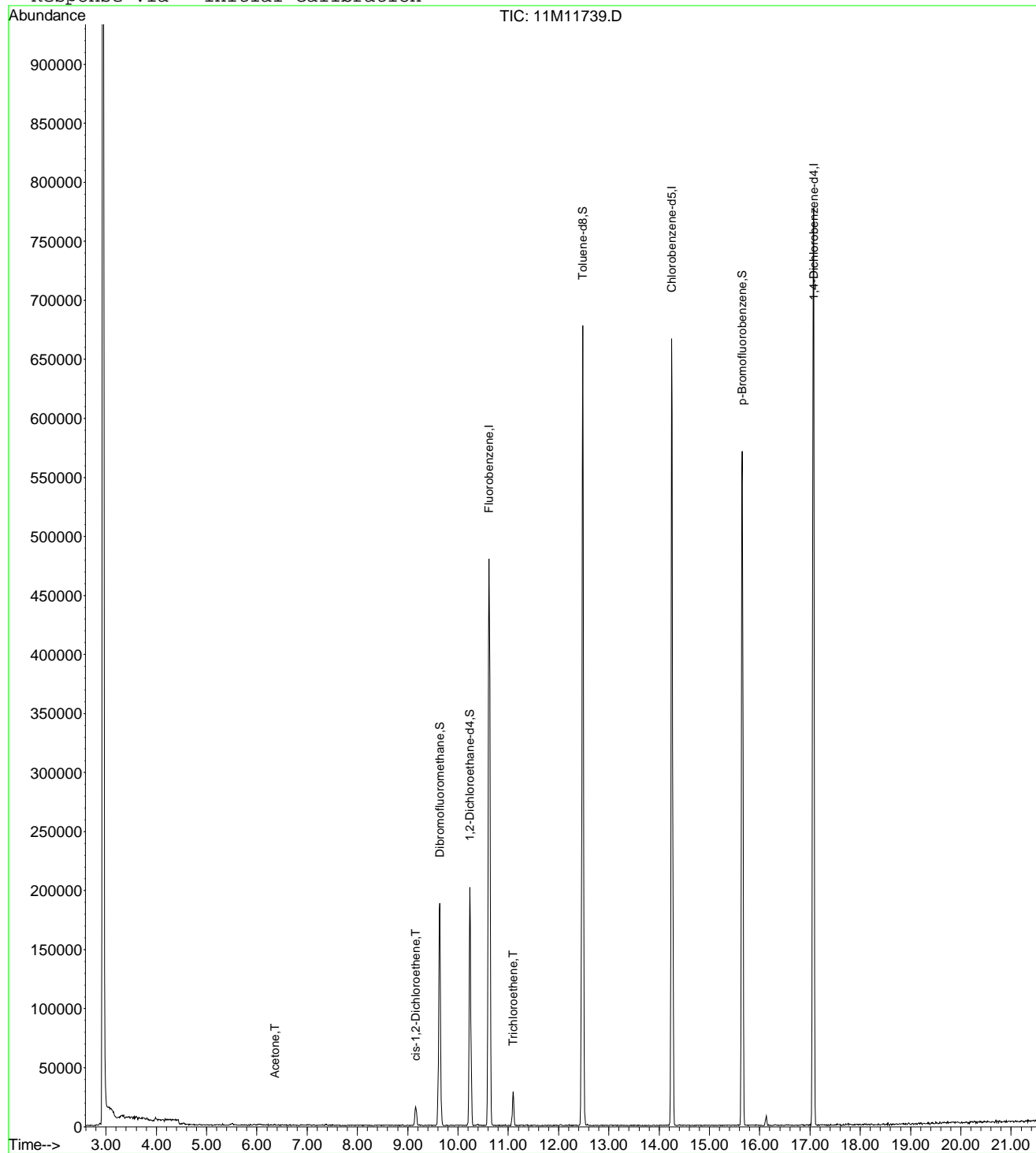
Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11

Last Update : Wed May 04 09:44:01 2016

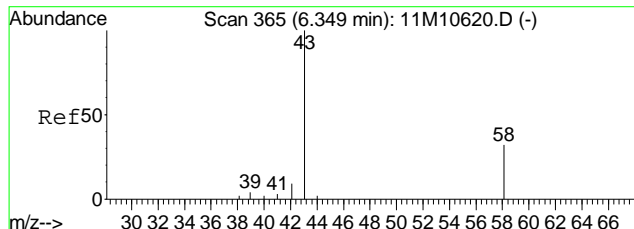
Response via : Initial Calibration



11M11739.D 8260_WT.M

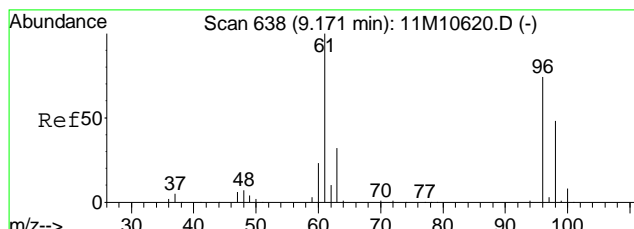
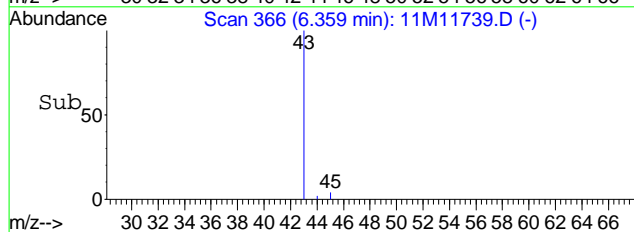
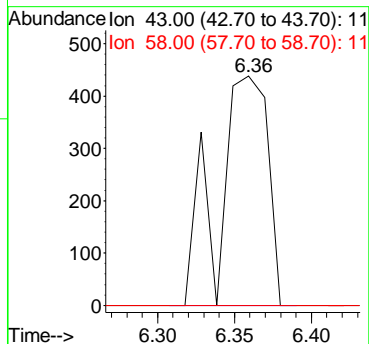
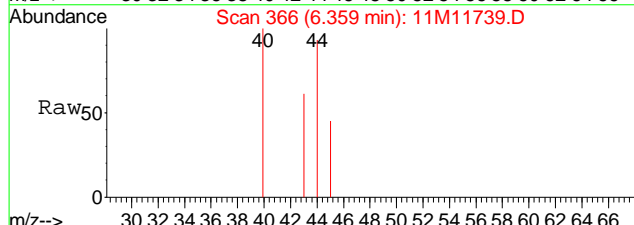
Thu May 12 09:32:40 2016

Page 2



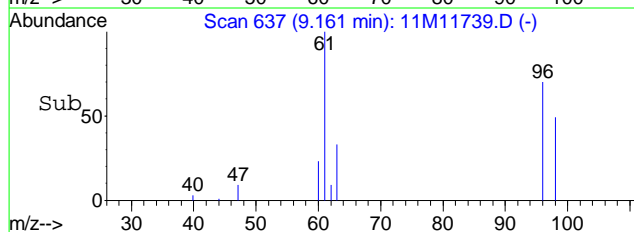
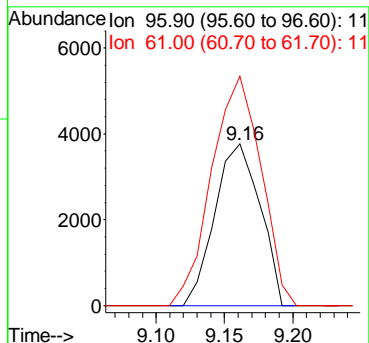
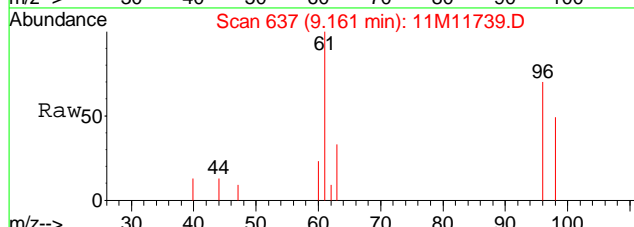
#13
 Acetone
 Concen: 0.62 ug/L
 RT: 6.36 min Scan# 366
 Delta R.T. 0.01 min
 Lab File: 11M11739.D
 Acq: 10 May 2016 23:30

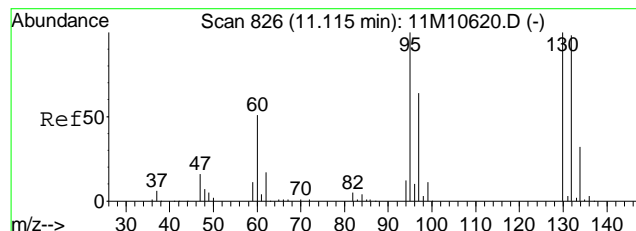
Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.8	41.6#



#32
 cis-1,2-Dichloroethene
 Concen: 1.41 ug/L
 RT: 9.16 min Scan# 637
 Delta R.T. 0.00 min
 Lab File: 11M11739.D
 Acq: 10 May 2016 23:30

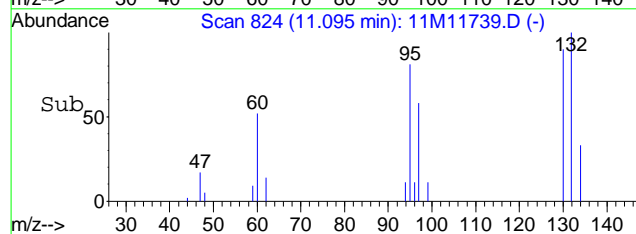
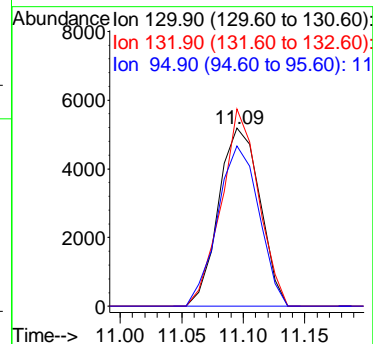
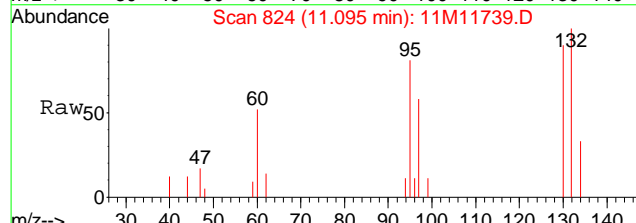
Tgt Ion	Ratio	Lower	Upper
96	100		
61	155.0	101.5	236.7





#46
 Trichloroethene
 Concen: 1.75 ug/L
 RT: 11.09 min Scan# 824
 Delta R.T. 0.00 min
 Lab File: 11M11739.D
 Acq: 10 May 2016 23:30

Tgt Ion	Ratio	Resp	Lower	Upper
130	100	12152		
132	99.9	59.3	138.5	
95	90.1	55.6	129.6	



Data File : C:\MSDCHEM\1\DATA\051016\11M11742.D Vial: 21
 Acq On : 11 May 2016 1:06 Operator: JDS
 Sample : L16050151-05 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 09:32:45 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	569415	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	493249	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	294112	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.64	111	166354	25.7366	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	102.96%	
43) 1,2-Dichloroethane-d4	10.24	65	184422	23.5479	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	94.20%	
57) Toluene-d8	12.48	98	582963	25.1414	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	100.56%	
78) p-Bromofluorobenzene	15.64	95	238403	24.8153	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	99.28%	
Target Compounds						
						Qvalue
3) Chloromethane	3.73	50	1182	0.1558	ug/L #	1
4) Vinyl Chloride	3.97	62	2264	0.3737	ug/L #	61
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	3731	0.6598	ug/L	89
13) Acetone	6.36	43	1514	0.8893	ug/L #	45
14) 1,1-Dichloroethene	6.57	61	8515	0.8124	ug/L	99
23) trans-1,2-Dichloroethene	7.77	96	1314	0.2190	ug/L	63
27) 1,1-Dichloroethane	8.36	63	11540	0.9774	ug/L	98
32) cis-1,2-Dichloroethene	9.16	96	320331	48.1077	ug/L	89
33) Chloroform	9.36	83	4845	0.4394	ug/L	95
44) 1,2-Dichloroethane	10.35	62	30578	3.2317	ug/L	90
46) Trichloroethene	11.09	130	3323065	442.3929	ug/L	98
47) Methylcyclohexane	11.09	83	38165	4.1896	ug/L #	1
64) Tetrachloroethene	13.34	164	9548	1.6565	ug/L	95
94) 1,2-Dichlorobenzene	17.57	146	3570	0.2222	ug/L	97

(#) = qualifier out of range (m) = manual integration
 11M11742.D 8260_WT.M Thu May 12 09:32:46 2016

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Data File : C:\MSDCHEM\1\DATA\051016\11M11742.D

Vial: 21

Acq On : 11 May 2016 1:06

Operator: JDS

Sample : L16050151-05 A 826-LOW

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 12 9:32 2016

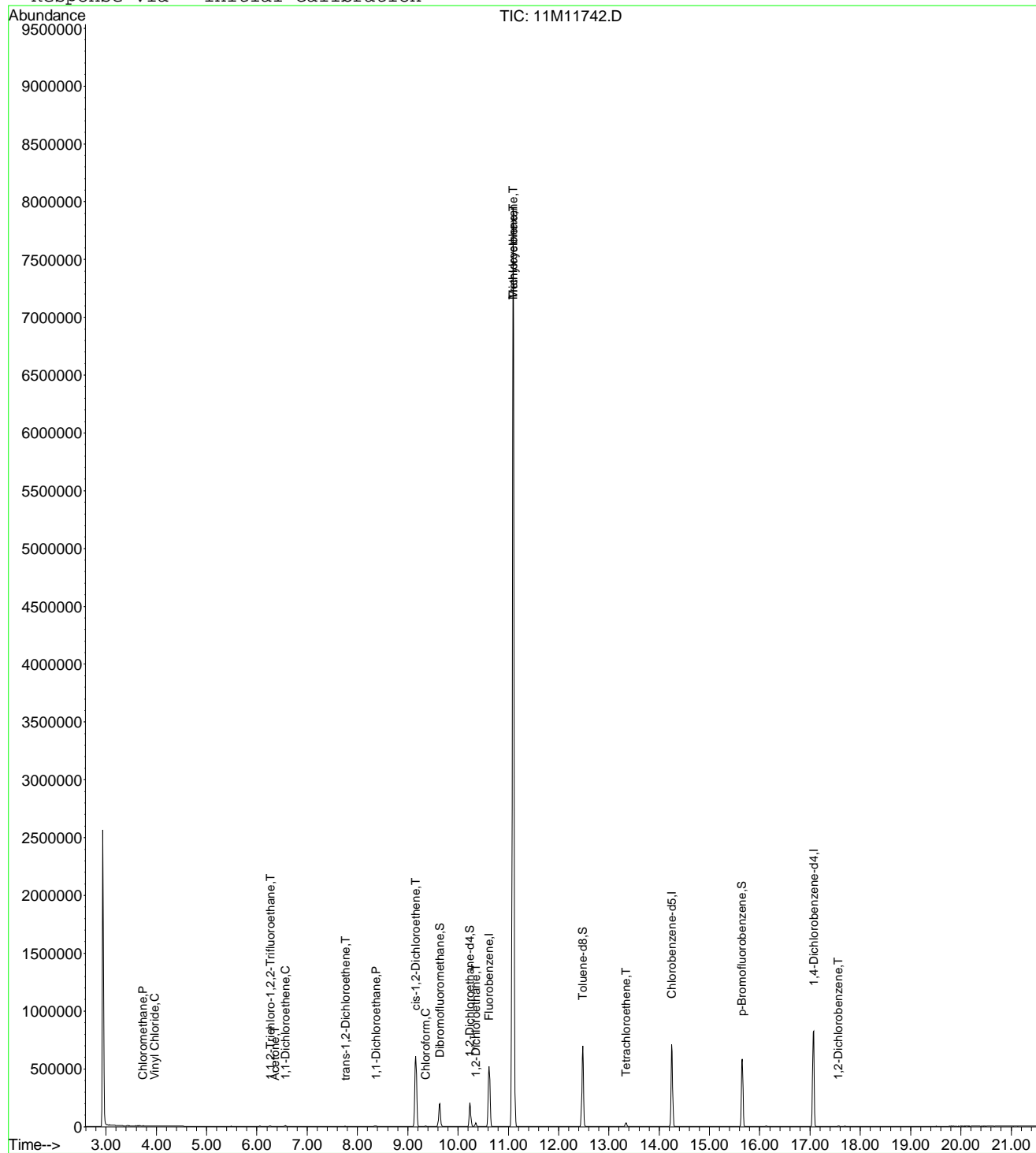
Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11

Last Update : Wed May 04 09:44:01 2016

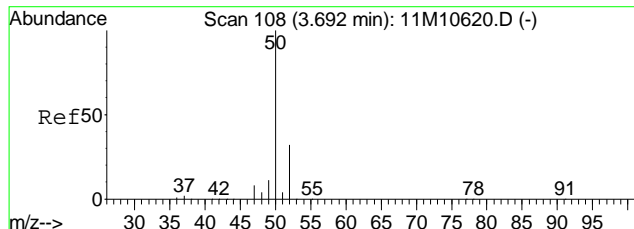
Response via : Initial Calibration



11M11742.D 8260_WT.M

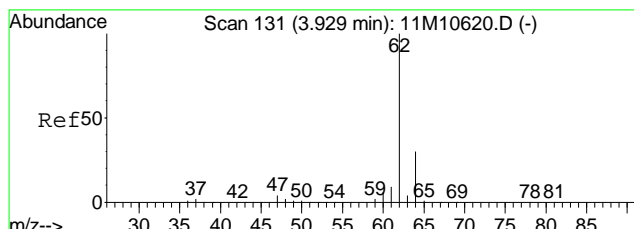
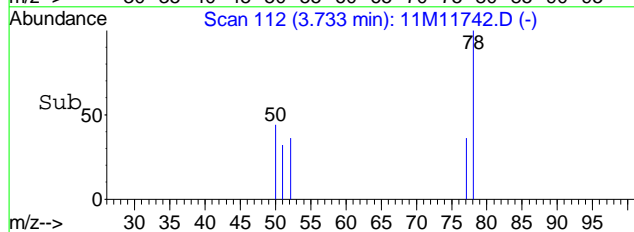
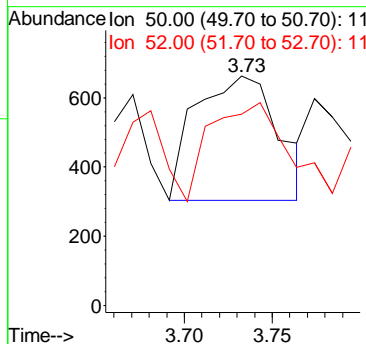
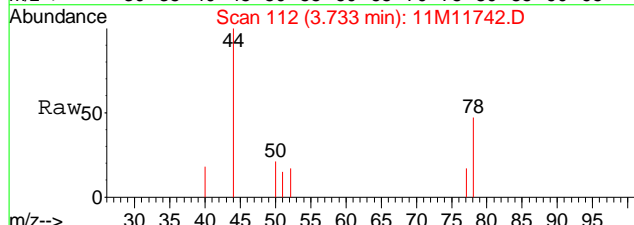
Thu May 12 09:32:46 2016

Page 2



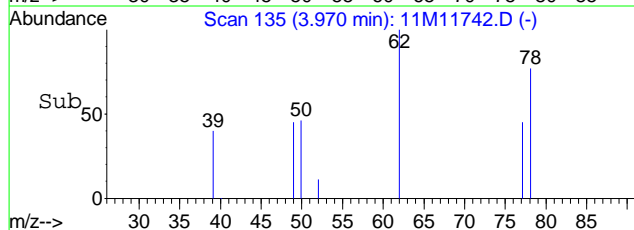
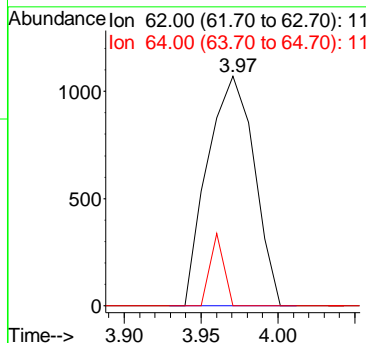
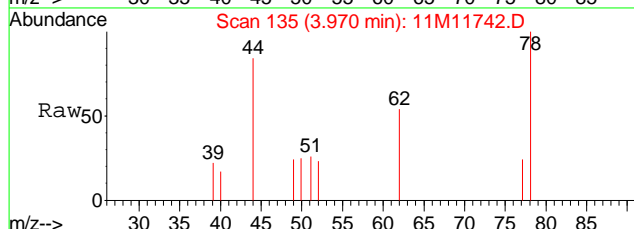
#3
 Chloromethane
 Concen: 0.16 ug/L
 RT: 3.73 min Scan# 112
 Delta R.T. -0.00 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

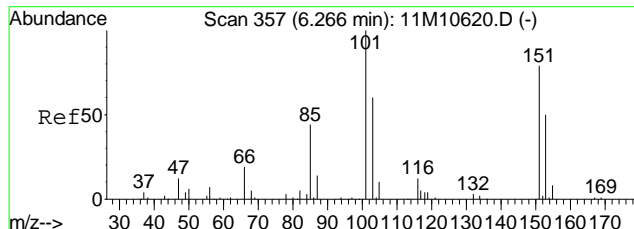
Tgt Ion	Ratio	Lower	Upper
50	100		
52	115.6	19.9	46.5#



#4
 Vinyl Chloride
 Concen: 0.37 ug/L
 RT: 3.97 min Scan# 135
 Delta R.T. 0.01 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

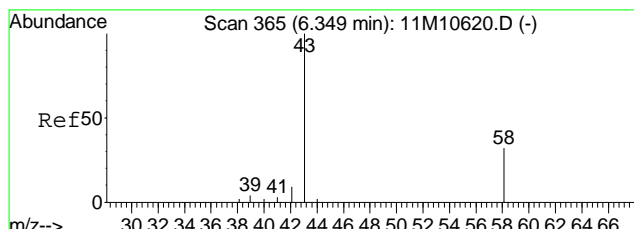
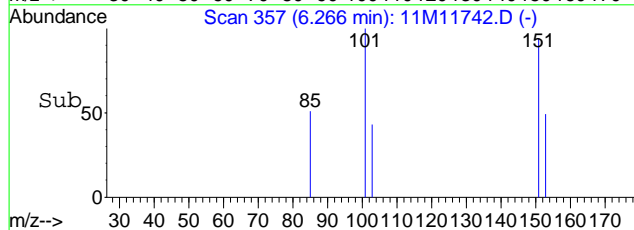
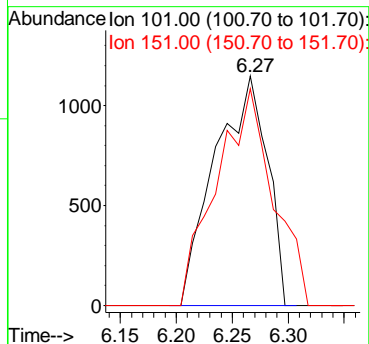
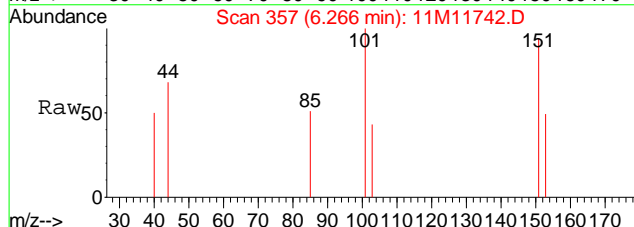
Tgt Ion	Ratio	Lower	Upper
62	100		
64	9.2	18.5	43.1#





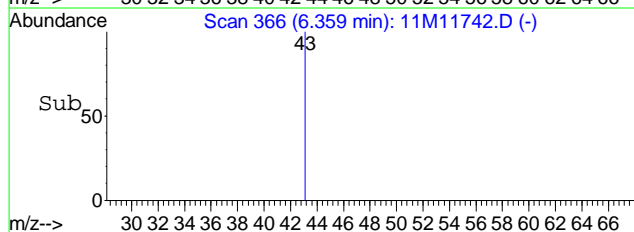
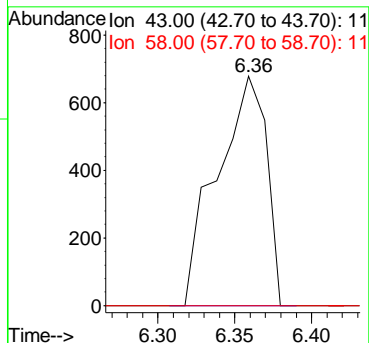
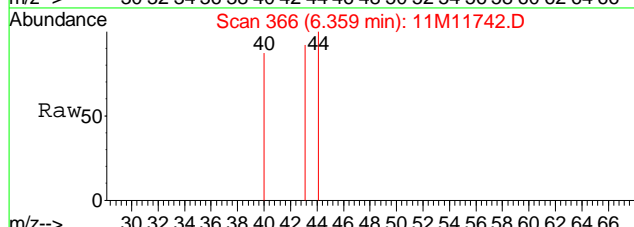
#12
 1,1,2-Trichloro-1,2,2-Trifluoroethane
 Concen: 0.66 ug/L
 RT: 6.27 min Scan# 357
 Delta R.T. 0.01 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

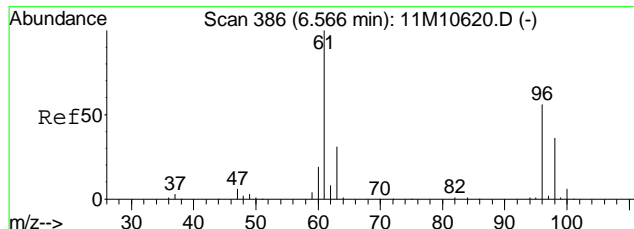
Tgt Ion	Resp	Lower	Upper
101	3731		
101	100		
151	102.2	51.9	131.9



#13
 Acetone
 Concen: 0.89 ug/L
 RT: 6.36 min Scan# 366
 Delta R.T. 0.01 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

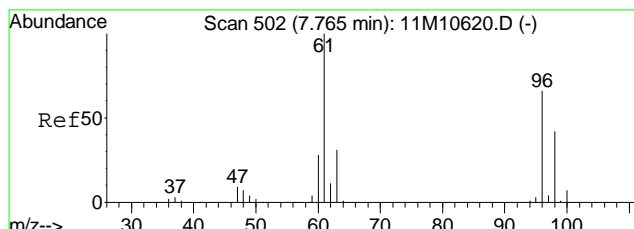
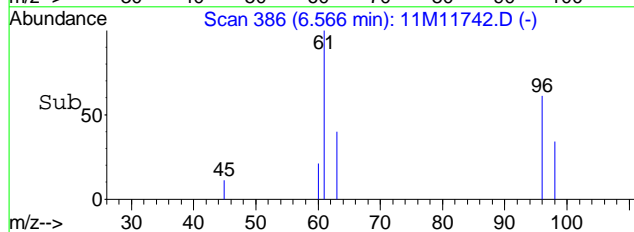
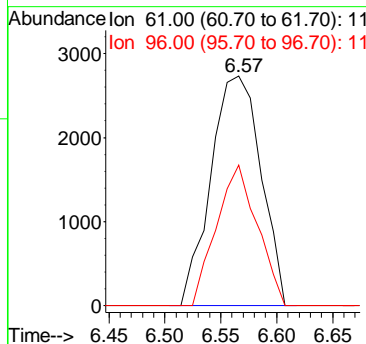
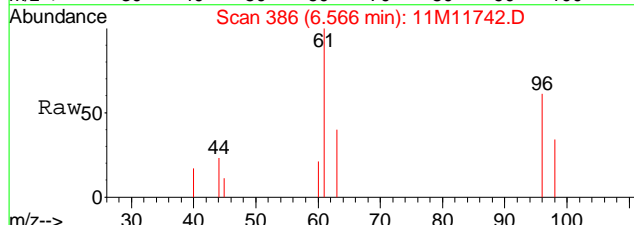
Tgt Ion	Resp	Lower	Upper
43	1514		
43	100		
58	0.0	17.8	41.6#





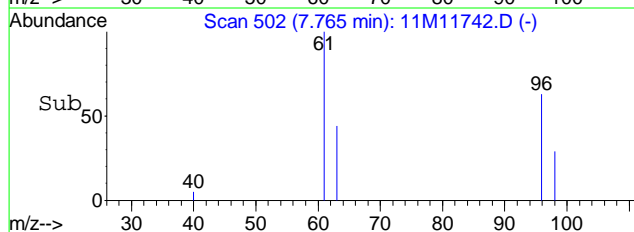
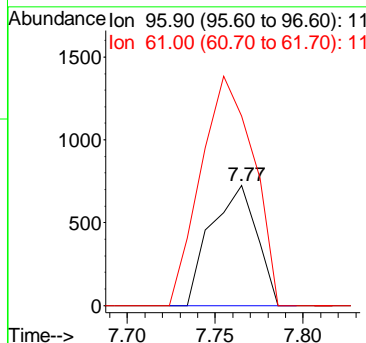
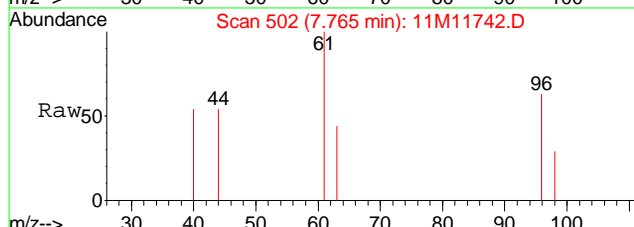
#14
 1,1-Dichloroethene
 Concen: 0.81 ug/L
 RT: 6.57 min Scan# 386
 Delta R.T. -0.00 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

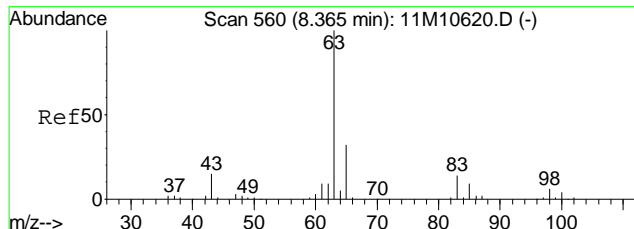
Tgt Ion	Resp	Lower	Upper
61	100		
96	49.9	30.5	71.1



#23
 trans-1,2-Dichloroethene
 Concen: 0.22 ug/L
 RT: 7.77 min Scan# 502
 Delta R.T. 0.01 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

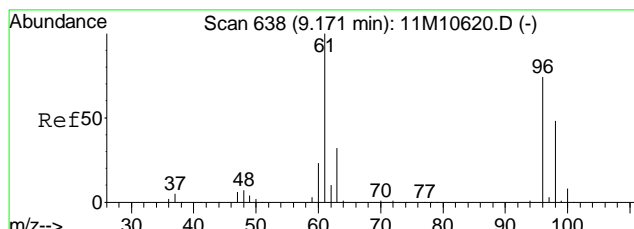
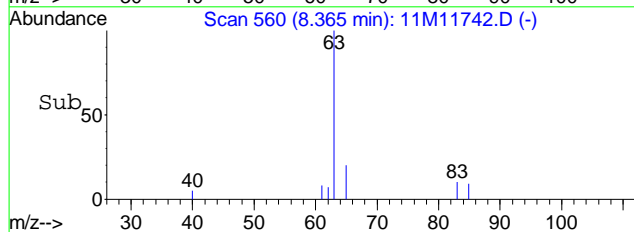
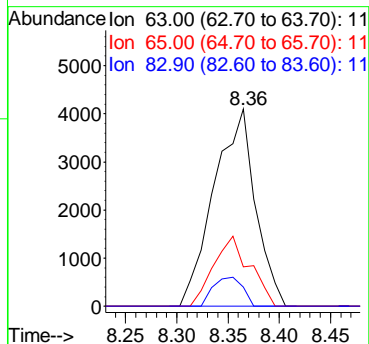
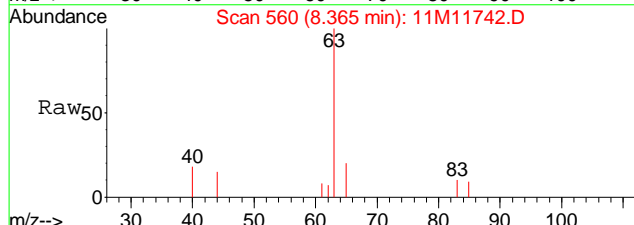
Tgt Ion	Resp	Lower	Upper
96	100		
61	219.9	101.6	237.2





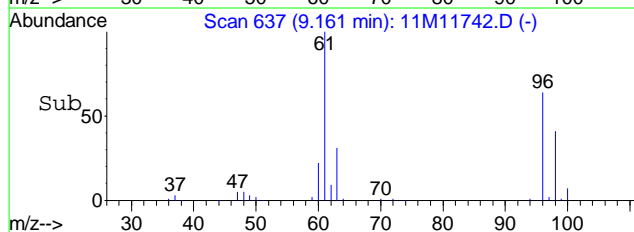
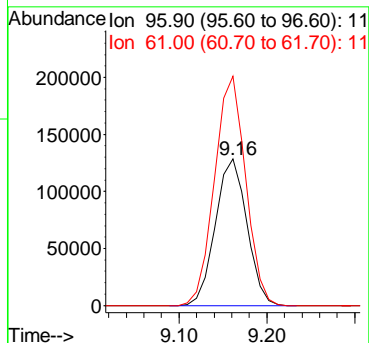
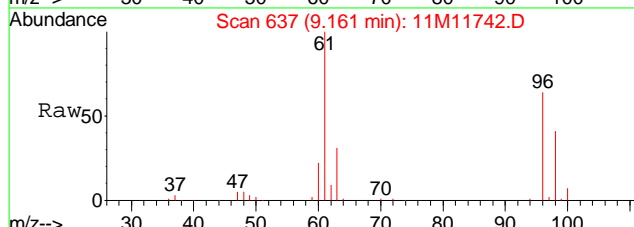
#27
 1,1-Dichloroethane
 Concen: 0.98 ug/L
 RT: 8.36 min Scan# 560
 Delta R.T. 0.01 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

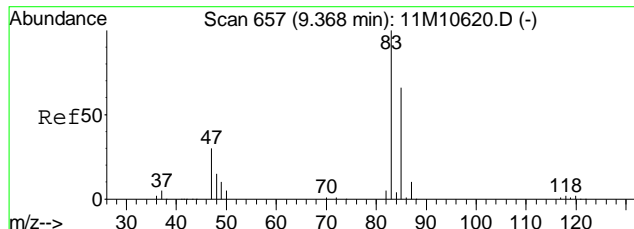
Tgt Ion	Resp	Lower	Upper
63	11540		
65	31.0	18.1	42.3
83	10.5	7.3	16.9



#32
 cis-1,2-Dichloroethene
 Concen: 48.11 ug/L
 RT: 9.16 min Scan# 637
 Delta R.T. -0.00 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

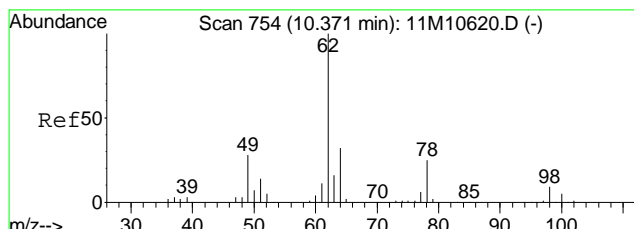
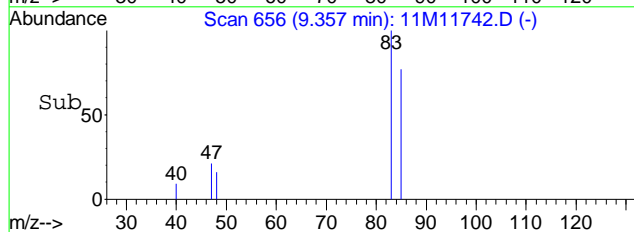
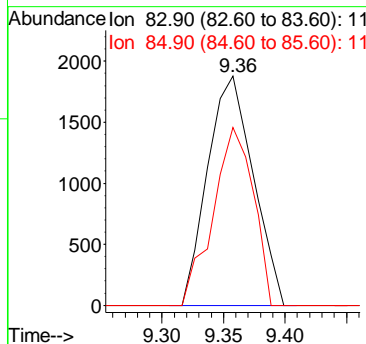
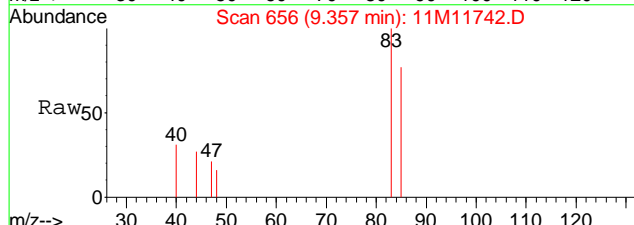
Tgt Ion	Resp	Lower	Upper
96	320331		
61	154.5	101.5	236.7





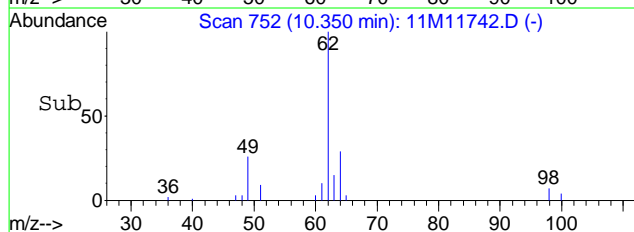
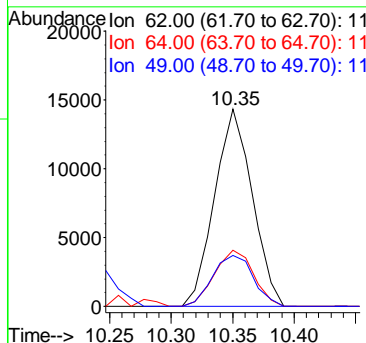
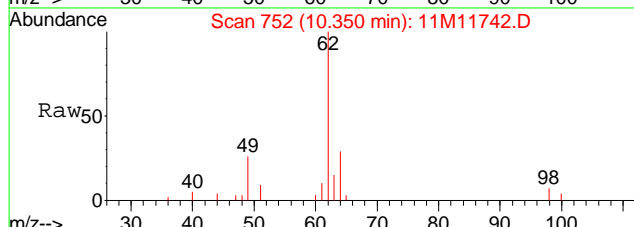
#33
 Chloroform
 Concen: 0.44 ug/L
 RT: 9.36 min Scan# 656
 Delta R.T. -0.00 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

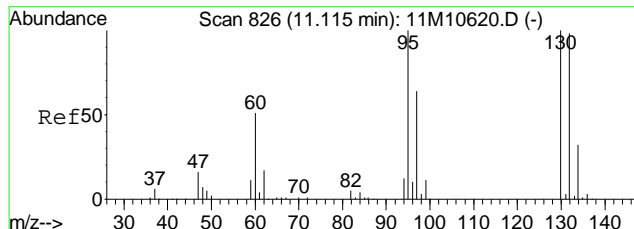
Tgt Ion	Resp	Ion	Ratio	Lower	Upper
83	4845	83	100		
		85	68.3	38.6	90.2



#44
 1,2-Dichloroethane
 Concen: 3.23 ug/L
 RT: 10.35 min Scan# 752
 Delta R.T. -0.00 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

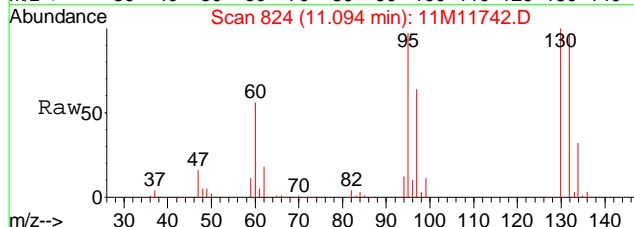
Tgt Ion	Resp	Ion	Ratio	Lower	Upper
62	30578	62	100		
		64	29.6	18.5	43.3
		49	28.1	23.0	53.6



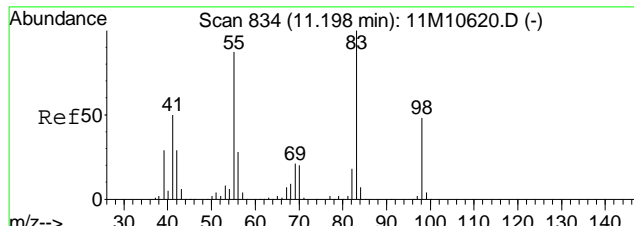
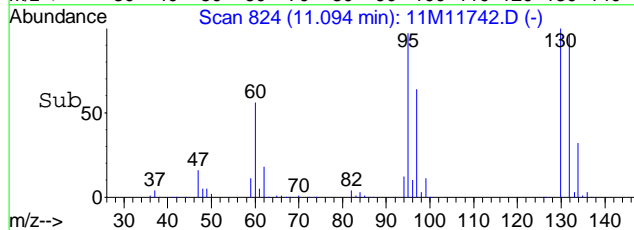
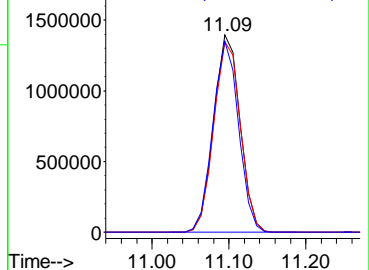


#46
 Trichloroethene
 Concen: 442.39 ug/L
 RT: 11.09 min Scan# 824
 Delta R.T. -0.00 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

Tgt Ion	Resp	Lower	Upper
130	100		
132	97.3	59.3	138.5
95	94.5	55.6	129.6

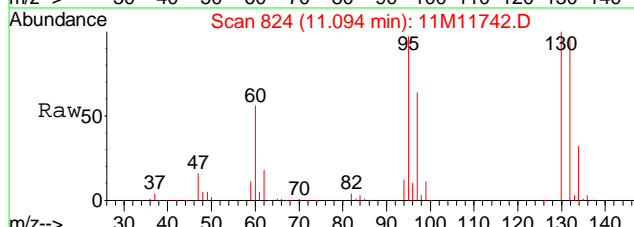


Abundance Ion 129.90 (129.60 to 130.60):
 Ion 131.90 (131.60 to 132.60):
 Ion 94.90 (94.60 to 95.60): 11

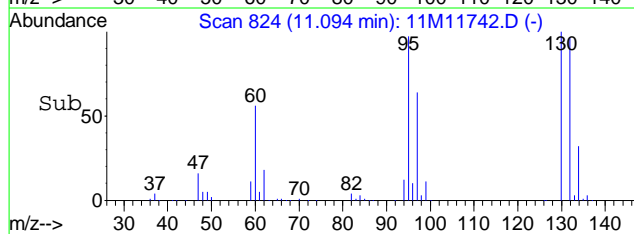
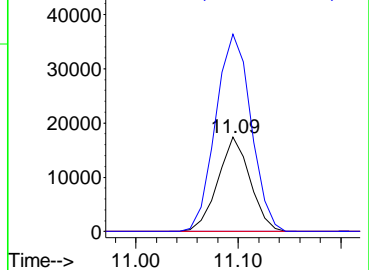


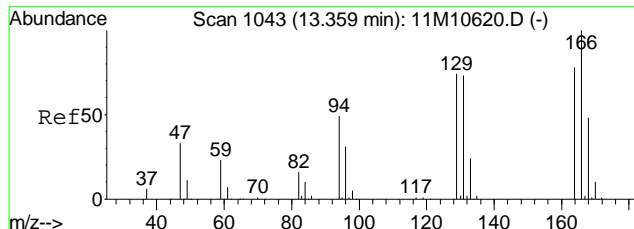
#47
 Methylcyclohexane
 Concen: 4.19 ug/L
 RT: 11.09 min Scan# 824
 Delta R.T. -0.08 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

Tgt Ion	Resp	Lower	Upper
83	100		
55	0.0	65.1	151.9#
98	228.9	29.5	68.9#



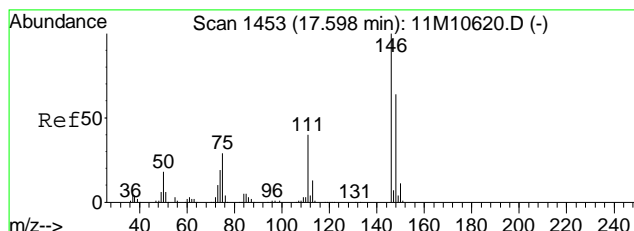
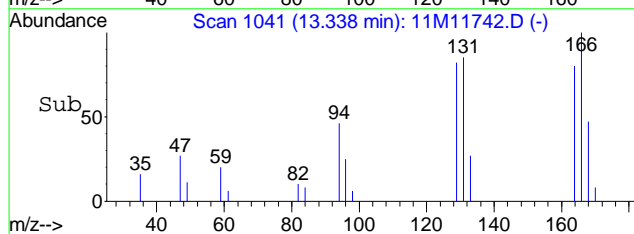
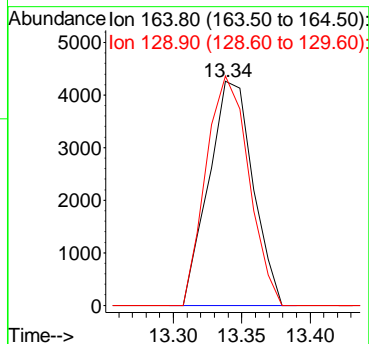
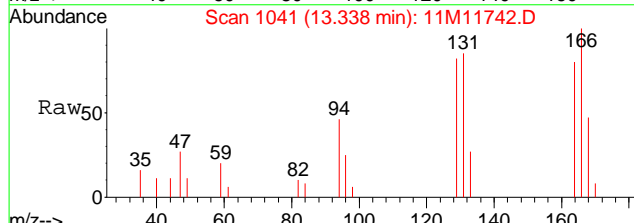
Abundance Ion 83.00 (82.70 to 83.70): 11
 Ion 55.00 (54.70 to 55.70): 11
 Ion 98.00 (97.70 to 98.70): 11





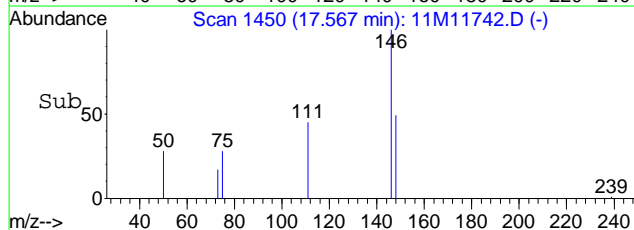
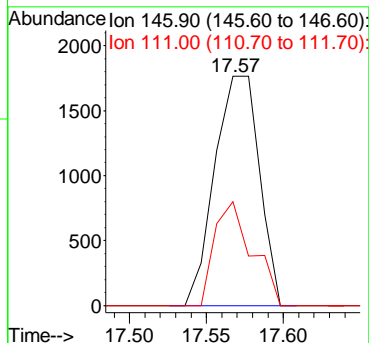
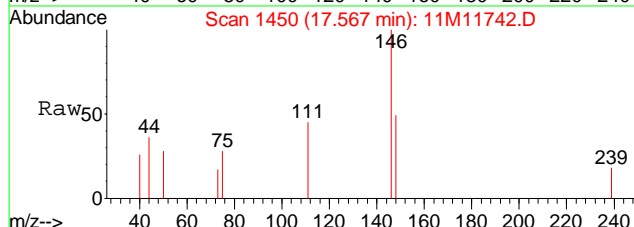
#64
 Tetrachloroethene
 Concen: 1.66 ug/L
 RT: 13.34 min Scan# 1041
 Delta R.T. -0.01 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

Tgt Ion	Ratio	Lower	Upper
164	100		
129	99.2	56.5	131.9



#94
 1,2-Dichlorobenzene
 Concen: 0.22 ug/L
 RT: 17.57 min Scan# 1450
 Delta R.T. -0.00 min
 Lab File: 11M11742.D
 Acq: 11 May 2016 1:06

Tgt Ion	Ratio	Lower	Upper
146	100		
111	38.2	24.1	56.3



Data File : C:\MSDCHEM\1\DATA\051116\11M11778.D Vial: 8
 Acq On : 11 May 2016 19:49 Operator: JDS
 Sample : L16050151-05 B D1 5X 826-LOW Inst : hpms11
 Misc : 1,5 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 09:29:58 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	654471	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	531614	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	301720	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	172892	23.2719	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.08%	
43) 1,2-Dichloroethane-d4	10.24	65	181594	20.1734	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	80.68%	
57) Toluene-d8	12.48	98	603377	24.1439	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	96.56%	
78) p-Bromofluorobenzene	15.64	95	248959	25.2607	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.04%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Chloromethane	3.73	50	1343	0.1540	ug/L #	73
6) Bromomethane	4.86	94	980	0.2216	ug/L	95
9) Diethyl ether	6.02	59	845	0.1440	ug/L #	1
11) Acrolein	6.25	56	569	1.9690	ug/L	89
13) Acetone	6.35	43	1431	0.7313	ug/L #	70
14) 1,1-Dichloroethene	6.56	61	1713	0.1422	ug/L #	44
15) Tert-Butyl Alcohol	6.67	59	4609	8.8638	ug/L #	77
17) Iodomethane	7.06	142	448	0.7116	ug/L #	31
18) Methyl acetate	7.06	43	1236	0.5000	ug/L #	70
20) Carbon Disulfide	7.37	76	3544	0.1681	ug/L #	74
21) Acrylonitrile	7.50	53	653	0.2597	ug/L #	46
27) 1,1-Dichloroethane	8.36	63	2168	0.1598	ug/L #	51
29) 2-Butanone	8.89	43	804	0.2747	ug/L #	60
30) Propionitrile	8.99	54	1948	2.2783	ug/L #	60
32) cis-1,2-Dichloroethene	9.16	96	62262	8.1354	ug/L	88
36) Tetrahydrofuran	9.61	42	4130	2.0561	ug/L #	82
42) Tert-Amyl-Methyl ether	10.13	73	3507	0.2013	ug/L #	64
44) 1,2-Dichloroethane	10.35	62	6589	0.6059	ug/L	89
46) Trichloroethene	11.09	130	660984	76.5594	ug/L	99
47) Methylcyclohexane	11.09	83	7048	0.6731	ug/L #	1
49) 1,4-Dioxane	11.58	88	640	14.0318	ug/L #	10
59) Ethyl Methacrylate	12.64	69	436	0.4923	ug/L	93
62) 2-Hexanone	12.87	43	1334	0.3140	ug/L #	57
64) Tetrachloroethene	13.34	164	2097	0.3376	ug/L	84
77) 1,1,2,2-Tetrachloroethane	15.52	83	680	0.4117	ug/L	97
79) 1,2,3-Trichloropropane	15.70	110	226	0.1229	ug/L #	1
96) 1,2,4-Trichlorobenzene	19.55	180	1569	0.1281	ug/L #	75
98) Naphthalene	19.90	128	6112	0.2608	ug/L	97
99) 1,2,3-Trichlorobenzene	20.19	180	1758	0.1533	ug/L #	62

(#) = qualifier out of range (m) = manual integration
 11M11778.D 8260_WT.M Thu May 12 09:29:59 2016

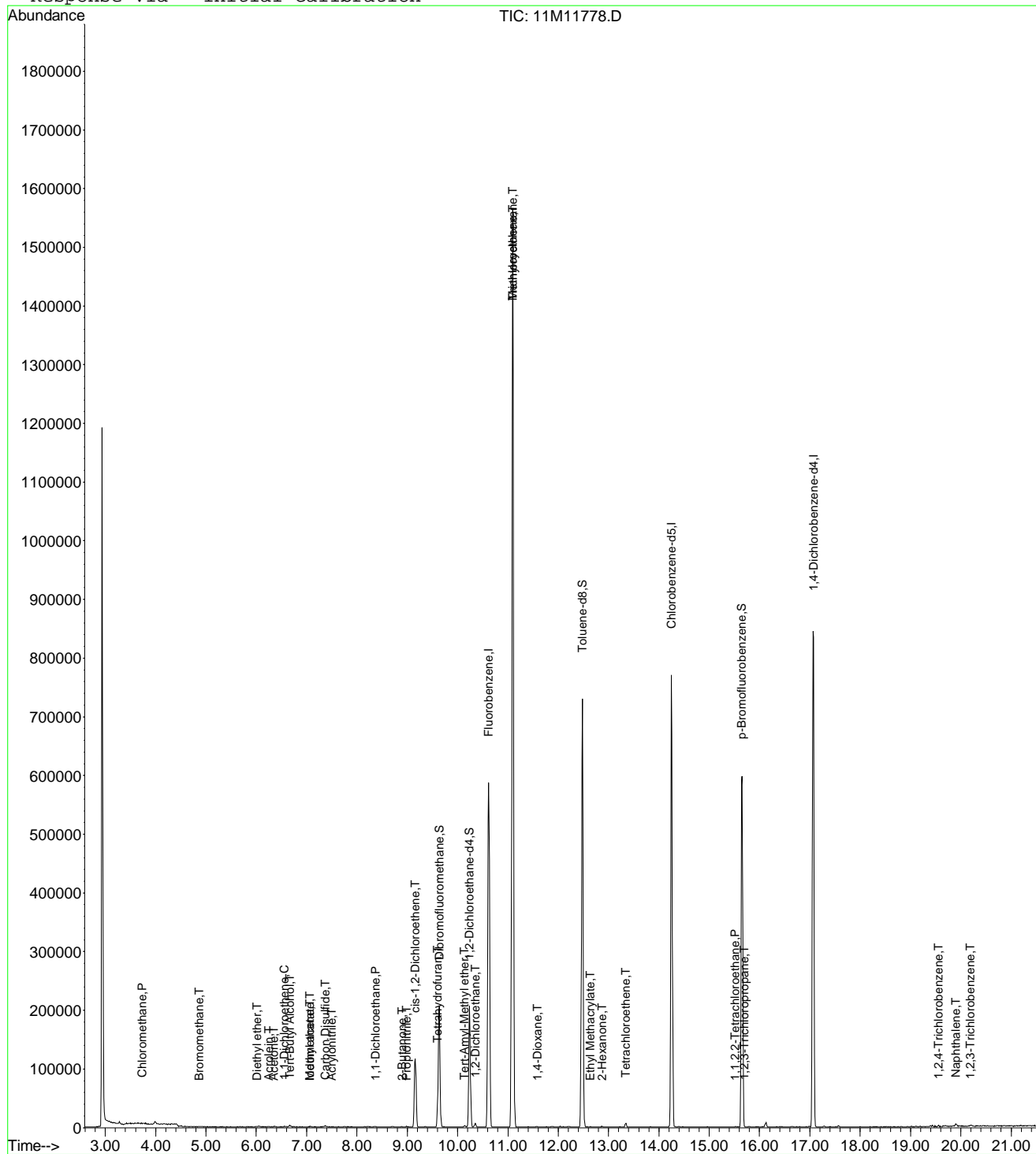
Page 1

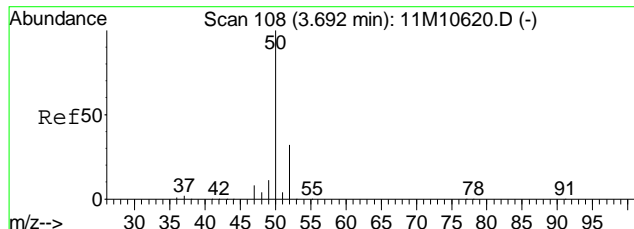
Data File : C:\MSDCHEM\1\DATA\051116\11M11778.D
 Acq On : 11 May 2016 19:49
 Sample : L16050151-05 B D1 5X 826-LOW
 Misc : 1,5
 MS Integration Params: rteint.p
 Quant Time: May 12 9:29 2016

Vial: 8
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260_WT.RES

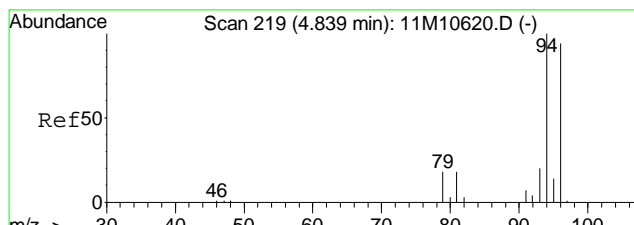
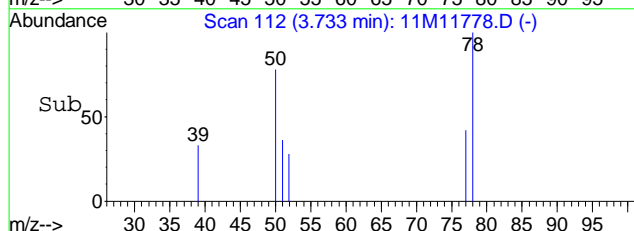
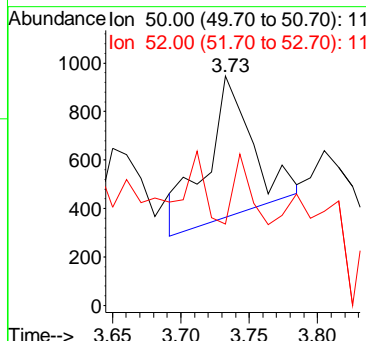
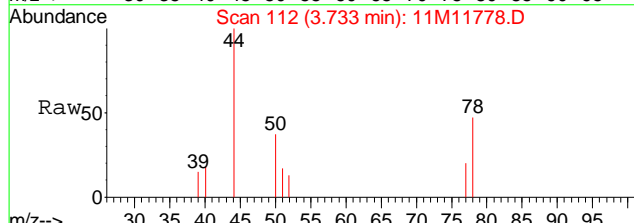
Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration





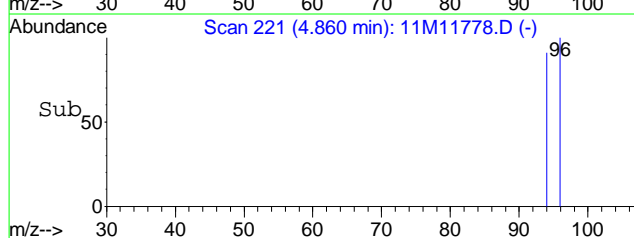
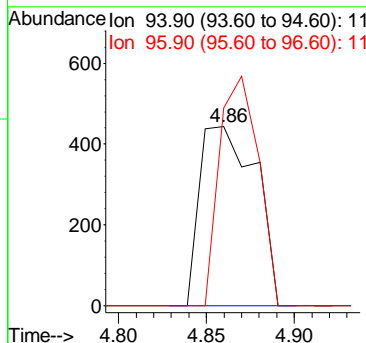
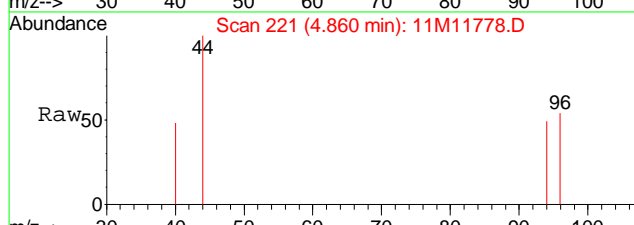
#3
 Chloromethane
 Concen: 0.15 ug/L
 RT: 3.73 min Scan# 112
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

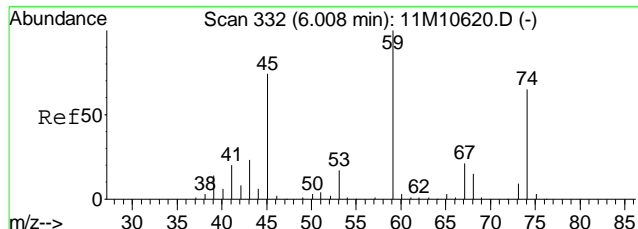
Tgt Ion	Resp	Lower	Upper
50	1343		
52	17.8	19.9	46.5#



#6
 Bromomethane
 Concen: 0.22 ug/L
 RT: 4.86 min Scan# 221
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

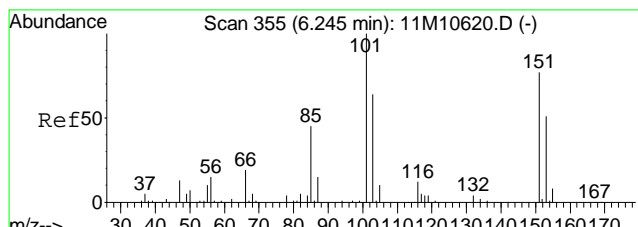
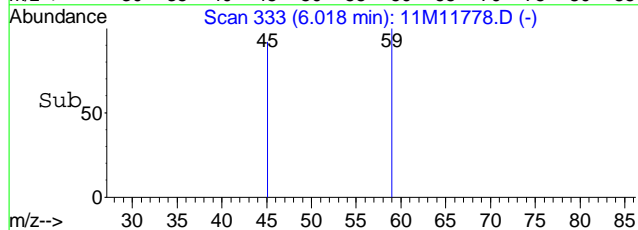
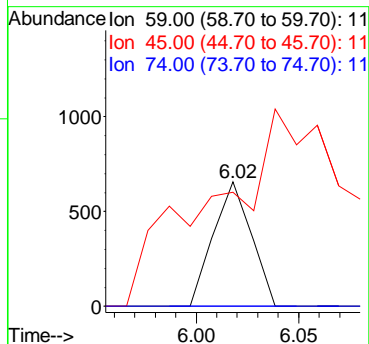
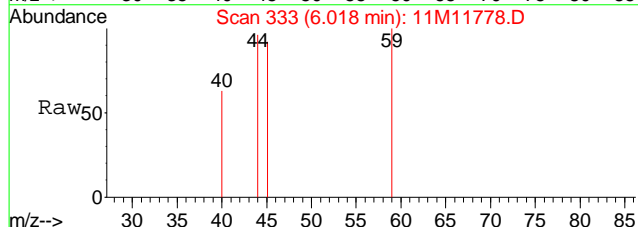
Tgt Ion	Resp	Lower	Upper
94	980		
96	89.5	56.9	132.7





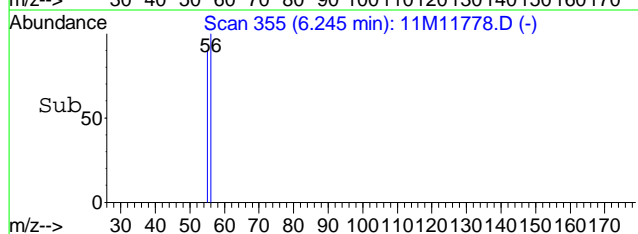
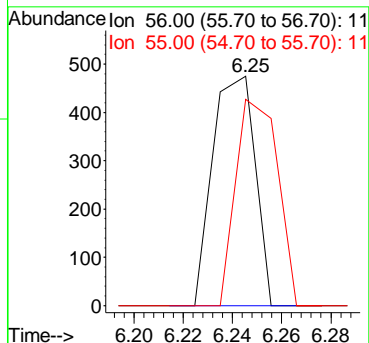
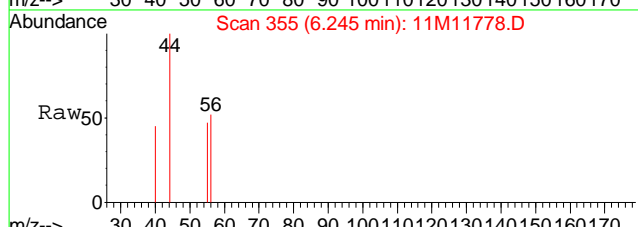
#9
 Diethyl ether
 Concen: 0.14 ug/L
 RT: 6.02 min Scan# 333
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

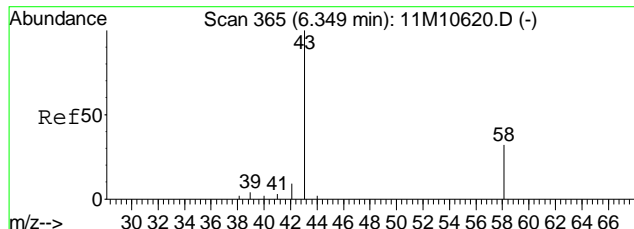
Tgt Ion	Resp	Lower	Upper
59	100		
45	582.6	53.0	123.6#
74	0.0	33.5	78.1#



#11
 Acrolein
 Concen: 1.97 ug/L
 RT: 6.25 min Scan# 355
 Delta R.T. 0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

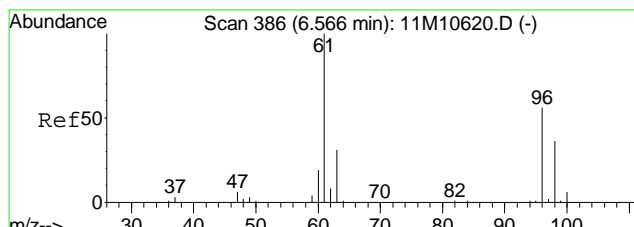
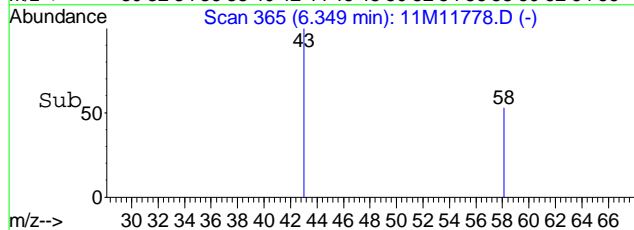
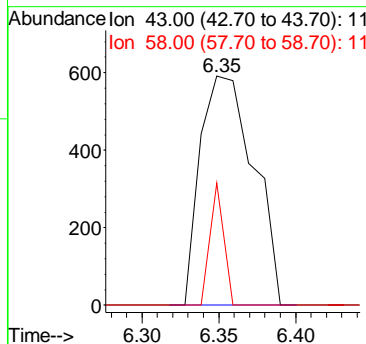
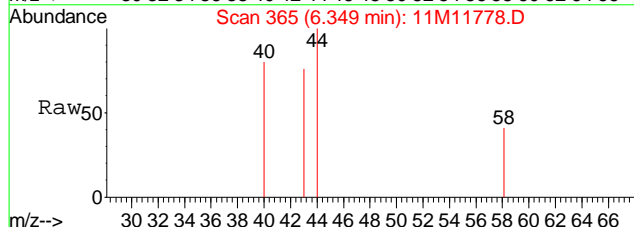
Tgt Ion	Resp	Lower	Upper
56	100		
55	88.8	47.5	110.9





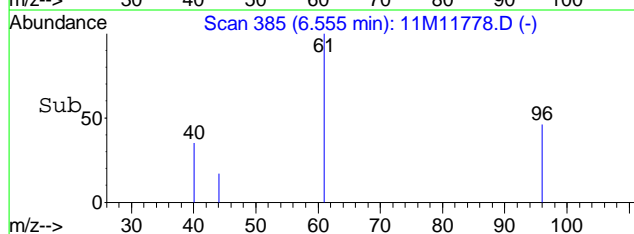
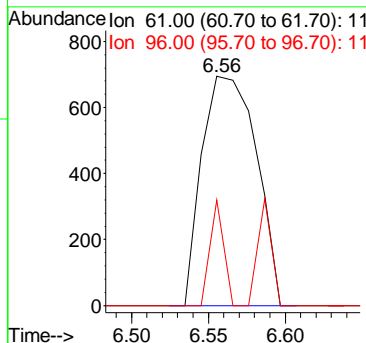
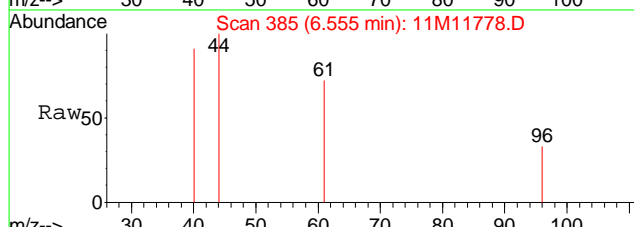
#13
 Acetone
 Concen: 0.73 ug/L
 RT: 6.35 min Scan# 365
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

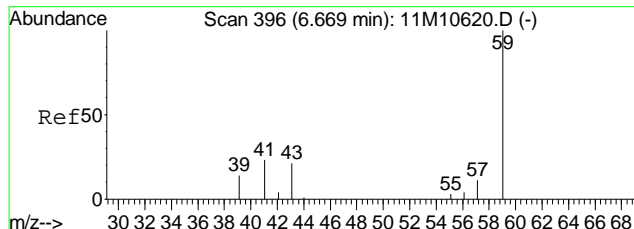
Tgt Ion	Ratio	Lower	Upper
43	100		
58	13.6	17.8	41.6#



#14
 1,1-Dichloroethene
 Concen: 0.14 ug/L
 RT: 6.56 min Scan# 385
 Delta R.T. -0.01 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

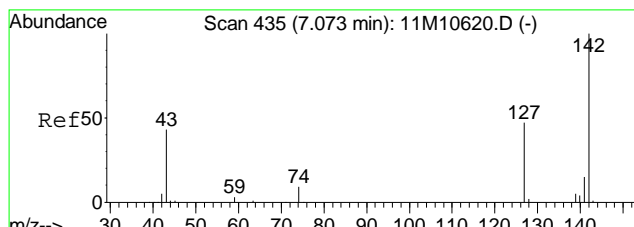
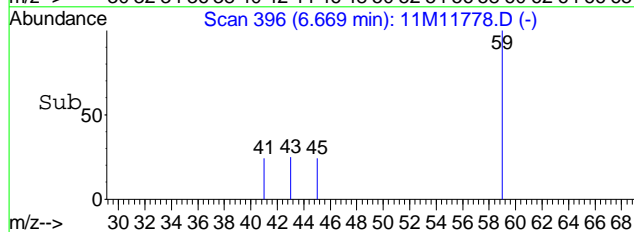
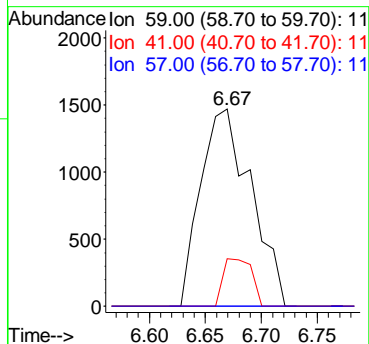
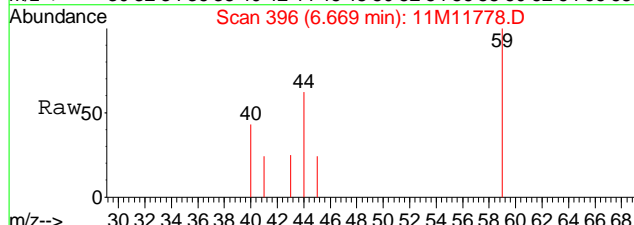
Tgt Ion	Ratio	Lower	Upper
61	100		
96	11.6	30.5	71.1#





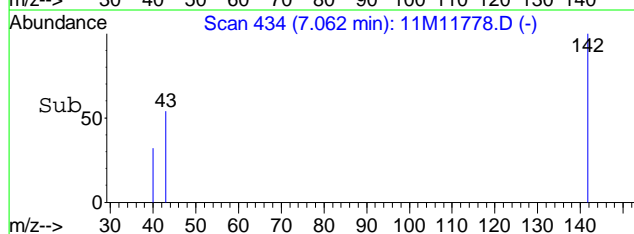
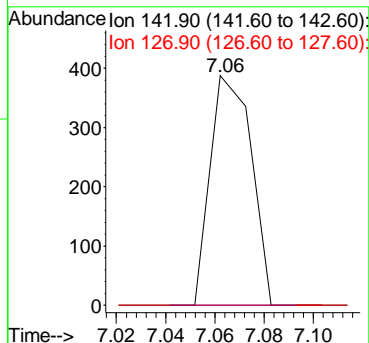
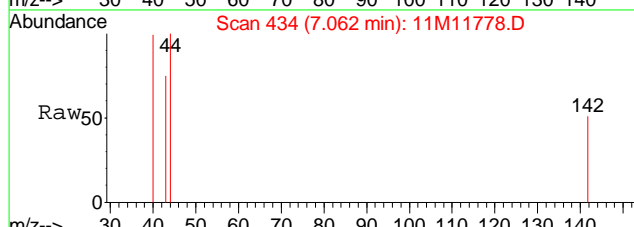
#15
 Tert-Butyl Alcohol
 Concen: 8.86 ug/L
 RT: 6.67 min Scan# 396
 Delta R.T. -0.01 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

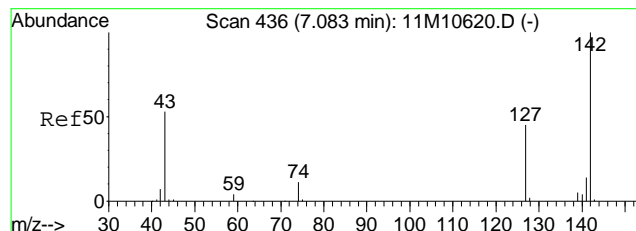
Tgt Ion	Ratio	Lower	Upper
59	100		
41	13.6	14.3	33.3#
57	0.0	6.5	15.1#



#17
 Iodomethane
 Concen: 0.71 ug/L
 RT: 7.06 min Scan# 434
 Delta R.T. -0.01 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

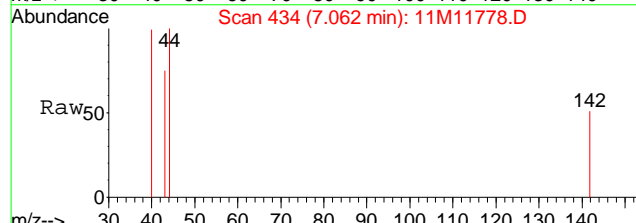
Tgt Ion	Ratio	Lower	Upper
142	100		
127	0.0	26.9	62.7#



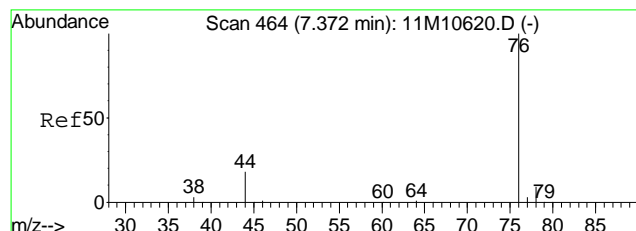
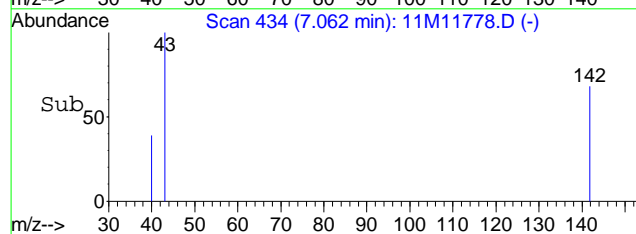
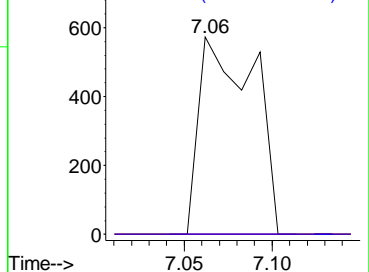


#18
Methyl acetate
Concen: 0.50 ug/L
RT: 7.06 min Scan# 434
Delta R.T. -0.01 min
Lab File: 11M11778.D
Acq: 11 May 2016 19:49

Tgt Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.6	20.2#
59	0.0	4.4	10.2#

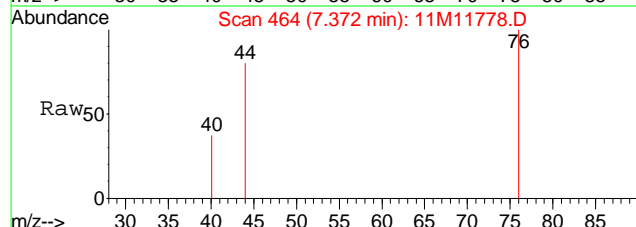


Abundance Ion 43.00 (42.70 to 43.70): 11
Ion 74.00 (73.70 to 74.70): 11
Ion 59.00 (58.70 to 59.70): 11

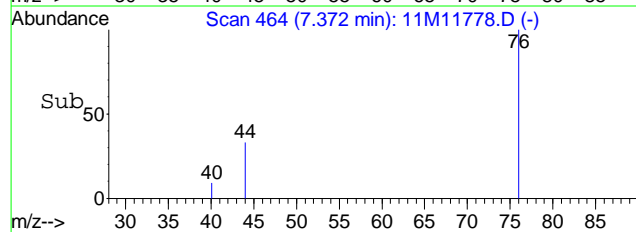
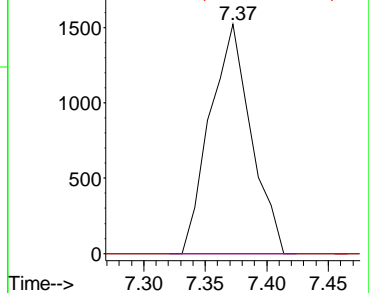


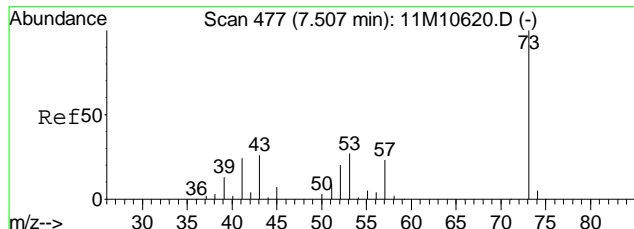
#20
Carbon Disulfide
Concen: 0.17 ug/L
RT: 7.37 min Scan# 464
Delta R.T. -0.00 min
Lab File: 11M11778.D
Acq: 11 May 2016 19:49

Tgt Ion	Ratio	Lower	Upper
76	100		
78	0.0	5.6	13.0#



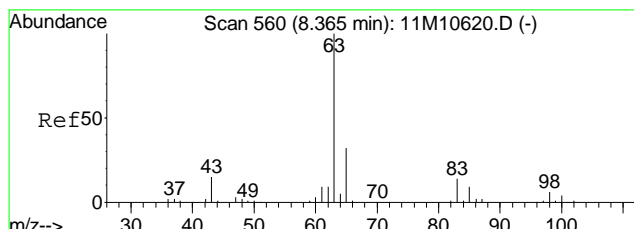
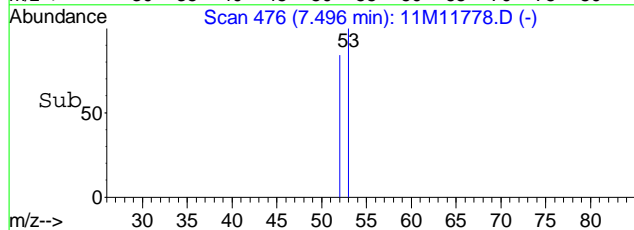
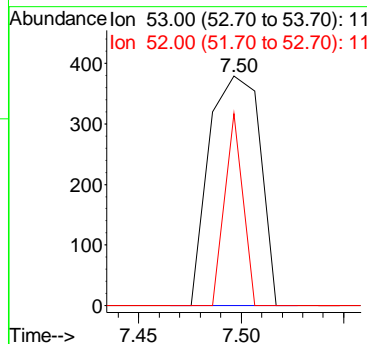
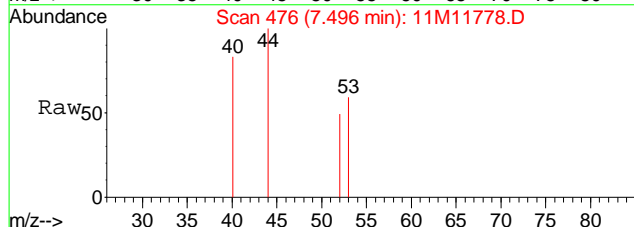
Abundance Ion 75.90 (75.60 to 76.60): 11
Ion 77.90 (77.60 to 78.60): 11





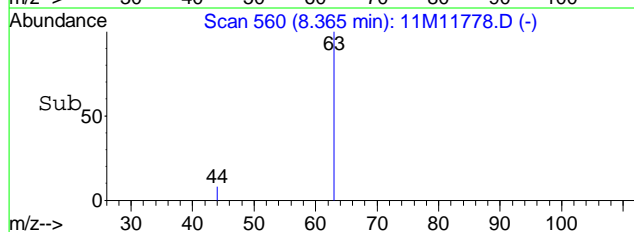
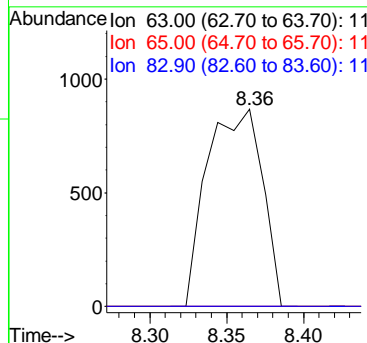
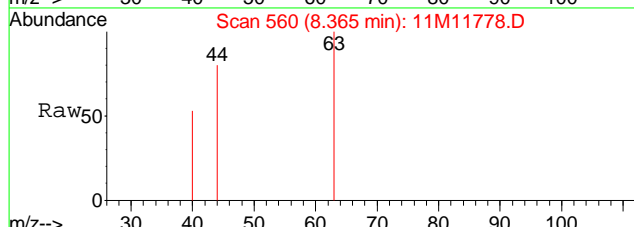
#21
 Acrylonitrile
 Concen: 0.26 ug/L
 RT: 7.50 min Scan# 476
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

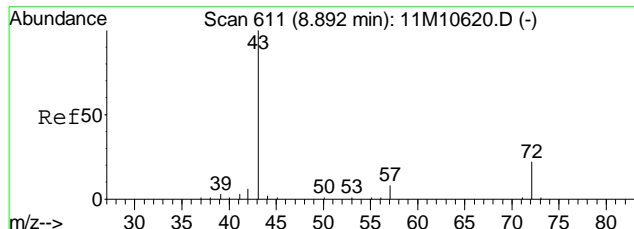
Tgt Ion	Resp	Lower	Upper
53	100		
52	30.2	45.8	107.0#



#27
 1,1-Dichloroethane
 Concen: 0.16 ug/L
 RT: 8.36 min Scan# 560
 Delta R.T. 0.01 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

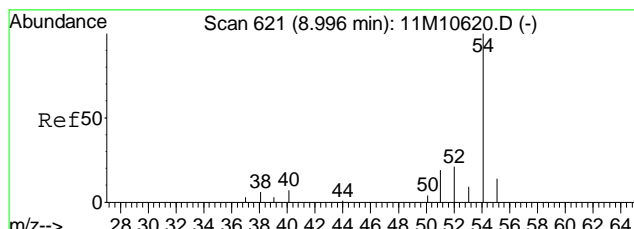
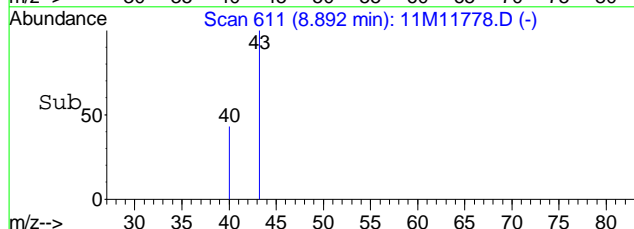
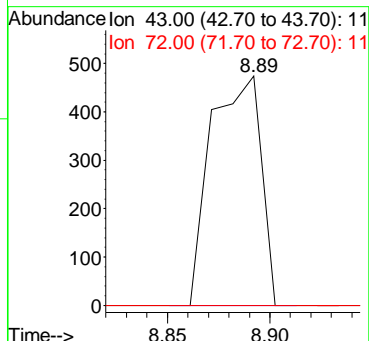
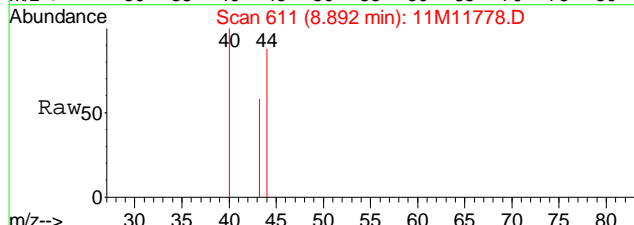
Tgt Ion	Resp	Lower	Upper
63	100		
65	0.0	18.1	42.3#
83	0.0	7.3	16.9#





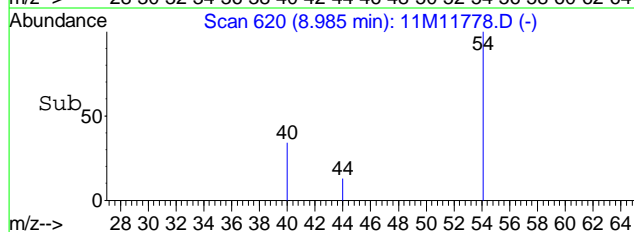
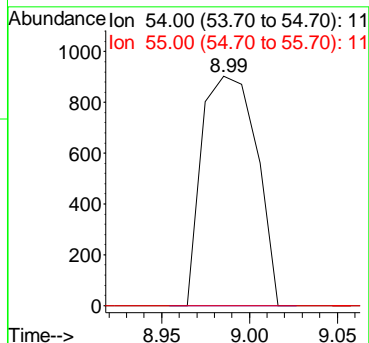
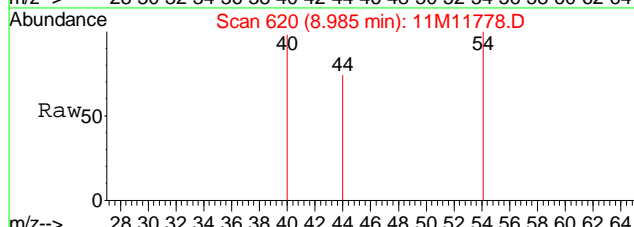
#29
 2-Butanone
 Concen: 0.27 ug/L
 RT: 8.89 min Scan# 611
 Delta R.T. 0.01 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

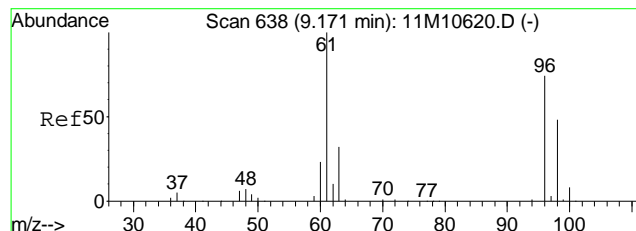
Tgt Ion	Ratio	Lower	Upper
43	100		
72	0.0	10.3	24.1#



#30
 Propionitrile
 Concen: 2.28 ug/L
 RT: 8.99 min Scan# 620
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

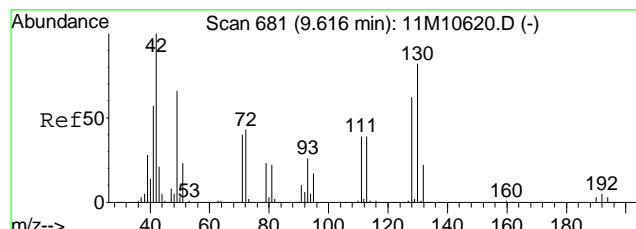
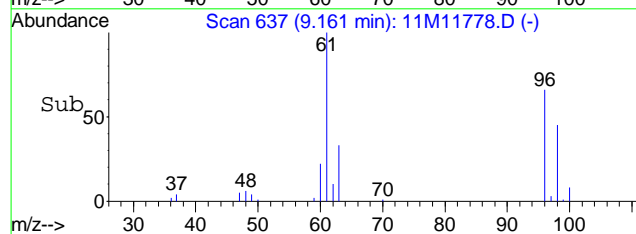
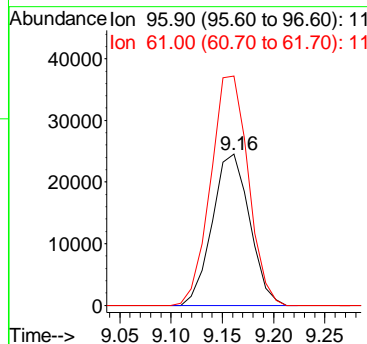
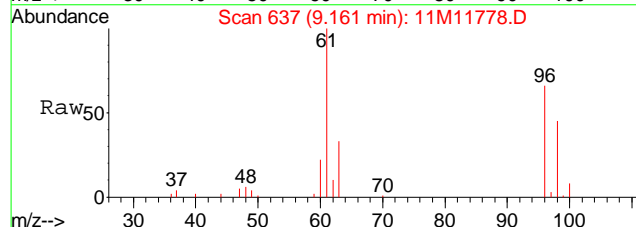
Tgt Ion	Ratio	Lower	Upper
54	100		
55	0.0	10.5	24.5#





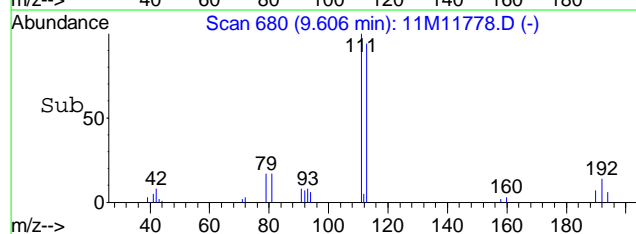
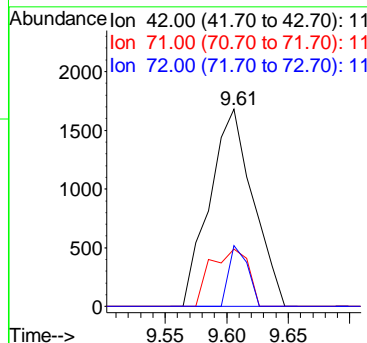
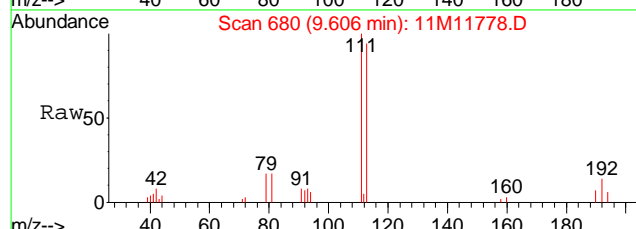
#32
 cis-1,2-Dichloroethene
 Concen: 8.14 ug/L
 RT: 9.16 min Scan# 637
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

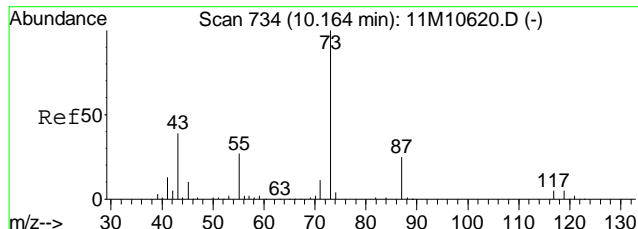
Tgt Ion	Resp	Lower	Upper
96	62262		
61	152.4	101.5	236.7



#36
 Tetrahydrofuran
 Concen: 2.06 ug/L
 RT: 9.61 min Scan# 680
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

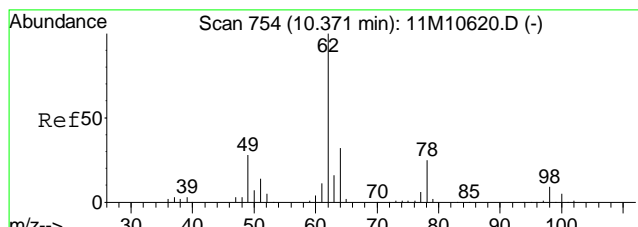
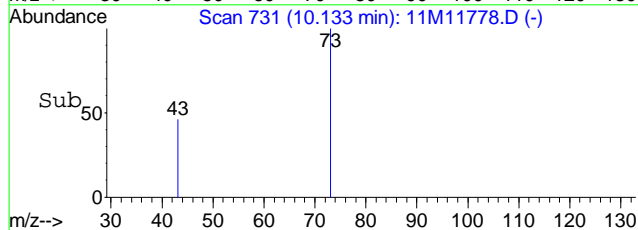
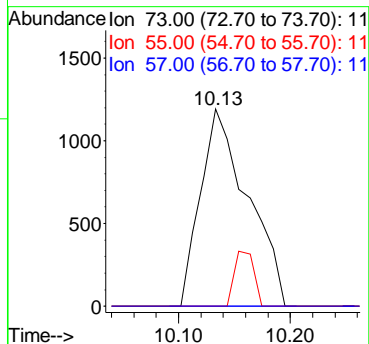
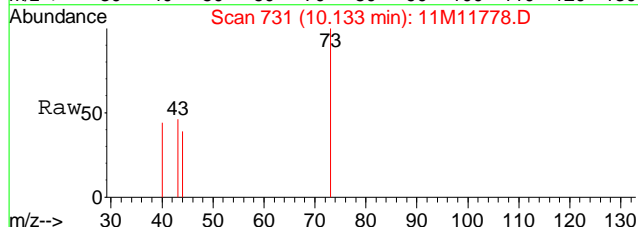
Tgt Ion	Resp	Lower	Upper
42	4130		
71	25.1	17.0	39.6
72	13.5	17.3	40.5#





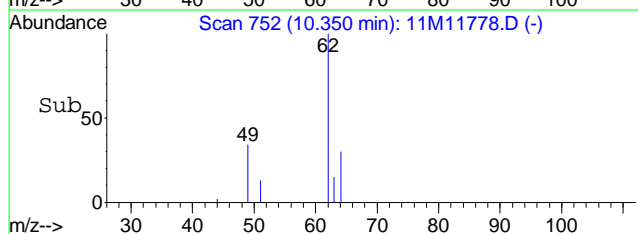
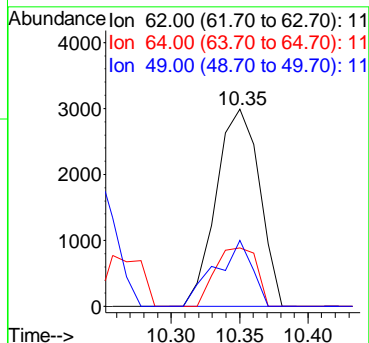
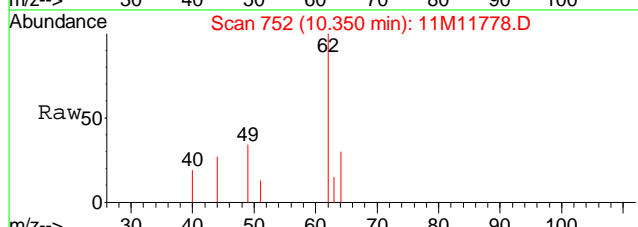
#42
 Tert-Amyl-Methyl ether
 Concen: 0.20 ug/L
 RT: 10.13 min Scan# 731
 Delta R.T. -0.01 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

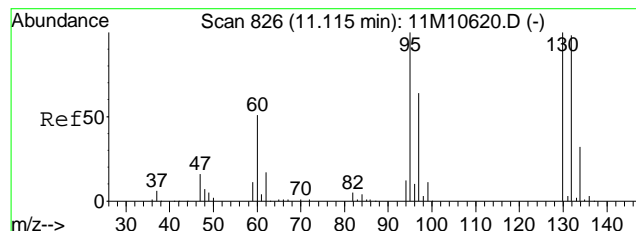
Tgt Ion	Ratio	Lower	Upper
73	100		
55	11.4	19.8	46.2#
57	0.0	1.4	3.4#



#44
 1,2-Dichloroethane
 Concen: 0.61 ug/L
 RT: 10.35 min Scan# 752
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

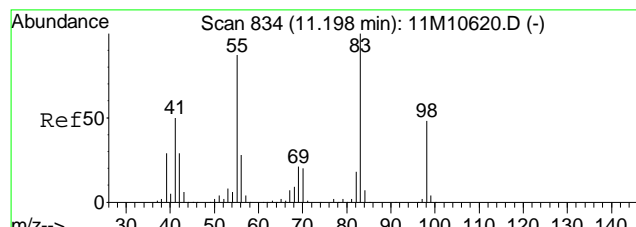
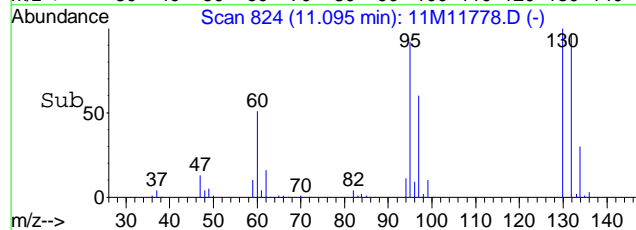
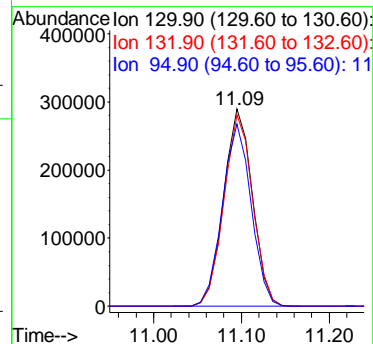
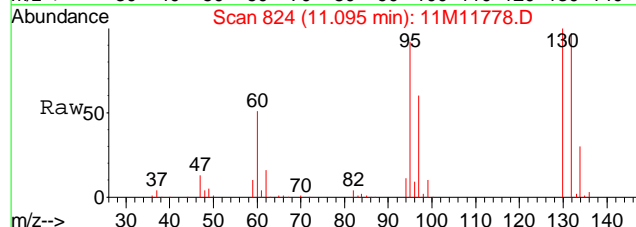
Tgt Ion	Ratio	Lower	Upper
62	100		
64	28.4	18.5	43.3
49	28.5	23.0	53.6





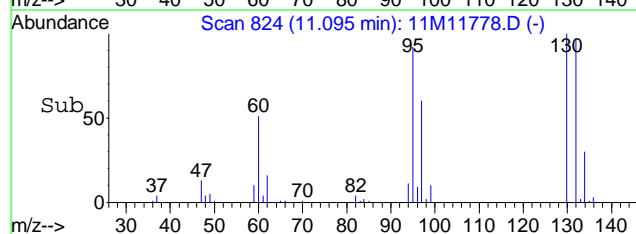
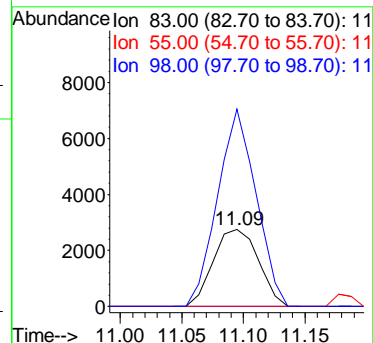
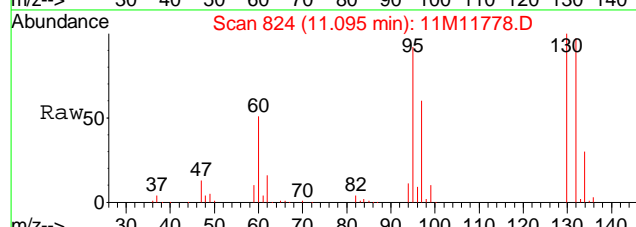
#46
 Trichloroethene
 Concen: 76.56 ug/L
 RT: 11.09 min Scan# 824
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

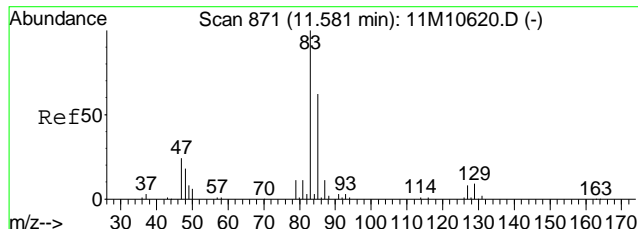
Tgt Ion	Resp	Lower	Upper
130	100		
132	97.1	59.3	138.5
95	92.3	55.6	129.6



#47
 Methylcyclohexane
 Concen: 0.67 ug/L
 RT: 11.09 min Scan# 824
 Delta R.T. -0.08 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

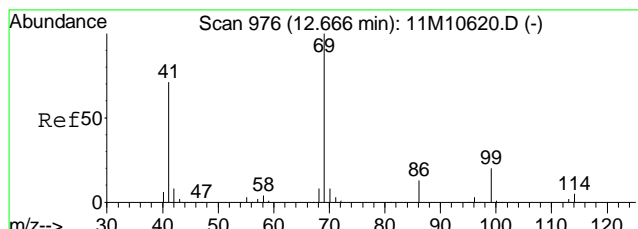
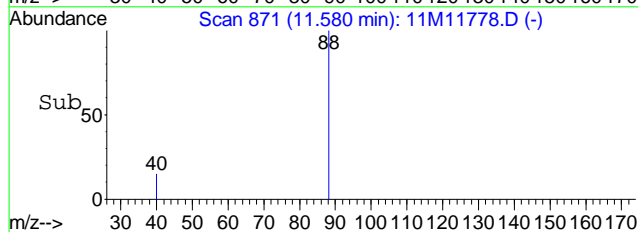
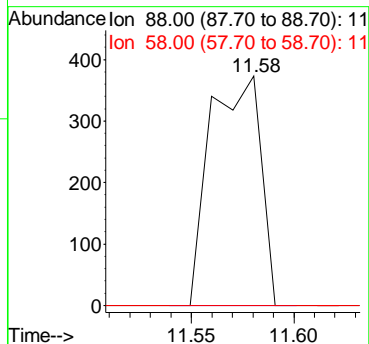
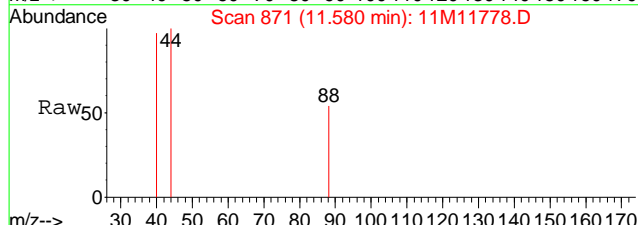
Tgt Ion	Resp	Lower	Upper
83	100		
55	7.0	65.1	151.9#
98	218.3	29.5	68.9#





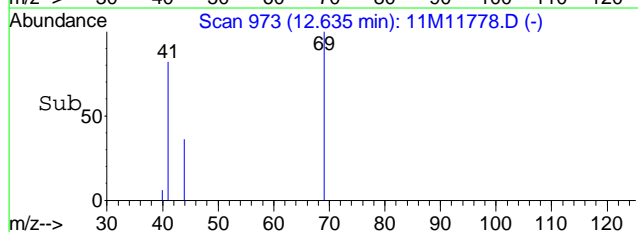
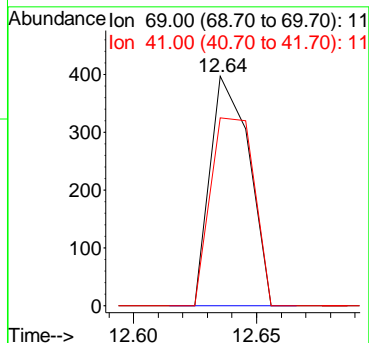
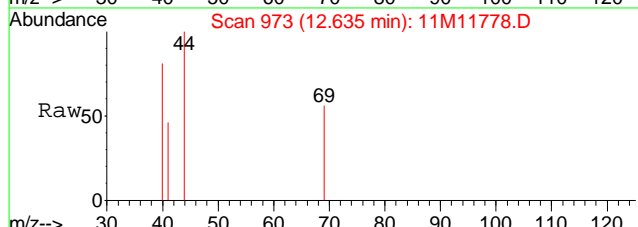
#49
 1,4-Dioxane
 Concen: 14.03 ug/L
 RT: 11.58 min Scan# 871
 Delta R.T. 0.01 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

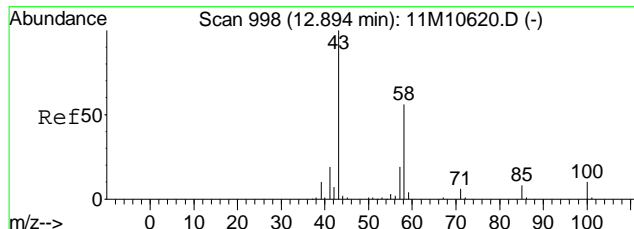
Tgt Ion	Ratio	Lower	Upper
88	100		
58	0.0	47.5	110.7#



#59
 Ethyl Methacrylate
 Concen: 0.49 ug/L
 RT: 12.64 min Scan# 973
 Delta R.T. -0.01 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

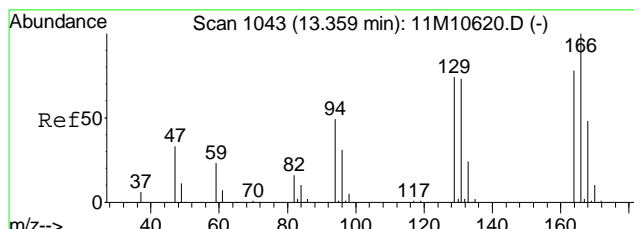
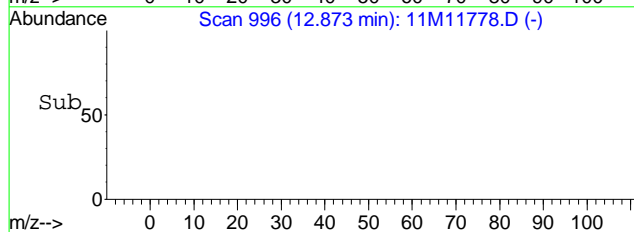
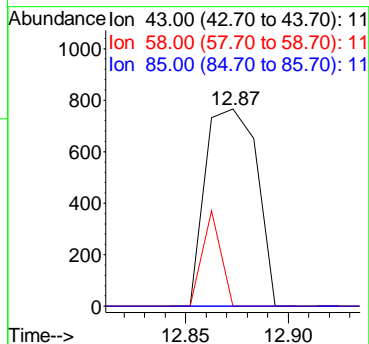
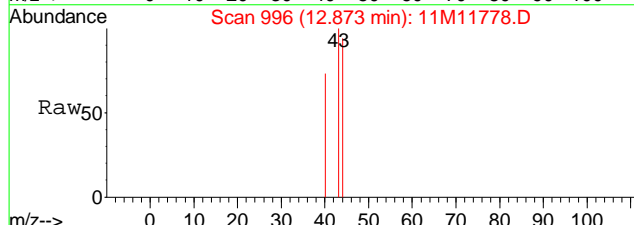
Tgt Ion	Ratio	Lower	Upper
69	100		
41	91.7	59.2	138.2





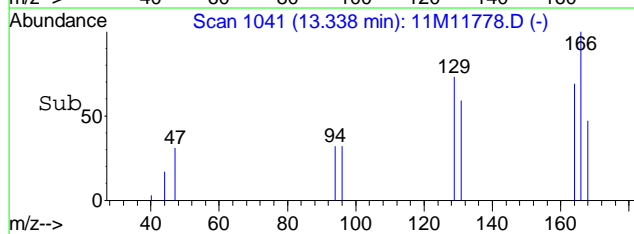
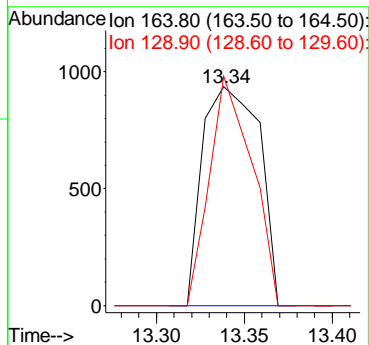
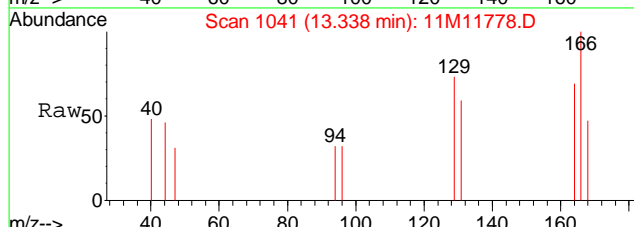
#62
 2-Hexanone
 Concen: 0.31 ug/L
 RT: 12.87 min Scan# 996
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

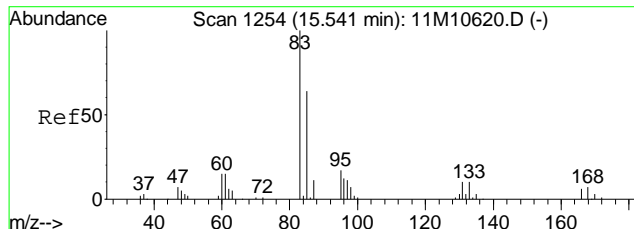
Tgt Ion	Ratio	Lower	Upper
43	100		
58	17.2	29.3	68.5#
85	0.0	3.7	8.7#



#64
 Tetrachloroethene
 Concen: 0.34 ug/L
 RT: 13.34 min Scan# 1041
 Delta R.T. -0.01 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

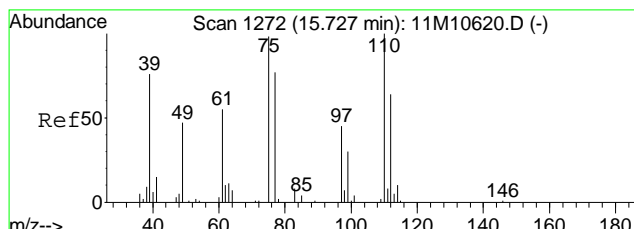
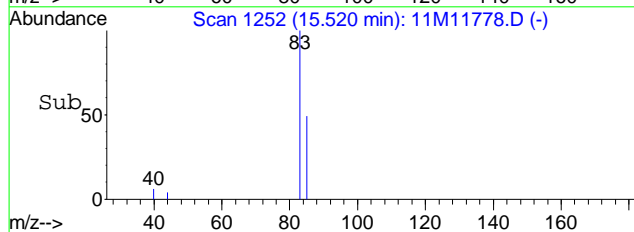
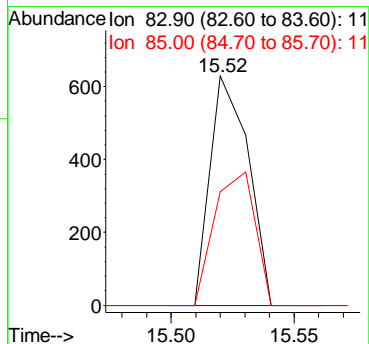
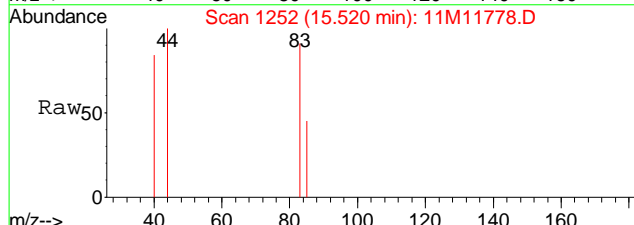
Tgt Ion	Ratio	Lower	Upper
164	100		
129	78.5	56.5	131.9





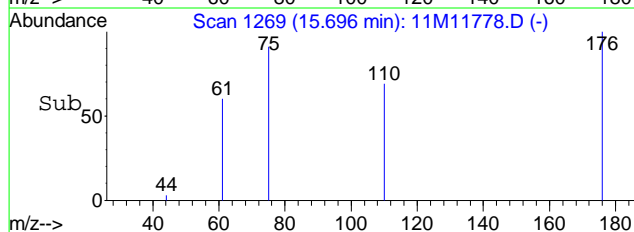
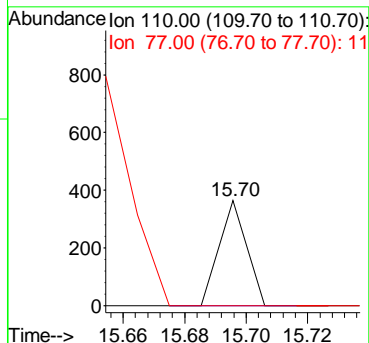
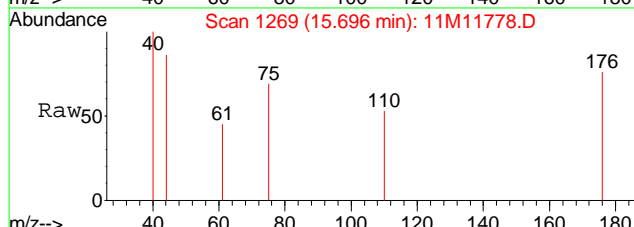
#77
 1,1,2,2-Tetrachloroethane
 Concen: 0.41 ug/L
 RT: 15.52 min Scan# 1252
 Delta R.T. 0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

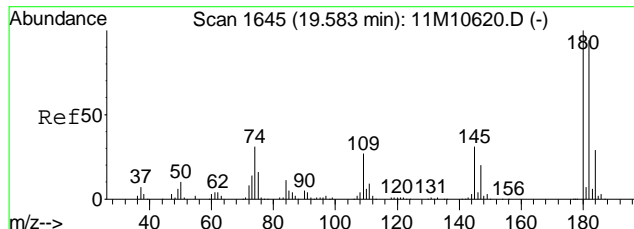
Tgt Ion	83	Resp	680
Ion	Ratio	Lower	Upper
83	100		
85	61.8	38.7	90.3



#79
 1,2,3-Trichloropropane
 Concen: 0.12 ug/L
 RT: 15.70 min Scan# 1269
 Delta R.T. -0.01 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

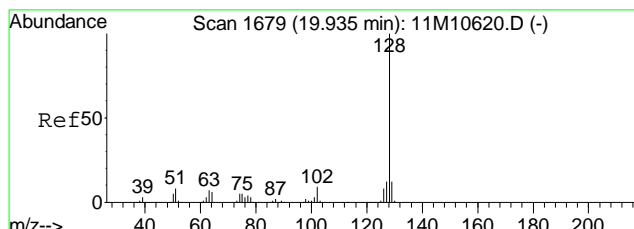
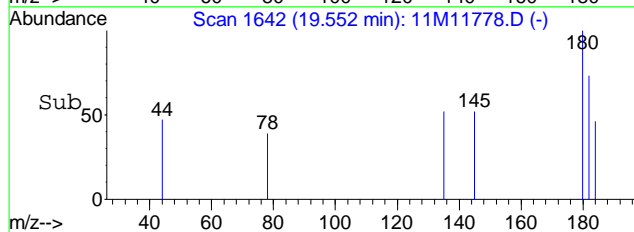
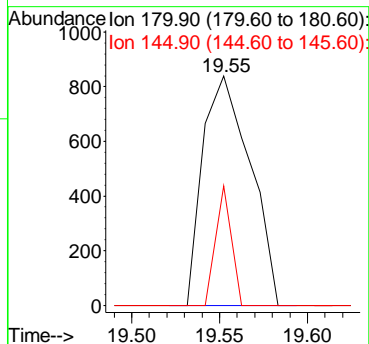
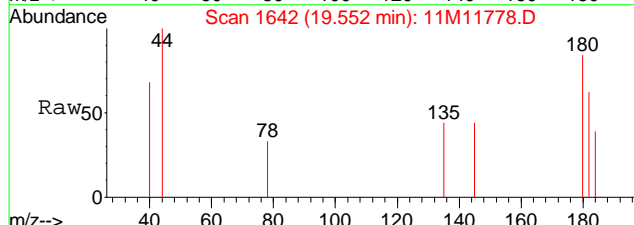
Tgt Ion	110	Resp	226
Ion	Ratio	Lower	Upper
110	100		
77	559.3	70.8	165.2#





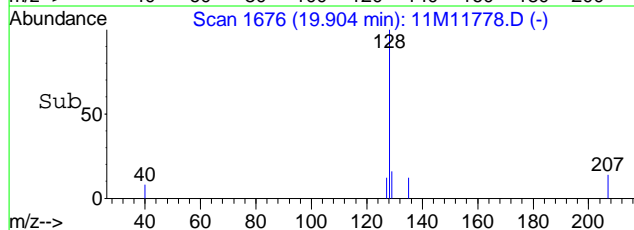
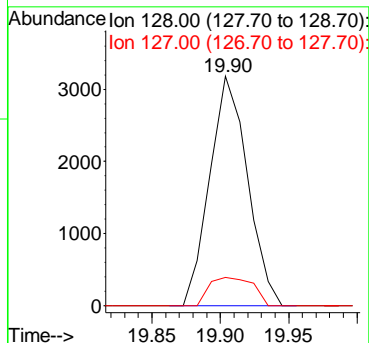
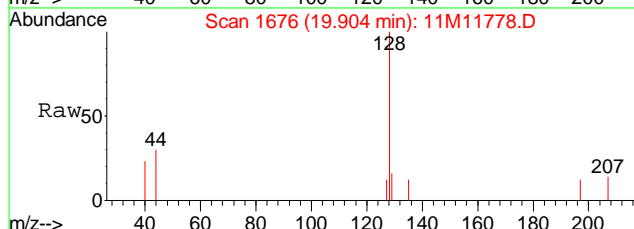
#96
 1,2,4-Trichlorobenzene
 Concen: 0.13 ug/L
 RT: 19.55 min Scan# 1642
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

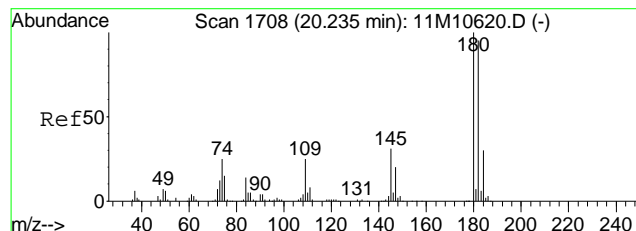
Tgt Ion:180 Resp: 1569
 Ion Ratio Lower Upper
 180 100
 145 17.3 18.8 43.8#



#98
 Naphthalene
 Concen: 0.26 ug/L
 RT: 19.90 min Scan# 1676
 Delta R.T. -0.00 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

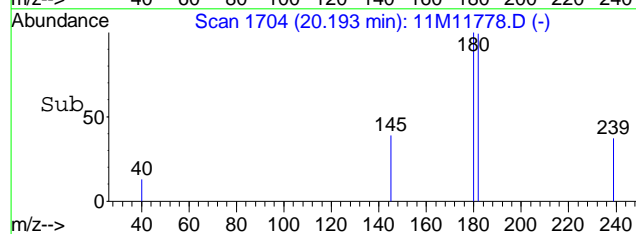
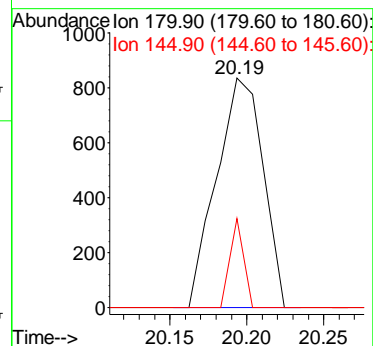
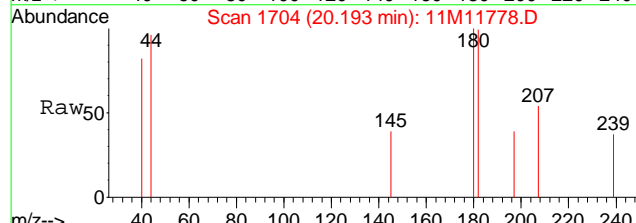
Tgt Ion:128 Resp: 6112
 Ion Ratio Lower Upper
 128 100
 127 14.1 11.7 14.3





#99
 1,2,3-Trichlorobenzene
 Concen: 0.15 ug/L
 RT: 20.19 min Scan# 1704
 Delta R.T. -0.01 min
 Lab File: 11M11778.D
 Acq: 11 May 2016 19:49

Tgt Ion	Ratio	Lower	Upper
180	100		
145	11.4	19.9	46.3#



Data File : C:\MSDCHEM\1\DATA\051016\11M11741.D Vial: 20
 Acq On : 11 May 2016 00:34 Operator: JDS
 Sample : L16050151-07 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 09:32:43 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	550615	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	485383	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	289818	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.64	111	165622	26.4982	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	106.00%	
43) 1,2-Dichloroethane-d4	10.24	65	183788	24.2682	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	97.08%	
57) Toluene-d8	12.48	98	566784	24.8398	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	99.36%	
78) p-Bromofluorobenzene	15.64	95	237965	25.1367	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	100.56%	
Target Compounds						
						Qvalue
3) Chloromethane	3.74	50	2967	0.4044	ug/L #	9
13) Acetone	6.36	43	1583	0.9615	ug/L #	69

(#) = qualifier out of range (m) = manual integration
 11M11741.D 8260_WT.M Thu May 12 09:32:44 2016

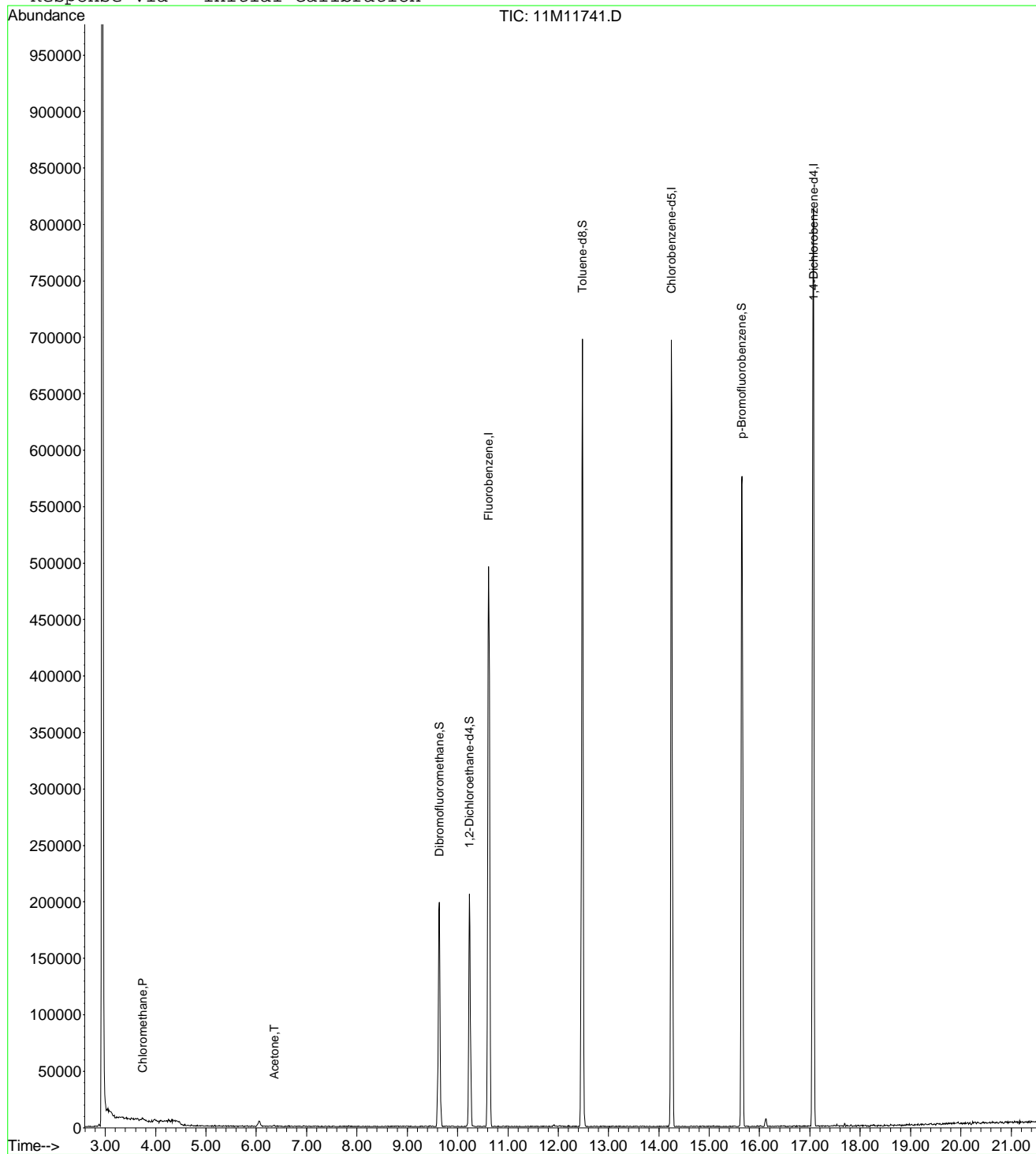
Page 1

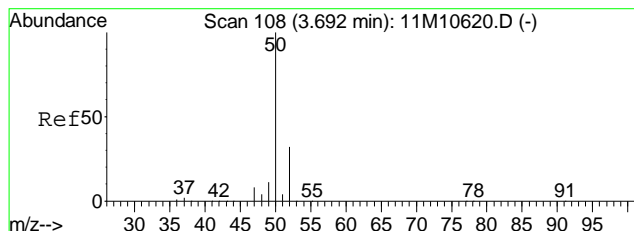
Data File : C:\MSDCHEM\1\DATA\051016\11M11741.D
 Acq On : 11 May 2016 00:34
 Sample : L16050151-07 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 12 9:32 2016

Vial: 20
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260_WT.RES

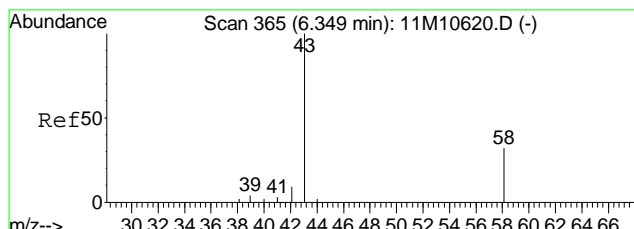
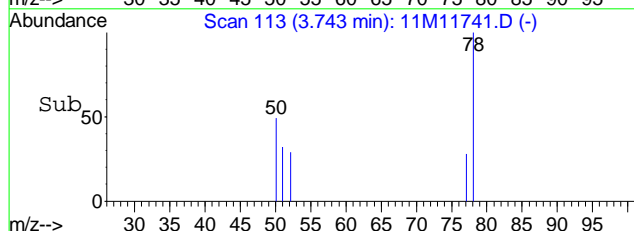
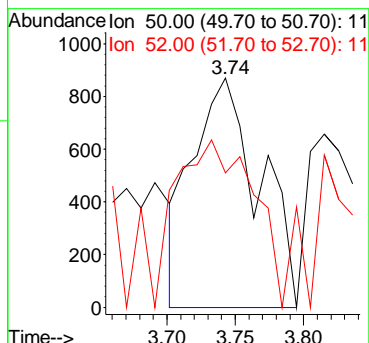
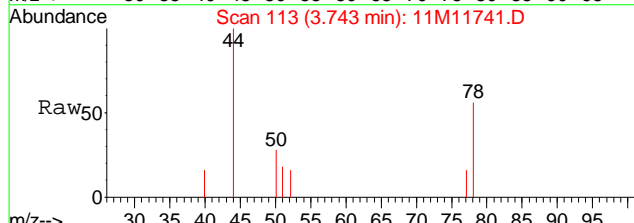
Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration





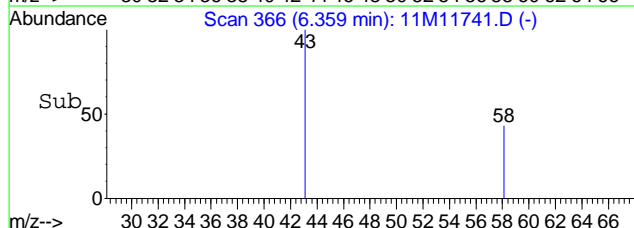
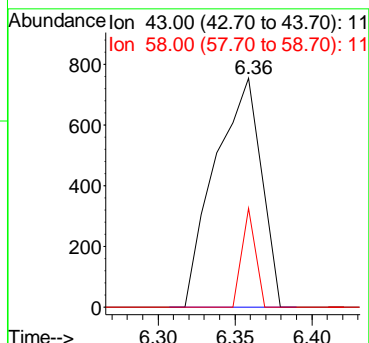
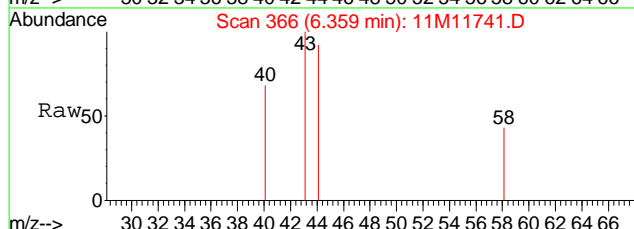
#3
 Chloromethane
 Concen: 0.40 ug/L
 RT: 3.74 min Scan# 113
 Delta R.T. 0.01 min
 Lab File: 11M11741.D
 Acq: 11 May 2016 00:34

Tgt Ion: 50 Resp: 2967
 Ion Ratio Lower Upper
 50 100
 52 84.5 19.9 46.5#



#13
 Acetone
 Concen: 0.96 ug/L
 RT: 6.36 min Scan# 366
 Delta R.T. 0.01 min
 Lab File: 11M11741.D
 Acq: 11 May 2016 00:34

Tgt Ion: 43 Resp: 1583
 Ion Ratio Lower Upper
 43 100
 58 12.8 17.8 41.6#



Data File : C:\MSDCHEM\1\DATA\051016\11M11740.D Vial: 19
 Acq On : 11 May 2016 00:02 Operator: JDS
 Sample : L16050151-09 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 09:32:41 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	582923	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	507969	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	303619	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.64	111	163207	24.6646	ug/L	0.00
Spiked Amount	25.000	Range	86 - 118	Recovery	=	98.64%
43) 1,2-Dichloroethane-d4	10.24	65	181918	22.6899	ug/L	0.00
Spiked Amount	25.000	Range	80 - 120	Recovery	=	90.76%
57) Toluene-d8	12.48	98	579631	24.2734	ug/L	0.00
Spiked Amount	25.000	Range	88 - 110	Recovery	=	97.08%
78) p-Bromofluorobenzene	15.65	95	240839	24.2839	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	97.12%
Target Compounds						
13) Acetone	6.36	43	1779	1.0207	ug/L	Qvalue # 45

(#) = qualifier out of range (m) = manual integration
 11M11740.D 8260_WT.M Thu May 12 09:32:42 2016

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Data File : C:\MSDCHEM\1\DATA\051016\11M11740.D

Vial: 19

Acq On : 11 May 2016 00:02

Operator: JDS

Sample : L16050151-09 A 826-LOW

Inst : hpms11

Misc : 1,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 12 9:32 2016

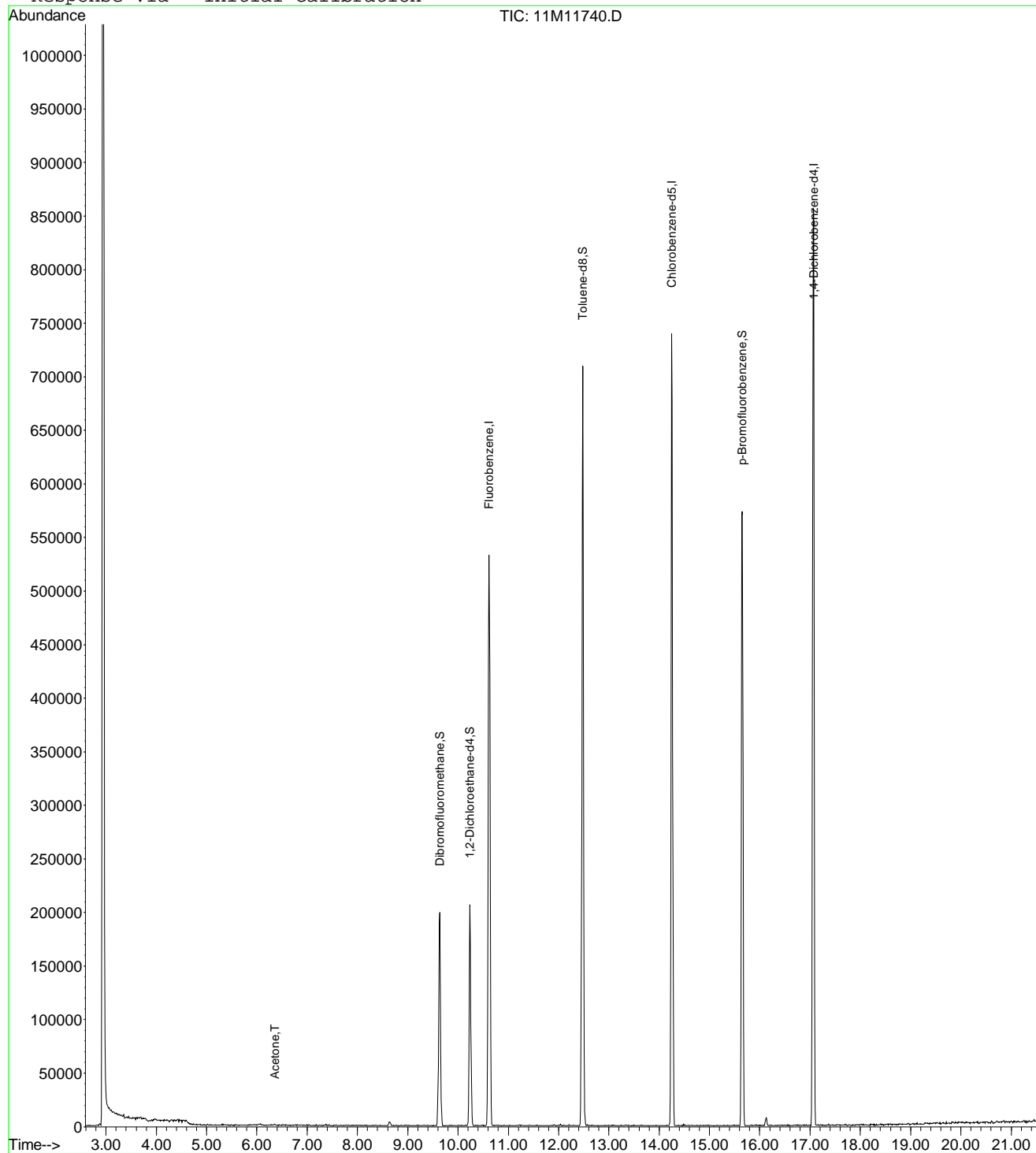
Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11

Last Update : Wed May 04 09:44:01 2016

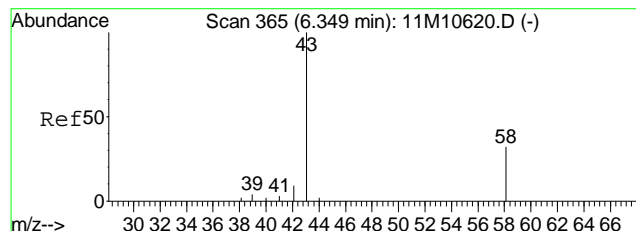
Response via : Initial Calibration



11M11740.D 8260_WT.M

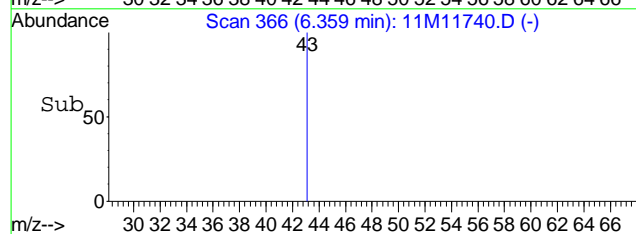
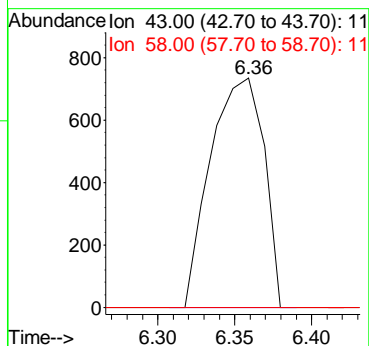
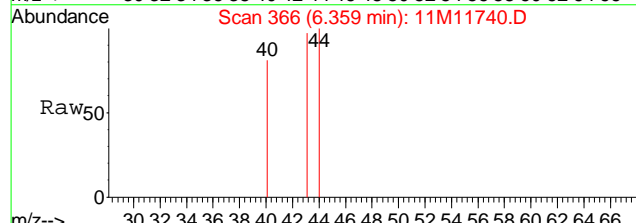
Thu May 12 09:32:42 2016

Page 2



#13
 Acetone
 Concen: 1.02 ug/L
 RT: 6.36 min Scan# 366
 Delta R.T. 0.01 min
 Lab File: 11M11740.D
 Acq: 11 May 2016 00:02

Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.8	41.6#



Data File : C:\MSDCHEM\1\DATA\051016\11M11738.D Vial: 17
 Acq On : 10 May 2016 22:58 Operator: JDS
 Sample : L16050151-11 A TB 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 09:32:37 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	523078	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	456370	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	272529	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.64	111	152832	25.7392	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	102.96%	
43) 1,2-Dichloroethane-d4	10.24	65	172834	24.0232	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	96.08%	
57) Toluene-d8	12.48	98	540492	25.1935	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	100.76%	
78) p-Bromofluorobenzene	15.65	95	226872	25.4853	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.96%	
Target Compounds						
13) Acetone	6.36	43	489	0.3127	ug/L #	Qvalue 45

 (#) = qualifier out of range (m) = manual integration
 11M11738.D 8260_WT.M Thu May 12 09:32:38 2016

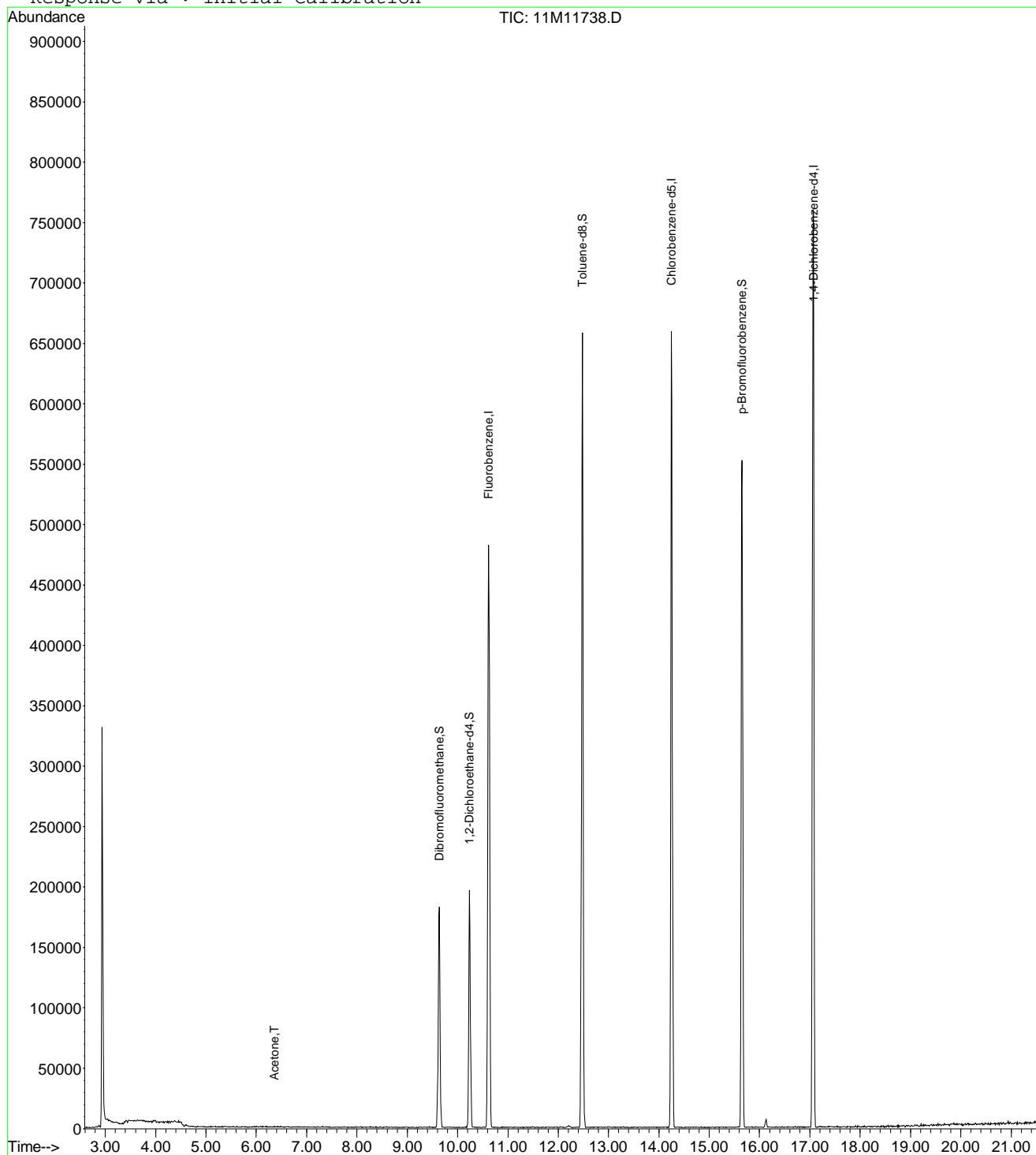
Page 1

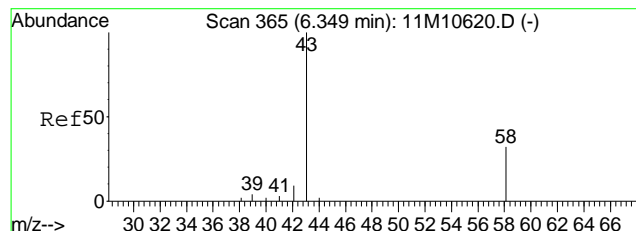
Data File : C:\MSDCHEM\1\DATA\051016\11M11738.D
 Acq On : 10 May 2016 22:58
 Sample : L16050151-11 A TB 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 12 9:32 2016

Vial: 17
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260_WT.RES

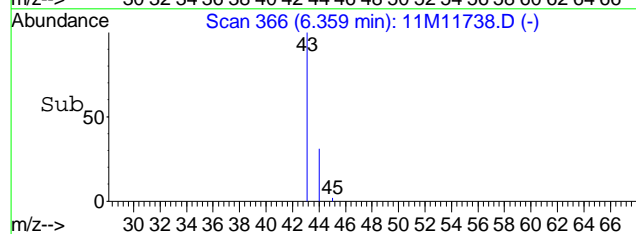
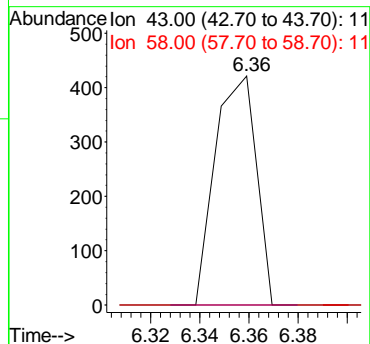
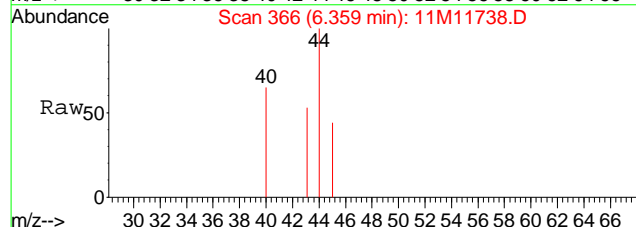
Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration





#13
 Acetone
 Concen: 0.31 ug/L
 RT: 6.36 min Scan# 366
 Delta R.T. 0.01 min
 Lab File: 11M11738.D
 Acq: 10 May 2016 22:58

Tgt Ion	Ratio	Lower	Upper	Resp
43	100			489
58	0.0	17.8	41.6#	



2.1.1.4 Standards Data

Data File : C:\MSDCHEM\1\data\061415\11M08235.D Vial: 2
 Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
 Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 14 10:20:26 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	665958	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.19	117	486224	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.01	152	252862	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.57	111	169215	22.8906	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery =	91.56%		
43) 1,2-Dichloroethane-d4	10.17	65	154962	19.2999	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery =	77.20%#		
57) Toluene-d8	12.42	98	584744	28.4742	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery =	113.88%#		
78) p-Bromofluorobenzene	15.58	95	202664	25.0472	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery =	100.20%		

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.23	85	8067	0.8041	ug/L #	81
3) Chloromethane	3.68	50	5797	0.5011	ug/L	91
4) Vinyl Chloride	3.91	62	15554	1.9132	ug/L	97
5) 1,3-Butadiene	3.96	54	11402	1.8745	ug/L	83
6) Bromomethane	4.80	94	1566	0.4085	ug/L	98
7) Chloroethane	4.96	64	1797	0.3015	ug/L #	43
8) Trichlorofluoromethane	5.43	101	4457	0.3306	ug/L	92
10) Isoprene	5.99	67	2109	0.2044	ug/L #	51
12) 1,1,2-Trichloro-1,2,2-Trif	6.23	101	1597	0.2057	ug/L	98
13) Acetone	6.30	43	3590	1.8309	ug/L #	60
14) 1,1-Dichloroethene	6.50	61	4933	0.3633	ug/L	96
19) Methylene Chloride	7.28	84	2287	0.2902	ug/L	89
20) Carbon Disulfide	7.31	76	24059	1.0619	ug/L	98
23) trans-1,2-Dichloroethene	7.69	96	3973	0.5072	ug/L	81
24) n-Hexane	7.78	57	5925	0.4871	ug/L #	85
32) cis-1,2-Dichloroethene	9.10	96	2970	0.3509	ug/L	71
33) Chloroform	9.30	83	1689	0.1200	ug/L	78
35) Bromochloromethane	9.51	130	597	0.1244	ug/L #	66
36) Tetrahydrofuran	9.56	42	405	0.1826	ug/L #	44
39) Cyclohexane	9.83	56	2167	0.1307	ug/L	90
40) 1,1-Dichloropropene	9.99	75	3207	0.2986	ug/L	86
45) Benzene	10.32	78	3922	0.1286	ug/L	88
46) Trichloroethene	11.03	130	3473	0.3872	ug/L	90
47) Methylcyclohexane	11.10	83	2708	0.2333	ug/L #	77
51) Dibromomethane	11.60	93	782	0.1870	ug/L	62
54) cis-1,3-Dichloropropene	12.11	75	1452	0.1277	ug/L #	41
58) Toluene	12.51	91	4350	0.1662	ug/L	83
60) trans-1,3-Dichloropropene	12.68	75	1450	0.1811	ug/L #	47
64) Tetrachloroethene	13.28	164	1514	0.2507	ug/L	75
66) 1,2-Dibromoethane	13.77	107	783	0.1520	ug/L	82
67) 1-Chlorohexane	13.83	91	2267	0.2766	ug/L	67
68) Chlorobenzene	14.24	112	4044	0.2287	ug/L	88
70) Ethylbenzene	14.25	106	1461	0.1464	ug/L	62
71) m-,p-Xylene	14.34	106	3596	0.3050	ug/L #	47
73) Styrene	14.90	104	2784	0.1479	ug/L	80
75) Isopropylbenzene	15.25	105	4163	0.1408	ug/L #	74
81) n-Propylbenzene	15.73	91	6395	0.2079	ug/L #	73
82) Bromobenzene	15.86	156	1681	0.2112	ug/L	100
83) 1,3,5-Trimethylbenzene	15.90	105	3253	0.1356	ug/L	100
84) 2-Chlorotoluene	16.00	91	3395	0.1597	ug/L	86

(#) = qualifier out of range (m) = manual integration
 11M08235.D 8260WTR.M Sun Jun 14 10:20:27 2015

Data File : C:\MSDCHEM\1\data\061415\11M08235.D Vial: 2
 Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
 Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 14 10:20:26 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
85) 4-Chlorotoluene	16.03	91	4746	0.2598	ug/L	84
86) a-Methylstyrene	16.27	118	1776	0.1452	ug/L	76
88) 1,2,4-Trimethylbenzene	16.39	105	3776	0.1571	ug/L	77
89) sec-Butylbenzene	16.58	105	5834	0.2044	ug/L #	77
90) p-Isopropyltoluene	16.73	119	5149	0.2137	ug/L	87
91) 1,3-Dichlorobenzene	16.93	146	3649	0.2531	ug/L	97
92) 1,4-Dichlorobenzene	17.04	146	5213	0.3507	ug/L #	7
93) n-Butylbenzene	17.23	91	5778	0.3036	ug/L #	78
94) 1,2-Dichlorobenzene	17.51	146	2232	0.1581	ug/L	92
96) 1,2,4-Trichlorobenzene	19.49	180	1750	0.2281	ug/L #	64
97) Hexachlorobutadiene	19.62	225	1771	0.4493	ug/L	86
98) Naphthalene	19.84	128	2058	0.1572	ug/L #	63
99) 1,2,3-Trichlorobenzene	20.13	180	1072	0.1483	ug/L #	40

 (#) = qualifier out of range (m) = manual integration
 11M08235.D 8260WTR.M Sun Jun 14 10:20:27 2015

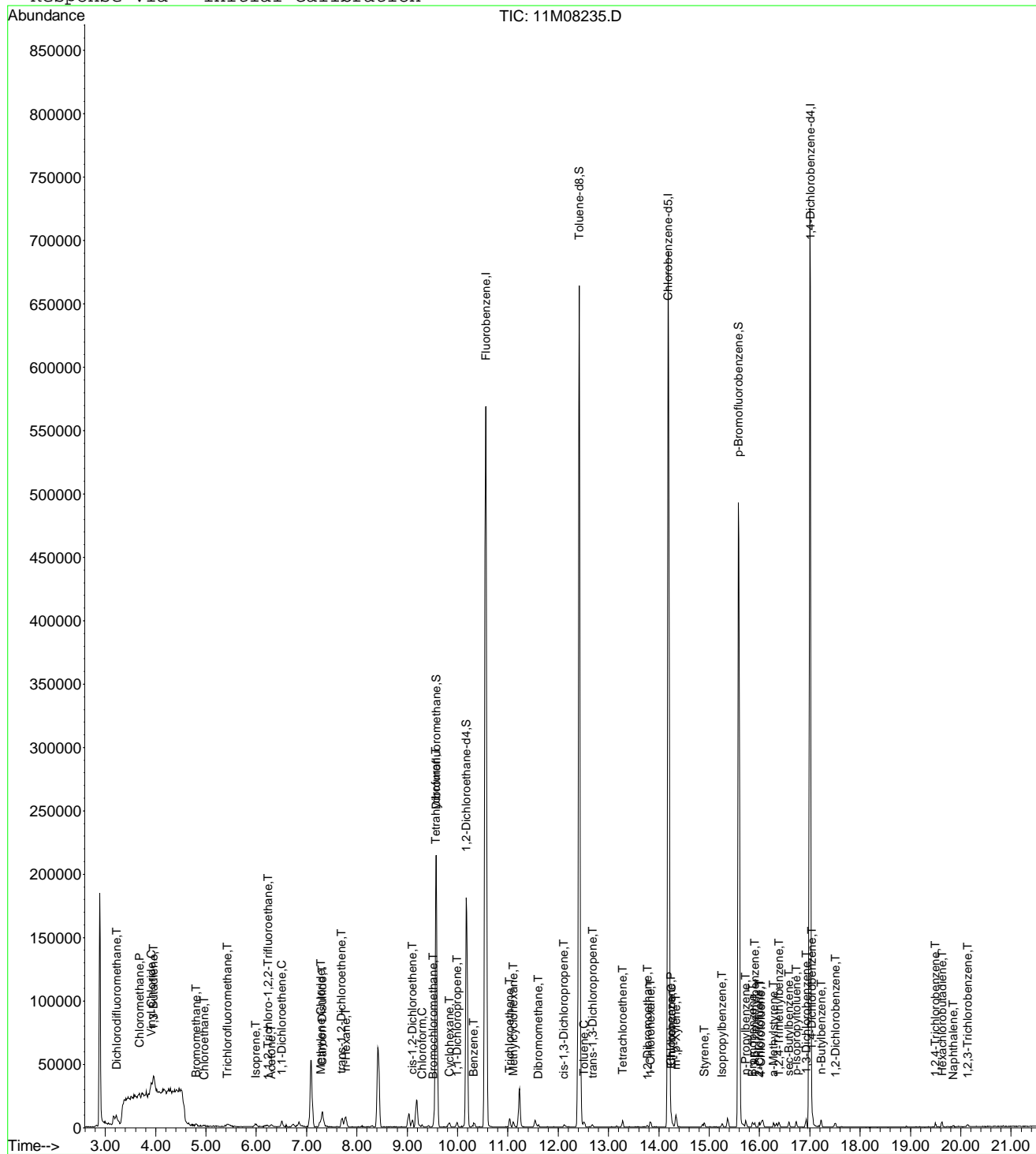
Page 2

Data File : C:\MSDchem\1\data\061415\11M08235.D
 Acq On : 14 Jun 2015 9:58
 Sample : WG527475-02 5ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Jun 14 10:20 2015

Vial: 2
 Operator: TMB /DLW
 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 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D Vial: 2
 Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
 Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 16 09:43:53 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Fri Jun 05 12:09:09 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	665958	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	486224	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.01	152	252862	25.00	ug/L	-0.02

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.73	41	3211	6.0366	ug/L	70
3) 3-Chloro-1-propene	7.08	41	50601	4.3748	ug/L	86
4) 2-Chloro-1,3-butadiene	8.42	53	56035	4.7289	ug/L	97
5) Methacrylonitrile	9.18	41	16495	5.1749	ug/L	91
6) Isobutyl Alcohol	9.21	43	2014	16.4797	ug/L #	1
8) Cyclohexanone	15.36	55	3979	4.5232	ug/L	98
9) 2-Nitropropane	11.54	43	3915	3.2057	ug/L #	72
10) Ethyl Acetate	9.03	43	17657	4.5044	ug/L	95
11) Methyl methacrylate	11.22	41	20122	4.7597	ug/L	95

 (#) = qualifier out of range (m) = manual integration
 11M08235.D A9FOOWT.M Tue Jun 16 09:43:53 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D

Vial: 2

Acq On : 14 Jun 2015 9:58

Operator: TMB /DLW

Sample : WG527475-02 5ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 16 9:43 2015

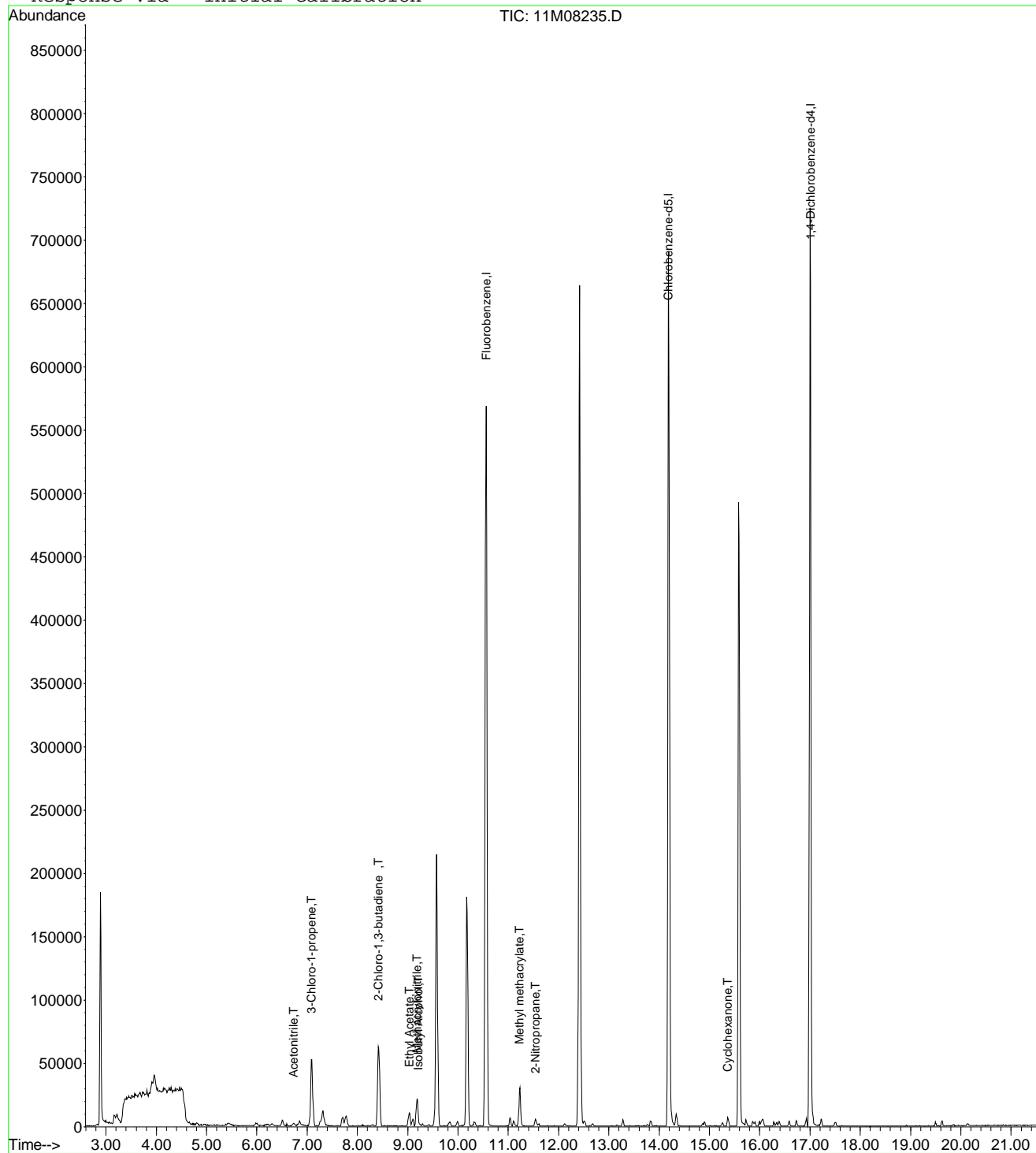
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Fri Jun 05 12:09:09 2015

Response via : Initial Calibration



11M08235.D A9FOOWT.M

Tue Jun 16 09:43:53 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D Vial: 2
 Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
 Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28:04 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Fri Jun 05 12:09:09 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	665958	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	486224	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.01	152	252862	25.00	ug/L	-0.02

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration
 11M08235.D A9FOOWT.M Thu Aug 20 11:28:04 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D

Vial: 2

Acq On : 14 Jun 2015 9:58

Operator: TMB /DLW

Sample : WG527475-02 5ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Aug 20 11:28 2015

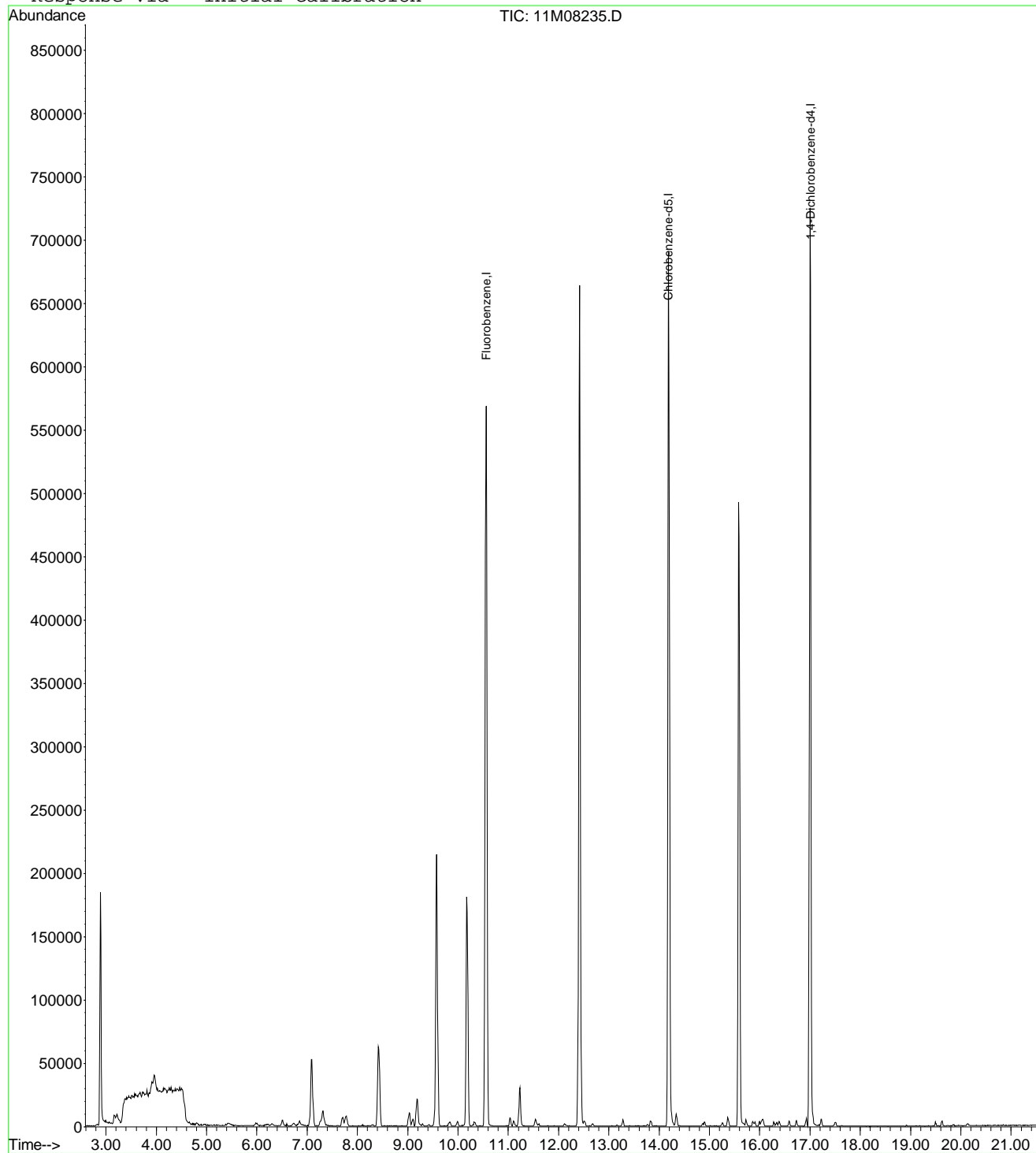
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Thu Aug 20 11:27:18 2015

Response via : Initial Calibration



11M08235.D A9FOOWT.M

Thu Aug 20 11:28:05 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D Vial: 2
 Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
 Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43:46 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	665958	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.19	117	486224	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.01	152	252862	25.00	ug/L	0.01

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.73	41	3211	6.2865	ug/L	70
3) 3-Chloro-1-propene	7.08	41	50601	5.0485	ug/L	86
4) 2-Chloro-1,3-butadiene	8.42	53	56035	4.6571	ug/L	97
5) Methacrylonitrile	9.18	41	16495	5.3246	ug/L	91
6) Isobutyl Alcohol	9.21	43	2014	12.6338	ug/L #	1
7) 1-Butanol	9.83	56	2167	25.6978	ug/L #	47
8) Cyclohexanone	15.36	55	3979	5.1947	ug/L	98
9) 2-Nitropropane	11.54	43	3915	35.7530	ug/L #	72
10) Ethyl Acetate	9.03	43	17657	4.8057	ug/L	95
11) Methyl methacrylate	11.22	41	20122	4.7099	ug/L	95

 (#) = qualifier out of range (m) = manual integration
 11M08235.D A9FOOWT.M Thu Aug 20 11:43:47 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D

Vial: 2

Acq On : 14 Jun 2015 9:58

Operator: TMB /DLW

Sample : WG527475-02 5ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Aug 20 11:43 2015

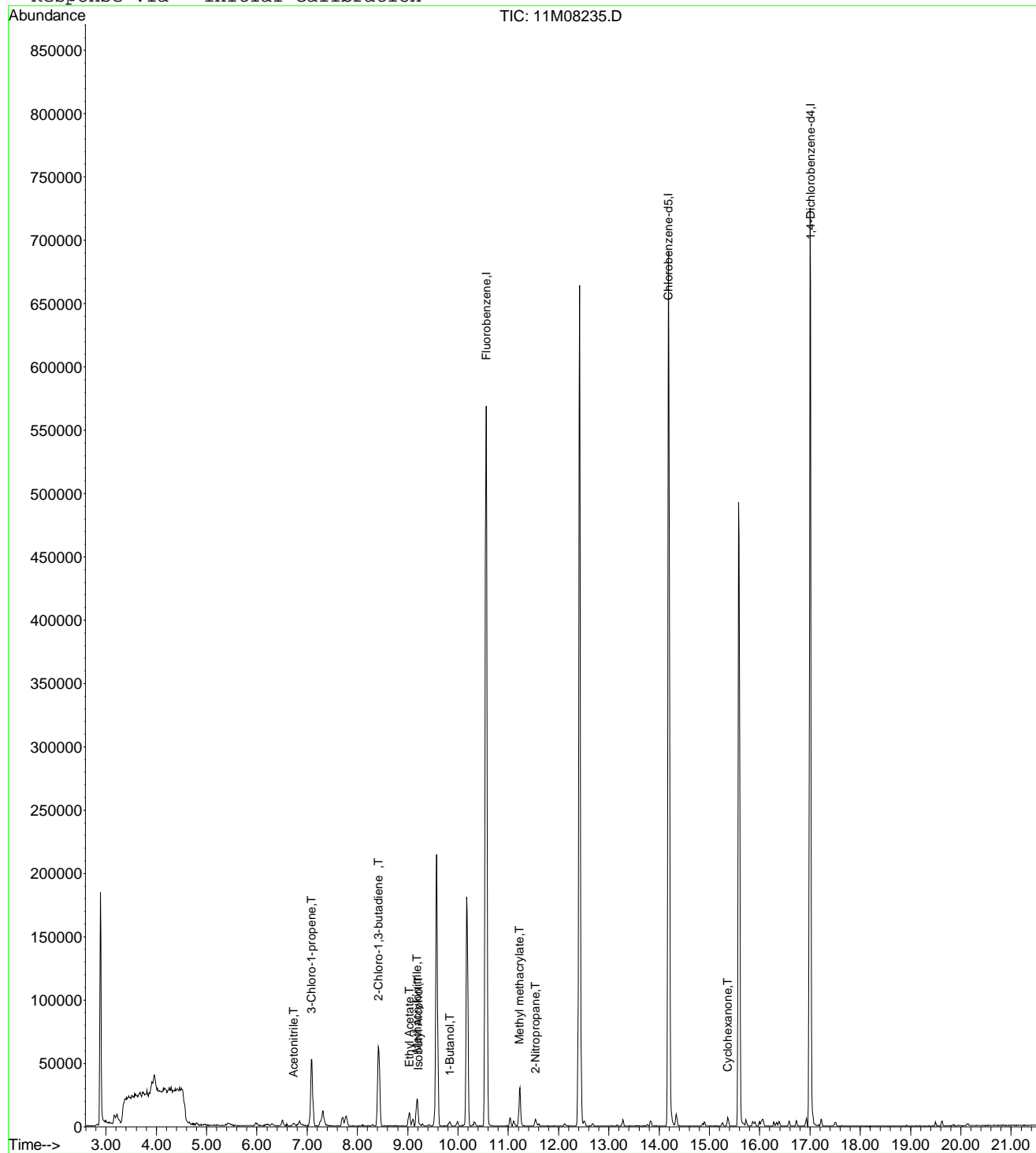
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Thu Aug 20 11:41:47 2015

Response via : Initial Calibration



11M08235.D A9FOOWT.M

Thu Aug 20 11:43:47 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D Vial: 2
 Acq On : 14 Jun 2015 9:58 Operator: TMB /DLW
 Sample : WG527475-02 5ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 75% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2 T	Acetonitrile	5.0000	6.2866	-25.7	100	0.01
3 T	3-Chloro-1-propene	5.0000	5.0485	-1.0	100	-0.01
4 T	2-Chloro-1,3-butadiene	5.0000	4.6571	6.9	100	0.00
5 T	Methacrylonitrile	5.0000	5.3246	-6.5	100	0.00
6 T	Isobutyl Alcohol	-1.0000	12.6338	0.0	100	0.02
7 T	1-Butanol	-1.0000	25.6978	0.0	0	-0.24
8 T	Cyclohexanone	-1.0000	5.1947	0.0	100	0.00
9 T	2-Nitropropane	-1.0000	35.7530	0.0	0	0.00
10 T	Ethyl Acetate	5.0000	4.8057	3.9	100	0.00
11 T	Methyl methacrylate	5.0000	4.7099	5.8	100	0.00
12 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
13 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M08235.D A9FOOWT.M Thu Aug 20 11:44:19 2015

Page 1

Data File : C:\MSDCHEM\1\data\061415\11M08236.D Vial: 3
 Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
 Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 14 10:52:27 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	610715	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.19	117	451165	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.00	152	232233	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	159209	23.4852	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.96%	
43) 1,2-Dichloroethane-d4	10.17	65	149549	20.3105	ug/L	-0.01
Spiked Amount	25.000	Range 80 - 120	Recovery	=	81.24%	
57) Toluene-d8	12.42	98	551790	28.9575	ug/L	-0.01
Spiked Amount	25.000	Range 88 - 110	Recovery	=	115.84%#	
78) p-Bromofluorobenzene	15.58	95	193663	26.0609	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	104.24%	
Target Compounds						
						Qvalue
3) Chloromethane	3.68	50	2560	0.2413	ug/L	85
5) 1,3-Butadiene	3.94	54	1485	0.2662	ug/L #	60
13) Acetone	6.30	43	3499	1.9459	ug/L #	49

 (#) = qualifier out of range (m) = manual integration
 11M08236.D 8260WTR.M Sun Jun 14 10:52:28 2015

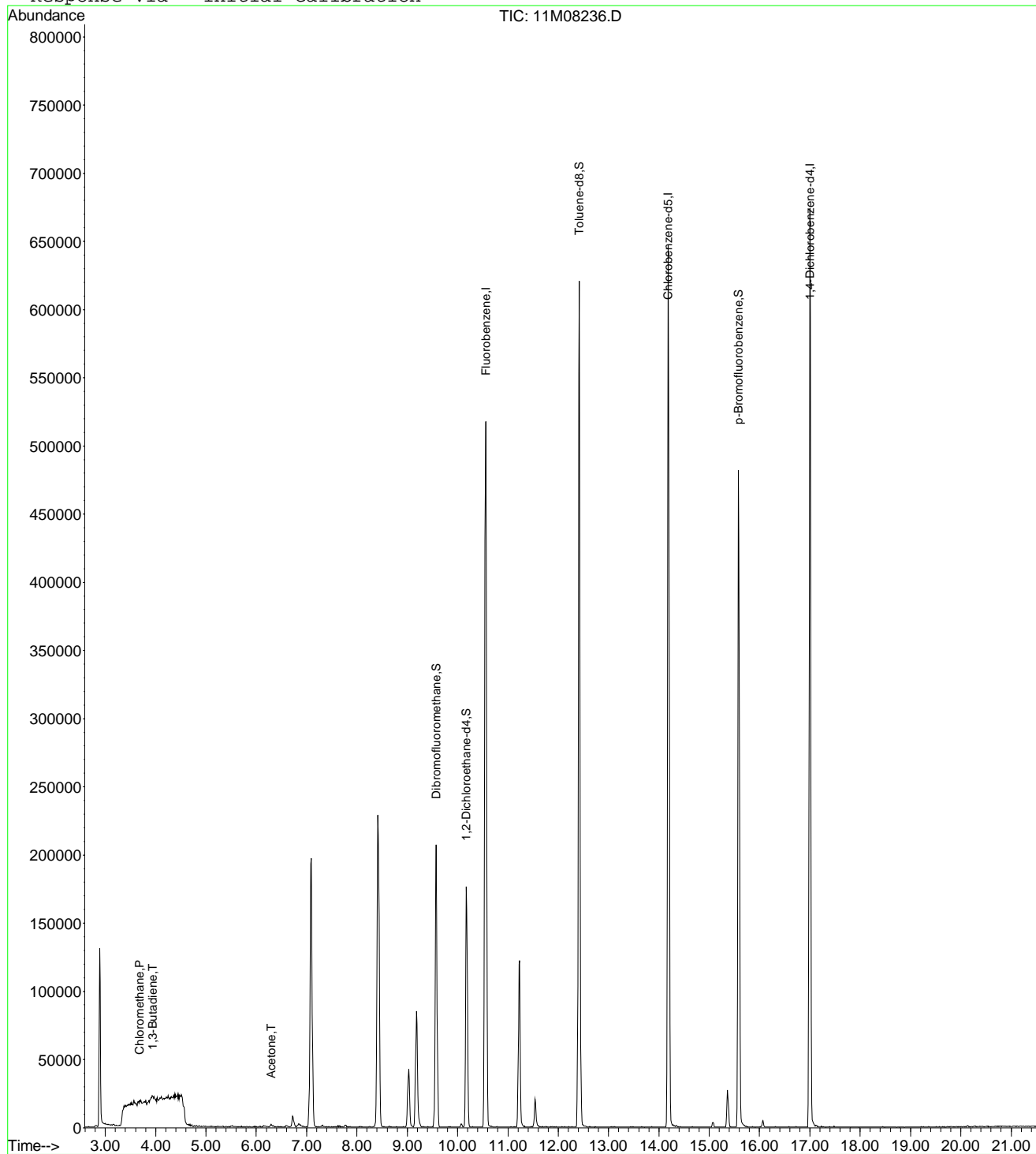
Page 1

Data File : C:\MSDchem\1\data\061415\11M08236.D
 Acq On : 14 Jun 2015 10:30
 Sample : WG527475-03 20ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Jun 14 10:52 2015

Vial: 3
 Operator: TMB /DLW
 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 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D Vial: 3
 Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
 Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 16 09:43:55 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Fri Jun 05 12:09:09 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	610715	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	451165	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	232233	25.00	ug/L	-0.03

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	10965	22.4787	ug/L	99
3) 3-Chloro-1-propene	7.09	41	181745	17.1344	ug/L	86
4) 2-Chloro-1,3-butadiene	8.42	53	204133	18.7856	ug/L	96
5) Methacrylonitrile	9.18	41	56411	19.2984	ug/L	84
6) Isobutyl Alcohol	9.19	43	6275	55.9901	ug/L	85
7) 1-Butanol	10.07	56	1474	31.3751	ug/L	93
8) Cyclohexanone	15.36	55	15226	18.8740	ug/L	98
9) 2-Nitropropane	11.54	43	14015	12.5138	ug/L #	72
10) Ethyl Acetate	9.03	43	70834	19.7046	ug/L	96
11) Methyl methacrylate	11.22	41	78843	20.3367	ug/L	93

(#) = qualifier out of range (m) = manual integration
 11M08236.D A9FOOWT.M Tue Jun 16 09:43:55 2015

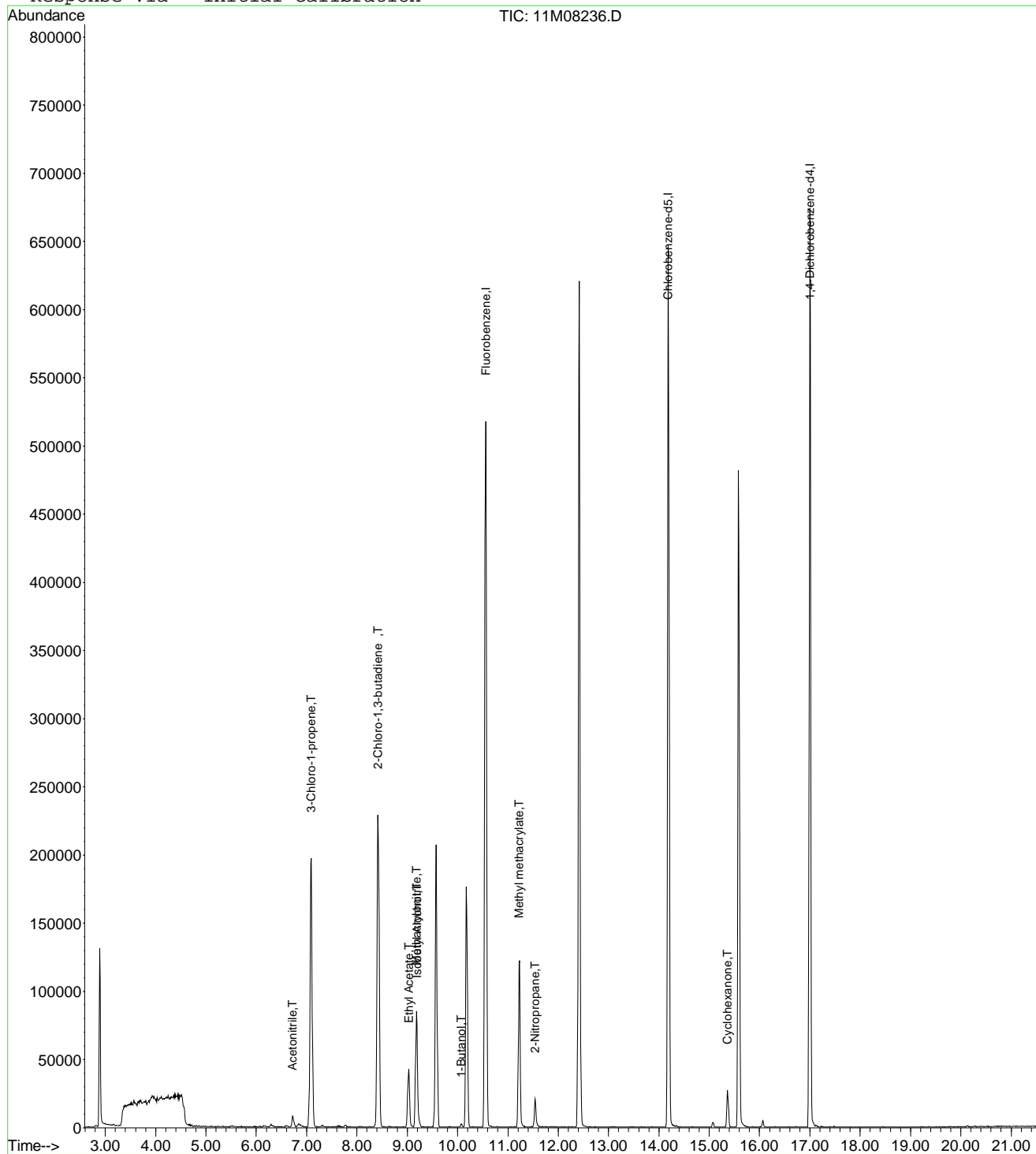
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D
 Acq On : 14 Jun 2015 10:30
 Sample : WG527475-03 20ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Jun 16 9:43 2015

Vial: 3
 Operator: TMB /DLW
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Fri Jun 05 12:09:09 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D Vial: 3
 Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
 Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28:06 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	610715	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	451165	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	232233	25.00	ug/L	-0.03

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration
 11M08236.D A9FOOWT.M Thu Aug 20 11:28:07 2015

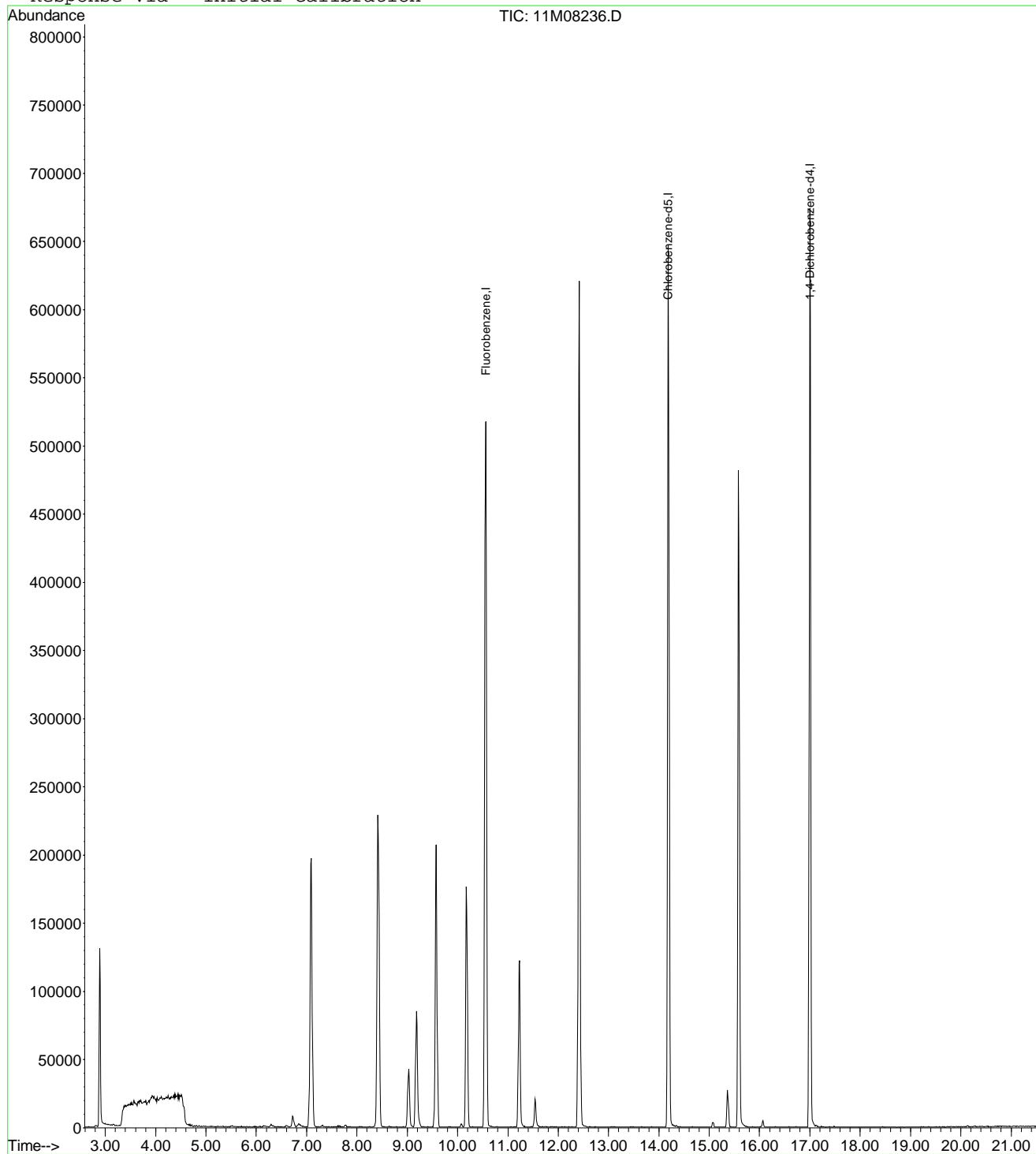
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D
 Acq On : 14 Jun 2015 10:30
 Sample : WG527475-03 20ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28 2015

Vial: 3
 Operator: TMB /DLW
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D Vial: 3
 Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
 Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43:48 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	610715	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.19	117	451165	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	232233	25.00	ug/L	0.00

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	10965	23.4093	ug/L	99
3) 3-Chloro-1-propene	7.09	41	181745	19.7730	ug/L	86
4) 2-Chloro-1,3-butadiene	8.42	53	204133	18.5003	ug/L	96
5) Methacrylonitrile	9.18	41	56411	19.8567	ug/L	84
6) Isobutyl Alcohol	9.19	43	6275	42.9238	ug/L	85
7) 1-Butanol	10.07	56	1474	19.0608	ug/L	93
8) Cyclohexanone	15.36	55	15226	21.6762	ug/L	98
9) 2-Nitropropane	11.54	43	14015	45.0214	ug/L #	72
10) Ethyl Acetate	9.03	43	70834	21.0227	ug/L	96
11) Methyl methacrylate	11.22	41	78843	20.1239	ug/L	93

 (#) = qualifier out of range (m) = manual integration
 11M08236.D A9FOOWT.M Thu Aug 20 11:43:48 2015

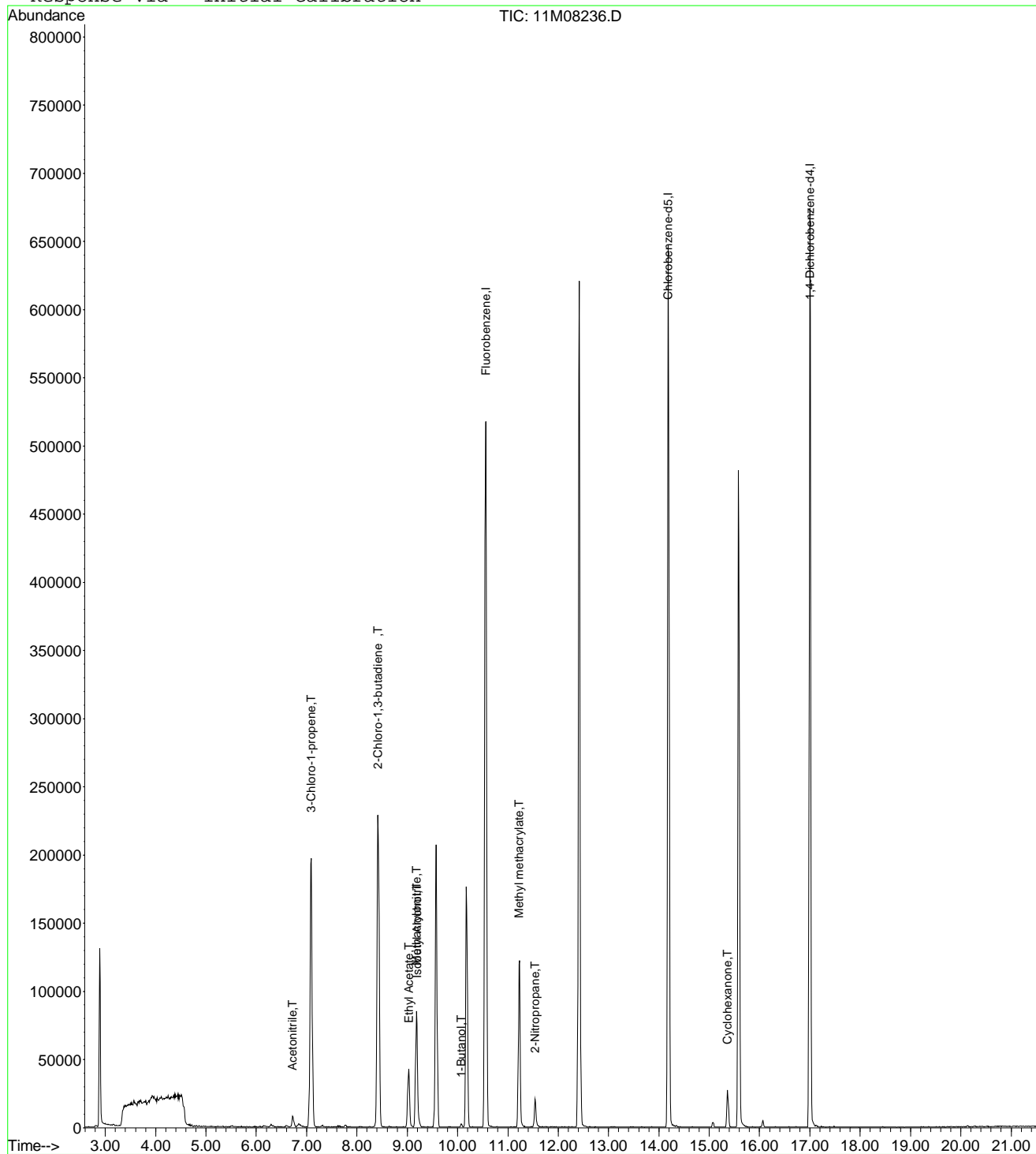
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D
 Acq On : 14 Jun 2015 10:30
 Sample : WG527475-03 20ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43 2015

Vial: 3
 Operator: TMB /DLW
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08236.D Vial: 3
 Acq On : 14 Jun 2015 10:30 Operator: TMB /DLW
 Sample : WG527475-03 20ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 75% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2 T	Acetonitrile	20.0000	23.4093	-17.0	100	0.00
3 T	3-Chloro-1-propene	20.0000	19.7730	1.1	100	0.00
4 T	2-Chloro-1,3-butadiene	20.0000	18.5003	7.5	100	0.00
5 T	Methacrylonitrile	20.0000	19.8567	0.7	100	0.00
6 T	Isobutyl Alcohol	40.0000	42.9238	-7.3	100	0.00
7 T	1-Butanol	-1.0000	19.0608	0.0	100	0.00
8 T	Cyclohexanone	20.0000	21.6762	-8.4	100	0.00
9 T	2-Nitropropane	-1.0000	45.0214	0.0	0	0.00
10 T	Ethyl Acetate	20.0000	21.0227	-5.1	100	0.00
11 T	Methyl methacrylate	20.0000	20.1239	-0.6	100	0.00
12 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
13 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M08236.D A9FOOWT.M Thu Aug 20 11:44:30 2015

Page 1

Data File : C:\MSDCHEM\1\data\061415\11M08237.D Vial: 4
 Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
 Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 14 11:24:26 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593911	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.19	117	439398	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.00	152	227606	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	153812	23.3311	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.32%	
43) 1,2-Dichloroethane-d4	10.17	65	141347	19.7397	ug/L	-0.01
Spiked Amount	25.000	Range 80 - 120	Recovery	=	78.96%#	
57) Toluene-d8	12.42	98	530398	28.5803	ug/L	-0.01
Spiked Amount	25.000	Range 88 - 110	Recovery	=	114.32%#	
78) p-Bromofluorobenzene	15.58	95	184116	25.2799	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.12%	
Target Compounds						
3) Chloromethane	3.68	50	1722	0.1669	ug/L #	66
13) Acetone	6.30	43	6340	3.6256	ug/L	95

(#) = qualifier out of range (m) = manual integration
 11M08237.D 8260WTR.M Sun Jun 14 11:24:27 2015

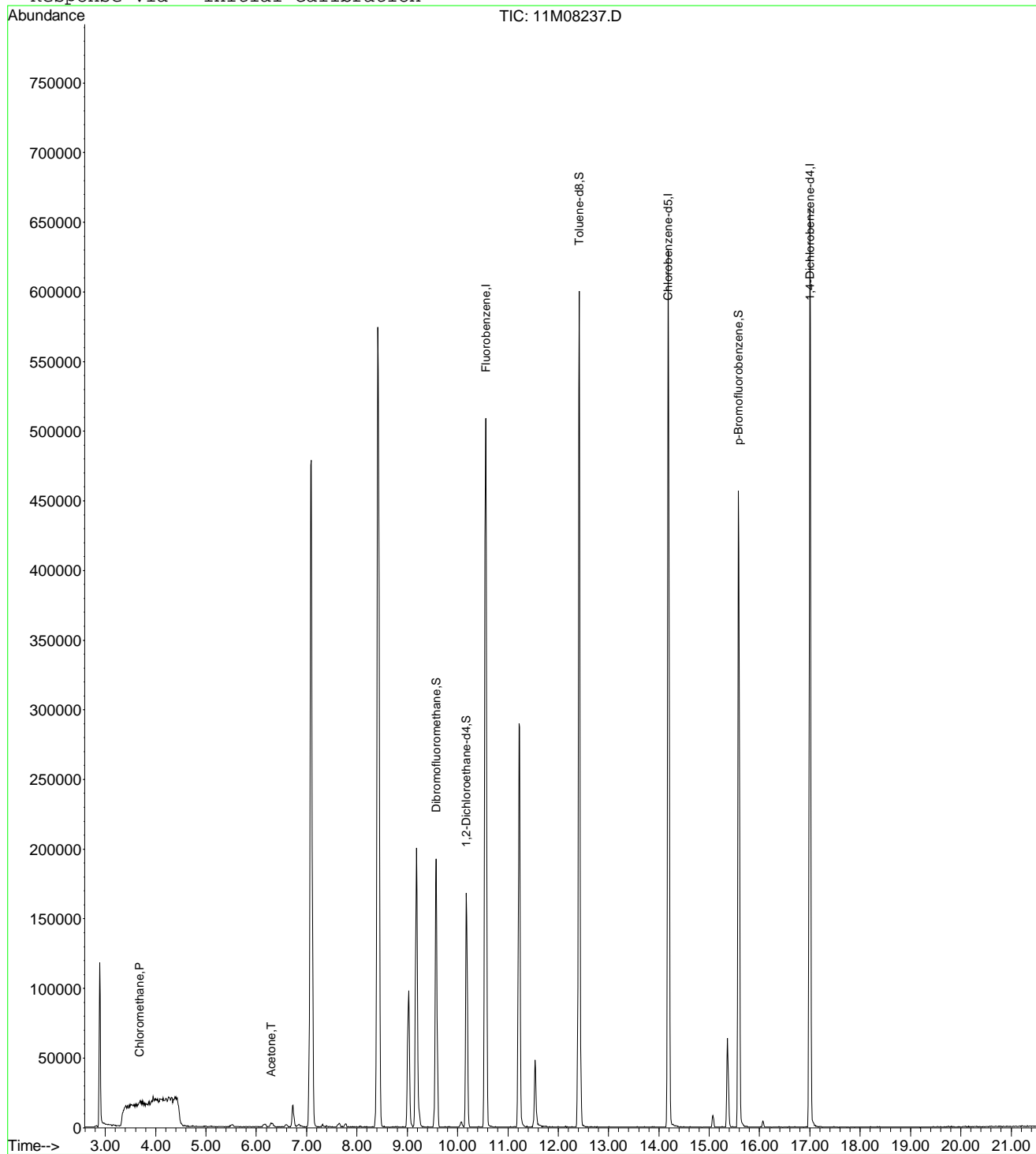
Page 1

Data File : C:\MSDCHEM\1\data\061415\11M08237.D
 Acq On : 14 Jun 2015 11:02
 Sample : WG527475-04 50ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Jun 14 11:24 2015

Vial: 4
 Operator: TMB /DLW
 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 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D Vial: 4
 Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
 Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 16 09:43:56 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Fri Jun 05 12:09:09 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593911	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	439398	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	227606	25.00	ug/L	-0.03

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.73	41	21370	45.0489	ug/L	93
3) 3-Chloro-1-propene	7.08	41	441208	42.7727	ug/L	85
4) 2-Chloro-1,3-butadiene	8.42	53	506427	47.9232	ug/L	96
5) Methacrylonitrile	9.18	41	133439	46.9416	ug/L	86
6) Isobutyl Alcohol	9.19	43	13722	125.9019	ug/L	88
7) 1-Butanol	10.06	56	3449	75.4914	ug/L #	8
8) Cyclohexanone	15.36	55	33575	42.7968	ug/L	96
9) 2-Nitropropane	11.54	43	32837	30.1492	ug/L #	75
10) Ethyl Acetate	9.03	43	158260	45.2705	ug/L	95
11) Methyl methacrylate	11.22	41	179947	47.7287	ug/L	89

 (#) = qualifier out of range (m) = manual integration
 11M08237.D A9FOOWT.M Tue Jun 16 09:43:57 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D

Vial: 4

Acq On : 14 Jun 2015 11:02

Operator: TMB /DLW

Sample : WG527475-04 50ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 16 9:43 2015

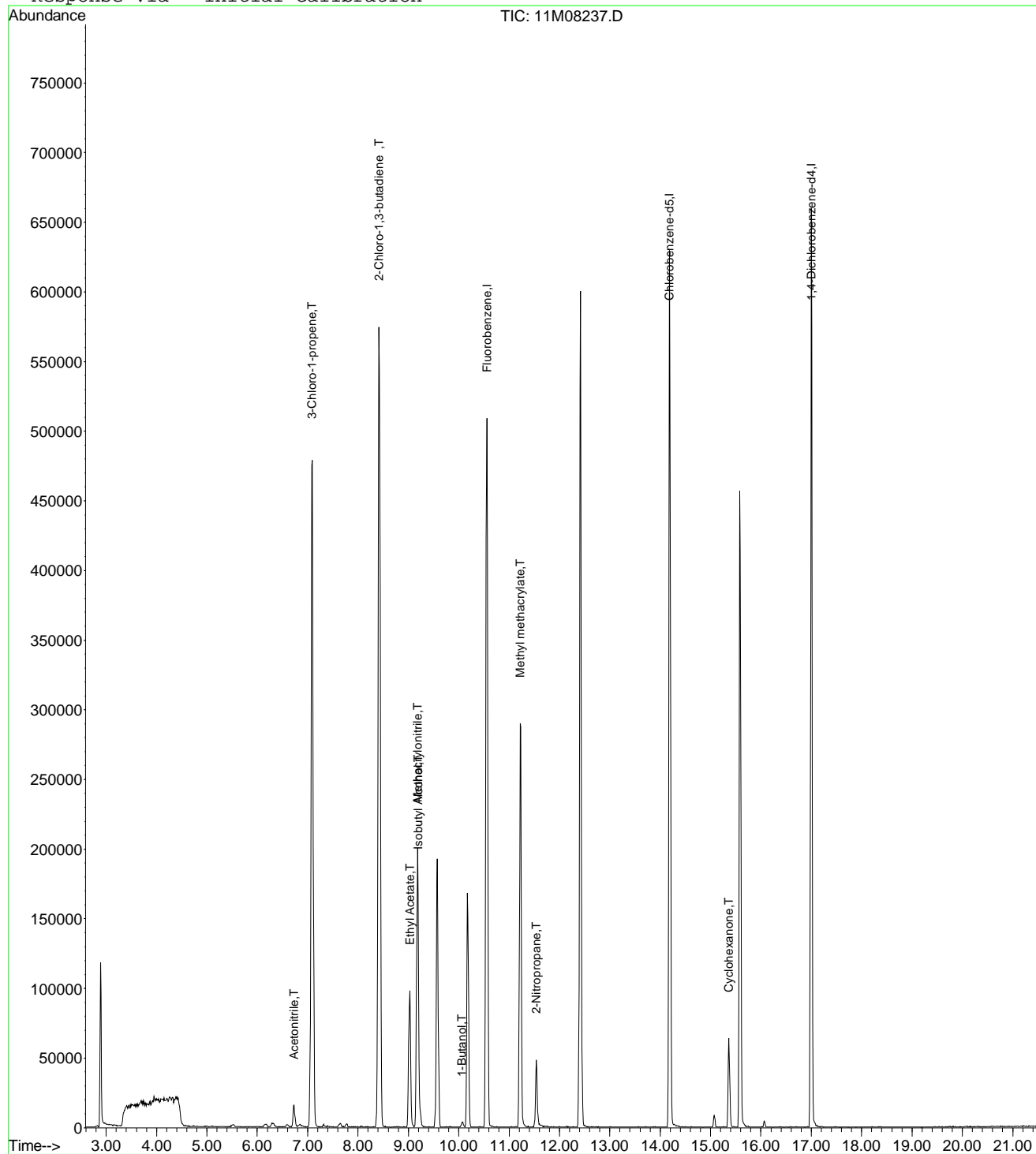
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Fri Jun 05 12:09:09 2015

Response via : Initial Calibration



11M08237.D A9FOOWT.M

Tue Jun 16 09:43:57 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D Vial: 4
 Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
 Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28:07 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593911	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	439398	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	227606	25.00	ug/L	-0.03

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration
 11M08237.D A9FOOWT.M Thu Aug 20 11:28:08 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D

Vial: 4

Acq On : 14 Jun 2015 11:02

Operator: TMB /DLW

Sample : WG527475-04 50ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Aug 20 11:28 2015

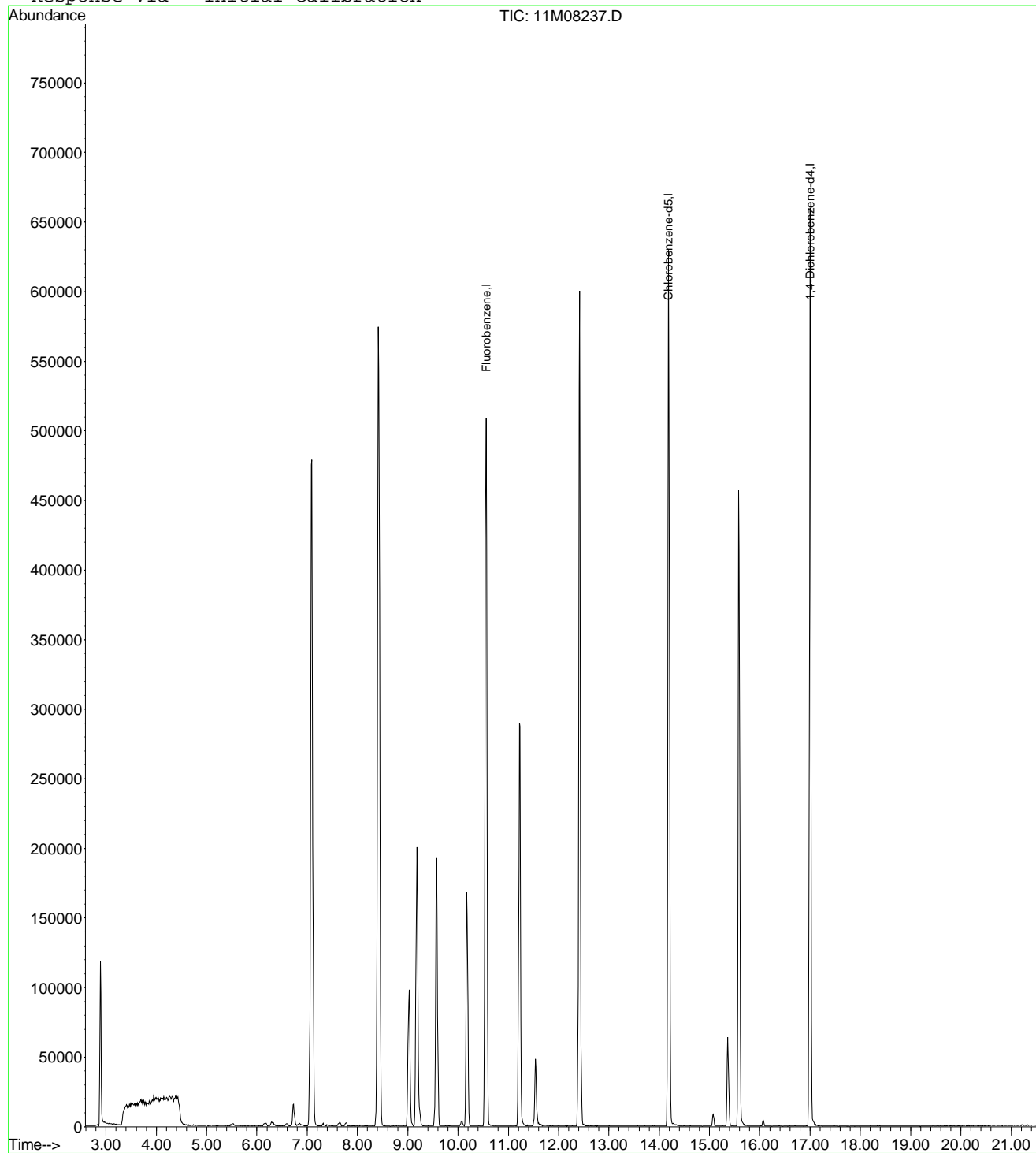
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Thu Aug 20 11:27:18 2015

Response via : Initial Calibration



11M08237.D A9FOOWT.M

Thu Aug 20 11:28:08 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D Vial: 4
 Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
 Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43:49 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593911	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.19	117	439398	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	227606	25.00	ug/L	0.00

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.73	41	21370	46.9139	ug/L	93
3) 3-Chloro-1-propene	7.08	41	441208	49.3594	ug/L	85
4) 2-Chloro-1,3-butadiene	8.42	53	506427	47.1955	ug/L	96
5) Methacrylonitrile	9.18	41	133439	48.2996	ug/L	86
6) Isobutyl Alcohol	9.19	43	13722	96.5203	ug/L	88
7) 1-Butanol	10.06	56	3449	45.8622	ug/L #	8
8) Cyclohexanone	15.36	55	33575	49.1507	ug/L	96
9) 2-Nitropropane	11.54	43	32837	62.5818	ug/L #	75
10) Ethyl Acetate	9.03	43	158260	48.2986	ug/L	95
11) Methyl methacrylate	11.22	41	179947	47.2293	ug/L	89

 (#) = qualifier out of range (m) = manual integration
 11M08237.D A9FOOWT.M Thu Aug 20 11:43:49 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D

Vial: 4

Acq On : 14 Jun 2015 11:02

Operator: TMB /DLW

Sample : WG527475-04 50ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Aug 20 11:43 2015

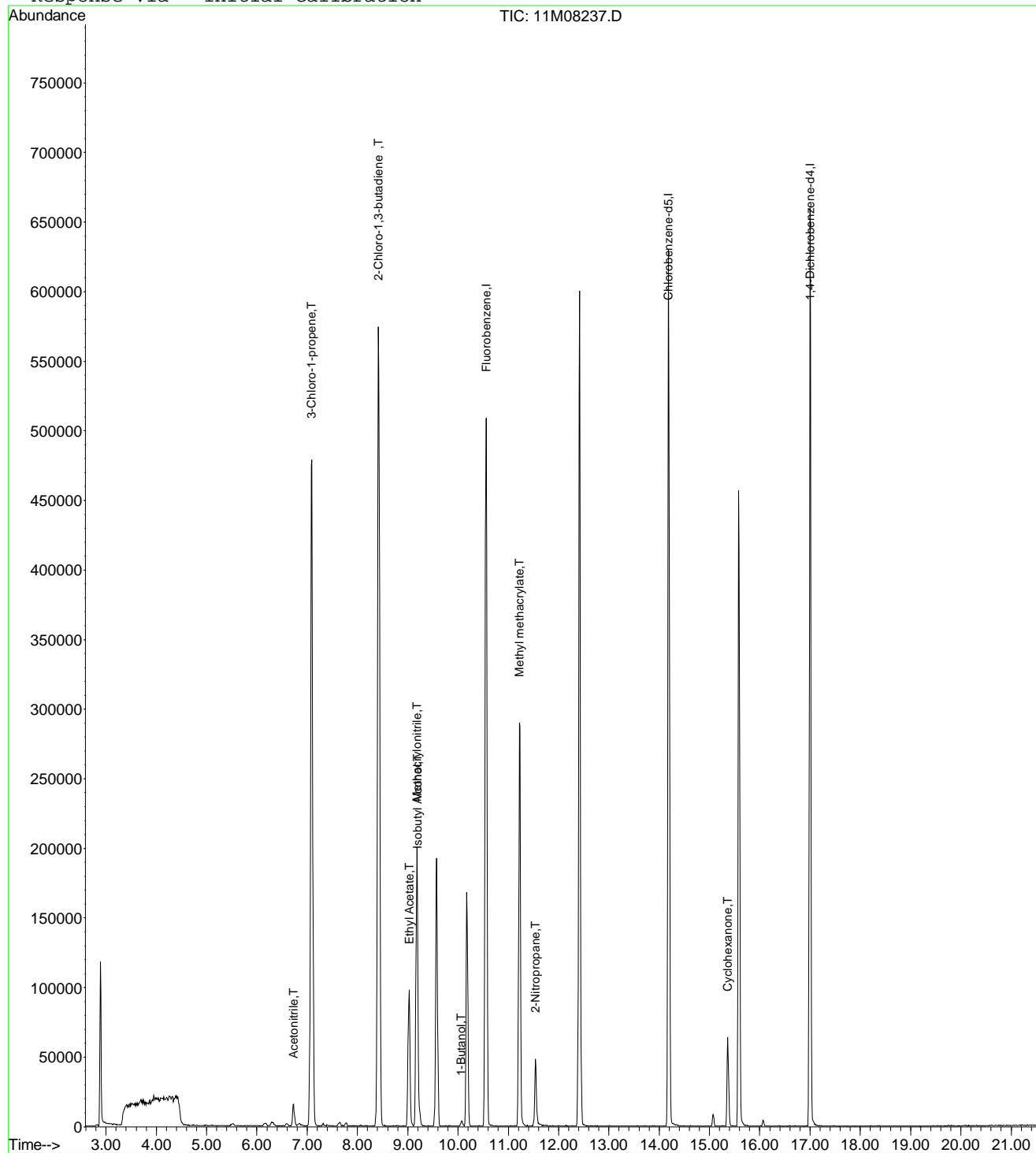
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Thu Aug 20 11:41:47 2015

Response via : Initial Calibration



11M08237.D A9FOOWT.M

Thu Aug 20 11:43:49 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D Vial: 4
 Acq On : 14 Jun 2015 11:02 Operator: TMB /DLW
 Sample : WG527475-04 50ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 75% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2 T	Acetonitrile	50.0000	46.9140	6.2	100	0.01
3 T	3-Chloro-1-propene	50.0000	49.3594	1.3	100	-0.01
4 T	2-Chloro-1,3-butadiene	50.0000	47.1955	5.6	100	0.00
5 T	Methacrylonitrile	50.0000	48.2996	3.4	100	0.00
6 T	Isobutyl Alcohol	100.0000	96.5203	3.5	100	0.00
7 T	1-Butanol	50.0000	45.8622	8.3	100	-0.01
8 T	Cyclohexanone	50.0000	49.1508	1.7	100	0.00
9 T	2-Nitropropane	50.0000	62.5818	-25.2	100	0.00
10 T	Ethyl Acetate	50.0000	48.2986	3.4	100	0.00
11 T	Methyl methacrylate	50.0000	47.2293	5.5	100	0.00
12 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
13 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M08237.D A9FOOWT.M Thu Aug 20 11:44:41 2015

Page 1

Data File : C:\MSDCHEM\1\data\061415\11M08238.D Vial: 5
 Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
 Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 14 11:56:24 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593660	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.19	117	435951	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.00	152	224898	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	154015	23.3717	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.48%	
43) 1,2-Dichloroethane-d4	10.17	65	141727	19.8012	ug/L	-0.01
Spiked Amount	25.000	Range 80 - 120	Recovery	=	79.20%#	
57) Toluene-d8	12.42	98	525710	28.5517	ug/L	-0.01
Spiked Amount	25.000	Range 88 - 110	Recovery	=	114.20%#	
78) p-Bromofluorobenzene	15.58	95	182017	25.2926	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.16%	
Target Compounds						
						Qvalue
3) Chloromethane	3.68	50	2521	0.2445	ug/L	100
13) Acetone	6.30	43	8631	4.9378	ug/L	80
24) n-Hexane	7.78	57	2688	0.2479	ug/L #	72
29) 2-Butanone	8.85	43	412	0.1450	ug/L #	77

 (#) = qualifier out of range (m) = manual integration
 11M08238.D 8260WTR.M Sun Jun 14 11:56:26 2015

Page 1

Data File : C:\MSDchem\1\data\061415\11M08238.D

Vial: 5

Acq On : 14 Jun 2015 11:34

Operator: TMB /DLW

Sample : WG527475-05 100ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 14 11:56 2015

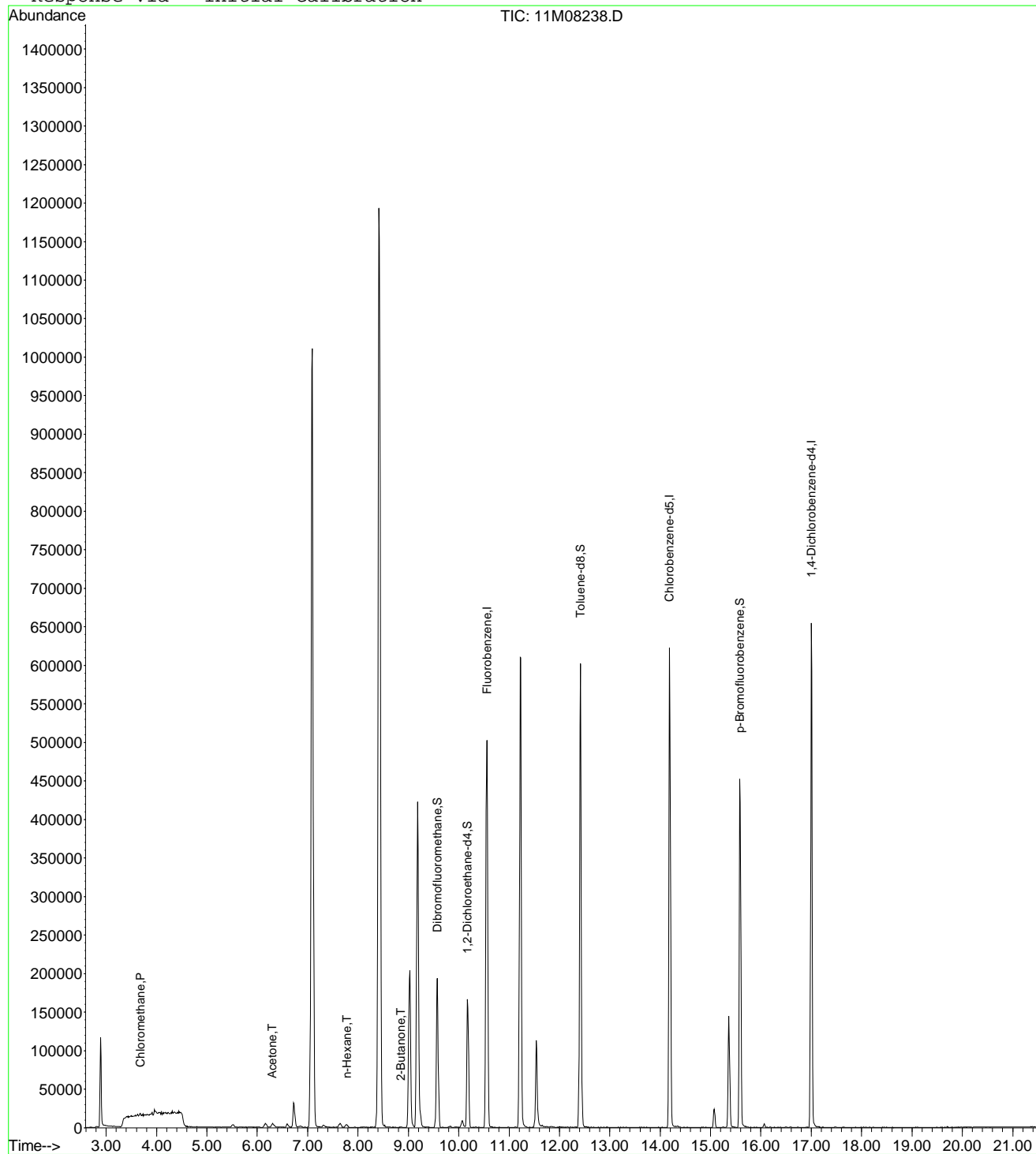
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11

Last Update : Sat Jun 13 12:38:34 2015

Response via : Initial Calibration



11M08238.D 8260WTR.M

Sun Jun 14 11:56:26 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D Vial: 5
 Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
 Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 16 09:43:58 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Fri Jun 05 12:09:09 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593660	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	435951	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	224898	25.00	ug/L	-0.03

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	41783	88.1177	ug/L	97
3) 3-Chloro-1-propene	7.09	41	901667	87.4486	ug/L	84
4) 2-Chloro-1,3-butadiene	8.42	53	1055196	99.8955	ug/L	96
5) Methacrylonitrile	9.18	41	269812	94.9555	ug/L	83
6) Isobutyl Alcohol	9.19	43	28965	265.8717	ug/L	87
7) 1-Butanol	10.07	56	7719	169.0243	ug/L	87
8) Cyclohexanone	15.36	55	72878	92.9342	ug/L	95
9) 2-Nitropropane	11.54	43	76568	70.3304	ug/L	82
10) Ethyl Acetate	9.03	43	331707	94.9253	ug/L	95
11) Methyl methacrylate	11.22	41	375863	99.7350	ug/L	89

 (#) = qualifier out of range (m) = manual integration
 11M08238.D A9FOOWT.M Tue Jun 16 09:43:58 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D

Vial: 5

Acq On : 14 Jun 2015 11:34

Operator: TMB /DLW

Sample : WG527475-05 100ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 16 9:43 2015

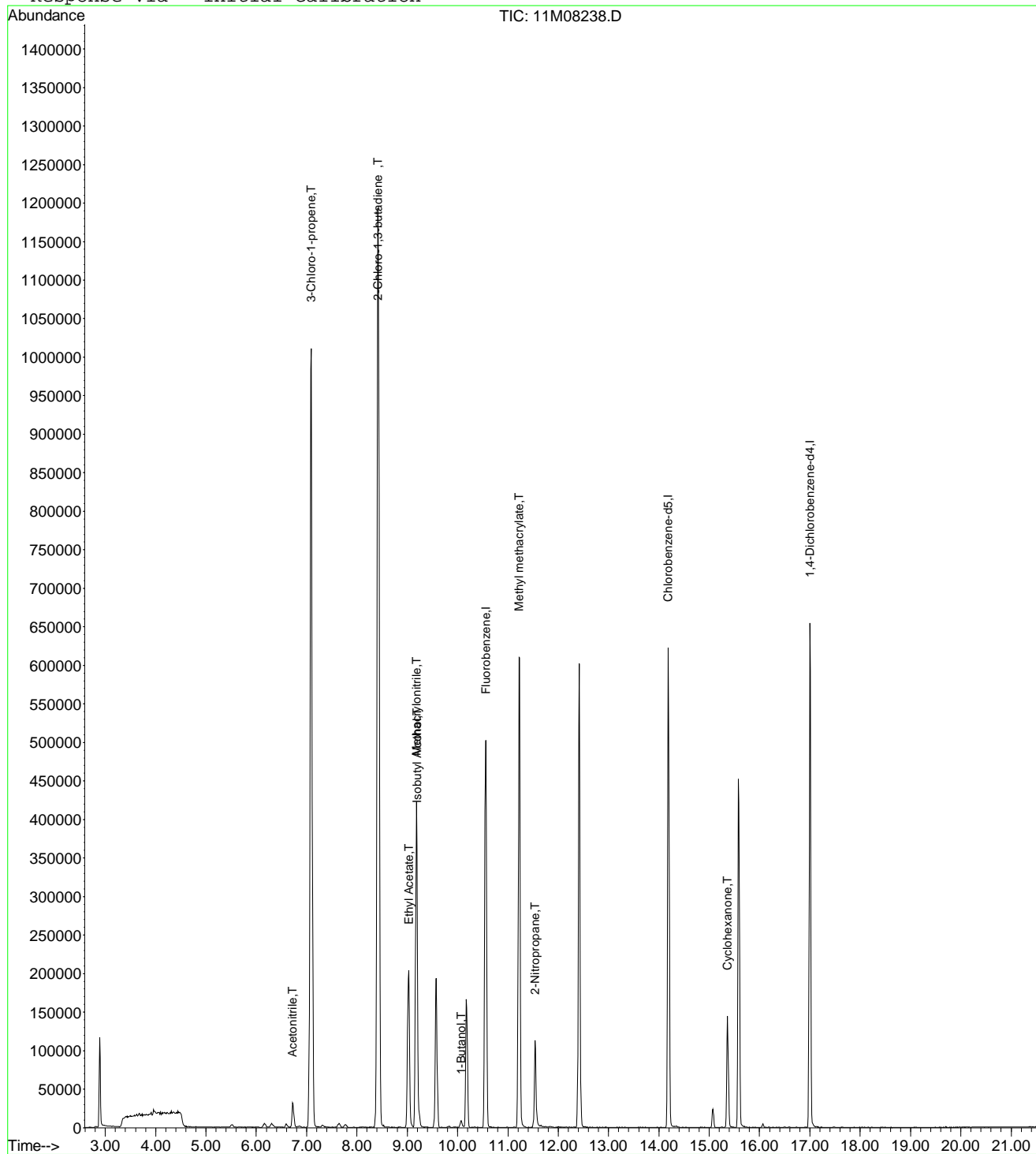
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Fri Jun 05 12:09:09 2015

Response via : Initial Calibration



11M08238.D A9FOOWT.M

Tue Jun 16 09:43:58 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D Vial: 5
 Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
 Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28:09 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593660	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	435951	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	224898	25.00	ug/L	-0.03

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration
 11M08238.D A9FOOWT.M Thu Aug 20 11:28:10 2015

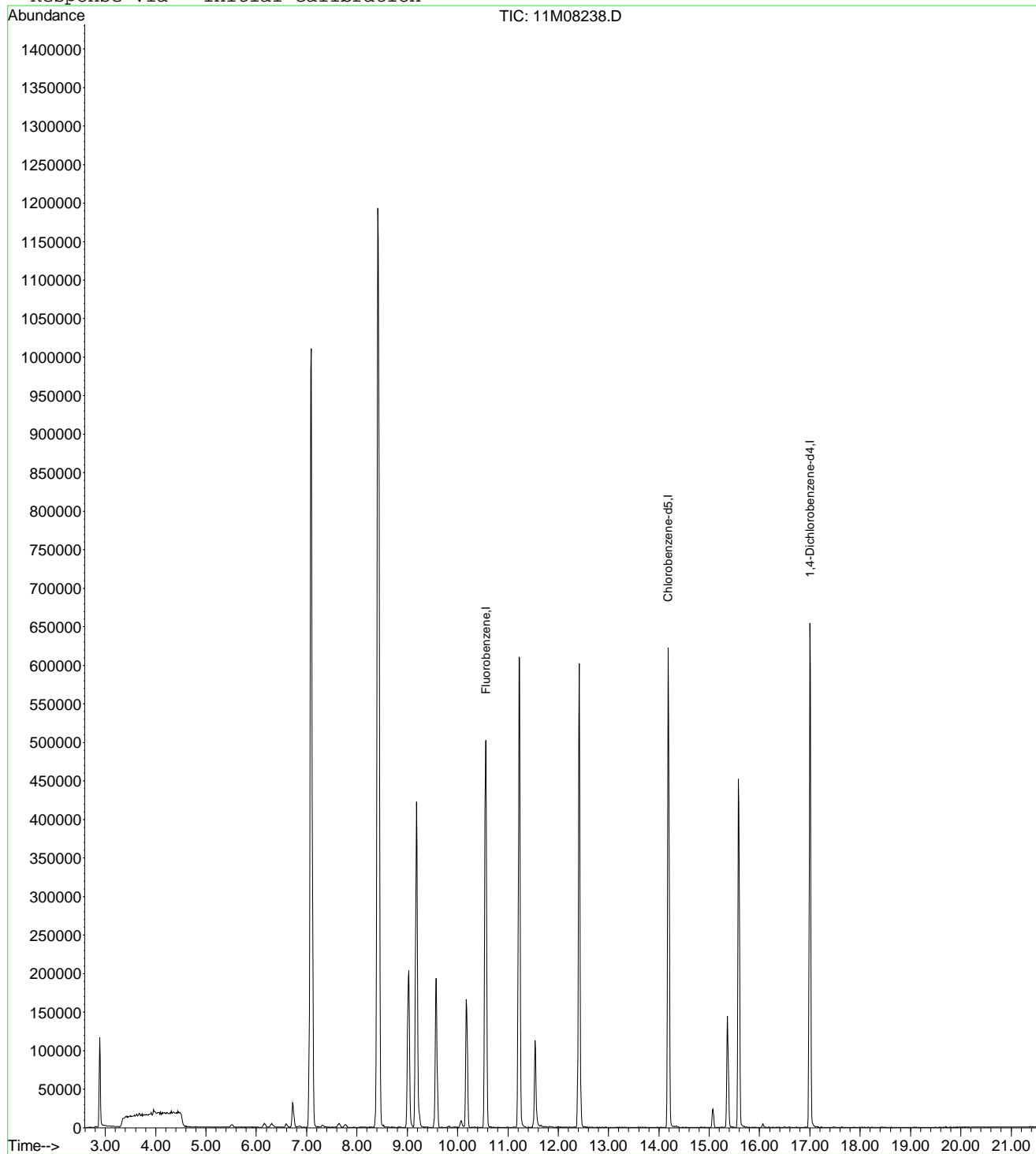
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D
 Acq On : 14 Jun 2015 11:34
 Sample : WG527475-05 100ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28 2015

Vial: 5
 Operator: TMB /DLW
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D Vial: 5
 Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
 Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43:50 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	593660	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.19	117	435951	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	224898	25.00	ug/L	0.00

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	41783	91.7658	ug/L	97
3) 3-Chloro-1-propene	7.09	41	901667	100.9151	ug/L	84
4) 2-Chloro-1,3-butadiene	8.42	53	1055196	98.3785	ug/L	96
5) Methacrylonitrile	9.18	41	269812	97.7026	ug/L	83
6) Isobutyl Alcohol	9.19	43	28965	203.8255	ug/L	87
7) 1-Butanol	10.07	56	7719	102.6849	ug/L	87
8) Cyclohexanone	15.36	55	72878	106.7319	ug/L	95
9) 2-Nitropropane	11.54	43	76568	102.5921	ug/L	82
10) Ethyl Acetate	9.03	43	331707	101.2749	ug/L	95
11) Methyl methacrylate	11.22	41	375863	98.6916	ug/L	89

 (#) = qualifier out of range (m) = manual integration
 11M08238.D A9FOOWT.M Thu Aug 20 11:43:50 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D

Vial: 5

Acq On : 14 Jun 2015 11:34

Operator: TMB /DLW

Sample : WG527475-05 100ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Aug 20 11:43 2015

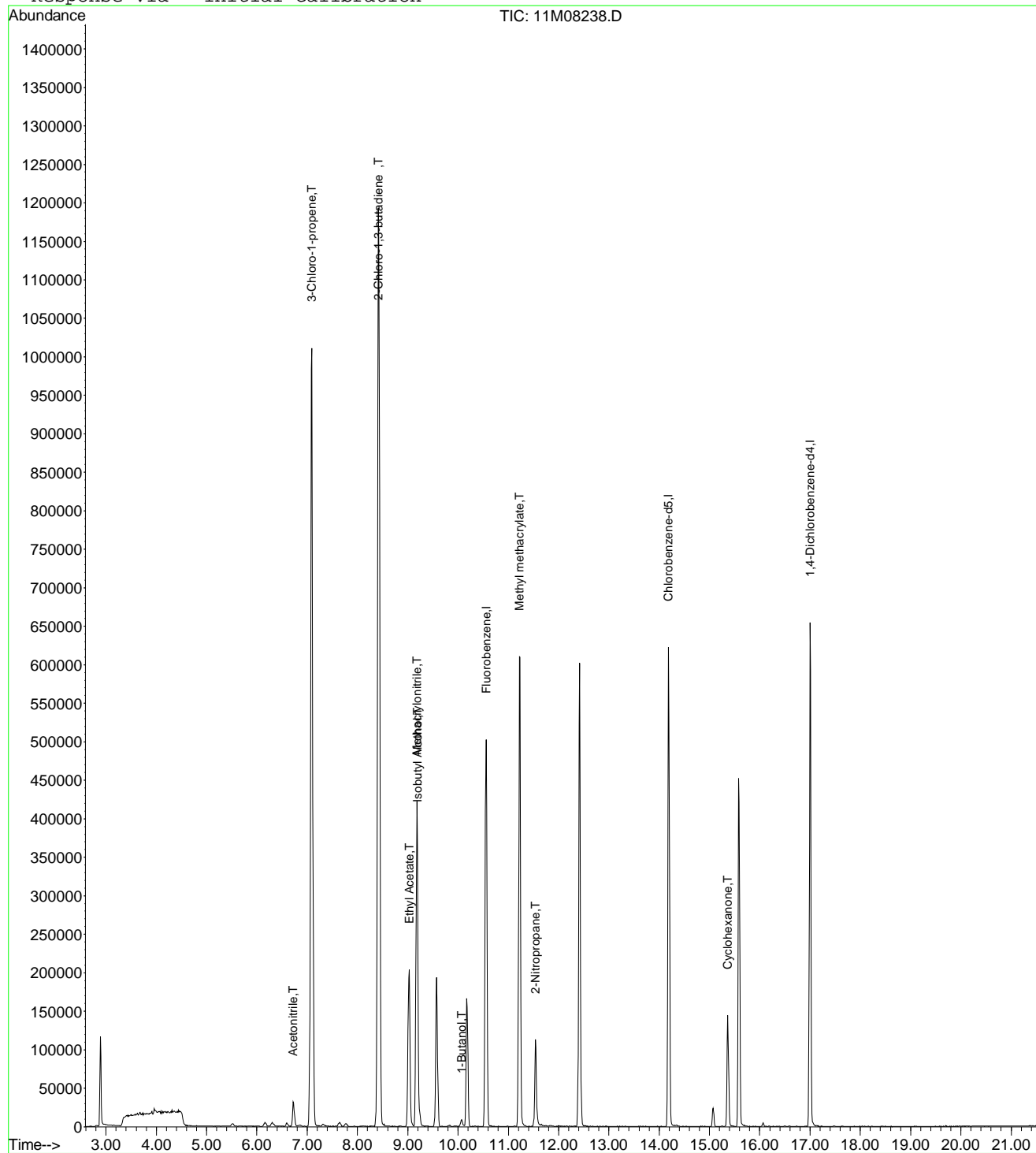
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Thu Aug 20 11:41:47 2015

Response via : Initial Calibration



11M08238.D A9FOOWT.M

Thu Aug 20 11:43:51 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D Vial: 5
 Acq On : 14 Jun 2015 11:34 Operator: TMB /DLW
 Sample : WG527475-05 100ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 75% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2 T	Acetonitrile	100.0000	91.7658	8.2	100	0.00
3 T	3-Chloro-1-propene	100.0000	100.9152	-0.9	100	0.00
4 T	2-Chloro-1,3-butadiene	100.0000	98.3785	1.6	100	0.00
5 T	Methacrylonitrile	100.0000	97.7026	2.3	100	0.00
6 T	Isobutyl Alcohol	200.0000	203.8255	-1.9	100	0.00
7 T	1-Butanol	100.0000	102.6849	-2.7	100	0.00
8 T	Cyclohexanone	100.0000	106.7319	-6.7	100	0.00
9 T	2-Nitropropane	100.0000	102.5921	-2.6	100	0.00
10 T	Ethyl Acetate	100.0000	101.2749	-1.3	100	0.00
11 T	Methyl methacrylate	100.0000	98.6916	1.3	100	0.00
12 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
13 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M08238.D A9FOOWT.M Thu Aug 20 11:44:51 2015

Page 1

Data File : C:\MSDCHEM\1\data\061415\11M08239.D Vial: 6
 Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
 Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 14 12:28:24 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	594644	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.19	117	435974	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	229058	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	154998	23.4820	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.92%	
43) 1,2-Dichloroethane-d4	10.17	65	140981	19.6644	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	78.64%#	
57) Toluene-d8	12.42	98	523704	28.4412	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	113.76%#	
78) p-Bromofluorobenzene	15.58	95	185106	25.2547	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.00%	
Target Compounds						
						Qvalue
3) Chloromethane	3.68	50	2432	0.2354	ug/L #	41
6) Bromomethane	4.80	94	741	0.2165	ug/L	88
13) Acetone	6.30	43	14437	8.2458	ug/L	88
24) n-Hexane	7.78	57	4836	0.4453	ug/L #	80
29) 2-Butanone	8.84	43	1521	0.5342	ug/L #	77
39) Cyclohexane	9.83	56	2702	0.1826	ug/L #	90
47) Methylcyclohexane	11.23	83	2411	0.2326	ug/L #	1
70) Ethylbenzene	14.34	106	1287	0.1439	ug/L	84
71) m-,p-Xylene	14.34	106	1287	0.1218	ug/L #	4

(#) = qualifier out of range (m) = manual integration
 11M08239.D 8260WTR.M Sun Jun 14 12:28:25 2015

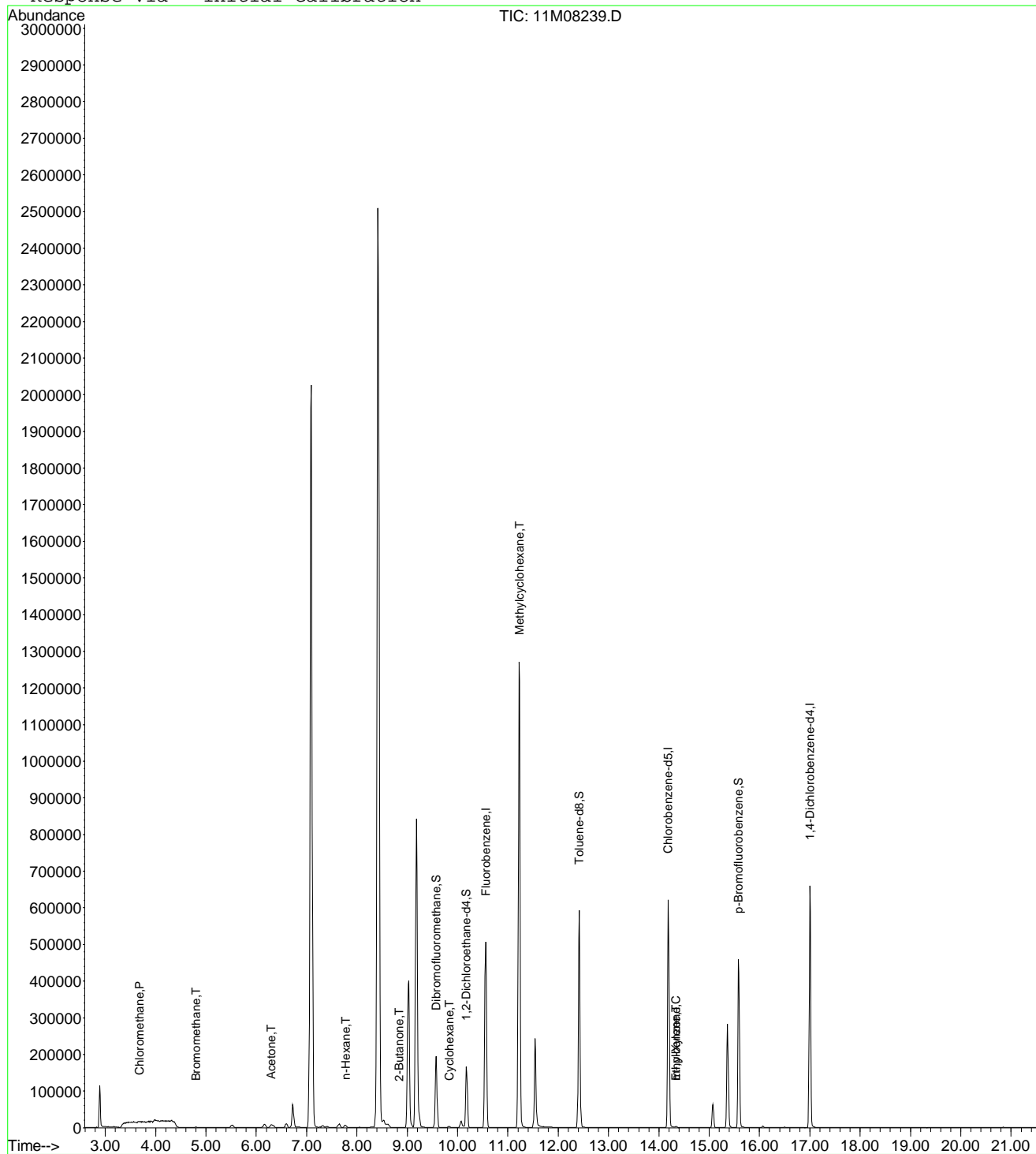
Page 1

Data File : C:\MSDchem\1\data\061415\11M08239.D
 Acq On : 14 Jun 2015 12:06
 Sample : WG527475-06 200ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Jun 14 12:28 2015

Vial: 6
 Operator: TMB /DLW
 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 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D Vial: 6
 Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
 Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 16 09:43:59 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Fri Jun 05 12:09:09 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	594644	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	435974	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	229058	25.00	ug/L	-0.03

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	84573	178.0639	ug/L	99
3) 3-Chloro-1-propene	7.09	41	1784664	172.8000	ug/L	83
4) 2-Chloro-1,3-butadiene	8.42	53	2139008	202.1651	ug/L	95
5) Methacrylonitrile	9.18	41	534300	187.7261	ug/L	82
6) Isobutyl Alcohol	9.19	43	51366	470.7117	ug/L	98
7) 1-Butanol	10.07	56	15596	340.9432	ug/L #	87
8) Cyclohexanone	15.36	55	142194	181.0260	ug/L	95
9) 2-Nitropropane	11.54	43	168554	154.5666	ug/L	84
10) Ethyl Acetate	9.03	43	649446	185.5458	ug/L	94
11) Methyl methacrylate	11.22	41	751654	199.1209	ug/L	88

 (#) = qualifier out of range (m) = manual integration
 11M08239.D A9FOOWT.M Tue Jun 16 09:43:59 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D

Vial: 6

Acq On : 14 Jun 2015 12:06

Operator: TMB /DLW

Sample : WG527475-06 200ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 16 9:43 2015

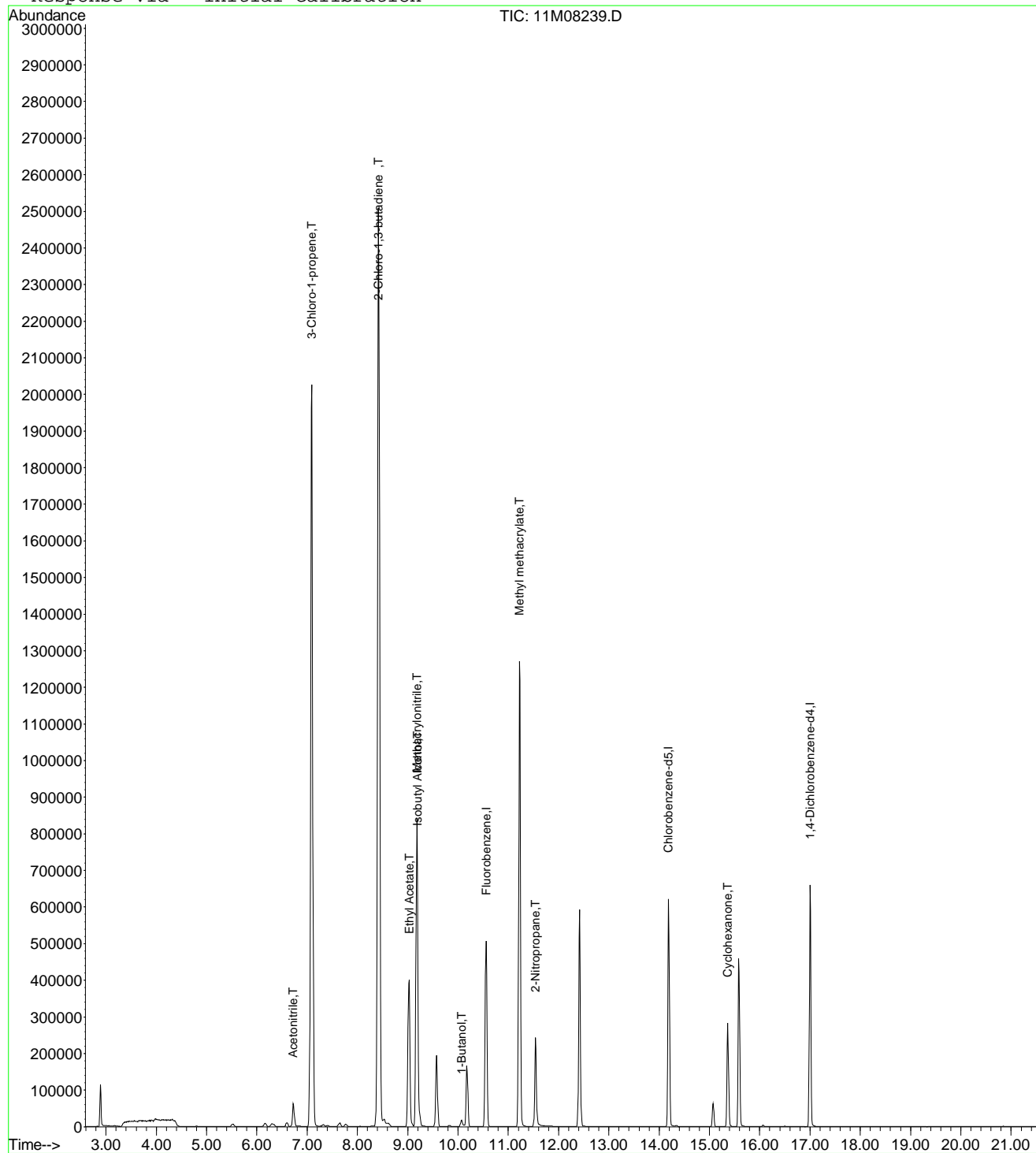
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Fri Jun 05 12:09:09 2015

Response via : Initial Calibration



11M08239.D A9FOOWT.M

Tue Jun 16 09:43:59 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D Vial: 6
 Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
 Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28:11 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	594644	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	435974	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	229058	25.00	ug/L	-0.03

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration
 11M08239.D A9FOOWT.M Thu Aug 20 11:28:11 2015

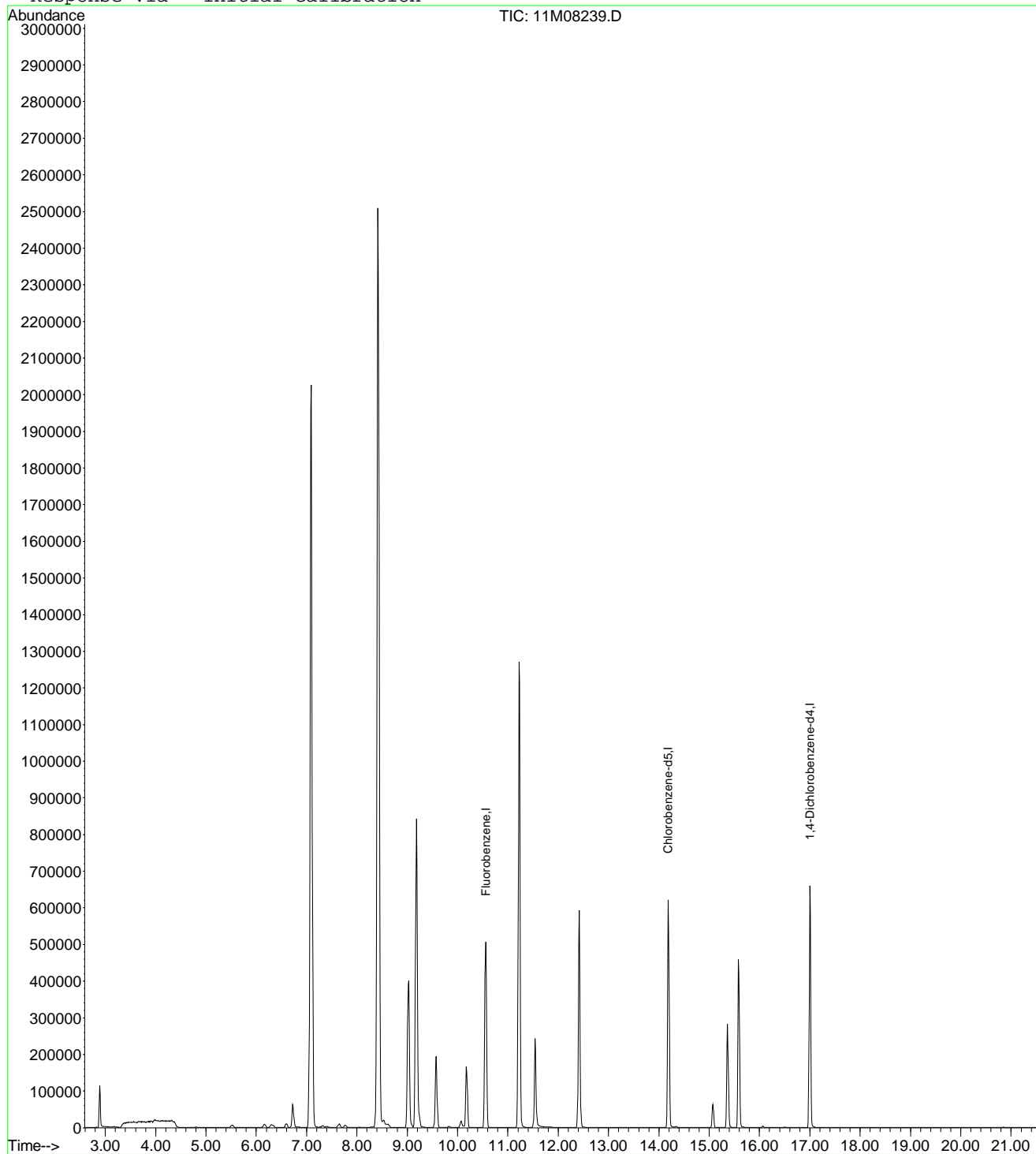
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D
 Acq On : 14 Jun 2015 12:06
 Sample : WG527475-06 200ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28 2015

Vial: 6
 Operator: TMB /DLW
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D Vial: 6
 Acq On : 14 Jun 2015 12:06 Operator: TMB /DLW
 Sample : WG527475-06 200ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43:51 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	594644	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.19	117	435974	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	229058	25.00	ug/L	0.00

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	84573	185.4358	ug/L	99
3) 3-Chloro-1-propene	7.09	41	1784664	199.4102	ug/L	83
4) 2-Chloro-1,3-butadiene	8.42	53	2139008	199.0949	ug/L	95
5) Methacrylonitrile	9.18	41	534300	193.1571	ug/L	82
6) Isobutyl Alcohol	9.19	43	51337	360.6585	ug/L	98
7) 1-Butanol	10.07	56	15596	207.1283	ug/L #	87
8) Cyclohexanone	15.36	55	142194	207.9025	ug/L	95
9) 2-Nitropropane	11.54	43	168554	186.4698	ug/L	84
10) Ethyl Acetate	9.03	43	649446	197.9570	ug/L	94
11) Methyl methacrylate	11.22	41	751654	197.0377	ug/L	88

 (#) = qualifier out of range (m) = manual integration
 11M08239.D A9FOOWT.M Thu Aug 20 11:43:51 2015

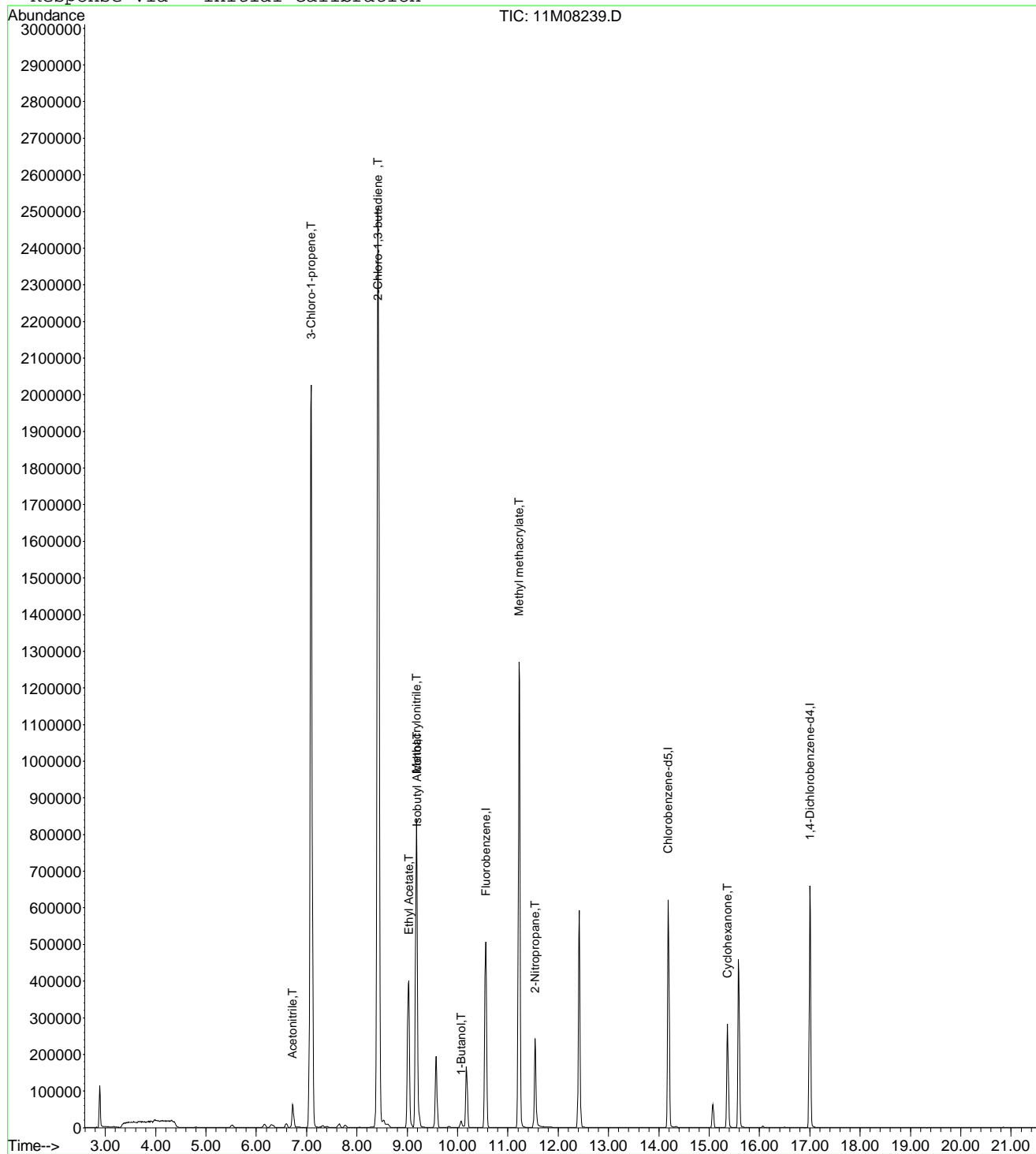
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D
 Acq On : 14 Jun 2015 12:06
 Sample : WG527475-06 200ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43 2015

Vial: 6
 Operator: TMB /DLW
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\data\061415\11M08240.D Vial: 7
 Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
 Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 14 13:00:23 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	590021	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.19	117	427539	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.00	152	226251	25.00	ug/L	-0.01

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.57	111	154989	23.6646	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	94.64%	
43) 1,2-Dichloroethane-d4	10.17	65	137616	19.3454	ug/L	-0.01
Spiked Amount	25.000	Range 80 - 120	Recovery	=	77.40%#	
57) Toluene-d8	12.42	98	526940	29.1815	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	116.72%#	
78) p-Bromofluorobenzene	15.58	95	183651	25.3670	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.48%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Chloromethane	3.68	50	4067	0.3968	ug/L	98
6) Bromomethane	4.81	94	1456	0.4286	ug/L	94
11) Acrolein	6.23	56	2665	2.6647	ug/L #	63
13) Acetone	6.30	43	17405	10.0188	ug/L	87
18) Methyl acetate	7.03	43	1109	0.1829	ug/L #	67
20) Carbon Disulfide	7.31	76	3126	0.1557	ug/L #	88
24) n-Hexane	7.78	57	7639	0.7089	ug/L #	89
29) 2-Butanone	8.84	43	1699	0.6014	ug/L #	77
30) Propionitrile	9.00	54	221	0.2481	ug/L #	1
39) Cyclohexane	9.84	56	3351	0.2282	ug/L #	68
71) m-,p-Xylene	14.34	106	1591	0.1535	ug/L #	17

(#) = qualifier out of range (m) = manual integration
 11M08240.D 8260WTR.M Sun Jun 14 13:00:23 2015

Page 1

Data File : C:\MSDchem\1\data\061415\11M08240.D

Vial: 7

Acq On : 14 Jun 2015 12:38

Operator: TMB /DLW

Sample : WG527475-07 300ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 14 13:00 2015

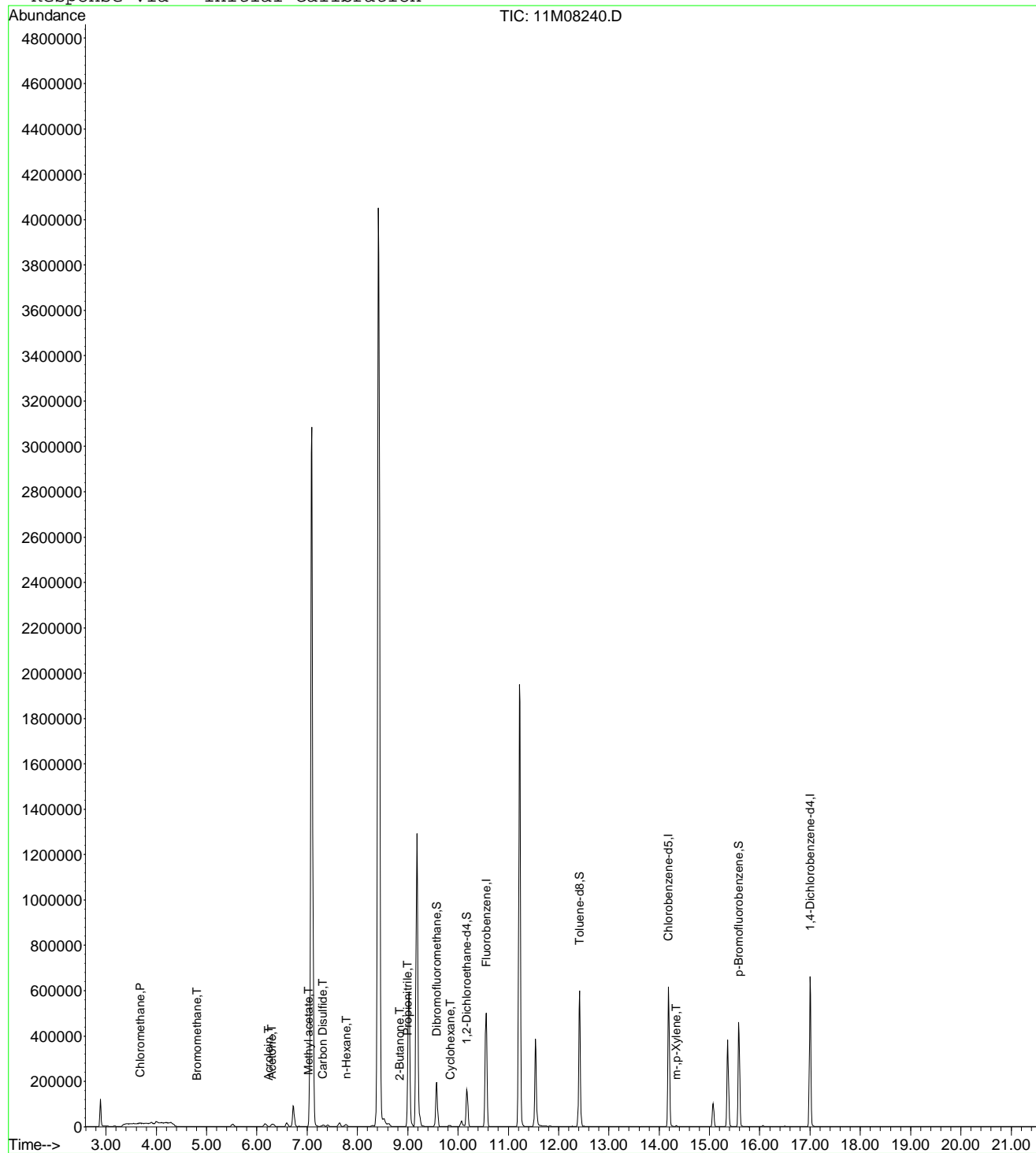
Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)

Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11

Last Update : Sat Jun 13 12:38:34 2015

Response via : Initial Calibration



11M08240.D 8260WTR.M

Sun Jun 14 13:00:24 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D Vial: 7
 Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
 Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 16 09:44:00 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Fri Jun 05 12:09:09 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	590021	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	427539	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	226251	25.00	ug/L	-0.03

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	124797	264.8121	ug/L	99
3) 3-Chloro-1-propene	7.09	41	2683921	261.9067	ug/L	83
4) 2-Chloro-1,3-butadiene	8.42	53	3409409	324.7599	ug/L	95
5) Methacrylonitrile	9.18	41	809195	286.5380	ug/L	82
6) Isobutyl Alcohol	9.19	43	83440	770.6251	ug/L	88
7) 1-Butanol	10.07	56	21640	476.7773	ug/L	91
8) Cyclohexanone	15.36	55	191378	245.5507	ug/L	95
9) 2-Nitropropane	11.54	43	277273	256.2558	ug/L	85
10) Ethyl Acetate	9.03	43	962378	277.1043	ug/L #	93
11) Methyl methacrylate	11.22	41	1142167	304.9426	ug/L	88

(#) = qualifier out of range (m) = manual integration
 11M08240.D A9FOOWT.M Tue Jun 16 09:44:01 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D

Vial: 7

Acq On : 14 Jun 2015 12:38

Operator: TMB /DLW

Sample : WG527475-07 300ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 16 9:44 2015

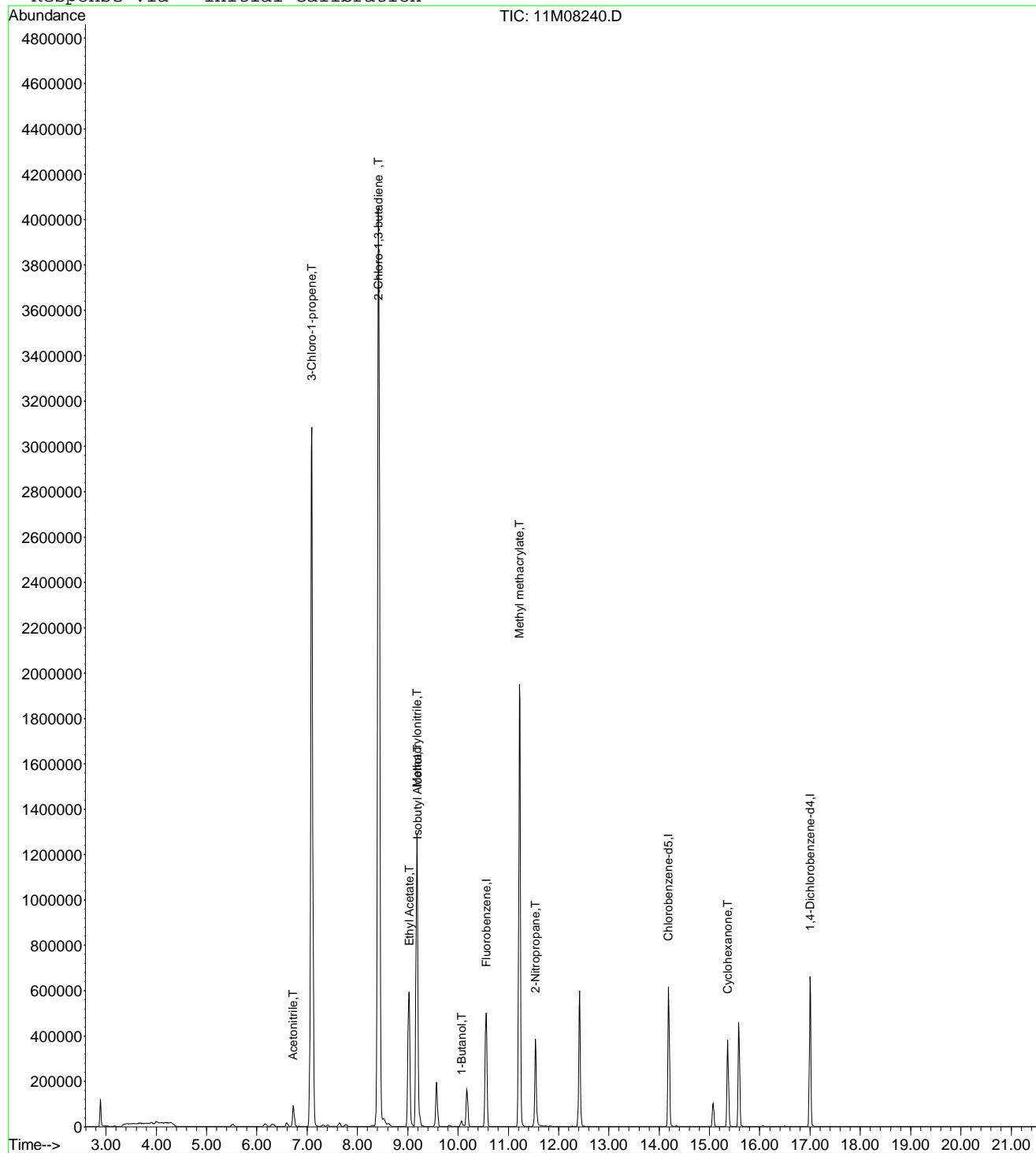
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Fri Jun 05 12:09:09 2015

Response via : Initial Calibration



11M08240.D A9FOOWT.M

Tue Jun 16 09:44:01 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D Vial: 7
 Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
 Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28:12 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	590021	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	427539	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	226251	25.00	ug/L	-0.03

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration
 11M08240.D A9FOOWT.M Thu Aug 20 11:28:12 2015

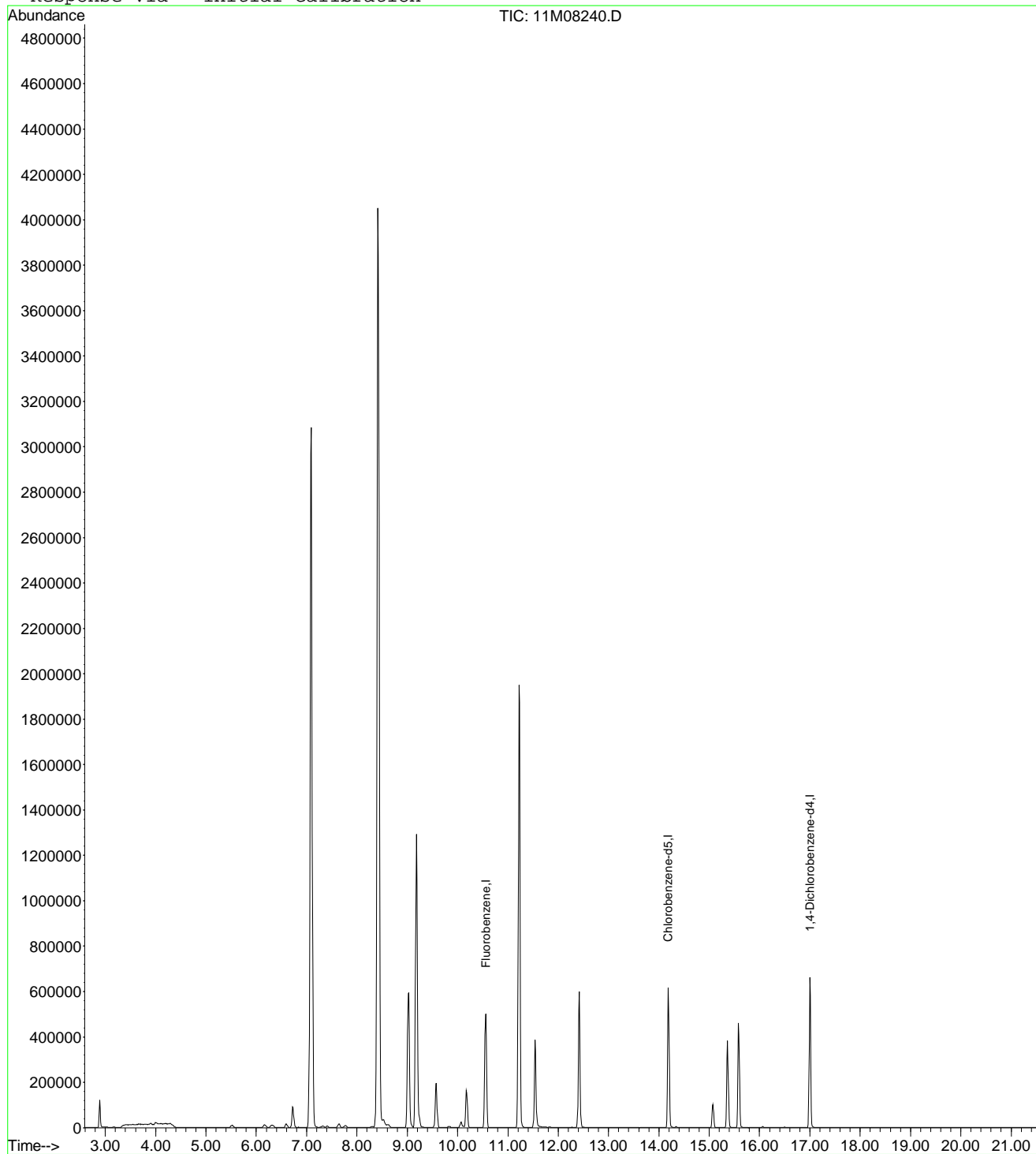
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D
 Acq On : 14 Jun 2015 12:38
 Sample : WG527475-07 300ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28 2015

Vial: 7
 Operator: TMB /DLW
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D Vial: 7
 Acq On : 14 Jun 2015 12:38 Operator: TMB /DLW
 Sample : WG527475-07 300ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43:52 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	590021	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.19	117	427539	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	226251	25.00	ug/L	0.00

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	124797	275.7754	ug/L	99
3) 3-Chloro-1-propene	7.09	41	2683921	302.2388	ug/L	83
4) 2-Chloro-1,3-butadiene	8.42	53	3409409	319.8280	ug/L	95
5) Methacrylonitrile	9.18	41	809195	294.8276	ug/L	82
6) Isobutyl Alcohol	9.19	43	83440	590.7851	ug/L	88
7) 1-Butanol	10.07	56	21640	289.6496	ug/L	91
8) Cyclohexanone	15.36	55	191378	282.0071	ug/L	95
9) 2-Nitropropane	11.54	43	277273	287.7263	ug/L	85
10) Ethyl Acetate	9.03	43	962378	295.6400	ug/L #	93
11) Methyl methacrylate	11.22	41	1142167	301.7522	ug/L	88

 (#) = qualifier out of range (m) = manual integration
 11M08240.D A9FOOWT.M Thu Aug 20 11:43:53 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D

Vial: 7

Acq On : 14 Jun 2015 12:38

Operator: TMB /DLW

Sample : WG527475-07 300ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Aug 20 11:43 2015

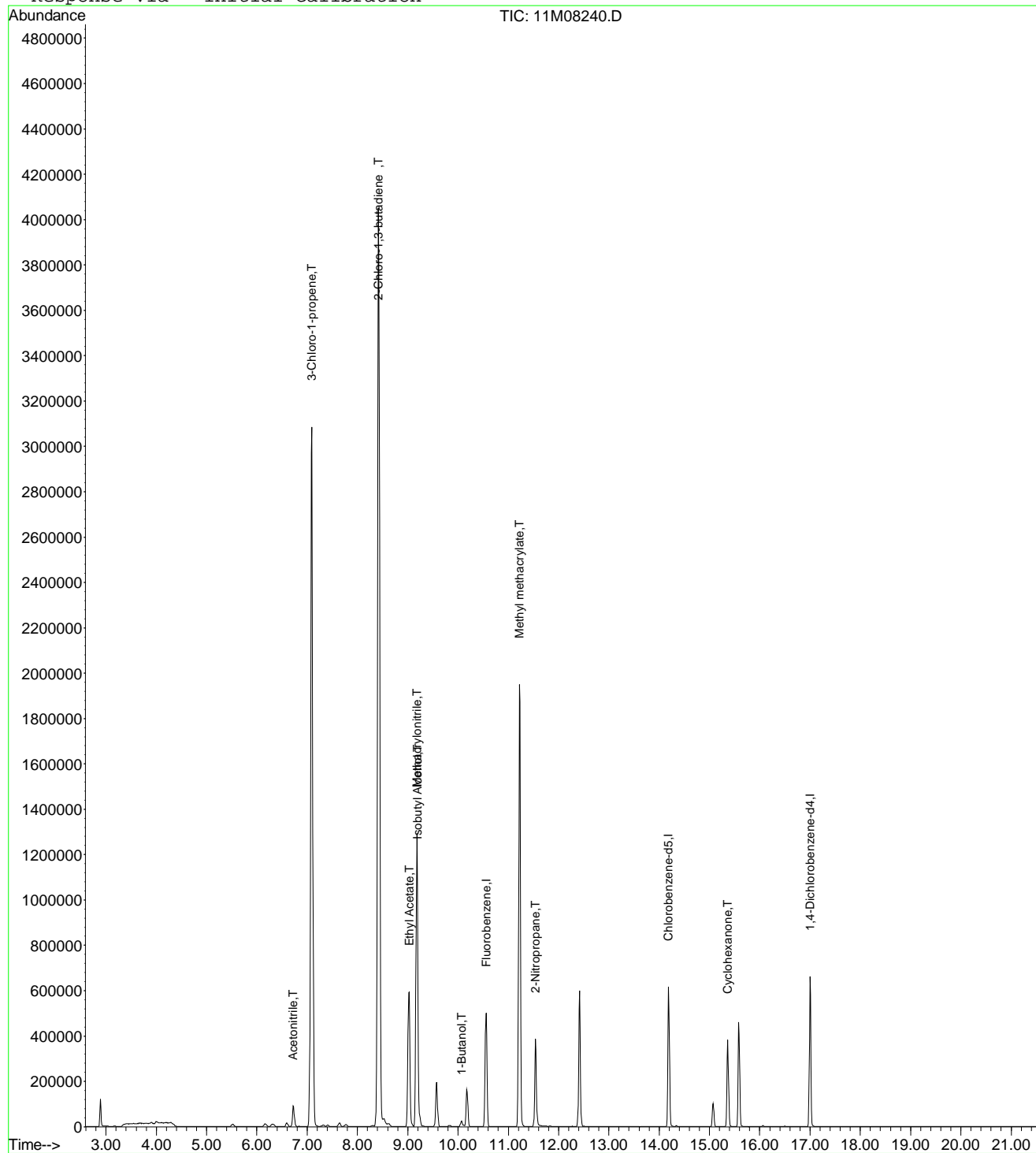
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Thu Aug 20 11:41:47 2015

Response via : Initial Calibration



11M08240.D A9FOOWT.M

Thu Aug 20 11:43:53 2015

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Data File : C:\MSDCHEM\1\data\061415\11M08241.D Vial: 8
 Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
 Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 14 13:32:12 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	602921	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.19	117	438769	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	234608	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	157490	23.5320	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	94.12%	
43) 1,2-Dichloroethane-d4	10.17	65	142445	19.5958	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	78.40%#	
57) Toluene-d8	12.42	98	529319	28.5630	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	114.24%#	
78) p-Bromofluorobenzene	15.58	95	184124	24.5264	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	98.12%	
Target Compounds						
						Qvalue
3) Chloromethane	3.67	50	5951	0.5682	ug/L	86
4) Vinyl Chloride	3.90	62	1145	0.1556	ug/L #	42
6) Bromomethane	4.81	94	1631	0.4699	ug/L #	56
11) Acrolein	6.25	56	3616	3.5382	ug/L #	49
13) Acetone	6.30	43	20681	11.6499	ug/L	94
18) Methyl acetate	7.02	43	2450	0.3954	ug/L #	67
19) Methylene Chloride	7.28	84	869	0.1218	ug/L #	49
20) Carbon Disulfide	7.31	76	4210	0.2052	ug/L	97
24) n-Hexane	7.77	57	9223	0.8376	ug/L #	93
29) 2-Butanone	8.83	43	2572	0.8910	ug/L #	77
31) 2,2-Dichloropropane	9.03	77	1535	0.1632	ug/L #	41
39) Cyclohexane	9.83	56	5053	0.3367	ug/L	91
71) m-,p-Xylene	14.34	106	2254	0.2119	ug/L #	36

(#) = qualifier out of range (m) = manual integration
 11M08241.D 8260WTR.M Sun Jun 14 13:32:14 2015

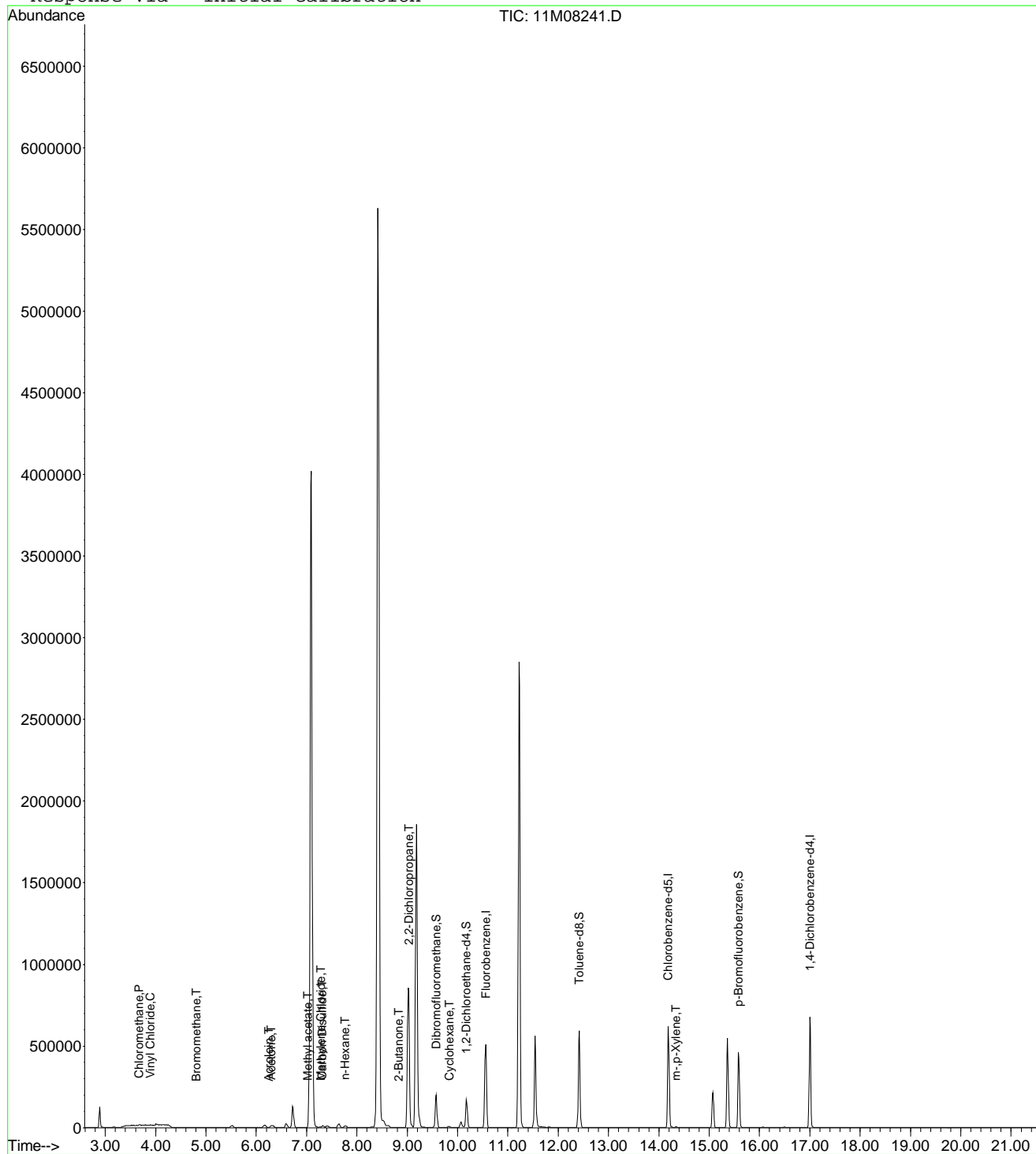
Page 1

Data File : C:\MSDchem\1\data\061415\11M08241.D
 Acq On : 14 Jun 2015 13:10
 Sample : WG527475-08 400ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Jun 14 13:32 2015

Vial: 8
 Operator: TMB /DLW
 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 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D Vial: 8
 Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
 Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 16 09:44:01 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Fri Jun 05 12:09:09 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	602921	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	438769	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	234608	25.00	ug/L	-0.03

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	173440	360.1555	ug/L	100
3) 3-Chloro-1-propene	7.09	41	3550959	339.1014	ug/L	82
4) 2-Chloro-1,3-butadiene	8.42	53	4600620	428.8513	ug/L	94
5) Methacrylonitrile	9.18	41	1153886	399.8518	ug/L	82
6) Isobutyl Alcohol	9.19	43	123004	1111.7192	ug/L	89
7) 1-Butanol	10.07	56	32355	697.6005	ug/L #	86
8) Cyclohexanone	15.36	55	274055	344.1074	ug/L	95
9) 2-Nitropropane	11.54	43	405951	367.1528	ug/L	87
10) Ethyl Acetate	9.02	43	1363919	384.3202	ug/L #	93
11) Methyl methacrylate	11.22	41	1637406	427.8110	ug/L	87

 (#) = qualifier out of range (m) = manual integration
 11M08241.D A9FOOWT.M Tue Jun 16 09:44:02 2015

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Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D

Vial: 8

Acq On : 14 Jun 2015 13:10

Operator: TMB /DLW

Sample : WG527475-08 400ug/L STD8260

Inst : hpms11

Misc : 1,1 STD70883

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Jun 16 9:44 2015

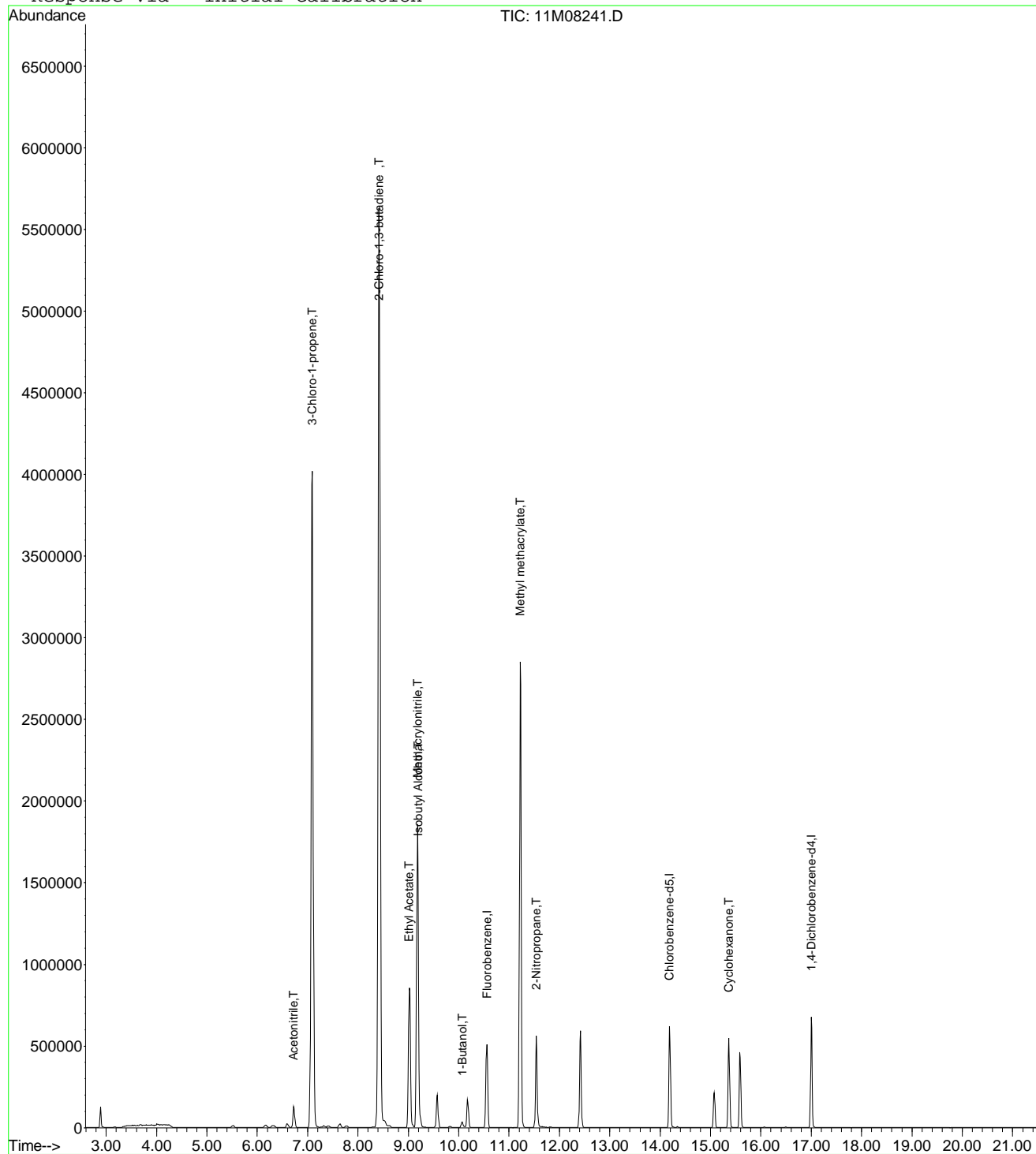
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Fri Jun 05 12:09:09 2015

Response via : Initial Calibration



11M08241.D A9FOOWT.M

Tue Jun 16 09:44:02 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D Vial: 8
 Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
 Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28:13 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	602921	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	438769	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	234608	25.00	ug/L	-0.03

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration
 11M08241.D A9FOOWT.M Thu Aug 20 11:28:14 2015

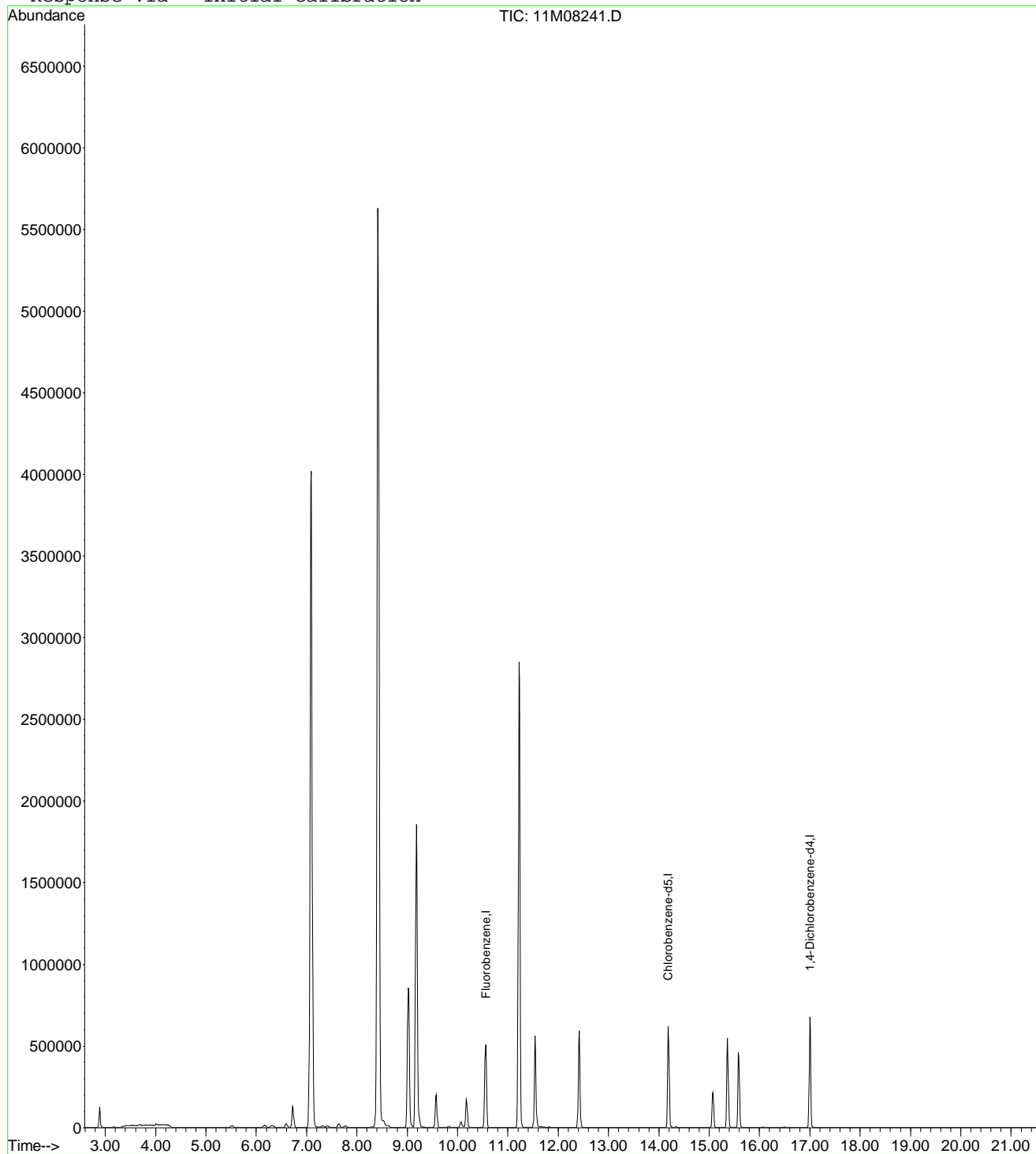
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D
 Acq On : 14 Jun 2015 13:10
 Sample : WG527475-08 400ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28 2015

Vial: 8
 Operator: TMB /DLW
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D Vial: 8
 Acq On : 14 Jun 2015 13:10 Operator: TMB /DLW
 Sample : WG527475-08 400ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43:53 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	602921	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.19	117	438769	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	234608	25.00	ug/L	0.00

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	173440	375.0660	ug/L	100
3) 3-Chloro-1-propene	7.09	41	3550959	391.3211	ug/L	82
4) 2-Chloro-1,3-butadiene	8.42	53	4600620	422.3386	ug/L	94
5) Methacrylonitrile	9.18	41	1153886	411.4196	ug/L	82
6) Isobutyl Alcohol	9.19	43	123004	852.2785	ug/L	89
7) 1-Butanol	10.07	56	32355	423.8032	ug/L #	86
8) Cyclohexanone	15.36	55	274055	395.1962	ug/L	95
9) 2-Nitropropane	11.54	43	405951	398.1514	ug/L	87
10) Ethyl Acetate	9.02	43	1363919	410.0276	ug/L #	93
11) Methyl methacrylate	11.22	41	1637406	423.3352	ug/L	87

 (#) = qualifier out of range (m) = manual integration
 11M08241.D A9FOOWT.M Thu Aug 20 11:43:54 2015

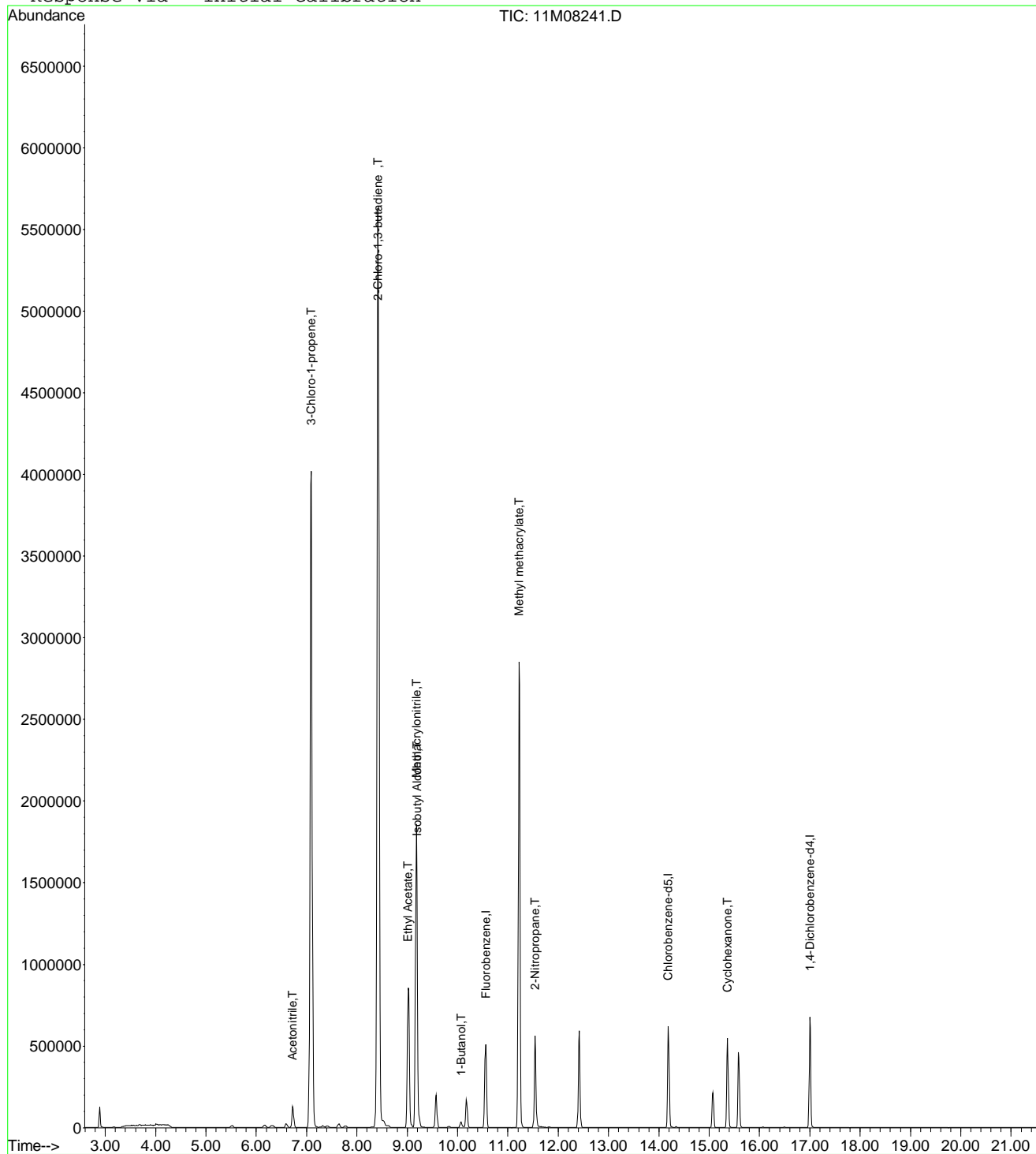
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08241.D
Acq On : 14 Jun 2015 13:10
Sample : WG527475-08 400ug/L STD8260
Misc : 1,1 STD70883
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015

Vial: 8
Operator: TMB /DLW
Inst : hpms11
Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration



11M08241.D A9FOOWT.M Thu Aug 20 11:43:54 2015

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Data File : C:\MSDCHEM\1\data\061415\11M08242.D Vial: 9
 Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
 Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 14 14:04:11 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	597347	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.19	117	436979	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	232858	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.57	111	155779	23.4935	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.96%	
43) 1,2-Dichloroethane-d4	10.17	65	141894	19.7022	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	78.80%#	
57) Toluene-d8	12.42	98	528602	28.6412	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	114.56%#	
78) p-Bromofluorobenzene	15.58	95	185769	24.9315	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	99.72%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.22	85	1211	0.1346	ug/L #	65
3) Chloromethane	3.68	50	8612	0.8299	ug/L	97
4) Vinyl Chloride	3.90	62	1110	0.1522	ug/L #	42
6) Bromomethane	4.80	94	872	0.2536	ug/L	68
11) Acrolein	6.25	56	4513	4.4571	ug/L	75
13) Acetone	6.30	43	20816	11.8354	ug/L	98
18) Methyl acetate	7.02	43	2826	0.4604	ug/L #	67
19) Methylene Chloride	7.26	84	1446	0.2045	ug/L	95
20) Carbon Disulfide	7.31	76	5502	0.2707	ug/L #	81
24) n-Hexane	7.77	57	12135	1.1123	ug/L #	96
29) 2-Butanone	8.83	43	2711	0.9479	ug/L #	77
30) Propionitrile	9.00	54	625	0.6931	ug/L #	1
31) 2,2-Dichloropropane	9.03	77	1917	0.2057	ug/L #	41
39) Cyclohexane	9.84	56	6427	0.4323	ug/L	96
71) m-,p-Xylene	14.34	106	3239	0.3057	ug/L	58

(#) = qualifier out of range (m) = manual integration
 11M08242.D 8260WTR.M Sun Jun 14 14:04:12 2015

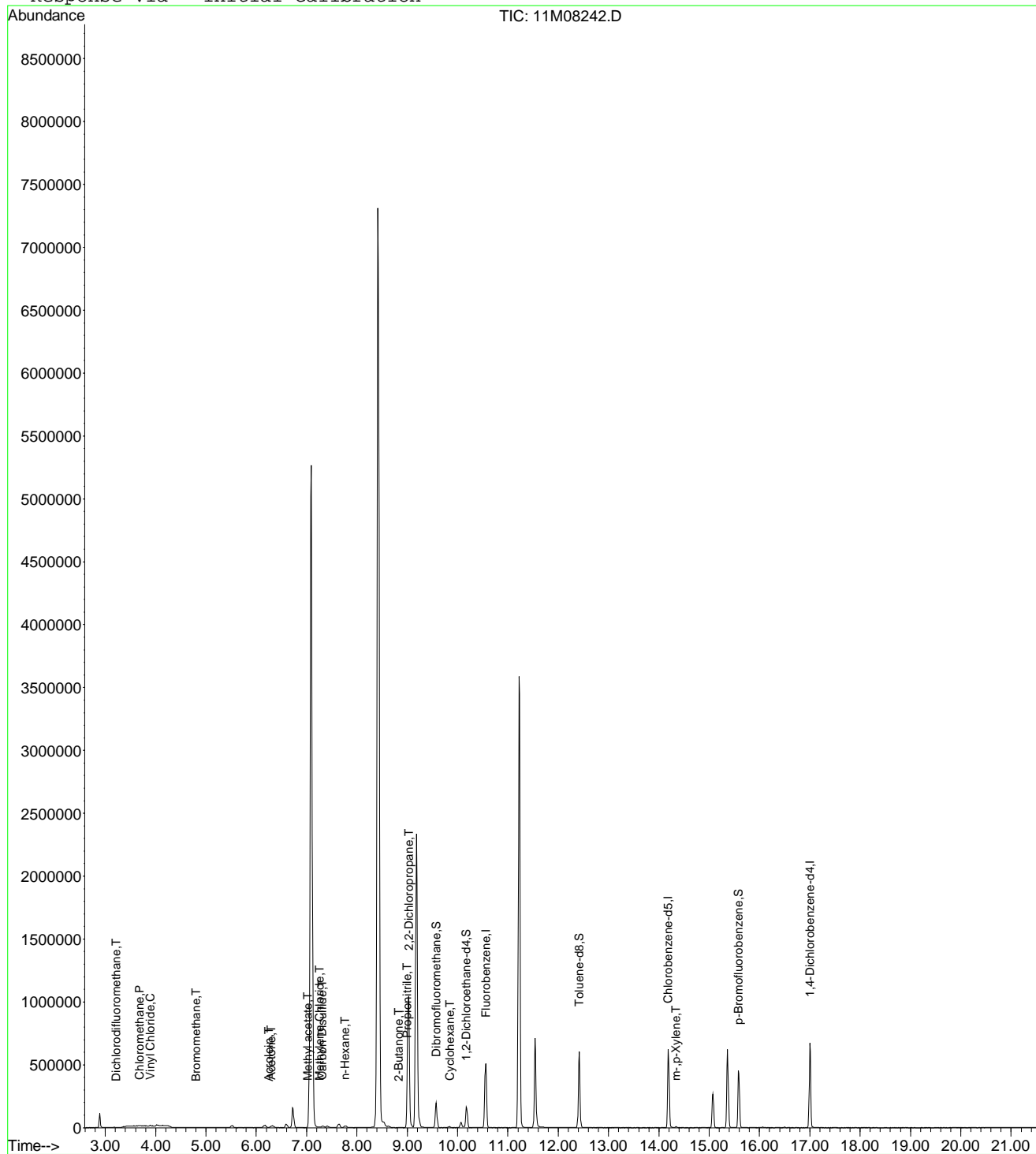
Page 1

Data File : C:\MSDchem\1\data\061415\11M08242.D
 Acq On : 14 Jun 2015 13:42
 Sample : WG527475-09 500ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Jun 14 14:04 2015

Vial: 9
 Operator: TMB /DLW
 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 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D Vial: 9
 Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
 Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 16 09:44:02 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Fri Jun 05 12:09:09 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	597347	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	436979	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	232858	25.00	ug/L	-0.03

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	213542	447.5667	ug/L	100
3) 3-Chloro-1-propene	7.09	41	4596340	443.0265	ug/L	80
4) 2-Chloro-1,3-butadiene	8.42	53	5927514	557.6949	ug/L	92
5) Methacrylonitrile	9.18	41	1420105	496.6956	ug/L	79
6) Isobutyl Alcohol	9.19	43	141621	1291.9249	ug/L	95
7) 1-Butanol	10.07	56	37640	819.1222	ug/L	86
8) Cyclohexanone	15.36	55	308601	391.0996	ug/L	95
9) 2-Nitropropane	11.54	43	527973	481.9685	ug/L	88
10) Ethyl Acetate	9.03	43	1662142	472.7227	ug/L #	93
11) Methyl methacrylate	11.22	41	2052004	541.1374	ug/L	86

 (#) = qualifier out of range (m) = manual integration
 11M08242.D A9FOOWT.M Tue Jun 16 09:44:03 2015

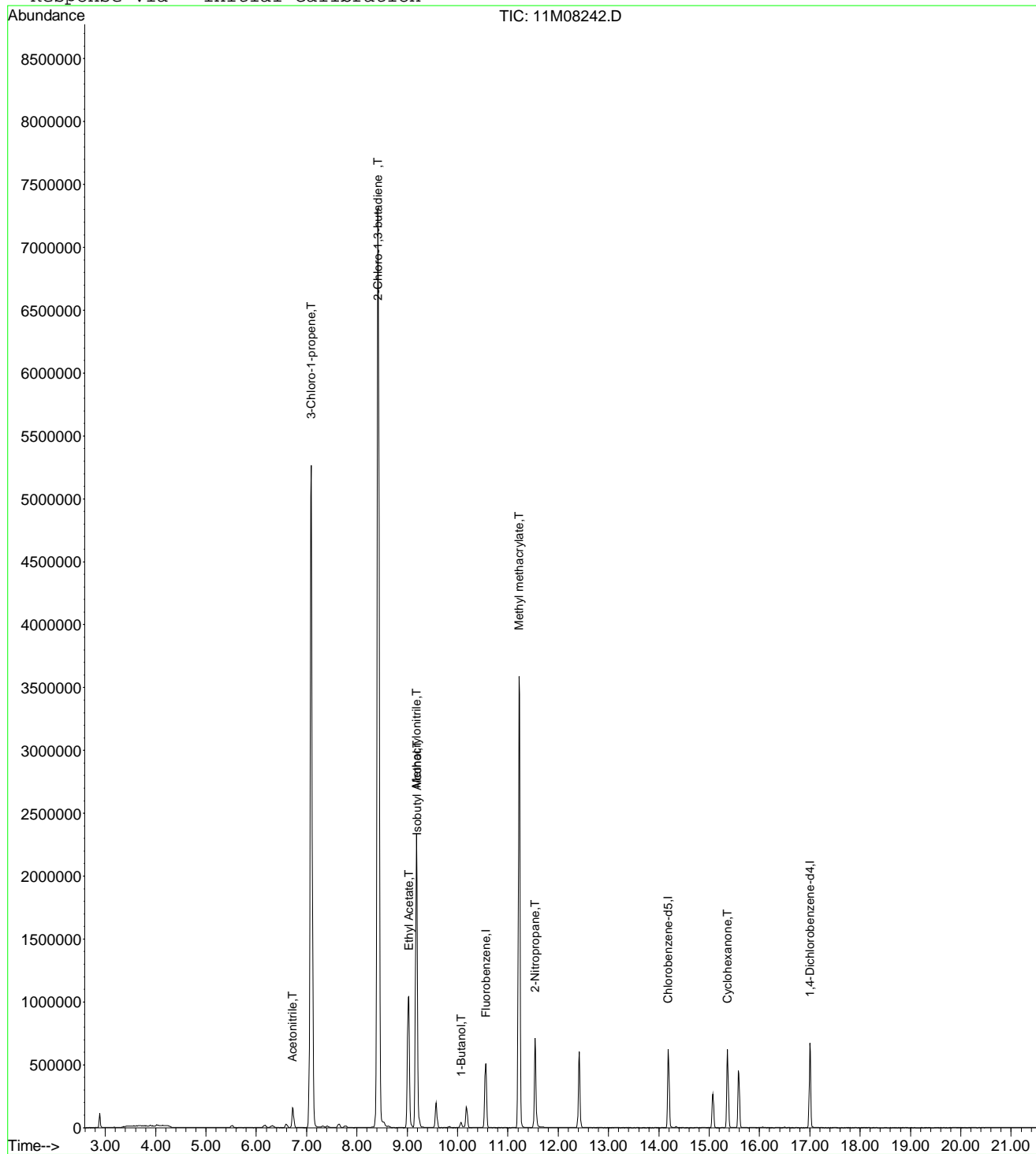
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D
 Acq On : 14 Jun 2015 13:42
 Sample : WG527475-09 500ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Jun 16 9:44 2015

Vial: 9
 Operator: TMB /DLW
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Fri Jun 05 12:09:09 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D Vial: 9
 Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
 Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28:15 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	597347	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	436979	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.00	152	232858	25.00	ug/L	-0.03

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration
 11M08242.D A9FOOWT.M Thu Aug 20 11:28:15 2015

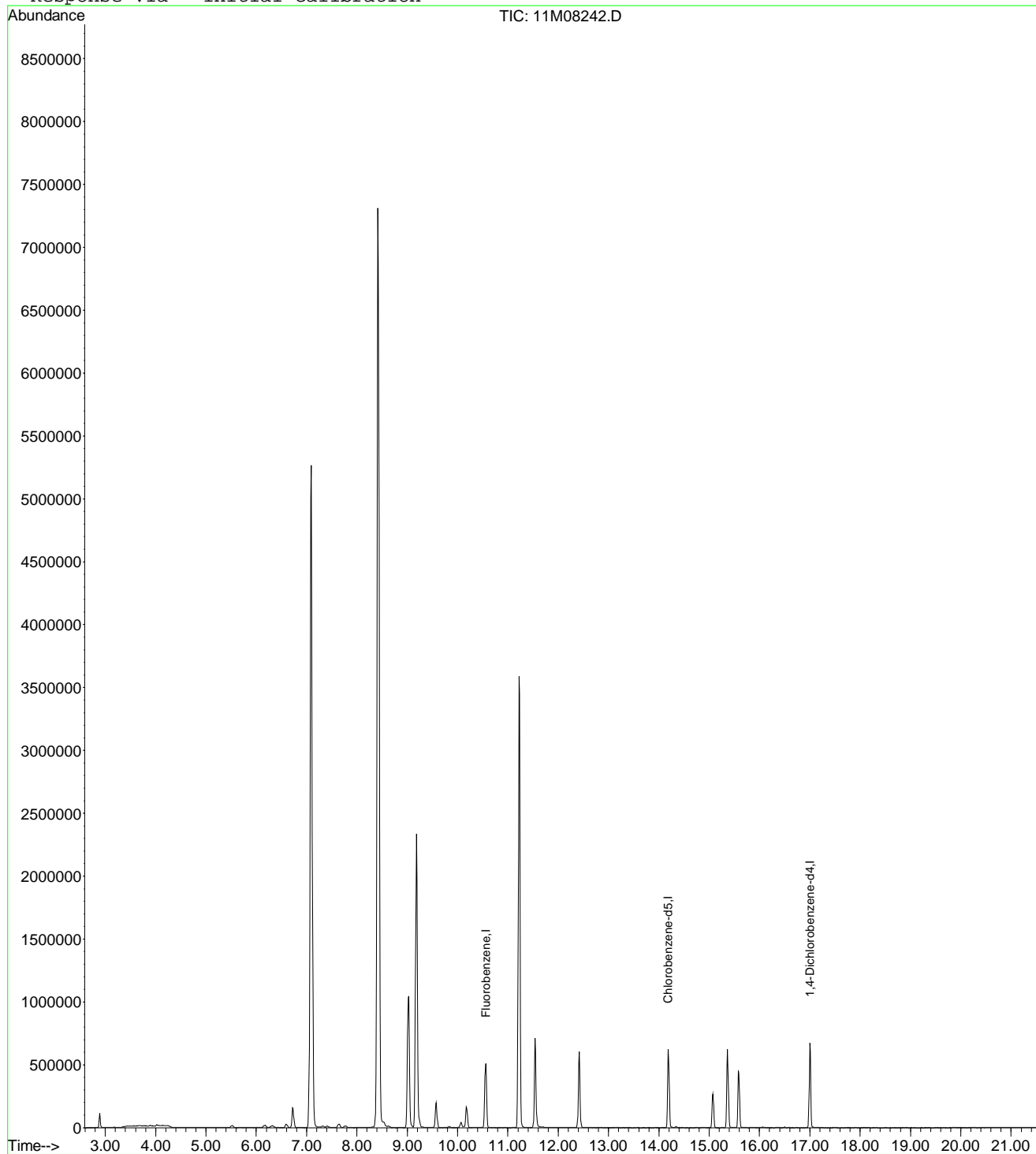
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D
 Acq On : 14 Jun 2015 13:42
 Sample : WG527475-09 500ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28 2015

Vial: 9
 Operator: TMB /DLW
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D Vial: 9
 Acq On : 14 Jun 2015 13:42 Operator: TMB /DLW
 Sample : WG527475-09 500ug/L STD8260 Inst : hpms11
 Misc : 1,1 STD70883 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43:54 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	597347	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.19	117	436979	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.00	152	232858	25.00	ug/L	0.00

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	213542	466.0961	ug/L	100
3) 3-Chloro-1-propene	7.09	41	4596340	511.2501	ug/L	80
4) 2-Chloro-1,3-butadiene	8.42	53	5927514	549.2255	ug/L	92
5) Methacrylonitrile	9.18	41	1420105	511.0651	ug/L	79
6) Isobutyl Alcohol	9.19	43	141574	990.1011	ug/L	95
7) 1-Butanol	10.07	56	37640	497.6295	ug/L	86
8) Cyclohexanone	15.36	55	308601	449.1652	ug/L	95
9) 2-Nitropropane	11.54	43	527973	512.4786	ug/L	88
10) Ethyl Acetate	9.03	43	1662142	504.3435	ug/L #	93
11) Methyl methacrylate	11.22	41	2052004	535.4759	ug/L	86

 (#) = qualifier out of range (m) = manual integration
 11M08242.D A9FOOWT.M Thu Aug 20 11:43:55 2015

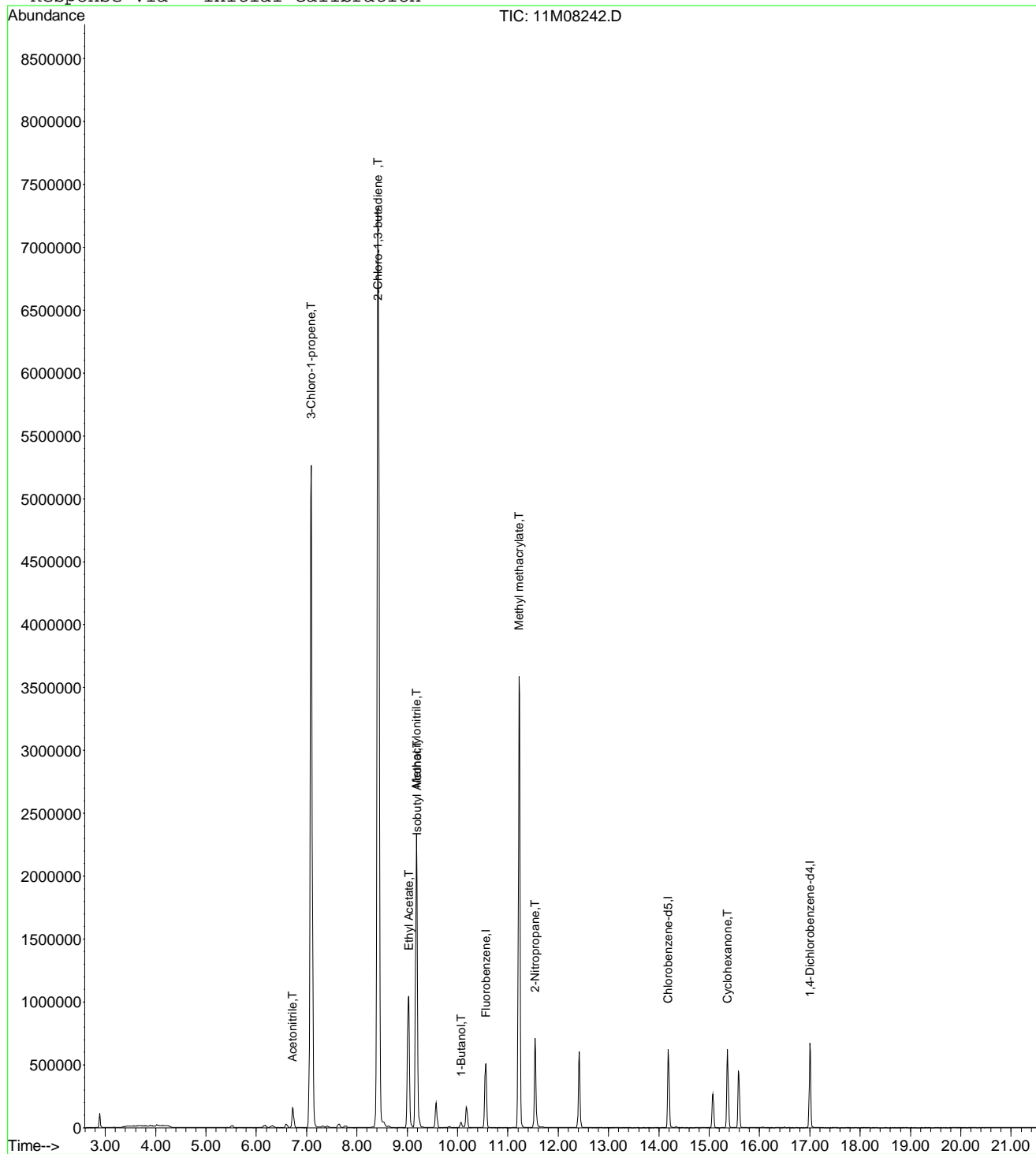
Page 1

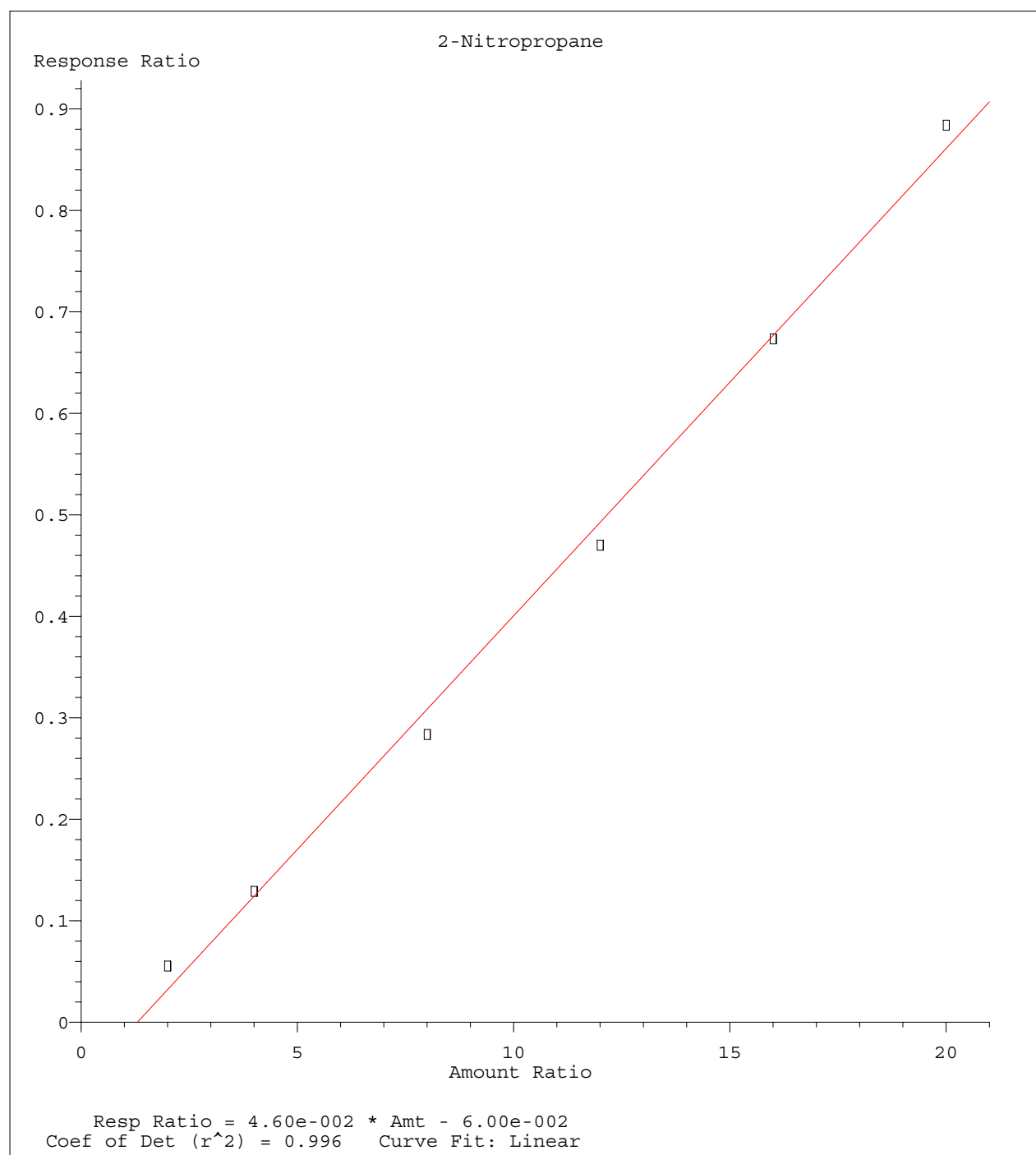
Data File : C:\MSDCHEM\1\DATA\061415\11M08242.D
 Acq On : 14 Jun 2015 13:42
 Sample : WG527475-09 500ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43 2015

Vial: 9
 Operator: TMB /DLW
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration





Method Name: C:\MSDCHEM\1\METHODS\A9FOOWT.M
Calibration Table Last Updated: Thu Aug 20 11:44:55 2015

Data File : C:\MSDCHEM\1\data\061415\11M08245.D Vial: 12
 Acq On : 14 Jun 2015 15:18 Operator: TMB /DLW
 Sample : WG527475-10 100ug/L ALT STD8260 Inst : hpms11
 Misc : 1,1 STD70514 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Jun 14 15:40:10 2015 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	543635	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.19	117	396503	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	206025	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	140300	23.2496	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.00%	
43) 1,2-Dichloroethane-d4	10.17	65	129308	19.7285	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	78.92%#	
57) Toluene-d8	12.42	98	479748	28.6477	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	114.60%#	
78) p-Bromofluorobenzene	15.58	95	164471	24.9480	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	99.80%	
Target Compounds						
						Qvalue
3) Chloromethane	3.67	50	1708	0.1809	ug/L	# 64
5) 1,3-Butadiene	3.96	54	337713	68.0129	ug/L	95
9) Diethyl ether	5.96	59	421860	68.0021	ug/L	82
13) Acetone	6.30	43	8473	5.2935	ug/L	79
29) 2-Butanone	8.83	43	2399	0.9217	ug/L	# 77
30) Propionitrile	8.93	54	45537	55.4849	ug/L	96
49) 1,4-Dioxane	11.51	88	6417	143.4316	ug/L	93
77) 1,1,2,2-Tetrachloroethane	15.38	83	1792	0.4132	ug/L	# 17

(#) = qualifier out of range (m) = manual integration
 11M08245.D 8260WTR.M Sun Jun 14 15:40:11 2015

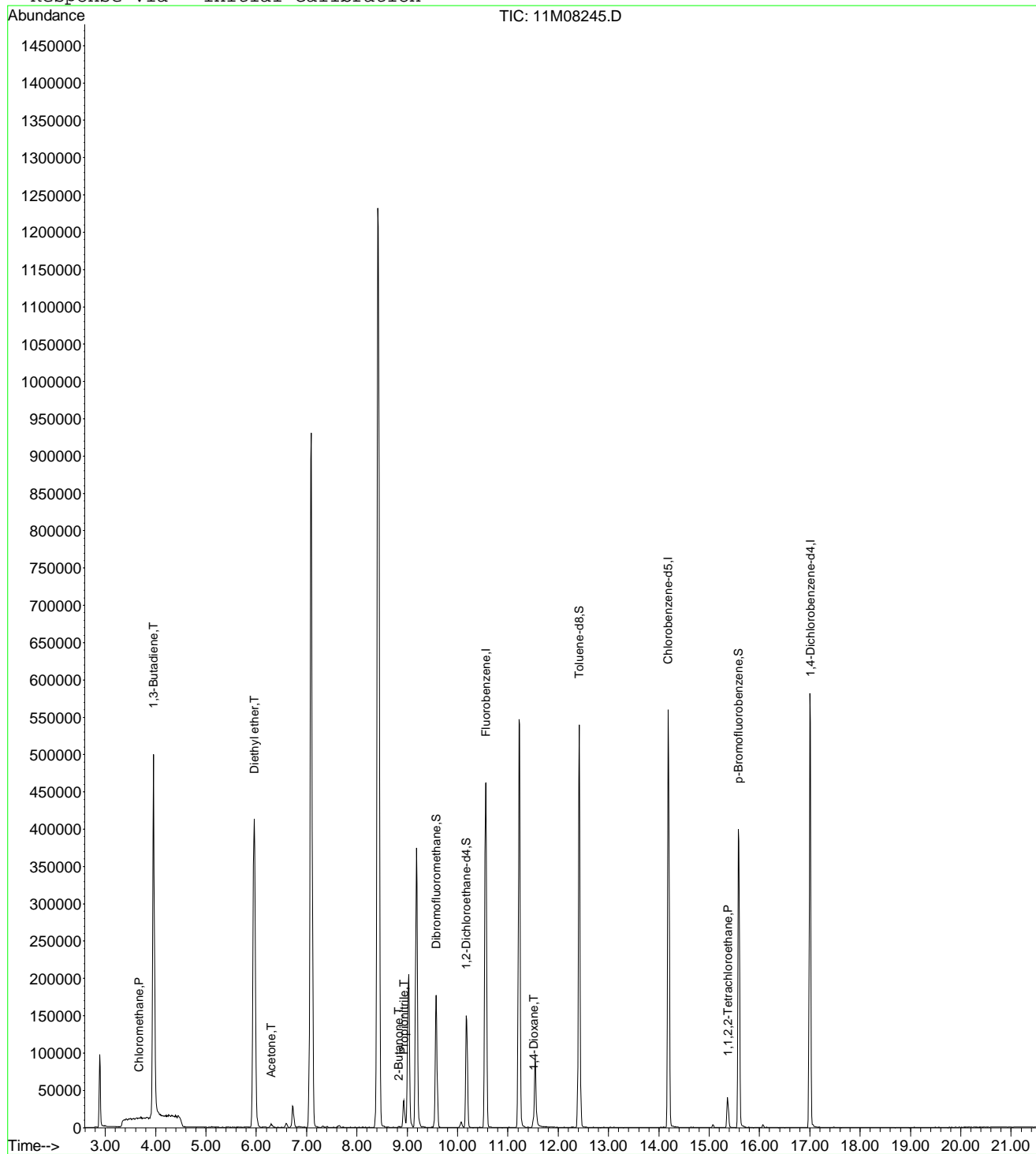
Page 1

Data File : C:\MSDCHEM\1\data\061415\11M08245.D
 Acq On : 14 Jun 2015 15:18
 Sample : WG527475-10 100ug/L ALT STD8260
 Misc : 1,1 STD70514
 MS Integration Params: rteint.p
 Quant Time: Jun 14 15:40 2015

Vial: 12
 Operator: TMB /DLW
 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 06/13/15 HPMS11
 Last Update : Sat Jun 13 12:38:34 2015
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\061415\11M08245.D Vial: 12
 Acq On : 14 Jun 2015 15:18 Operator: TMB /DLW
 Sample : WG527475-10 100ug/L ALT STD8260 Inst : hpms11
 Misc : 1,1 STD70514 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28:16 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:27:18 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIion	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	543635	25.00	ug/L	-0.03
12) Chlorobenzene-d5	14.19	117	396503	25.00	ug/L	-0.03
13) 1,4-Dichlorobenzene-d4	17.01	152	206025	25.00	ug/L	-0.02

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration
 11M08245.D A9FOOWT.M Thu Aug 20 11:28:17 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08245.D

Vial: 12

Acq On : 14 Jun 2015 15:18

Operator: TMB /DLW

Sample : WG527475-10 100ug/L ALT STD8260

Inst : hpms11

Misc : 1,1 STD70514

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Aug 20 11:28 2015

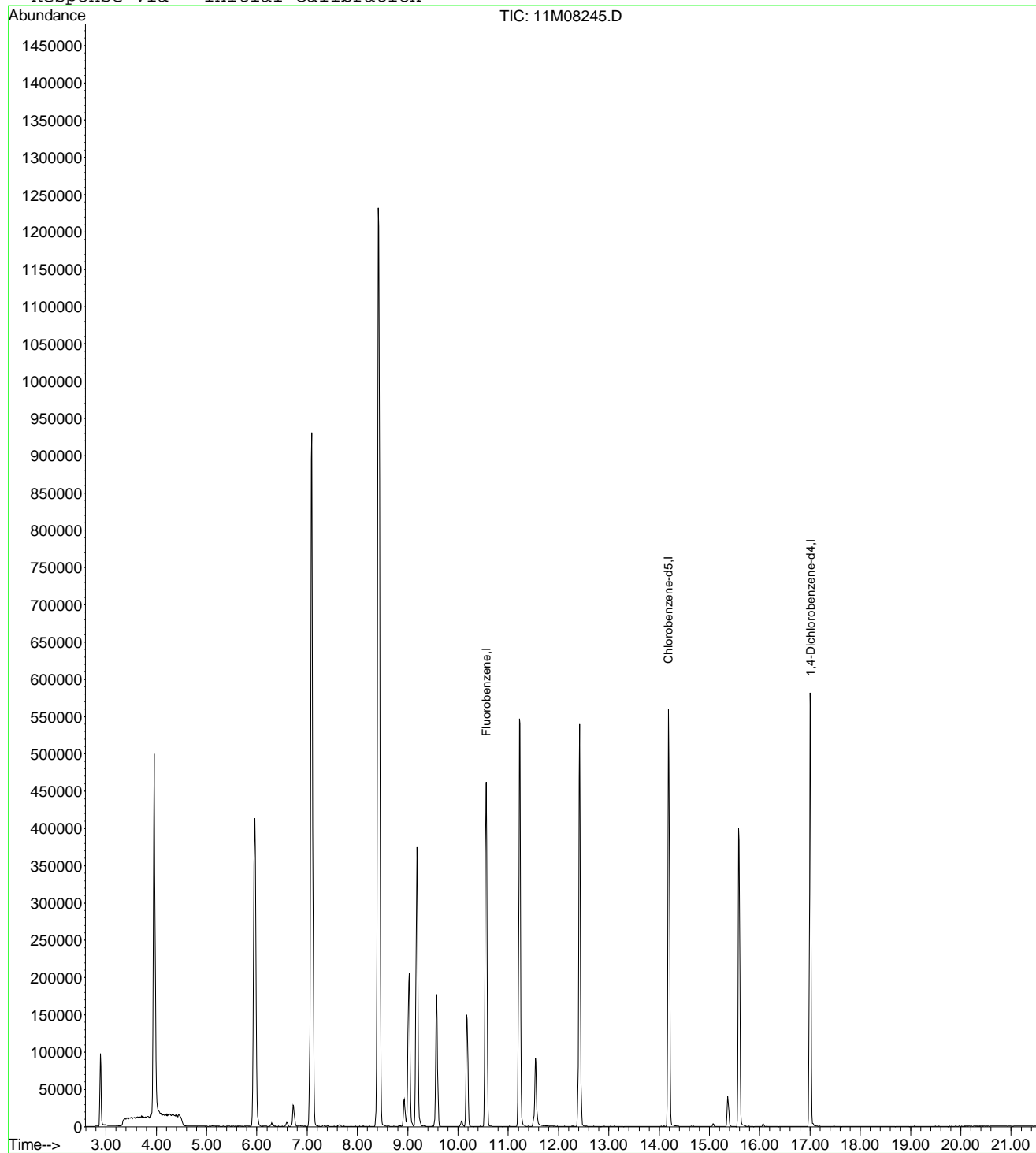
Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11

Last Update : Thu Aug 20 11:27:18 2015

Response via : Initial Calibration



11M08245.D A9FOOWT.M

Thu Aug 20 11:28:17 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08245.D Vial: 12
 Acq On : 14 Jun 2015 15:18 Operator: TMB /DLW
 Sample : WG527475-10 100ug/L ALT STD8260 Inst : hpms11
 Misc : 1,1 STD70514 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43:56 2015 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	543635	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.19	117	396503	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.01	152	206025	25.00	ug/L	0.01

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.72	41	38243	91.7199	ug/L	100
3) 3-Chloro-1-propene	7.09	41	808581	98.8244	ug/L	82
4) 2-Chloro-1,3-butadiene	8.42	53	1078924	109.8470	ug/L	94
5) Methacrylonitrile	9.18	41	233249	92.2348	ug/L	79
6) Isobutyl Alcohol	9.19	43	24110	185.2732	ug/L	90
7) 1-Butanol	10.07	56	6038	87.7140	ug/L #	79
8) Cyclohexanone	15.36	55	22693	36.2928	ug/L	98
9) 2-Nitropropane	11.54	43	62961	95.4458	ug/L	82
10) Ethyl Acetate	9.03	43	328836	109.6369	ug/L #	93
11) Methyl methacrylate	11.22	41	327033	93.7719	ug/L	87

 (#) = qualifier out of range (m) = manual integration
 11M08245.D A9FOOWT.M Thu Aug 20 11:43:56 2015

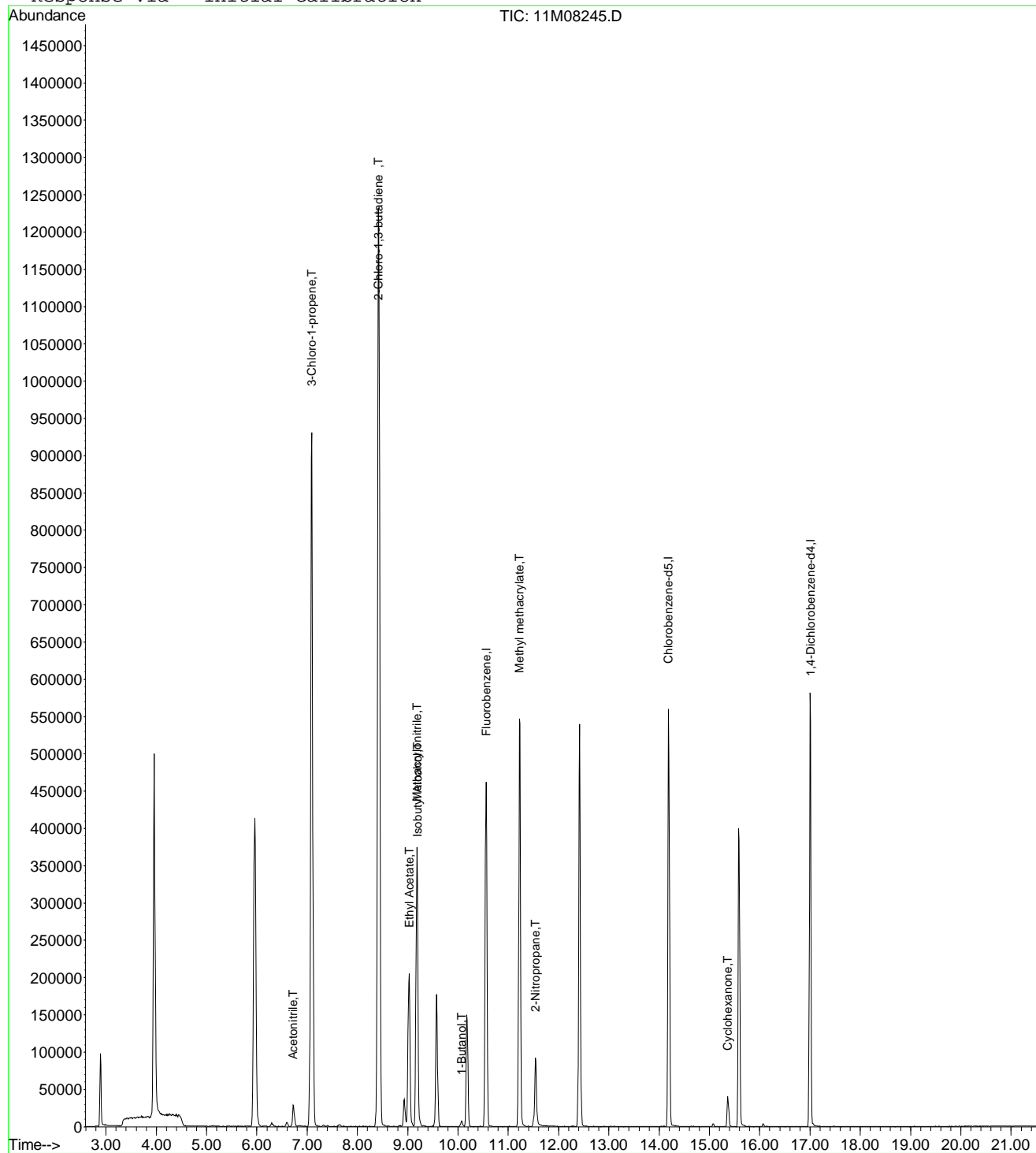
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08245.D
Acq On : 14 Jun 2015 15:18
Sample : WG527475-10 100ug/L ALT STD8260
Misc : 1,1 STD70514
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015

Vial: 12
Operator: TMB /DLW
Inst : hpms11
Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Thu Aug 20 11:41:47 2015
Response via : Initial Calibration



11M08245.D A9FOOWT.M

Thu Aug 20 11:43:56 2015

Page 2

Data File : C:\MSDCHEM\1\DATA\061415\11M08245.D Vial: 12
 Acq On : 14 Jun 2015 15:18 Operator: TMB /DLW
 Sample : WG527475-10 100ug/L ALT STD8260 Inst : hpms11
 Misc : 1,1 STD70514 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Thu Aug 20 11:41:47 2015
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 75% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	25.0000	25.0000	0.0	92	0.00
2 T	Acetonitrile	100.0000	91.7199	8.3	92	0.00
3 T	3-Chloro-1-propene	100.0000	98.8244	1.2	90	0.00
4 T	2-Chloro-1,3-butadiene	100.0000	109.8470	-9.8	102	0.00
5 T	Methacrylonitrile	100.0000	92.2348	7.8	86	0.00
6 T	Isobutyl Alcohol	200.0000	185.2732	7.4	83	0.00
7 T	1-Butanol	100.0000	87.7140	12.3	78	0.00
8 T	Cyclohexanone	100.0000	36.2928	63.7	31	0.00
9 T	2-Nitropropane	100.0000	95.4458	4.6	82	0.00
10 T	Ethyl Acetate	100.0000	109.6369	-9.6	99	0.00
11 T	Methyl methacrylate	100.0000	93.7719	6.2	87	0.00
12 I	Chlorobenzene-d5	25.0000	25.0000	0.0	91	0.00
13 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	92	0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M08245.D A9FOOWT.M Thu Aug 20 11:45:26 2015

Page 1

Data File : C:\MSDCHEM\1\DATA\050316\11M11584.D Vial: 2
 Acq On : 3 May 2016 16:50 Operator: JDS
 Sample : WG567372-02 0.3ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:27 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	750399	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.26	117	631552	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.07	152	365589	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	10.24	65	422	0.0409	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	0.16%#	
57) Toluene-d8	12.48	98	1205	0.0406	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	0.16%#	
78) p-Bromofluorobenzene	15.65	95	586	0.0491	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	0.20%#	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.28	85	3364	0.3055	ug/L	99
3) Chloromethane	3.73	50	5628	0.5629	ug/L #	73
4) Vinyl Chloride	3.96	62	2700	0.3382	ug/L	78
5) 1,3-Butadiene	4.02	54	2895	0.3848	ug/L	72
6) Bromomethane	4.86	94	2476	0.4883	ug/L	99
7) Chloroethane	5.03	64	1614	0.2986	ug/L #	45
8) Trichlorofluoromethane	5.51	101	4751	0.3213	ug/L	91
10) Isoprene	6.05	67	2714	0.2654	ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	1550	0.2080	ug/L	95
13) Acetone	6.37	43	2055	0.9159	ug/L #	45
14) 1,1-Dichloroethene	6.57	61	4390	0.3178	ug/L	94
16) Dimethyl Sulfide	6.82	62	1555	0.2482	ug/L	91
17) Iodomethane	7.07	142	229	0.6708	ug/L #	31
18) Methyl acetate	7.08	43	1455	0.5048	ug/L #	70
19) Methylene Chloride	7.32	84	2499	0.3231	ug/L	80
20) Carbon Disulfide	7.37	76	8047	0.3328	ug/L	91
22) Methyl Tert Butyl Ether	7.54	73	5605	0.2791	ug/L	89
23) trans-1,2-Dichloroethene	7.75	96	2757	0.3487	ug/L	97
24) n-Hexane	7.84	57	4127	0.3185	ug/L #	83
27) 1,1-Dichloroethane	8.34	63	4577	0.2942	ug/L #	77
29) 2-Butanone	8.89	43	731	0.2178	ug/L #	60
31) 2,2-Dichloropropane	9.10	77	2975	0.2647	ug/L #	54
32) cis-1,2-Dichloroethene	9.16	96	2914	0.3321	ug/L	96
33) Chloroform	9.36	83	4143	0.2851	ug/L	97
35) Bromochloromethane	9.58	130	1366	0.2433	ug/L	85
36) Tetrahydrofuran	9.61	42	3841	1.6678	ug/L #	81
38) 1,1,1-Trichloroethane	9.87	97	4064	0.2892	ug/L #	85
39) Cyclohexane	9.91	56	5447	0.3205	ug/L #	88
40) 1,1-Dichloropropene	10.05	75	3181	0.2996	ug/L	90
41) Carbon Tetrachloride	10.20	117	3783	0.2852	ug/L #	85
44) 1,2-Dichloroethane	10.35	62	3424	0.2746	ug/L	92
45) Benzene	10.39	78	11356	0.3739	ug/L	97
46) Trichloroethene	11.10	130	3509	0.3545	ug/L	98
47) Methylcyclohexane	11.18	83	3590	0.2990	ug/L	87
48) 1,2-Dichloropropane	11.30	63	2361	0.2737	ug/L	87
50) Bromodichloromethane	11.59	83	2979	0.2605	ug/L #	94
51) Dibromomethane	11.66	93	961	0.2124	ug/L	74
52) 2-Chloroethyl Vinyl Ether	11.85	63	803	0.1785	ug/L #	50
54) cis-1,3-Dichloropropene	12.17	75	3054	0.2538	ug/L	93
55) Dimethyl Disulfide	12.43	79	1595	0.2124	ug/L	94

(#) = qualifier out of range (m) = manual integration
 11M11584.D 8260_WT.M Wed May 04 11:41:28 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\050316\11M11584.D Vial: 2
 Acq On : 3 May 2016 16:50 Operator: JDS
 Sample : WG567372-02 0.3ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:27 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) Toluene	12.57	91	10681	0.3266	ug/L	94
59) Ethyl Methacrylate	12.66	69	1697	0.6299	ug/L	98
60) trans-1,3-Dichloropropene	12.74	75	2294	0.2141	ug/L	93
61) 1,1,2-Trichloroethane	12.95	97	1645	0.2687	ug/L	97
62) 2-Hexanone	12.87	43	1212	0.2401	ug/L #	48
63) 1,3-Dichloropropane	13.22	76	2583	0.2540	ug/L	87
64) Tetrachloroethene	13.34	164	2066	0.2799	ug/L	82
65) Dibromochloromethane	13.60	129	2158	0.2442	ug/L	97
66) 1,2-Dibromoethane	13.83	107	1493	0.2403	ug/L	97
67) 1-Chlorohexane	13.90	91	3214	0.2996	ug/L	92
68) Chlorobenzene	14.30	112	7884	0.3278	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.33	131	2616	0.2837	ug/L	93
70) Ethylbenzene	14.32	106	4063	0.3329	ug/L	98
71) m-,p-Xylene	14.40	106	8900	0.6128	ug/L	80
72) o-Xylene	14.93	106	4735	0.3268	ug/L	87
73) Styrene	14.96	104	7545	0.3069	ug/L	99
74) Bromoform	15.43	173	881	0.6746	ug/L	95
75) Isopropylbenzene	15.32	105	12123	0.3309	ug/L	98
77) 1,1,2,2-Tetrachloroethane	15.52	83	1203	0.4670	ug/L #	65
81) n-Propylbenzene	15.80	91	13766	0.3351	ug/L	98
82) Bromobenzene	15.92	156	3829	0.3357	ug/L	96
83) 1,3,5-Trimethylbenzene	15.96	105	10111	0.3239	ug/L	93
84) 2-Chlorotoluene	16.06	91	10794	0.3560	ug/L	97
85) 4-Chlorotoluene	16.10	91	9417	0.3785	ug/L	93
86) a-Methylstyrene	16.34	118	4760	0.2744	ug/L	93
87) tert-Butylbenzene	16.40	134	1998	0.2917	ug/L	85
88) 1,2,4-Trimethylbenzene	16.45	105	10267	0.3214	ug/L	94
89) sec-Butylbenzene	16.66	105	12907	0.3494	ug/L	96
90) p-Isopropyltoluene	16.80	119	11510	0.3423	ug/L	100
91) 1,3-Dichlorobenzene	16.99	146	6386	0.3015	ug/L	92
92) 1,4-Dichlorobenzene	17.11	146	7439	0.3439	ug/L #	59
93) n-Butylbenzene	17.29	91	11258	0.3719	ug/L	98
94) 1,2-Dichlorobenzene	17.57	146	6741	0.3375	ug/L	93
96) 1,2,4-Trichlorobenzene	19.56	180	5607	0.3778	ug/L	94
97) Hexachlorobutadiene	19.69	225	2247	0.3727	ug/L	87
98) Naphthalene	19.90	128	9236	0.3252	ug/L #	95
99) 1,2,3-Trichlorobenzene	20.19	180	4773	0.3435	ug/L	95

(#) = qualifier out of range (m) = manual integration
 11M11584.D 8260_WT.M Wed May 04 11:41:28 2016

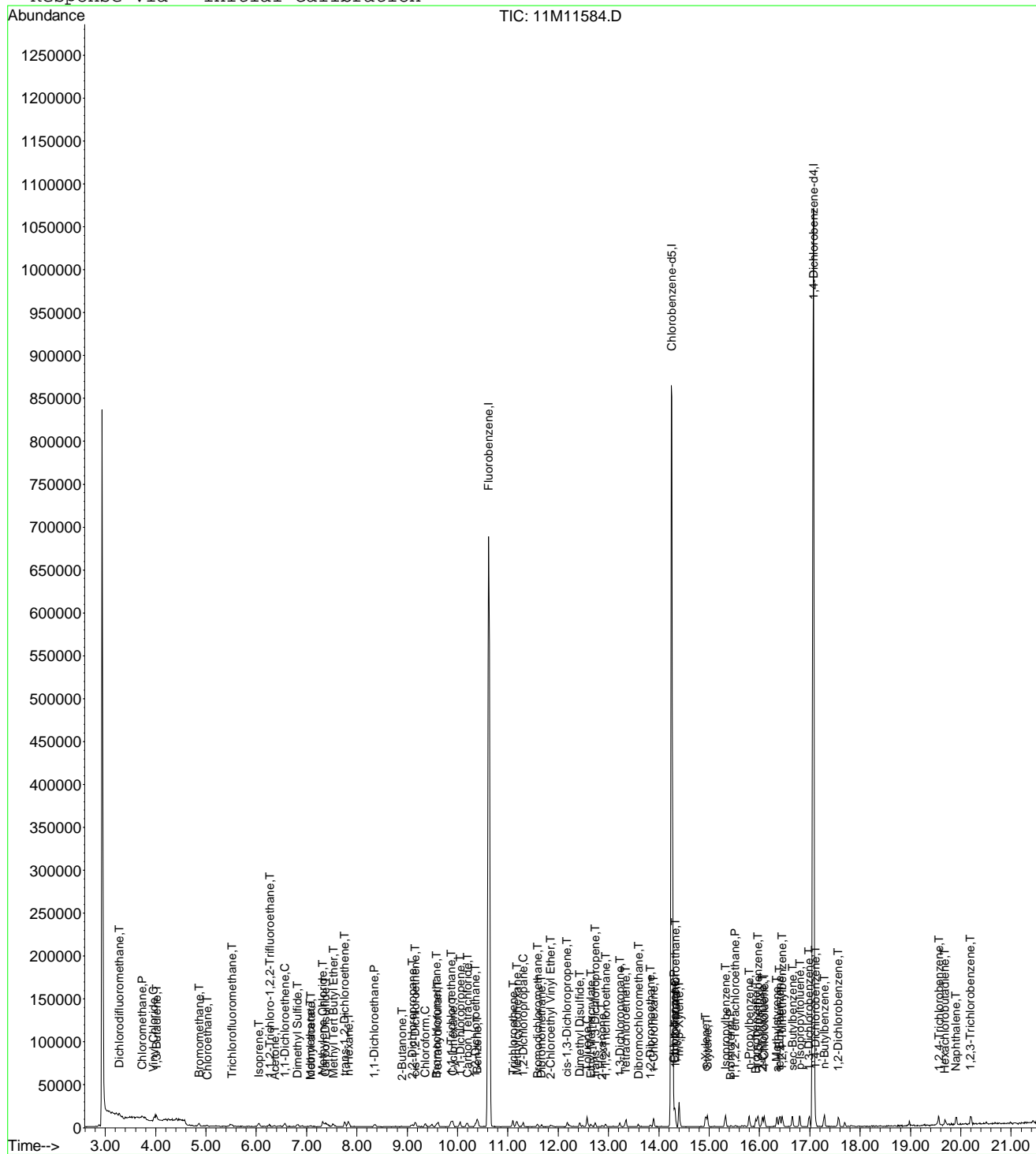
Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11584.D
Acq On : 3 May 2016 16:50
Sample : WG567372-02 0.3ug/L ICAL STD 8260
Misc : 1,1 STD75976
MS Integration Params: rteint.p
Quant Time: May 4 11:41 2016

Vial: 2
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050316\11M11584.D Vial: 2
 Acq On : 3 May 2016 16:50 Operator: JDS
 Sample : WG567372-02 0.3ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:36:22 2016
 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	100	0.00
2 T	Dichlorodifluoromethane	-1.0000	0.3055	0.0	0	0.00
3 P	Chloromethane	-1.0000	0.5629	0.0	0	0.00
4 C	Vinyl Chloride	-1.0000	0.3382	0.0	0	0.00
5 T	1,3-Butadiene	-1.0000	0.3848	0.0	0	0.02
6 T	Bromomethane	-1.0000	0.4883	0.0	0	0.00
7 T	Chloroethane	-1.0000	0.2986	0.0	0	0.01
8 T	Trichlorofluoromethane	-1.0000	0.3213	0.0	0	0.02
9 T	Diethyl ether	-1.0000	0.0000	0.0	0	-6.02#
10 T	Isoprene	-1.0000	0.2654	0.0	0	0.00
11 T	Acrolein	-1.0000	0.0000	0.0	0	-6.25#
12 T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.2080	0.0	0	0.01
13 T	Acetone	-1.0000	0.9159	0.0	0	0.02
14 C	1,1-Dichloroethene	-1.0000	0.3178	0.0	0	0.00
15 T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.68#
16 T	Dimethyl Sulfide	-1.0000	0.2482	0.0	0	0.00
17 T	Iodomethane	-1.0000	0.6708	0.0	0	0.00
18 T	Methyl acetate	-1.0000	0.5048	0.0	0	0.01
19 T	Methylene Chloride	-1.0000	0.3231	0.0	0	0.00
20 T	Carbon Disulfide	-1.0000	0.3328	0.0	0	0.00
21 T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.50#
22 T	Methyl Tert Butyl Ether	-1.0000	0.2791	0.0	0	0.01
23 T	trans-1,2-Dichloroethene	-1.0000	0.3487	0.0	0	0.00
24 T	n-Hexane	-1.0000	0.3185	0.0	0	0.01
25 T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.16#
26 T	Vinyl Acetate	-1.0000	0.0000	0.0	0	-8.32#
27 P	1,1-Dichloroethane	-1.0000	0.2942	0.0	0	-0.01
28 T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.71#
29 T	2-Butanone	-1.0000	0.2178	0.0	0	0.01
30 T	Propionitrile	-1.0000	0.0000	0.0	0	-8.99#
31 T	2,2-Dichloropropane	-1.0000	0.2647	0.0	0	0.00
32 T	cis-1,2-Dichloroethene	-1.0000	0.3321	0.0	0	0.00
33 C	Chloroform	0.3000	0.2851	5.0	100	0.00
34 T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.49#
35 T	Bromochloromethane	-1.0000	0.2433	0.0	0	0.00
36 T	Tetrahydrofuran	-1.0000	1.6678	0.0	0	0.00
37 S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.64#
38 T	1,1,1-Trichloroethane	-1.0000	0.2892	0.0	0	0.01
39 T	Cyclohexane	-1.0000	0.3205	0.0	0	0.01
40 T	1,1-Dichloropropene	-1.0000	0.2996	0.0	0	0.00
41 T	Carbon Tetrachloride	-1.0000	0.2852	0.0	0	0.01
42 T	Tert-Amyl-Methyl ether	-1.0000	0.0116	0.0	0	-0.09
43 S	1,2-Dichloroethane-d4	-1.0000	0.0409	0.0	0	0.00
44 T	1,2-Dichloroethane	-1.0000	0.2746	0.0	0	0.00
45 T	Benzene	-1.0000	0.3739	0.0	0	0.00
46 T	Trichloroethene	-1.0000	0.3545	0.0	0	0.01
47 T	Methylcyclohexane	-1.0000	0.2990	0.0	0	0.00
48 C	1,2-Dichloropropane	-1.0000	0.2737	0.0	0	0.00
49 T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.57#
50 T	Bromodichloromethane	-1.0000	0.2605	0.0	0	0.01
51 T	Dibromomethane	-1.0000	0.2124	0.0	0	0.00
52 T	2-Chloroethyl Vinyl Ether	-1.0000	0.1785	0.0	0	0.00
53 T	4-Methyl-2-Pentanone	-1.0000	0.0700	0.0	0	-0.01
54 T	cis-1,3-Dichloropropene	-1.0000	0.2538	0.0	0	-0.01

(#) = Out of Range

11M11584.D 8260_WT.M Wed May 04 09:42:26 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\050316\11M11584.D Vial: 2
 Acq On : 3 May 2016 16:50 Operator: JDS
 Sample : WG567372-02 0.3ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:36:22 2016
 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	Dimethyl Disulfide	-1.0000	0.2124	0.0	0	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57 S	Toluene-d8	-1.0000	0.0406	0.0	0	0.00
58 C	Toluene	-1.0000	0.3266	0.0	0	0.00
59 T	Ethyl Methacrylate	-1.0000	0.6299	0.0	0	0.01
60 T	trans-1,3-Dichloropropene	-1.0000	0.2141	0.0	0	0.00
61 T	1,1,2-Trichloroethane	-1.0000	0.2687	0.0	0	0.01
62 T	2-Hexanone	-1.0000	0.2401	0.0	0	0.00
63 T	1,3-Dichloropropane	-1.0000	0.2540	0.0	0	0.00
64 T	Tetrachloroethene	-1.0000	0.2799	0.0	0	-0.01
65 T	Dibromochloromethane	-1.0000	0.2442	0.0	0	0.00
66 T	1,2-Dibromoethane	-1.0000	0.2403	0.0	0	0.00
67 T	1-Chlorohexane	-1.0000	0.2996	0.0	0	0.00
68 P	Chlorobenzene	-1.0000	0.3278	0.0	0	0.00
69 T	1,1,1,2-Tetrachloroethane	-1.0000	0.2837	0.0	0	0.00
70 C	Ethylbenzene	-1.0000	0.3329	0.0	0	0.00
71 T	m-,p-Xylene	-1.0000	0.6128	0.0	0	0.00
72 T	o-Xylene	-1.0000	0.3268	0.0	0	0.00
73 T	Styrene	-1.0000	0.3069	0.0	0	0.00
74 P	Bromoform	-1.0000	0.6746	0.0	0	-0.01
75 T	Isopropylbenzene	-1.0000	0.3309	0.0	0	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77 P	1,1,2,2-Tetrachloroethane	-1.0000	0.5124	0.0	0	0.00
78 S	p-Bromofluorobenzene	-1.0000	0.0491	0.0	0	0.00
79 T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-15.71#
80 T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-15.74#
81 T	n-Propylbenzene	-1.0000	0.3351	0.0	0	0.00
82 T	Bromobenzene	0.3000	0.3357	-11.9	100	0.00
83 T	1,3,5-Trimethylbenzene	-1.0000	0.3239	0.0	0	0.00
84 T	2-Chlorotoluene	-1.0000	0.3560	0.0	0	0.00
85 T	4-Chlorotoluene	-1.0000	0.3785	0.0	0	0.00
86 T	a-Methylstyrene	-1.0000	0.2744	0.0	0	-0.01
87 T	tert-Butylbenzene	-1.0000	0.2917	0.0	0	0.00
88 T	1,2,4-Trimethylbenzene	-1.0000	0.3214	0.0	0	0.00
89 T	sec-Butylbenzene	-1.0000	0.3494	0.0	0	0.00
90 T	p-Isopropyltoluene	-1.0000	0.3423	0.0	0	0.00
91 T	1,3-Dichlorobenzene	-1.0000	0.3015	0.0	0	0.00
92 T	1,4-Dichlorobenzene	0.3000	0.3439	-14.6	100	0.00
93 T	n-Butylbenzene	-1.0000	0.3719	0.0	0	0.00
94 T	1,2-Dichlorobenzene	0.3000	0.3375	-12.5	100	0.00
95 T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-18.50#
96 T	1,2,4-Trichlorobenzene	-1.0000	0.3778	0.0	0	0.01
97 T	Hexachlorobutadiene	-1.0000	0.3727	0.0	0	-0.01
98 T	Naphthalene	-1.0000	0.3252	0.0	0	0.00
99 T	1,2,3-Trichlorobenzene	0.3000	0.3435	-14.5	100	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11584.D 8260_WT.M Wed May 04 09:42:26 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11585.D Vial: 3
 Acq On : 3 May 2016 17:22 Operator: JDS
 Sample : WG567372-03 0.4ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:29 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	765647	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.26	117	635568	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.07	152	372420	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%#	
57) Toluene-d8	12.49	98	841	0.0281	ug/L	0.01
Spiked Amount	25.000	Range 88 - 110	Recovery	=	0.12%#	
78) 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	3.28	85	3736	0.3325	ug/L	# 66
3) Chloromethane	3.73	50	5146	0.5044	ug/L	# 85
4) Vinyl Chloride	3.98	62	3558	0.4368	ug/L	# 76
5) 1,3-Butadiene	4.02	54	3269	0.4259	ug/L	# 81
6) Bromomethane	4.87	94	2533	0.4896	ug/L	# 99
7) Chloroethane	5.03	64	2013	0.3650	ug/L	# 45
8) Trichlorofluoromethane	5.49	101	6239	0.4135	ug/L	# 100
10) Isoprene	6.05	67	3572	0.3424	ug/L	# 94
12) 1,1,2-Trichloro-1,2,2-Trif	6.29	101	2889	0.3800	ug/L	# 35
13) Acetone	6.35	43	2037	0.8898	ug/L	# 45
14) 1,1-Dichloroethene	6.57	61	5644	0.4005	ug/L	# 96
16) Dimethyl Sulfide	6.82	62	2383	0.3728	ug/L	# 95
17) Iodomethane	7.07	142	794	0.7494	ug/L	# 31
18) Methyl acetate	7.08	43	1637	0.5236	ug/L	# 70
19) Methylene Chloride	7.32	84	3973	0.5034	ug/L	# 87
20) Carbon Disulfide	7.37	76	10333	0.4189	ug/L	# 97
22) Methyl Tert Butyl Ether	7.53	73	7633	0.3726	ug/L	# 83
23) trans-1,2-Dichloroethene	7.75	96	3203	0.3971	ug/L	# 99
24) n-Hexane	7.83	57	5655	0.4278	ug/L	# 73
27) 1,1-Dichloroethane	8.37	63	6061	0.3818	ug/L	# 88
29) 2-Butanone	8.89	43	579	0.1691	ug/L	# 60
31) 2,2-Dichloropropane	9.10	77	4691	0.4091	ug/L	# 71
32) cis-1,2-Dichloroethene	9.16	96	3286	0.3670	ug/L	# 99
33) Chloroform	9.36	83	5678	0.3829	ug/L	# 99
35) Bromochloromethane	9.57	130	1704	0.2974	ug/L	# 84
36) Tetrahydrofuran	9.61	42	3783	1.6099	ug/L	# 94
38) 1,1,1-Trichloroethane	9.87	97	6176	0.4308	ug/L	# 85
39) Cyclohexane	9.88	56	6797	0.3920	ug/L	# 88
40) 1,1-Dichloropropene	10.05	75	4298	0.3967	ug/L	# 100
41) Carbon Tetrachloride	10.17	117	5231	0.3865	ug/L	# 93
44) 1,2-Dichloroethane	10.35	62	4382	0.3444	ug/L	# 87
45) Benzene	10.39	78	13456	0.4342	ug/L	# 98
46) Trichloroethene	11.11	130	4658	0.4612	ug/L	# 91
47) Methylcyclohexane	11.19	83	4964	0.4053	ug/L	# 97
48) 1,2-Dichloropropane	11.30	63	3489	0.3964	ug/L	# 91
50) Bromodichloromethane	11.59	83	4126	0.3537	ug/L	# 93
51) Dibromomethane	11.67	93	1638	0.3549	ug/L	# 82
52) 2-Chloroethyl Vinyl Ether	11.85	63	1288	0.2807	ug/L	# 50
53) 4-Methyl-2-Pentanone	11.88	58	517	0.1837	ug/L	# 42
54) cis-1,3-Dichloropropene	12.17	75	4404	0.3586	ug/L	# 89

(#) = qualifier out of range (m) = manual integration
 11M11585.D 8260_WT.M Wed May 04 11:41:30 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11585.D Vial: 3
 Acq On : 3 May 2016 17:22 Operator: JDS
 Sample : WG567372-03 0.4ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:29 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
55) Dimethyl Disulfide	12.43	79	1905	0.2487	ug/L	94
58) Toluene	12.57	91	14239	0.4326	ug/L	97
59) Ethyl Methacrylate	12.65	69	2286	0.6969	ug/L	100
60) trans-1,3-Dichloropropene	12.74	75	3832	0.3554	ug/L #	65
61) 1,1,2-Trichloroethane	12.95	97	2080	0.3377	ug/L	84
62) 2-Hexanone	12.87	43	1359	0.2676	ug/L #	32
63) 1,3-Dichloropropane	13.22	76	3670	0.3587	ug/L	94
64) Tetrachloroethene	13.34	164	3135	0.4221	ug/L	98
65) Dibromochloromethane	13.60	129	2714	0.3052	ug/L	98
66) 1,2-Dibromoethane	13.83	107	2452	0.3921	ug/L	79
67) 1-Chlorohexane	13.90	91	4304	0.3987	ug/L	90
68) Chlorobenzene	14.30	112	10431	0.4309	ug/L	97
69) 1,1,1,2-Tetrachloroethane	14.32	131	3424	0.3690	ug/L	96
70) Ethylbenzene	14.32	106	5307	0.4321	ug/L	93
71) m-,p-Xylene	14.40	106	12443	0.8513	ug/L	94
72) o-Xylene	14.93	106	5796	0.3975	ug/L	88
73) Styrene	14.96	104	9961	0.4027	ug/L	95
74) Bromoform	15.43	173	1600	0.7880	ug/L	97
75) Isopropylbenzene	15.32	105	15097	0.4095	ug/L	97
77) 1,1,2,2-Tetrachloroethane	15.53	83	1729	0.5391	ug/L	93
79) 1,2,3-Trichloropropane	15.71	110	504	0.2221	ug/L #	27
80) trans-1,4-Dichloro-2-Butene	15.74	53	209	0.9025	ug/L #	1
81) n-Propylbenzene	15.79	91	18258	0.4363	ug/L	95
82) Bromobenzene	15.92	156	4921	0.4236	ug/L	97
83) 1,3,5-Trimethylbenzene	15.96	105	13640	0.4289	ug/L	99
84) 2-Chlorotoluene	16.06	91	13994	0.4531	ug/L	97
85) 4-Chlorotoluene	16.06	91	13994	0.5522	ug/L	95
86) a-Methylstyrene	16.35	118	5911	0.3345	ug/L	92
87) tert-Butylbenzene	16.40	134	2791	0.3999	ug/L	78
88) 1,2,4-Trimethylbenzene	16.45	105	13582	0.4173	ug/L	94
89) sec-Butylbenzene	16.66	105	17517	0.4654	ug/L	98
90) p-Isopropyltoluene	16.80	119	14973	0.4371	ug/L	99
91) 1,3-Dichlorobenzene	16.99	146	9422	0.4366	ug/L	98
92) 1,4-Dichlorobenzene	17.11	146	9102	0.4131	ug/L	91
93) n-Butylbenzene	17.29	91	13723	0.4450	ug/L	93
94) 1,2-Dichlorobenzene	17.58	146	7701	0.3785	ug/L	98
96) 1,2,4-Trichlorobenzene	19.56	180	6726	0.4449	ug/L	93
97) Hexachlorobutadiene	19.70	225	2934	0.4777	ug/L	81
98) Naphthalene	19.90	128	11028	0.3812	ug/L	98
99) 1,2,3-Trichlorobenzene	20.20	180	6231	0.4402	ug/L	83

(#) = qualifier out of range (m) = manual integration
 11M11585.D 8260_WT.M Wed May 04 11:41:30 2016

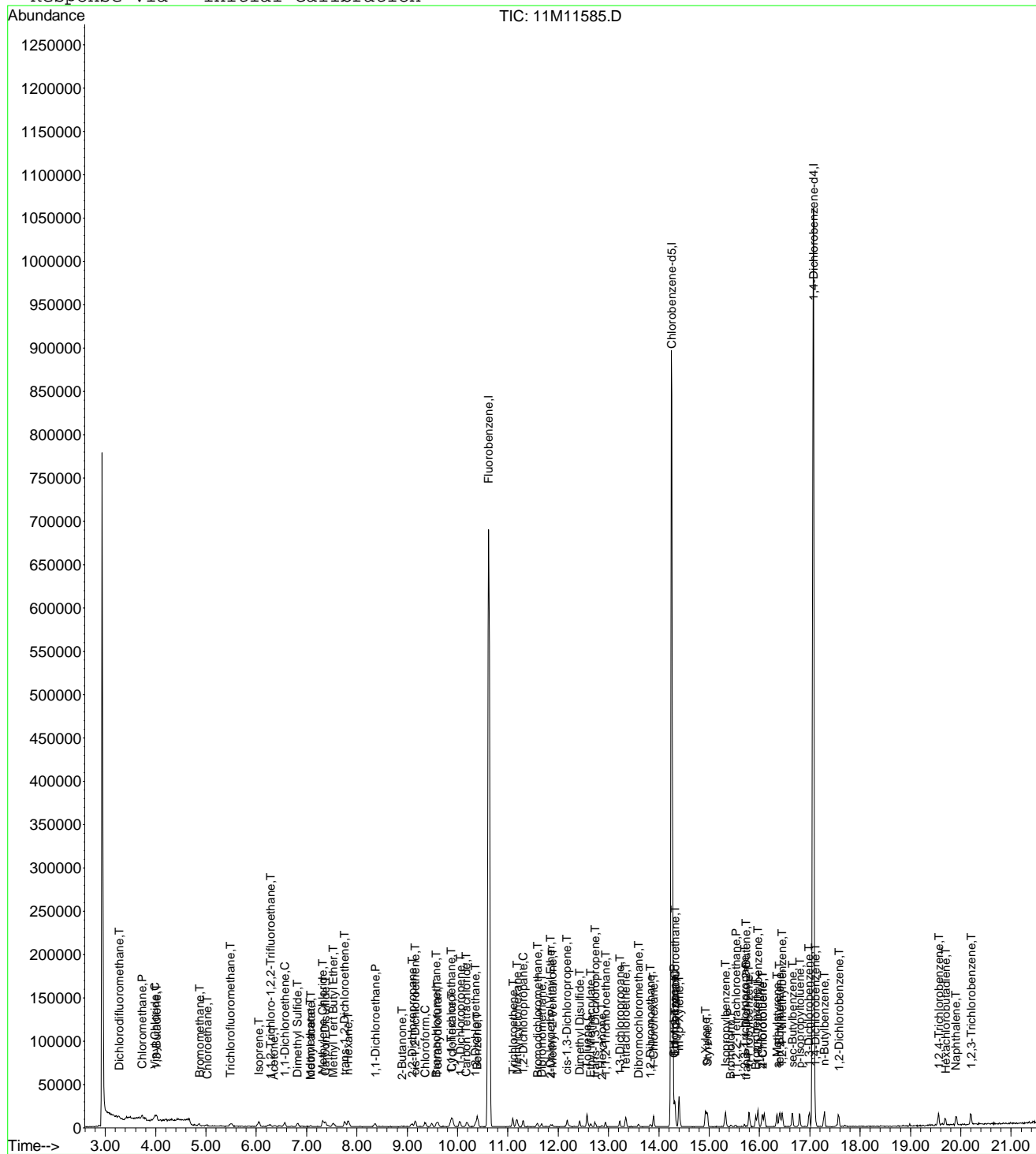
Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11585.D
Acq On : 3 May 2016 17:22
Sample : WG567372-03 0.4ug/L ICAL STD 8260
Misc : 1,1 STD75976
MS Integration Params: rteint.p
Quant Time: May 4 11:41 2016

Vial: 3
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050316\11M11585.D Vial: 3
 Acq On : 3 May 2016 17:22 Operator: JDS
 Sample : WG567372-03 0.4ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	100	0.00
2 T	Dichlorodifluoromethane	-1.0000	0.3325	0.0	0	0.00
3 P	Chloromethane	-1.0000	0.5044	0.0	100	0.00
4 C	Vinyl Chloride	0.4000	0.4368	-9.2	100	0.02
5 T	1,3-Butadiene	-1.0000	0.4259	0.0	0	0.02
6 T	Bromomethane	-1.0000	0.4896	0.0	100	0.01
7 T	Chloroethane	-1.0000	0.3650	0.0	0	0.01
8 T	Trichlorofluoromethane	0.4000	0.4135	-3.4	100	0.00
9 T	Diethyl ether	-1.0000	0.0000	0.0	0	-6.02#
10 T	Isoprene	-1.0000	0.3424	0.0	100	0.00
11 T	Acrolein	-1.0000	0.0000	0.0	0	-6.25#
12 T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.3800	0.0	100	0.03
13 T	Acetone	-1.0000	0.8898	0.0	0	0.00
14 C	1,1-Dichloroethene	0.4000	0.4005	-0.1	100	0.00
15 T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.68#
16 T	Dimethyl Sulfide	-1.0000	0.3728	0.0	100	0.00
17 T	Iodomethane	-1.0000	0.7494	0.0	0	0.00
18 T	Methyl acetate	-1.0000	0.5236	0.0	0	0.01
19 T	Methylene Chloride	-1.0000	0.5034	0.0	100	0.00
20 T	Carbon Disulfide	-1.0000	0.4189	0.0	100	0.00
21 T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.50#
22 T	Methyl Tert Butyl Ether	-1.0000	0.3726	0.0	100	0.00
23 T	trans-1,2-Dichloroethene	0.4000	0.3971	0.7	100	0.00
24 T	n-Hexane	-1.0000	0.4278	0.0	0	0.00
25 T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.16#
26 T	Vinyl Acetate	-1.0000	0.0000	0.0	0	-8.32#
27 P	1,1-Dichloroethane	0.4000	0.3818	4.6	100	0.01
28 T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.71#
29 T	2-Butanone	-1.0000	0.1691	0.0	0	0.01
30 T	Propionitrile	-1.0000	0.0000	0.0	0	-8.99#
31 T	2,2-Dichloropropane	0.4000	0.4091	-2.3	100	0.00
32 T	cis-1,2-Dichloroethene	0.4000	0.3670	8.2	100	0.00
33 C	Chloroform	0.4000	0.3829	4.3	100	0.00
34 T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.49#
35 T	Bromochloromethane	0.4000	0.2974	25.6#	100	-0.01
36 T	Tetrahydrofuran	-1.0000	1.6099	0.0	0	0.00
37 S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.64#
38 T	1,1,1-Trichloroethane	0.4000	0.4308	-7.7	100	0.01
39 T	Cyclohexane	0.4000	0.3920	2.0	100	-0.01
40 T	1,1-Dichloropropene	0.4000	0.3967	0.8	100	0.00
41 T	Carbon Tetrachloride	0.4000	0.3865	3.4	100	-0.01
42 T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.14#
43 S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.24#
44 T	1,2-Dichloroethane	0.4000	0.3444	13.9	100	0.00
45 T	Benzene	0.4000	0.4342	-8.5	100	0.00
46 T	Trichloroethene	0.4000	0.4612	-15.3	100	0.01
47 T	Methylcyclohexane	0.4000	0.4053	-1.3	100	0.01
48 C	1,2-Dichloropropane	0.4000	0.3964	0.9	100	0.00
49 T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.57#
50 T	Bromodichloromethane	0.4000	0.3537	11.6	100	0.01
51 T	Dibromomethane	0.4000	0.3549	11.3	100	0.01
52 T	2-Chloroethyl Vinyl Ether	-1.0000	0.2807	0.0	0	0.00
53 T	4-Methyl-2-Pentanone	-1.0000	0.1837	0.0	0	0.00
54 T	cis-1,3-Dichloropropene	0.4000	0.3587	10.3	100	-0.01

(#) = Out of Range

11M11585.D 8260_WT.M Wed May 04 09:44:50 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\050316\11M11585.D Vial: 3
 Acq On : 3 May 2016 17:22 Operator: JDS
 Sample : WG567372-03 0.4ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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%

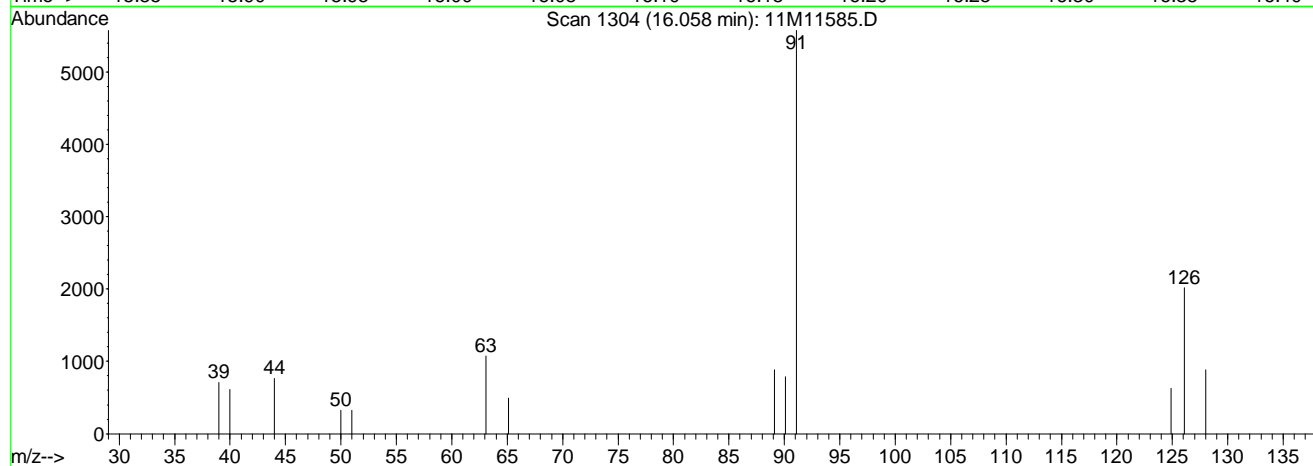
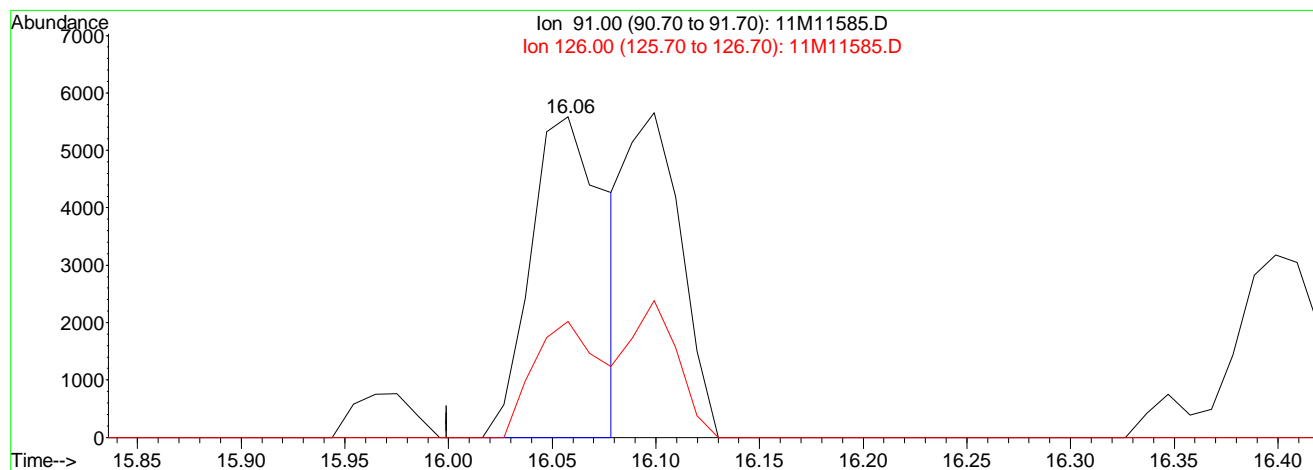
	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 T	Dimethyl Disulfide	-1.0000	0.2487	0.0	100	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57 S	Toluene-d8	-1.0000	0.0281	0.0	100	0.01
58 C	Toluene	0.4000	0.4326	-8.2	100	0.00
59 T	Ethyl Methacrylate	-1.0000	0.6969	0.0	100	0.00
60 T	trans-1,3-Dichloropropene	-1.0000	0.3554	0.0	100	0.00
61 T	1,1,2-Trichloroethane	0.4000	0.3377	15.6	100	0.01
62 T	2-Hexanone	-1.0000	0.2676	0.0	100	0.00
63 T	1,3-Dichloropropane	0.4000	0.3587	10.3	100	0.00
64 T	Tetrachloroethene	0.4000	0.4221	-5.5	100	-0.01
65 T	Dibromochloromethane	0.4000	0.3052	23.7	100	0.00
66 T	1,2-Dibromoethane	0.4000	0.3921	2.0	100	0.00
67 T	1-Chlorohexane	0.4000	0.3987	0.3	100	0.00
68 P	Chlorobenzene	0.4000	0.4309	-7.7	100	0.00
69 T	1,1,1,2-Tetrachloroethane	0.4000	0.3690	7.7	100	-0.01
70 C	Ethylbenzene	0.4000	0.4321	-8.0	100	0.00
71 T	m-,p-Xylene	0.8000	0.8513	-6.4	100	0.00
72 T	o-Xylene	0.4000	0.3975	0.6	100	0.00
73 T	Styrene	0.4000	0.4027	-0.7	100	0.00
74 P	Bromoform	-1.0000	0.7880	0.0	100	-0.01
75 T	Isopropylbenzene	0.4000	0.4095	-2.4	100	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77 P	1,1,2,2-Tetrachloroethane	0.4000	0.5391	-34.8#	100	0.01
78 S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-15.65#
79 T	1,2,3-Trichloropropane	-1.0000	0.2221	0.0	100	0.00
80 T	trans-1,4-Dichloro-2-Butene	-1.0000	0.9025	0.0	100	0.00
81 T	n-Propylbenzene	0.4000	0.4363	-9.1	100	-0.01
82 T	Bromobenzene	0.4000	0.4236	-5.9	100	0.00
83 T	1,3,5-Trimethylbenzene	0.4000	0.4289	-7.2	100	0.00
84 T	2-Chlorotoluene	0.4000	0.4531	-13.3	100	0.00
85 T	4-Chlorotoluene	0.4000	0.4041	-1.0	100	0.00
86 T	a-Methylstyrene	-1.0000	0.3345	0.0	100	0.00
87 T	tert-Butylbenzene	0.4000	0.3999	0.0	100	0.00
88 T	1,2,4-Trimethylbenzene	0.4000	0.4173	-4.3	100	0.00
89 T	sec-Butylbenzene	-1.0000	0.4654	0.0	0	0.00
90 T	p-Isopropyltoluene	-1.0000	0.4371	0.0	100	0.00
91 T	1,3-Dichlorobenzene	0.4000	0.4366	-9.2	100	0.00
92 T	1,4-Dichlorobenzene	0.4000	0.4131	-3.3	100	0.00
93 T	n-Butylbenzene	0.4000	0.4450	-11.2	100	0.00
94 T	1,2-Dichlorobenzene	0.4000	0.3785	5.4	100	0.01
95 T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-18.50#
96 T	1,2,4-Trichlorobenzene	0.4000	0.4449	-11.2	100	0.01
97 T	Hexachlorobutadiene	0.4000	0.4777	-19.4	100	0.00
98 T	Naphthalene	0.4000	0.3812	4.7	100	0.00
99 T	1,2,3-Trichlorobenzene	0.4000	0.4402	-10.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11585.D 8260_WT.M Wed May 04 09:44:50 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11585.D Vial: 3
 Acq On : 3 May 2016 17:22 Operator: JDS
 Sample : WG567372-03 0.4ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 4 8:58 2016 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 08:57:30 2016
 Response via : Multiple Level Calibration



TIC: 11M11585.D

(85) 4-Chlorotoluene (T)

16.06min 0.52ug/L

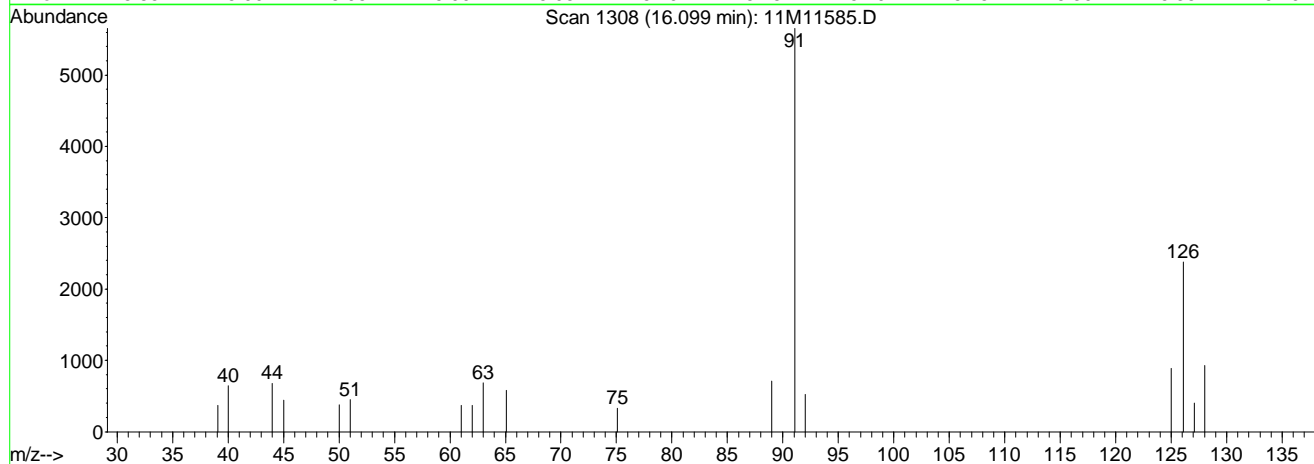
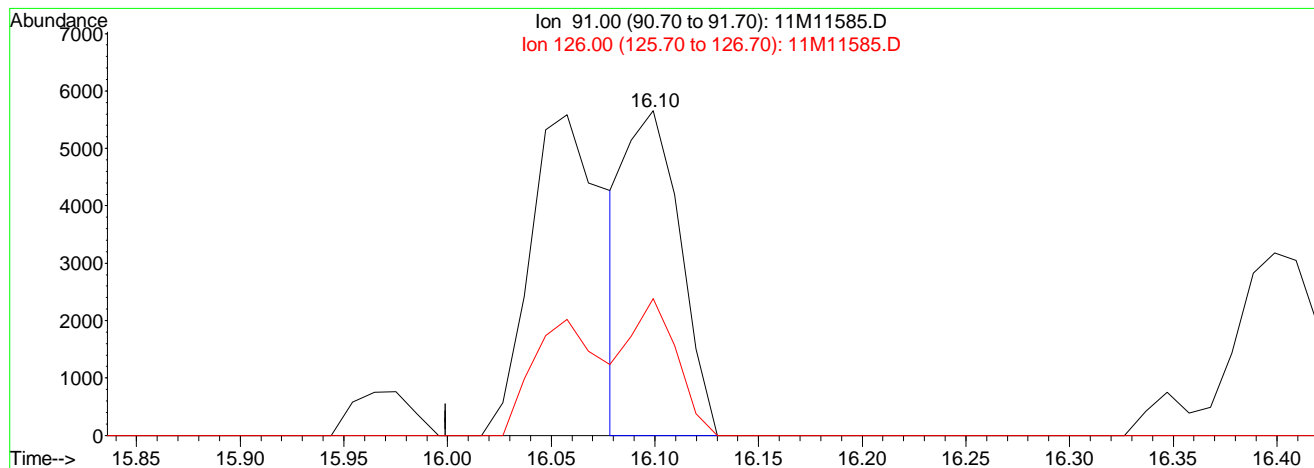
response 13994

Ion	Exp%	Act%
91.00	100	100
126.00	36.20	33.01
0.00	0.00	0.00
0.00	0.00	0.00

11M11585.D 8260_WT.M Wed May 04 09:01:07 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11585.D Vial: 3
 Acq On : 3 May 2016 17:22 Operator: JDS
 Sample : WG567372-03 0.4ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 4 9:01 2016 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 08:57:30 2016
 Response via : Multiple Level Calibration



TIC: 11M11585.D

(85) 4-Chlorotoluene (T)
 16.10min 0.38ug/L mint
 response 10241

Ion	Exp%	Act%
91.00	100	100
126.00	36.20	45.11
0.00	0.00	0.00
0.00	0.00	0.00

11M11585.D 8260_WT.M Wed May 04 09:01:25 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11586.D Vial: 4
 Acq On : 3 May 2016 17:54 Operator: JDS
 Sample : WG567372-04 1.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:31 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	753675	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	630607	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	373106	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	2133	0.2493	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	1.00%#	
43) 1,2-Dichloroethane-d4	10.24	65	4784	0.4615	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	1.84%#	
57) Toluene-d8	12.48	98	16039	0.5410	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	2.16%#	
78) p-Bromofluorobenzene	15.64	95	6710	0.5506	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	2.20%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	9033	0.8168	ug/L	99
3) Chloromethane	3.73	50	10118	1.0075	ug/L	84
4) Vinyl Chloride	3.97	62	7662	0.9556	ug/L	90
5) 1,3-Butadiene	4.02	54	7414	0.9813	ug/L #	62
6) Bromomethane	4.86	94	4950	0.9720	ug/L	98
7) Chloroethane	5.03	64	4848	0.8929	ug/L	99
8) Trichlorofluoromethane	5.49	101	13603	0.9159	ug/L	95
9) Diethyl ether	6.02	59	33035	4.8885	ug/L	97
10) Isoprene	6.05	67	8419	0.8198	ug/L	98
11) Acrolein	6.26	56	1420	2.9653	ug/L	74
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	6606	0.8826	ug/L	89
13) Acetone	6.35	43	3018	1.3393	ug/L	84
14) 1,1-Dichloroethene	6.56	61	12716	0.9166	ug/L	99
15) Tert-Butyl Alcohol	6.68	59	5027	8.3951	ug/L #	81
16) Dimethyl Sulfide	6.81	62	5166	0.8211	ug/L	95
17) Iodomethane	7.06	142	3171	1.0897	ug/L	76
18) Methyl acetate	7.08	43	5093	0.9600	ug/L #	70
19) Methylene Chloride	7.32	84	7464	0.9608	ug/L	92
20) Carbon Disulfide	7.37	76	23578	0.9710	ug/L	99
21) Acrylonitrile	7.50	53	6591	2.2760	ug/L	96
22) Methyl Tert Butyl Ether	7.54	73	18619	0.9232	ug/L	94
23) trans-1,2-Dichloroethene	7.75	96	8029	1.0112	ug/L	89
24) n-Hexane	7.83	57	11172	0.8585	ug/L #	95
25) Diisopropyl ether	8.16	45	168857	4.9047	ug/L	100
27) 1,1-Dichloroethane	8.35	63	14320	0.9164	ug/L	97
28) Ethyl-Tert-Butyl ether	8.71	59	137453	4.8743	ug/L	99
29) 2-Butanone	8.88	43	2582	0.7660	ug/L #	79
30) Propionitrile	8.99	54	4666	4.7389	ug/L #	60
31) 2,2-Dichloropropane	9.10	77	10808	0.9576	ug/L	86
32) cis-1,2-Dichloroethene	9.16	96	8263	0.9376	ug/L	91
33) Chloroform	9.36	83	13613	0.9327	ug/L	93
34) 1-Bromopropane	9.49	122	784	1.0160	ug/L	100
35) Bromochloromethane	9.57	130	5353	0.9492	ug/L	93
36) Tetrahydrofuran	9.61	42	13656	5.9038	ug/L	99
38) 1,1,1-Trichloroethane	9.86	97	11675	0.8272	ug/L #	96
39) Cyclohexane	9.90	56	15668	0.9179	ug/L	97
40) 1,1-Dichloropropene	10.05	75	9416	0.8829	ug/L	97
41) Carbon Tetrachloride	10.19	117	12041	0.9039	ug/L	99
42) Tert-Amyl-Methyl ether	10.14	73	97242	4.8465	ug/L	100
44) 1,2-Dichloroethane	10.35	62	11591	0.9255	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11586.D 8260_WT.M Wed May 04 11:41:32 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11586.D Vial: 4
 Acq On : 3 May 2016 17:54 Operator: JDS
 Sample : WG567372-04 1.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:31 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) Benzene	10.39	78	30816	1.0102	ug/L	99
46) Trichloroethene	11.09	130	10065	1.0123	ug/L	93
47) Methylcyclohexane	11.17	83	10427	0.8648	ug/L	96
48) 1,2-Dichloropropane	11.29	63	8210	0.9476	ug/L	93
50) Bromodichloromethane	11.58	83	10595	0.9226	ug/L	99
51) Dibromomethane	11.66	93	4011	0.8828	ug/L	86
52) 2-Chloroethyl Vinyl Ether	11.85	63	3766	0.8337	ug/L	93
53) 4-Methyl-2-Pentanone	11.88	58	1900	0.6859	ug/L	89
54) cis-1,3-Dichloropropene	12.18	75	10221	0.8456	ug/L	100
55) Dimethyl Disulfide	12.43	79	5783	0.7669	ug/L	95
58) Toluene	12.57	91	31687	0.9704	ug/L	99
59) Ethyl Methacrylate	12.65	69	5860	1.1167	ug/L	95
60) trans-1,3-Dichloropropene	12.73	75	9241	0.8639	ug/L	94
61) 1,1,2-Trichloroethane	12.93	97	5540	0.9064	ug/L	98
62) 2-Hexanone	12.87	43	4246	0.8426	ug/L #	73
63) 1,3-Dichloropropane	13.22	76	10031	0.9880	ug/L	96
64) Tetrachloroethene	13.35	164	7149	0.9702	ug/L	99
65) Dibromochloromethane	13.59	129	7988	0.9054	ug/L	96
66) 1,2-Dibromoethane	13.83	107	5809	0.9362	ug/L	96
67) 1-Chlorohexane	13.90	91	9961	0.9299	ug/L	95
68) Chlorobenzene	14.30	112	24325	1.0128	ug/L	98
69) 1,1,1,2-Tetrachloroethane	14.33	131	8539	0.9275	ug/L	98
70) Ethylbenzene	14.32	106	11264	0.9243	ug/L	89
71) m-,p-Xylene	14.40	106	27663	1.9075	ug/L	94
72) o-Xylene	14.93	106	13689	0.9463	ug/L	97
73) Styrene	14.96	104	22958	0.9354	ug/L	100
74) Bromoform	15.44	173	4202	1.2070	ug/L	98
75) Isopropylbenzene	15.32	105	35561	0.9721	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.53	83	4289	0.9045	ug/L	80
79) 1,2,3-Trichloropropane	15.71	110	2236	0.9835	ug/L	87
80) trans-1,4-Dichloro-2-Butene	15.74	53	1687	1.3759	ug/L #	35
81) n-Propylbenzene	15.79	91	41226	0.9833	ug/L	95
82) Bromobenzene	15.93	156	10950	0.9408	ug/L	100
83) 1,3,5-Trimethylbenzene	15.96	105	29879	0.9378	ug/L	99
84) 2-Chlorotoluene	16.06	91	31997	1.0341	ug/L	93
85) 4-Chlorotoluene	16.10	91	25837	1.0176	ug/L	97
86) a-Methylstyrene	16.35	118	15838	0.8945	ug/L	96
87) tert-Butylbenzene	16.41	134	6466	0.9249	ug/L	93
88) 1,2,4-Trimethylbenzene	16.45	105	30866	0.9467	ug/L	97
89) sec-Butylbenzene	16.65	105	36979	0.9808	ug/L	99
90) p-Isopropyltoluene	16.80	119	33385	0.9728	ug/L	97
91) 1,3-Dichlorobenzene	16.99	146	21806	1.0086	ug/L	94
92) 1,4-Dichlorobenzene	17.11	146	21788	0.9870	ug/L #	64
93) n-Butylbenzene	17.29	91	29524	0.9555	ug/L	98
94) 1,2-Dichlorobenzene	17.57	146	20625	1.0119	ug/L	98
95) 1,2-Dibromo-3-Chloropropane	18.50	75	723	1.4929	ug/L	76
96) 1,2,4-Trichlorobenzene	19.56	180	14957	0.9876	ug/L	93
97) Hexachlorobutadiene	19.70	225	5510	0.8955	ug/L	99
98) Naphthalene	19.90	128	28374	0.9789	ug/L #	97
99) 1,2,3-Trichlorobenzene	20.20	180	12865	0.9072	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11586.D 8260_WT.M Wed May 04 11:41:32 2016

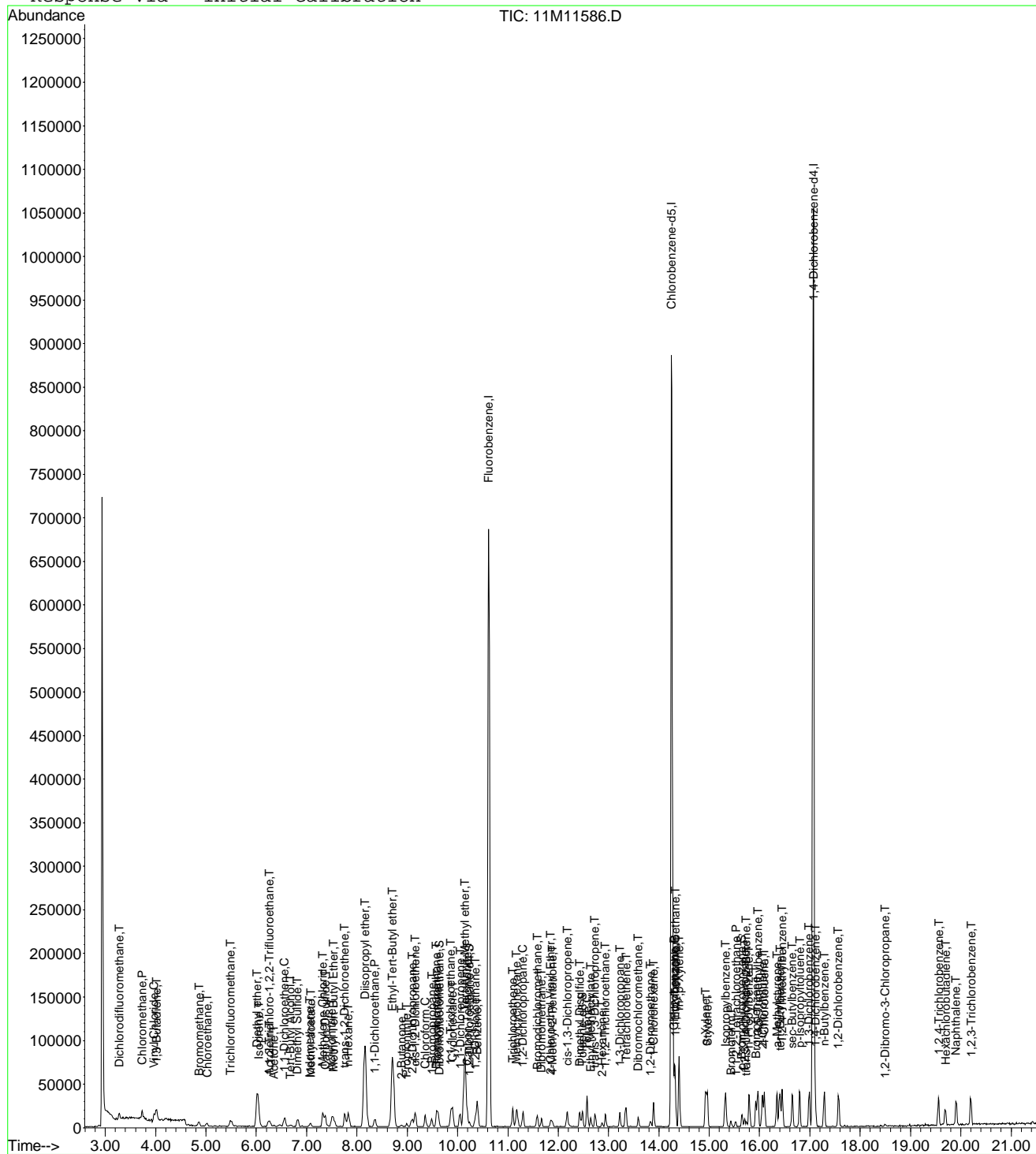
Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11586.D
 Acq On : 3 May 2016 17:54
 Sample : WG567372-04 1.0ug/L ICAL STD 8260
 Misc : 1,1 STD75976
 MS Integration Params: rteint.p
 Quant Time: May 4 11:41 2016

Vial: 4
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050316\11M11586.D Vial: 4
 Acq On : 3 May 2016 17:54 Operator: JDS
 Sample : WG567372-04 1.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	100	0.00
2 T	Dichlorodifluoromethane	1.0000	0.8168	18.3	100	0.00
3 P	Chloromethane	1.0000	1.0075	-0.8	100	0.00
4 C	Vinyl Chloride	1.0000	0.9556	4.4	100	0.01
5 T	1,3-Butadiene	-1.0000	0.9813	0.0	0	0.02
6 T	Bromomethane	1.0000	0.9720	2.8	100	0.00
7 T	Chloroethane	1.0000	0.8929	10.7	100	0.01
8 T	Trichlorofluoromethane	1.0000	0.9159	8.4	100	0.00
9 T	Diethyl ether	5.0000	4.8885	2.2	100	0.00
10 T	Isoprene	-1.0000	0.8198	0.0	100	0.00
11 T	Acrolein	2.5000	2.9653	-18.6	100	0.01
12 T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	0.8827	11.7	100	0.00
13 T	Acetone	-1.0000	1.3393	0.0	100	0.00
14 C	1,1-Dichloroethene	1.0000	0.9166	8.3	100	-0.01
15 T	Tert-Butyl Alcohol	10.0000	8.3951	16.0	100	0.00
16 T	Dimethyl Sulfide	-1.0000	0.8211	0.0	100	-0.01
17 T	Iodomethane	1.0000	1.0897	-9.0	100	0.00
18 T	Methyl acetate	-1.0000	0.9600	0.0	0	0.01
19 T	Methylene Chloride	1.0000	0.9608	3.9	100	0.00
20 T	Carbon Disulfide	1.0000	0.9710	2.9	100	0.00
21 T	Acrylonitrile	2.5000	2.2761	9.0	100	0.00
22 T	Methyl Tert Butyl Ether	1.0000	0.9232	7.7	100	0.01
23 T	trans-1,2-Dichloroethene	1.0000	1.0112	-1.1	100	0.00
24 T	n-Hexane	-1.0000	0.8585	0.0	100	0.00
25 T	Diisopropyl ether	5.0000	4.9047	1.9	100	0.00
26 T	Vinyl Acetate	-1.0000	0.0000	0.0	0	-8.32#
27 P	1,1-Dichloroethane	1.0000	0.9164	8.4	100	0.00
28 T	Ethyl-Tert-Butyl ether	5.0000	4.8743	2.5	100	0.00
29 T	2-Butanone	-1.0000	0.7660	0.0	0	0.00
30 T	Propionitrile	5.0000	4.7389	5.2	100	0.00
31 T	2,2-Dichloropropane	1.0000	0.9576	4.2	100	0.00
32 T	cis-1,2-Dichloroethene	1.0000	0.9376	6.2	100	0.00
33 C	Chloroform	1.0000	0.9327	6.7	100	0.00
34 T	1-Bromopropane	1.0000	1.0160	-1.6	100	0.00
35 T	Bromochloromethane	1.0000	0.9492	5.1	100	-0.01
36 T	Tetrahydrofuran	5.0000	5.9038	-18.1	100	0.00
37 S	Dibromofluoromethane	-1.0000	0.2493	0.0	0	0.00
38 T	1,1,1-Trichloroethane	1.0000	0.8272	17.3	100	0.00
39 T	Cyclohexane	1.0000	0.9179	8.2	100	0.00
40 T	1,1-Dichloropropene	1.0000	0.8829	11.7	100	0.00
41 T	Carbon Tetrachloride	1.0000	0.9039	9.6	100	0.01
42 T	Tert-Amyl-Methyl ether	5.0000	4.8465	3.1	100	0.00
43 S	1,2-Dichloroethane-d4	0.5000	0.4615	7.7	100	0.00
44 T	1,2-Dichloroethane	1.0000	0.9255	7.4	100	0.00
45 T	Benzene	1.0000	1.0102	-1.0	100	0.00
46 T	Trichloroethene	1.0000	1.0123	-1.2	100	0.00
47 T	Methylcyclohexane	1.0000	0.8648	13.5	100	-0.01
48 C	1,2-Dichloropropane	1.0000	0.9476	5.2	100	-0.01
49 T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.57#
50 T	Bromodichloromethane	1.0000	0.9226	7.7	100	0.00
51 T	Dibromomethane	1.0000	0.8828	11.7	100	0.00
52 T	2-Chloroethyl Vinyl Ether	-1.0000	0.8337	0.0	100	0.00
53 T	4-Methyl-2-Pentanone	-1.0000	0.6859	0.0	100	0.00
54 T	cis-1,3-Dichloropropene	1.0000	0.8456	15.4	100	0.00

(#) = Out of Range

11M11586.D 8260_WT.M

Wed May 04 09:45:56 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\050316\11M11586.D Vial: 4
 Acq On : 3 May 2016 17:54 Operator: JDS
 Sample : WG567372-04 1.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	Dimethyl Disulfide	-1.0000	0.7669	0.0	100	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	-0.01
57 S	Toluene-d8	-1.0000	0.5410	0.0	100	0.00
58 C	Toluene	1.0000	0.9704	3.0	100	0.00
59 T	Ethyl Methacrylate	1.0000	1.1167	-11.7	100	0.00
60 T	trans-1,3-Dichloropropene	1.0000	0.8639	13.6	100	-0.01
61 T	1,1,2-Trichloroethane	1.0000	0.9064	9.4	100	0.00
62 T	2-Hexanone	-1.0000	0.8426	0.0	100	0.00
63 T	1,3-Dichloropropane	1.0000	0.9880	1.2	100	0.00
64 T	Tetrachloroethene	1.0000	0.9701	3.0	100	0.00
65 T	Dibromochloromethane	1.0000	0.9054	9.5	100	-0.01
66 T	1,2-Dibromoethane	1.0000	0.9362	6.4	100	0.00
67 T	1-Chlorohexane	1.0000	0.9299	7.0	100	0.00
68 P	Chlorobenzene	1.0000	1.0128	-1.3	100	0.00
69 T	1,1,1,2-Tetrachloroethane	1.0000	0.9275	7.3	100	0.00
70 C	Ethylbenzene	1.0000	0.9243	7.6	100	0.00
71 T	m-,p-Xylene	2.0000	1.9075	4.6	100	0.00
72 T	o-Xylene	1.0000	0.9463	5.4	100	0.00
73 T	Styrene	1.0000	0.9354	6.5	100	0.00
74 P	Bromoform	1.0000	1.2070	-20.7	100	0.00
75 T	Isopropylbenzene	1.0000	0.9721	2.8	100	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77 P	1,1,2,2-Tetrachloroethane	1.0000	0.9045	9.5	100	0.01
78 S	p-Bromofluorobenzene	-1.0000	0.5506	0.0	100	-0.01
79 T	1,2,3-Trichloropropane	1.0000	0.9835	1.7	100	0.00
80 T	trans-1,4-Dichloro-2-Butene	1.0000	1.3760	-37.6#	100	0.00
81 T	n-Propylbenzene	1.0000	0.9833	1.7	100	-0.01
82 T	Bromobenzene	1.0000	0.9408	5.9	100	0.01
83 T	1,3,5-Trimethylbenzene	1.0000	0.9378	6.2	100	0.00
84 T	2-Chlorotoluene	1.0000	1.0341	-3.4	100	0.00
85 T	4-Chlorotoluene	1.0000	1.0176	-1.8	100	0.00
86 T	a-Methylstyrene	1.0000	0.8945	10.5	100	0.00
87 T	tert-Butylbenzene	1.0000	0.9248	7.5	100	0.01
88 T	1,2,4-Trimethylbenzene	1.0000	0.9467	5.3	100	0.00
89 T	sec-Butylbenzene	1.0000	0.9808	1.9	100	-0.01
90 T	p-Isopropyltoluene	1.0000	0.9728	2.7	100	0.00
91 T	1,3-Dichlorobenzene	1.0000	1.0086	-0.9	100	0.00
92 T	1,4-Dichlorobenzene	1.0000	0.9870	1.3	100	0.00
93 T	n-Butylbenzene	1.0000	0.9555	4.4	100	0.00
94 T	1,2-Dichlorobenzene	1.0000	1.0119	-1.2	100	0.00
95 T	1,2-Dibromo-3-Chloropropane	-1.0000	1.4929	0.0	100	0.00
96 T	1,2,4-Trichlorobenzene	1.0000	0.9876	1.2	100	0.01
97 T	Hexachlorobutadiene	1.0000	0.8955	10.5	100	0.00
98 T	Naphthalene	1.0000	0.9789	2.1	100	0.00
99 T	1,2,3-Trichlorobenzene	1.0000	0.9072	9.3	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11586.D 8260_WT.M Wed May 04 09:45:56 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11587.D Vial: 5
 Acq On : 3 May 2016 18:26 Operator: JDS
 Sample : WG567372-05 2.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:33 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	763180	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.26	117	640965	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.07	152	374700	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	6779	0.7825	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	3.12%#	
43) 1,2-Dichloroethane-d4	10.24	65	10533	1.0034	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	4.00%#	
57) Toluene-d8	12.48	98	31031	1.0299	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	4.12%#	
78) p-Bromofluorobenzene	15.65	95	12334	1.0077	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	4.04%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	18989	1.6957	ug/L	98
3) Chloromethane	3.73	50	20018	1.9685	ug/L	93
4) Vinyl Chloride	3.97	62	15025	1.8506	ug/L	98
5) 1,3-Butadiene	4.01	54	15362	2.0079	ug/L	83
6) Bromomethane	4.86	94	9368	1.8167	ug/L	100
7) Chloroethane	5.01	64	10366	1.8855	ug/L	96
8) Trichlorofluoromethane	5.50	101	28568	1.8995	ug/L	97
9) Diethyl ether	6.02	59	161676	23.6268	ug/L	99
10) Isoprene	6.05	67	19657	1.8902	ug/L	97
11) Acrolein	6.26	56	7059	10.0589	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	13549	1.7878	ug/L	94
13) Acetone	6.35	43	5152	2.2578	ug/L	90
14) 1,1-Dichloroethene	6.57	61	27520	1.9590	ug/L	100
15) Tert-Butyl Alcohol	6.67	59	25892	42.7012	ug/L	98
16) Dimethyl Sulfide	6.81	62	11755	1.8451	ug/L	98
17) Iodomethane	7.07	142	9561	1.9829	ug/L	94
18) Methyl acetate	7.08	43	11045	1.6889	ug/L #	83
19) Methylene Chloride	7.32	84	15343	1.9505	ug/L	92
20) Carbon Disulfide	7.37	76	47057	1.9137	ug/L	98
21) Acrylonitrile	7.50	53	29479	10.0531	ug/L	95
22) Methyl Tert Butyl Ether	7.52	73	37167	1.8199	ug/L	97
23) trans-1,2-Dichloroethene	7.75	96	15290	1.9017	ug/L	94
24) n-Hexane	7.83	57	25596	1.9424	ug/L #	95
25) Diisopropyl ether	8.16	45	858308	24.6202	ug/L	100
26) Vinyl Acetate	8.32	43	759	5.9260	ug/L #	78
27) 1,1-Dichloroethane	8.35	63	30618	1.9349	ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	686854	24.0534	ug/L	99
29) 2-Butanone	8.88	43	5000	1.4648	ug/L #	60
30) Propionitrile	8.99	54	21172	21.2350	ug/L	100
31) 2,2-Dichloropropane	9.10	77	23185	2.0287	ug/L	95
32) cis-1,2-Dichloroethene	9.16	96	17904	2.0062	ug/L	95
33) Chloroform	9.36	83	28908	1.9559	ug/L	96
34) 1-Bromopropane	9.49	122	2827	2.2356	ug/L	82
35) Bromochloromethane	9.57	130	11227	1.9660	ug/L	96
36) Tetrahydrofuran	9.61	42	50996	21.7723	ug/L	98
38) 1,1,1-Trichloroethane	9.86	97	27634	1.9336	ug/L	97
39) Cyclohexane	9.90	56	33355	1.9297	ug/L	97
40) 1,1-Dichloropropene	10.05	75	20546	1.9026	ug/L	96
41) Carbon Tetrachloride	10.18	117	26023	1.9291	ug/L	97
42) Tert-Amyl-Methyl ether	10.14	73	474037	23.3316	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11587.D 8260_WT.M Wed May 04 11:41:34 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11587.D Vial: 5
 Acq On : 3 May 2016 18:26 Operator: JDS
 Sample : WG567372-05 2.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:33 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	24128	1.9026	ug/L	96
45) Benzene	10.39	78	61892	2.0036	ug/L	100
46) Trichloroethene	11.09	130	20000	1.9866	ug/L	96
47) Methylcyclohexane	11.18	83	22508	1.8435	ug/L	95
48) 1,2-Dichloropropane	11.30	63	16718	1.9056	ug/L	98
49) 1,4-Dioxane	11.55	88	1959	36.8325	ug/L	98
50) Bromodichloromethane	11.58	83	22573	1.9412	ug/L	93
51) Dibromomethane	11.66	93	8171	1.7760	ug/L	97
52) 2-Chloroethyl Vinyl Ether	11.85	63	7339	1.6044	ug/L	93
53) 4-Methyl-2-Pentanone	11.88	58	3848	1.3719	ug/L	90
54) cis-1,3-Dichloropropene	12.17	75	23663	1.9333	ug/L	96
55) Dimethyl Disulfide	12.43	79	11928	1.5621	ug/L	99
58) Toluene	12.57	91	66698	2.0095	ug/L	99
59) Ethyl Methacrylate	12.65	69	12887	1.9135	ug/L	96
60) trans-1,3-Dichloropropene	12.74	75	18856	1.7343	ug/L	98
61) 1,1,2-Trichloroethane	12.93	97	11870	1.9108	ug/L	95
62) 2-Hexanone	12.87	43	8964	1.7501	ug/L #	92
63) 1,3-Dichloropropane	13.22	76	19214	1.8620	ug/L	98
64) Tetrachloroethene	13.35	164	14378	1.9196	ug/L	94
65) Dibromochloromethane	13.60	129	16544	1.8450	ug/L	95
66) 1,2-Dibromoethane	13.83	107	11042	1.7508	ug/L	94
67) 1-Chlorohexane	13.90	91	20852	1.9152	ug/L	95
68) Chlorobenzene	14.30	112	49350	2.0215	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.32	131	18035	1.9273	ug/L	99
70) Ethylbenzene	14.32	106	24231	1.9562	ug/L	97
71) m-,p-Xylene	14.40	106	61379	4.1641	ug/L	99
72) o-Xylene	14.93	106	29258	1.9898	ug/L	96
73) Styrene	14.96	104	46615	1.8685	ug/L	98
74) Bromoform	15.44	173	8811	1.9228	ug/L	99
75) Isopropylbenzene	15.32	105	77153	2.0751	ug/L	96
77) 1,1,2,2-Tetrachloroethane	15.52	83	10783	1.8258	ug/L	91
79) 1,2,3-Trichloropropane	15.71	110	3622	1.5863	ug/L	95
80) trans-1,4-Dichloro-2-Butene	15.75	53	3245	1.8707	ug/L #	39
81) n-Propylbenzene	15.80	91	86857	2.0629	ug/L	100
82) Bromobenzene	15.92	156	22079	1.8889	ug/L	96
83) 1,3,5-Trimethylbenzene	15.96	105	64578	2.0183	ug/L	97
84) 2-Chlorotoluene	16.06	91	64309	2.0695	ug/L	98
85) 4-Chlorotoluene	16.10	91	50571	1.9833	ug/L	99
86) a-Methylstyrene	16.35	118	34612	1.9466	ug/L	95
87) tert-Butylbenzene	16.40	134	13711	1.9528	ug/L	99
88) 1,2,4-Trimethylbenzene	16.45	105	66860	2.0419	ug/L	99
89) sec-Butylbenzene	16.66	105	78615	2.0762	ug/L	100
90) p-Isopropyltoluene	16.80	119	70215	2.0373	ug/L	96
91) 1,3-Dichlorobenzene	16.99	146	43278	1.9933	ug/L	97
92) 1,4-Dichlorobenzene	17.11	146	44119	1.9901	ug/L	83
93) n-Butylbenzene	17.29	91	62296	2.0076	ug/L	98
94) 1,2-Dichlorobenzene	17.57	146	41237	2.0146	ug/L	97
95) 1,2-Dibromo-3-Chloropropane	18.50	75	1812	2.2435	ug/L	90
96) 1,2,4-Trichlorobenzene	19.55	180	28339	1.8632	ug/L	97
97) Hexachlorobutadiene	19.70	225	12181	1.9713	ug/L	95
98) Naphthalene	19.90	128	55029	1.8904	ug/L	100
99) 1,2,3-Trichlorobenzene	20.20	180	26990	1.8951	ug/L	96

(#) = qualifier out of range (m) = manual integration
 11M11587.D 8260_WT.M Wed May 04 11:41:34 2016

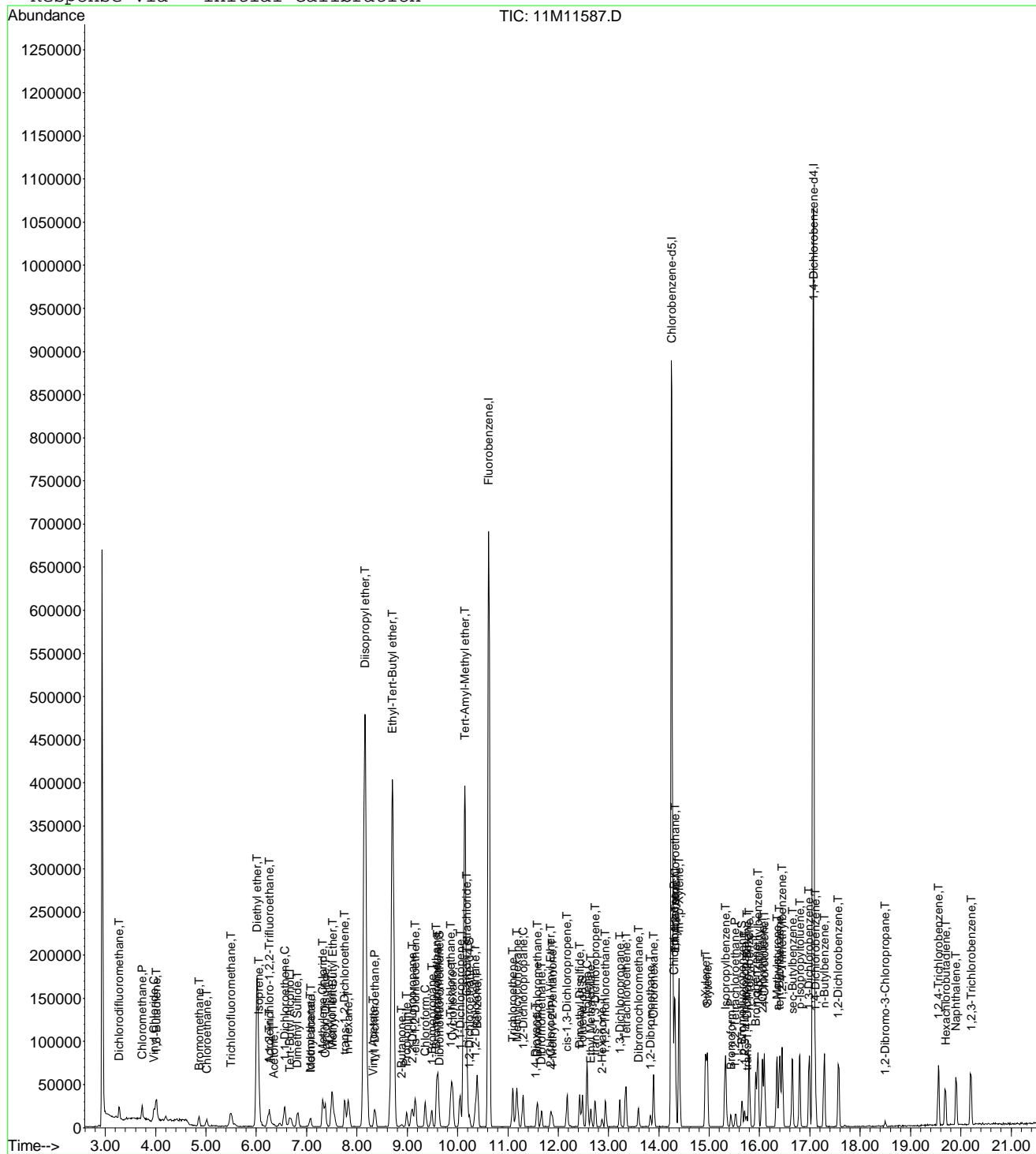
Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11587.D
 Acq On : 3 May 2016 18:26
 Sample : WG567372-05 2.0ug/L ICAL STD 8260
 Misc : 1,1 STD75976
 MS Integration Params: rteint.p
 Quant Time: May 4 11:41 2016

Vial: 5
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050316\11M11587.D Vial: 5
 Acq On : 3 May 2016 18:26 Operator: JDS
 Sample : WG567372-05 2.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	100	0.00
2 T	Dichlorodifluoromethane	2.0000	1.6957	15.2	100	-0.01
3 P	Chloromethane	2.0000	1.9685	1.6	100	0.00
4 C	Vinyl Chloride	2.0000	1.8506	7.5	100	0.01
5 T	1,3-Butadiene	-1.0000	2.0079	0.0	0	0.01
6 T	Bromomethane	2.0000	1.8167	9.2	100	0.00
7 T	Chloroethane	2.0000	1.8855	5.7	100	0.00
8 T	Trichlorofluoromethane	2.0000	1.8995	5.0	100	0.01
9 T	Diethyl ether	25.0000	23.6268	5.5	100	0.00
10 T	Isoprene	-1.0000	1.8902	0.0	100	0.00
11 T	Acrolein	12.5000	10.0589	19.5	100	0.01
12 T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.7878	10.6	100	0.00
13 T	Acetone	-1.0000	2.2578	0.0	100	0.00
14 C	1,1-Dichloroethene	2.0000	1.9590	2.1	100	0.00
15 T	Tert-Butyl Alcohol	50.0000	42.7012	14.6	100	-0.01
16 T	Dimethyl Sulfide	-1.0000	1.8451	0.0	100	-0.01
17 T	Iodomethane	2.0000	1.9829	0.9	100	0.00
18 T	Methyl acetate	2.0000	1.6889	15.6	100	0.01
19 T	Methylene Chloride	2.0000	1.9505	2.5	100	0.00
20 T	Carbon Disulfide	2.0000	1.9137	4.3	100	0.00
21 T	Acrylonitrile	12.5000	10.0531	19.6	100	0.00
22 T	Methyl Tert Butyl Ether	2.0000	1.8199	9.0	100	-0.01
23 T	trans-1,2-Dichloroethene	2.0000	1.9017	4.9	100	0.00
24 T	n-Hexane	2.0000	1.9424	2.9	100	0.00
25 T	Diisopropyl ether	25.0000	24.6202	1.5	100	0.00
26 T	Vinyl Acetate	-1.0000	5.9260	0.0	100	0.00
27 P	1,1-Dichloroethane	2.0000	1.9349	3.3	100	0.00
28 T	Ethyl-Tert-Butyl ether	25.0000	24.0534	3.8	100	0.00
29 T	2-Butanone	-1.0000	1.4648	0.0	0	0.00
30 T	Propionitrile	25.0000	21.2350	15.1	100	0.00
31 T	2,2-Dichloropropane	2.0000	2.0287	-1.4	100	0.00
32 T	cis-1,2-Dichloroethene	2.0000	2.0062	-0.3	100	0.00
33 C	Chloroform	2.0000	1.9559	2.2	100	0.00
34 T	1-Bromopropane	2.0000	2.2356	-11.8	100	0.00
35 T	Bromochloromethane	2.0000	1.9660	1.7	100	-0.01
36 T	Tetrahydrofuran	25.0000	21.7723	12.9	100	0.00
37 S	Dibromofluoromethane	1.0000	0.7825	21.8	100	0.00
38 T	1,1,1-Trichloroethane	2.0000	1.9336	3.3	100	0.00
39 T	Cyclohexane	2.0000	1.9297	3.5	100	0.00
40 T	1,1-Dichloropropene	2.0000	1.9026	4.9	100	0.00
41 T	Carbon Tetrachloride	2.0000	1.9291	3.5	100	0.00
42 T	Tert-Amyl-Methyl ether	25.0000	23.3316	6.7	100	0.00
43 S	1,2-Dichloroethane-d4	1.0000	1.0034	-0.3	100	0.00
44 T	1,2-Dichloroethane	2.0000	1.9026	4.9	100	0.00
45 T	Benzene	2.0000	2.0036	-0.2	100	0.00
46 T	Trichloroethene	2.0000	1.9866	0.7	100	0.00
47 T	Methylcyclohexane	2.0000	1.8435	7.8	100	0.00
48 C	1,2-Dichloropropane	2.0000	1.9056	4.7	100	0.00
49 T	1,4-Dioxane	50.0000	36.8325	26.3#	100	-0.02
50 T	Bromodichloromethane	2.0000	1.9412	2.9	100	0.00
51 T	Dibromomethane	2.0000	1.7760	11.2	100	0.00
52 T	2-Chloroethyl Vinyl Ether	-1.0000	1.6044	0.0	100	0.00
53 T	4-Methyl-2-Pentanone	-1.0000	1.3719	0.0	100	0.00
54 T	cis-1,3-Dichloropropene	2.0000	1.9333	3.3	100	-0.01

(#) = Out of Range

11M11587.D 8260_WT.M Wed May 04 09:46:20 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\050316\11M11587.D Vial: 5
 Acq On : 3 May 2016 18:26 Operator: JDS
 Sample : WG567372-05 2.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	Dimethyl Disulfide	-1.0000	1.5621	0.0	100	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57 S	Toluene-d8	1.0000	1.0299	-3.0	100	0.00
58 C	Toluene	2.0000	2.0095	-0.5	100	0.00
59 T	Ethyl Methacrylate	2.0000	1.9135	4.3	100	0.00
60 T	trans-1,3-Dichloropropene	2.0000	1.7343	13.3	100	0.00
61 T	1,1,2-Trichloroethane	2.0000	1.9108	4.5	100	0.00
62 T	2-Hexanone	-1.0000	1.7501	0.0	100	0.00
63 T	1,3-Dichloropropane	2.0000	1.8620	6.9	100	0.00
64 T	Tetrachloroethene	2.0000	1.9196	4.0	100	0.00
65 T	Dibromochloromethane	2.0000	1.8450	7.8	100	0.00
66 T	1,2-Dibromoethane	2.0000	1.7508	12.5	100	0.00
67 T	1-Chlorohexane	2.0000	1.9152	4.2	100	0.00
68 P	Chlorobenzene	2.0000	2.0215	-1.1	100	0.00
69 T	1,1,1,2-Tetrachloroethane	2.0000	1.9273	3.6	100	-0.01
70 C	Ethylbenzene	2.0000	1.9562	2.2	100	0.00
71 T	m-,p-Xylene	4.0000	4.1641	-4.1	100	0.00
72 T	o-Xylene	2.0000	1.9898	0.5	100	0.00
73 T	Styrene	2.0000	1.8685	6.6	100	0.00
74 P	Bromoform	2.0000	1.9228	3.9	100	0.00
75 T	Isopropylbenzene	2.0000	2.0751	-3.8	100	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77 P	1,1,2,2-Tetrachloroethane	2.0000	1.8258	8.7	100	0.00
78 S	p-Bromofluorobenzene	1.0000	1.0077	-0.8	100	0.00
79 T	1,2,3-Trichloropropane	2.0000	1.5863	20.7	100	0.00
80 T	trans-1,4-Dichloro-2-Butene	2.0000	1.8707	6.5	100	0.01
81 T	n-Propylbenzene	2.0000	2.0629	-3.1	100	0.00
82 T	Bromobenzene	2.0000	1.8889	5.6	100	0.00
83 T	1,3,5-Trimethylbenzene	2.0000	2.0183	-0.9	100	0.00
84 T	2-Chlorotoluene	2.0000	2.0695	-3.5	100	0.00
85 T	4-Chlorotoluene	2.0000	1.9833	0.8	100	0.00
86 T	a-Methylstyrene	2.0000	1.9466	2.7	100	0.00
87 T	tert-Butylbenzene	2.0000	1.9528	2.4	100	0.00
88 T	1,2,4-Trimethylbenzene	2.0000	2.0419	-2.1	100	0.00
89 T	sec-Butylbenzene	2.0000	2.0762	-3.8	100	0.00
90 T	p-Isopropyltoluene	2.0000	2.0373	-1.9	100	0.00
91 T	1,3-Dichlorobenzene	2.0000	1.9933	0.3	100	0.00
92 T	1,4-Dichlorobenzene	2.0000	1.9901	0.5	100	0.00
93 T	n-Butylbenzene	2.0000	2.0076	-0.4	100	0.00
94 T	1,2-Dichlorobenzene	2.0000	2.0146	-0.7	100	0.00
95 T	1,2-Dibromo-3-Chloropropane	2.0000	2.2435	-12.2	100	0.00
96 T	1,2,4-Trichlorobenzene	2.0000	1.8632	6.8	100	0.00
97 T	Hexachlorobutadiene	2.0000	1.9713	1.4	100	0.00
98 T	Naphthalene	2.0000	1.8904	5.5	100	0.00
99 T	1,2,3-Trichlorobenzene	2.0000	1.8951	5.2	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11587.D 8260_WT.M Wed May 04 09:46:20 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11588.D Vial: 6
 Acq On : 3 May 2016 18:58 Operator: JDS
 Sample : WG567372-06 5.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:35 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	731143	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.26	117	611550	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.07	152	362739	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	19149	2.3072	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	9.24%#	
43) 1,2-Dichloroethane-d4	10.24	65	24316	2.4180	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	9.68%#	
57) Toluene-d8	12.48	98	73384	2.5526	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	10.20%#	
78) p-Bromofluorobenzene	15.65	95	28871	2.4366	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	9.76%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	45562	4.2469	ug/L	98
3) Chloromethane	3.73	50	44000	4.5165	ug/L	95
4) Vinyl Chloride	3.96	62	34743	4.4666	ug/L	99
5) 1,3-Butadiene	4.00	54	36437	4.9713	ug/L	91
6) Bromomethane	4.86	94	20839	4.2183	ug/L	97
7) Chloroethane	5.01	64	25160	4.7769	ug/L	100
8) Trichlorofluoromethane	5.49	101	68018	4.7207	ug/L	100
9) Diethyl ether	6.02	59	317315	48.4032	ug/L	100
10) Isoprene	6.05	67	45798	4.5968	ug/L	98
11) Acrolein	6.26	56	16378	22.1763	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	35749	4.9237	ug/L	99
13) Acetone	6.35	43	10239	4.6836	ug/L	89
14) 1,1-Dichloroethene	6.57	61	64808	4.8154	ug/L	99
15) Tert-Butyl Alcohol	6.67	59	52352	90.1224	ug/L	98
16) Dimethyl Sulfide	6.82	62	27492	4.5044	ug/L	99
17) Iodomethane	7.07	142	27422	4.6643	ug/L	97
18) Methyl acetate	7.08	43	32624	4.5373	ug/L	96
19) Methylene Chloride	7.32	84	37289	4.9481	ug/L	93
20) Carbon Disulfide	7.37	76	112924	4.7936	ug/L	100
21) Acrylonitrile	7.50	53	60975	21.7052	ug/L	92
22) Methyl Tert Butyl Ether	7.53	73	87971	4.4963	ug/L	100
23) trans-1,2-Dichloroethene	7.77	96	37064	4.8118	ug/L	96
24) n-Hexane	7.83	57	59208	4.6900	ug/L	98
25) Diisopropyl ether	8.16	45	1681261	50.3394	ug/L	99
26) Vinyl Acetate	8.31	43	2808	6.6508	ug/L #	78
27) 1,1-Dichloroethane	8.35	63	72268	4.7671	ug/L	98
28) Ethyl-Tert-Butyl ether	8.71	59	1337880	48.9050	ug/L	100
29) 2-Butanone	8.88	43	13515	4.1330	ug/L	87
30) Propionitrile	8.99	54	44080	46.1484	ug/L	95
31) 2,2-Dichloropropane	9.10	77	52866	4.8285	ug/L	99
32) cis-1,2-Dichloroethene	9.16	96	41321	4.8330	ug/L	99
33) Chloroform	9.36	83	70103	4.9509	ug/L	97
34) 1-Bromopropane	9.49	122	6769	4.7783	ug/L	96
35) Bromochloromethane	9.57	130	26035	4.7588	ug/L	99
36) Tetrahydrofuran	9.61	42	99475	44.3309	ug/L	99
38) 1,1,1-Trichloroethane	9.86	97	65637	4.7940	ug/L	99
39) Cyclohexane	9.90	56	79694	4.8126	ug/L	99
40) 1,1-Dichloropropene	10.05	75	51372	4.9655	ug/L	96
41) Carbon Tetrachloride	10.18	117	60862	4.7094	ug/L	99
42) Tert-Amyl-Methyl ether	10.14	73	938371	48.2094	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11588.D 8260_WT.M Wed May 04 11:41:35 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11588.D Vial: 6
 Acq On : 3 May 2016 18:58 Operator: JDS
 Sample : WG567372-06 5.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:35 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	57346	4.7202	ug/L	99
45) Benzene	10.39	78	142566	4.8174	ug/L	98
46) Trichloroethene	11.09	130	46212	4.7913	ug/L	98
47) Methylcyclohexane	11.18	83	56355	4.8180	ug/L	99
48) 1,2-Dichloropropane	11.30	63	39302	4.6761	ug/L	98
49) 1,4-Dioxane	11.57	88	4539	89.0804	ug/L	95
50) Bromodichloromethane	11.58	83	51295	4.6045	ug/L	100
51) Dibromomethane	11.66	93	20159	4.5737	ug/L	98
52) 2-Chloroethyl Vinyl Ether	11.85	63	18664	4.2589	ug/L	95
53) 4-Methyl-2-Pentanone	11.88	58	10538	3.9217	ug/L	97
54) cis-1,3-Dichloropropene	12.17	75	53638	4.5742	ug/L	97
55) Dimethyl Disulfide	12.43	79	29880	4.0847	ug/L	96
58) Toluene	12.57	91	160351	5.0635	ug/L	98
59) Ethyl Methacrylate	12.65	69	33719	4.4950	ug/L	97
60) trans-1,3-Dichloropropene	12.74	75	46828	4.5142	ug/L	99
61) 1,1,2-Trichloroethane	12.94	97	28384	4.7889	ug/L	98
62) 2-Hexanone	12.87	43	19816	4.0548	ug/L	97
63) 1,3-Dichloropropane	13.22	76	47188	4.7928	ug/L	98
64) Tetrachloroethene	13.35	164	34968	4.8932	ug/L	97
65) Dibromochloromethane	13.60	129	39175	4.5788	ug/L	99
66) 1,2-Dibromoethane	13.83	107	27317	4.5398	ug/L	99
67) 1-Chlorohexane	13.90	91	50578	4.8690	ug/L	99
68) Chlorobenzene	14.30	112	116076	4.9835	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	42272	4.7346	ug/L	99
70) Ethylbenzene	14.32	106	57713	4.8834	ug/L	97
71) m-,p-Xylene	14.40	106	141768	10.0804	ug/L	98
72) o-Xylene	14.93	106	69666	4.9658	ug/L	99
73) Styrene	14.96	104	116382	4.8895	ug/L	100
74) Bromoform	15.44	173	22785	4.2989	ug/L	99
75) Isopropylbenzene	15.32	105	180427	5.0861	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	27097	4.2718	ug/L	97
79) 1,2,3-Trichloropropane	15.71	110	9949	4.5009	ug/L	91
80) trans-1,4-Dichloro-2-Butene	15.74	53	9725	4.0405	ug/L	80
81) n-Propylbenzene	15.79	91	208332	5.1113	ug/L	99
82) Bromobenzene	15.92	156	54472	4.8137	ug/L	97
83) 1,3,5-Trimethylbenzene	15.96	105	156679	5.0583	ug/L	98
84) 2-Chlorotoluene	16.06	91	147244	4.8947	ug/L	99
85) 4-Chlorotoluene	16.10	91	124252	5.0337	ug/L	99
86) a-Methylstyrene	16.35	118	81435	4.7309	ug/L	99
87) tert-Butylbenzene	16.41	134	33662	4.9524	ug/L	99
88) 1,2,4-Trimethylbenzene	16.45	105	161190	5.0850	ug/L	100
89) sec-Butylbenzene	16.66	105	189034	5.1568	ug/L	99
90) p-Isopropyltoluene	16.80	119	170702	5.1162	ug/L	100
91) 1,3-Dichlorobenzene	16.99	146	102926	4.8969	ug/L	96
92) 1,4-Dichlorobenzene	17.11	146	103525	4.8236	ug/L	96
93) n-Butylbenzene	17.29	91	151225	5.0342	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	93985	4.7429	ug/L	99
95) 1,2-Dibromo-3-Chloropropane	18.50	75	5234	4.7283	ug/L	100
96) 1,2,4-Trichlorobenzene	19.55	180	68266	4.6362	ug/L	99
97) Hexachlorobutadiene	19.70	225	27431	4.5855	ug/L	99
98) Naphthalene	19.90	128	128681	4.5664	ug/L	99
99) 1,2,3-Trichlorobenzene	20.20	180	62031	4.4991	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11588.D 8260_WT.M Wed May 04 11:41:36 2016

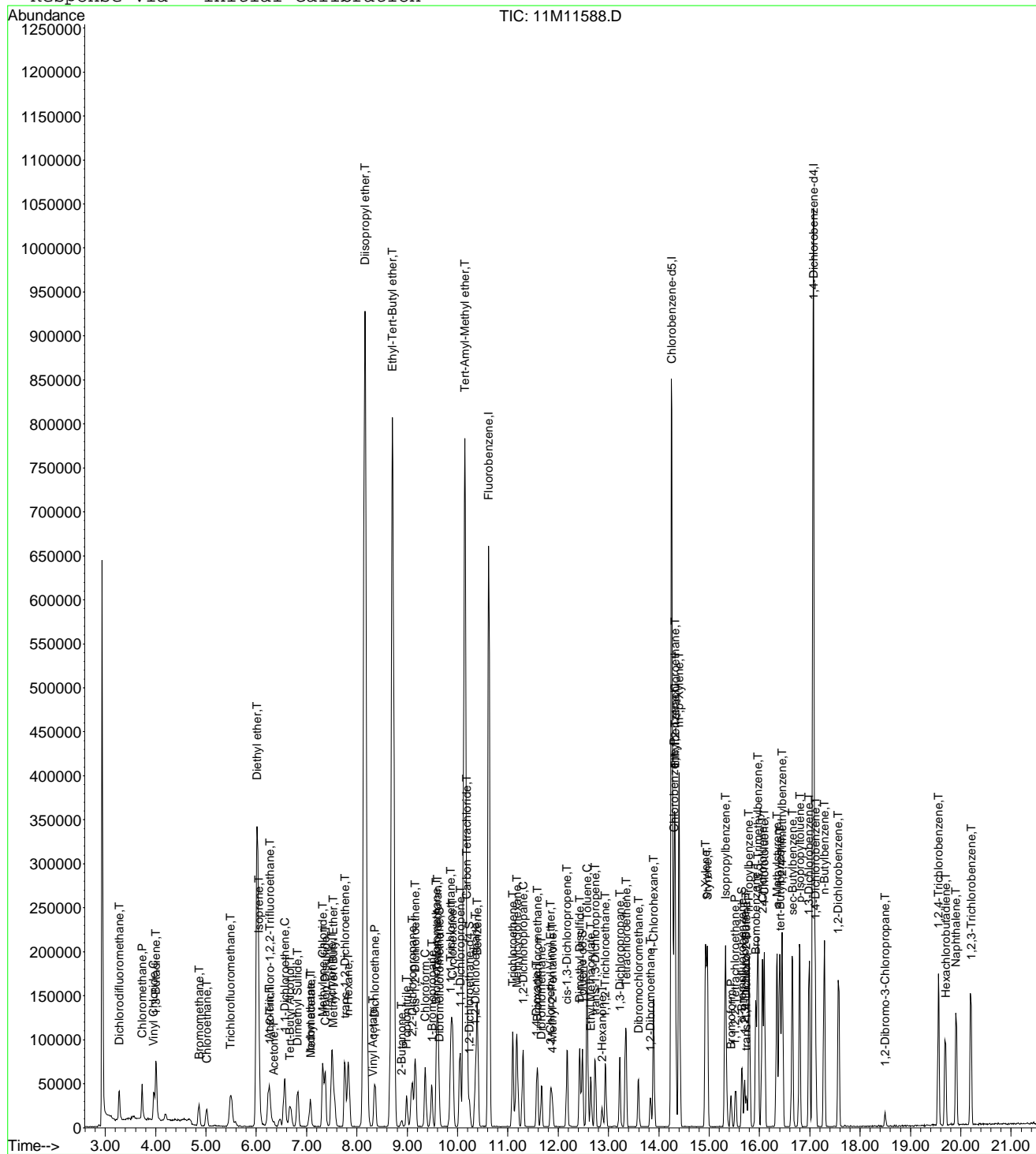
Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11588.D
Acq On : 3 May 2016 18:58
Sample : WG567372-06 5.0ug/L ICAL STD 8260
Misc : 1,1 STD75976
MS Integration Params: rteint.p
Quant Time: May 4 11:41 2016

Vial: 6
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050316\11M11588.D Vial: 6
 Acq On : 3 May 2016 18:58 Operator: JDS
 Sample : WG567372-06 5.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	100	0.00
2 T	Dichlorodifluoromethane	5.0000	4.2469	15.1	100	0.00
3 P	Chloromethane	5.0000	4.5165	9.7	100	0.00
4 C	Vinyl Chloride	5.0000	4.4666	10.7	100	0.00
5 T	1,3-Butadiene	5.0000	4.9713	0.6	100	0.00
6 T	Bromomethane	5.0000	4.2183	15.6	100	0.00
7 T	Chloroethane	5.0000	4.7769	4.5	100	0.00
8 T	Trichlorofluoromethane	5.0000	4.7207	5.6	100	0.00
9 T	Diethyl ether	50.0000	48.4032	3.2	100	0.00
10 T	Isoprene	5.0000	4.5968	8.1	100	0.00
11 T	Acrolein	25.0000	22.1763	11.3	100	0.01
12 T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.9237	1.5	100	0.01
13 T	Acetone	5.0000	4.6836	6.3	100	0.00
14 C	1,1-Dichloroethene	5.0000	4.8154	3.7	100	0.00
15 T	Tert-Butyl Alcohol	100.0000	90.1224	9.9	100	-0.01
16 T	Dimethyl Sulfide	5.0000	4.5044	9.9	100	0.00
17 T	Iodomethane	5.0000	4.6643	6.7	100	0.00
18 T	Methyl acetate	5.0000	4.5373	9.3	100	0.01
19 T	Methylene Chloride	5.0000	4.9481	1.0	100	0.00
20 T	Carbon Disulfide	5.0000	4.7936	4.1	100	0.00
21 T	Acrylonitrile	25.0000	21.7052	13.2	100	0.00
22 T	Methyl Tert Butyl Ether	5.0000	4.4963	10.1	100	0.00
23 T	trans-1,2-Dichloroethene	5.0000	4.8118	3.8	100	0.01
24 T	n-Hexane	5.0000	4.6900	6.2	100	0.00
25 T	Diisopropyl ether	50.0000	50.3394	-0.7	100	0.00
26 T	Vinyl Acetate	5.0000	6.6508	-33.0#	100	0.00
27 P	1,1-Dichloroethane	5.0000	4.7671	4.7	100	0.00
28 T	Ethyl-Tert-Butyl ether	50.0000	48.9050	2.2	100	0.00
29 T	2-Butanone	5.0000	4.1330	17.3	100	0.00
30 T	Propionitrile	50.0000	46.1484	7.7	100	0.00
31 T	2,2-Dichloropropane	5.0000	4.8285	3.4	100	0.00
32 T	cis-1,2-Dichloroethene	5.0000	4.8330	3.3	100	0.00
33 C	Chloroform	5.0000	4.9509	1.0	100	0.00
34 T	1-Bromopropane	5.0000	4.7782	4.4	100	0.00
35 T	Bromochloromethane	5.0000	4.7588	4.8	100	-0.01
36 T	Tetrahydrofuran	50.0000	44.3309	11.3	100	0.00
37 S	Dibromofluoromethane	2.5000	2.3072	7.7	100	0.00
38 T	1,1,1-Trichloroethane	5.0000	4.7940	4.1	100	0.00
39 T	Cyclohexane	5.0000	4.8126	3.7	100	0.00
40 T	1,1-Dichloropropene	5.0000	4.9655	0.7	100	0.00
41 T	Carbon Tetrachloride	5.0000	4.7094	5.8	100	0.00
42 T	Tert-Amyl-Methyl ether	50.0000	48.2094	3.6	100	0.00
43 S	1,2-Dichloroethane-d4	2.5000	2.4180	3.3	100	0.00
44 T	1,2-Dichloroethane	5.0000	4.7202	5.6	100	0.00
45 T	Benzene	5.0000	4.8174	3.7	100	0.00
46 T	Trichloroethene	5.0000	4.7913	4.2	100	0.00
47 T	Methylcyclohexane	5.0000	4.8180	3.6	100	0.00
48 C	1,2-Dichloropropane	5.0000	4.6761	6.5	100	0.00
49 T	1,4-Dioxane	100.0000	89.0804	10.9	100	0.00
50 T	Bromodichloromethane	5.0000	4.6045	7.9	100	0.00
51 T	Dibromomethane	5.0000	4.5737	8.5	100	0.00
52 T	2-Chloroethyl Vinyl Ether	5.0000	4.2589	14.8	100	0.00
53 T	4-Methyl-2-Pentanone	5.0000	3.9217	21.6	100	0.00
54 T	cis-1,3-Dichloropropene	5.0000	4.5743	8.5	100	-0.01

(#) = Out of Range

11M11588.D 8260_WT.M Wed May 04 09:46:38 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\050316\11M11588.D Vial: 6
 Acq On : 3 May 2016 18:58 Operator: JDS
 Sample : WG567372-06 5.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	Dimethyl Disulfide	5.0000	4.0847	18.3	100	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57 S	Toluene-d8	2.5000	2.5526	-2.1	100	0.00
58 C	Toluene	5.0000	5.0635	-1.3	100	0.00
59 T	Ethyl Methacrylate	5.0000	4.4950	10.1	100	0.00
60 T	trans-1,3-Dichloropropene	5.0000	4.5142	9.7	100	0.00
61 T	1,1,2-Trichloroethane	5.0000	4.7889	4.2	100	0.00
62 T	2-Hexanone	5.0000	4.0548	18.9	100	0.00
63 T	1,3-Dichloropropane	5.0000	4.7928	4.1	100	0.00
64 T	Tetrachloroethene	5.0000	4.8932	2.1	100	0.00
65 T	Dibromochloromethane	5.0000	4.5789	8.4	100	0.00
66 T	1,2-Dibromoethane	5.0000	4.5398	9.2	100	0.00
67 T	1-Chlorohexane	5.0000	4.8690	2.6	100	0.00
68 P	Chlorobenzene	5.0000	4.9835	0.3	100	0.00
69 T	1,1,1,2-Tetrachloroethane	5.0000	4.7346	5.3	100	-0.01
70 C	Ethylbenzene	5.0000	4.8834	2.3	100	0.00
71 T	m-,p-Xylene	10.0000	10.0804	-0.8	100	0.00
72 T	o-Xylene	5.0000	4.9658	0.7	100	0.00
73 T	Styrene	5.0000	4.8895	2.2	100	0.00
74 P	Bromoform	5.0000	4.2989	14.0	100	0.00
75 T	Isopropylbenzene	5.0000	5.0861	-1.7	100	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77 P	1,1,2,2-Tetrachloroethane	5.0000	4.2718	14.6	100	0.00
78 S	p-Bromofluorobenzene	2.5000	2.4366	2.5	100	0.00
79 T	1,2,3-Trichloropropane	5.0000	4.5009	10.0	100	0.00
80 T	trans-1,4-Dichloro-2-Butene	5.0000	4.0405	19.2	100	0.00
81 T	n-Propylbenzene	5.0000	5.1113	-2.2	100	-0.01
82 T	Bromobenzene	5.0000	4.8137	3.7	100	0.00
83 T	1,3,5-Trimethylbenzene	5.0000	5.0583	-1.2	100	0.00
84 T	2-Chlorotoluene	5.0000	4.8947	2.1	100	0.00
85 T	4-Chlorotoluene	5.0000	5.0337	-0.7	100	0.00
86 T	a-Methylstyrene	5.0000	4.7309	5.4	100	0.00
87 T	tert-Butylbenzene	5.0000	4.9524	1.0	100	0.01
88 T	1,2,4-Trimethylbenzene	5.0000	5.0850	-1.7	100	0.00
89 T	sec-Butylbenzene	5.0000	5.1568	-3.1	100	0.00
90 T	p-Isopropyltoluene	5.0000	5.1162	-2.3	100	0.00
91 T	1,3-Dichlorobenzene	5.0000	4.8969	2.1	100	0.00
92 T	1,4-Dichlorobenzene	5.0000	4.8236	3.5	100	0.00
93 T	n-Butylbenzene	5.0000	5.0342	-0.7	100	0.00
94 T	1,2-Dichlorobenzene	5.0000	4.7429	5.1	100	0.00
95 T	1,2-Dibromo-3-Chloropropane	5.0000	4.7283	5.4	100	0.00
96 T	1,2,4-Trichlorobenzene	5.0000	4.6362	7.3	100	0.00
97 T	Hexachlorobutadiene	5.0000	4.5855	8.3	100	0.00
98 T	Naphthalene	5.0000	4.5664	8.7	100	0.00
99 T	1,2,3-Trichlorobenzene	5.0000	4.4991	10.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11588.D 8260_WT.M Wed May 04 09:46:38 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11589.D Vial: 7
 Acq On : 3 May 2016 19:29 Operator: JDS
 Sample : WG567372-07 20ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:37 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	653265	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.26	117	565875	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.07	152	343884	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	77915	10.5070	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	42.04%#	
43) 1,2-Dichloroethane-d4	10.24	65	94401	10.5064	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	42.04%#	
57) Toluene-d8	12.48	98	270266	10.1598	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	40.64%#	
78) p-Bromofluorobenzene	15.65	95	110671	9.8524	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	39.40%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	199727	20.8364	ug/L	99
3) Chloromethane	3.73	50	166912	19.1756	ug/L	99
4) Vinyl Chloride	3.96	62	135282	19.4655	ug/L	97
5) 1,3-Butadiene	4.00	54	134629	20.5579	ug/L	95
6) Bromomethane	4.86	94	80126	18.1529	ug/L	98
7) Chloroethane	5.01	64	94680	20.1191	ug/L	100
8) Trichlorofluoromethane	5.49	101	258158	20.0532	ug/L	99
9) Diethyl ether	6.02	59	493139	84.1910	ug/L	99
10) Isoprene	6.05	67	172517	19.3800	ug/L	97
11) Acrolein	6.25	56	28728	40.7692	ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	129995	20.0387	ug/L	99
13) Acetone	6.35	43	44035	22.5443	ug/L	95
14) 1,1-Dichloroethene	6.57	61	240780	20.0234	ug/L	99
15) Tert-Butyl Alcohol	6.68	59	97808	188.4459	ug/L	98
16) Dimethyl Sulfide	6.82	62	108004	19.8053	ug/L	99
17) Iodomethane	7.07	142	112364	19.1025	ug/L	99
18) Methyl acetate	7.07	43	154777	22.7065	ug/L	100
19) Methylene Chloride	7.32	84	134783	20.0175	ug/L	97
20) Carbon Disulfide	7.37	76	419568	19.9340	ug/L	100
21) Acrylonitrile	7.50	53	108955	43.4082	ug/L	95
22) Methyl Tert Butyl Ether	7.53	73	377216	21.5786	ug/L	99
23) trans-1,2-Dichloroethene	7.77	96	136266	19.7995	ug/L	97
24) n-Hexane	7.83	57	217573	19.2891	ug/L	100
25) Diisopropyl ether	8.16	45	2471839	82.8335	ug/L	99
26) Vinyl Acetate	8.32	43	26986	15.4495	ug/L	97
27) 1,1-Dichloroethane	8.35	63	276986	20.4491	ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	2060644	84.3047	ug/L	100
29) 2-Butanone	8.88	43	63143	21.6115	ug/L	100
30) Propionitrile	8.99	54	75461	88.4201	ug/L	100
31) 2,2-Dichloropropane	9.10	77	182198	18.6249	ug/L	99
32) cis-1,2-Dichloroethene	9.16	96	156119	20.4367	ug/L	99
33) Chloroform	9.36	83	261702	20.6857	ug/L	100
34) 1-Bromopropane	9.48	122	26559	19.1526	ug/L	97
35) Bromochloromethane	9.58	130	105922	21.6690	ug/L	98
36) Tetrahydrofuran	9.61	42	172477	86.0274	ug/L	99
38) 1,1,1-Trichloroethane	9.86	97	245293	20.0513	ug/L	99
39) Cyclohexane	9.90	56	290612	19.6419	ug/L	99
40) 1,1-Dichloropropene	10.05	75	185063	20.0202	ug/L	99
41) Carbon Tetrachloride	10.18	117	227688	19.7185	ug/L	98
42) Tert-Amyl-Methyl ether	10.14	73	1477278	84.9439	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11589.D 8260_WT.M Wed May 04 11:41:37 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11589.D Vial: 7
 Acq On : 3 May 2016 19:29 Operator: JDS
 Sample : WG567372-07 20ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:37 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	238281	21.9511	ug/L	100
45) Benzene	10.39	78	530786	20.0738	ug/L	100
46) Trichloroethene	11.09	130	168964	19.6066	ug/L	99
47) Methylcyclohexane	11.18	83	205012	19.6165	ug/L	98
48) 1,2-Dichloropropane	11.30	63	153017	20.3763	ug/L	100
49) 1,4-Dioxane	11.57	88	7576	166.4082	ug/L	92
50) Bromodichloromethane	11.58	83	206938	20.7902	ug/L	99
51) Dibromomethane	11.66	93	85195	21.6335	ug/L	99
52) 2-Chloroethyl Vinyl Ether	11.85	63	84453	21.5686	ug/L	98
53) 4-Methyl-2-Pentanone	11.88	58	50265	20.9362	ug/L	98
54) cis-1,3-Dichloropropene	12.18	75	221674	21.1580	ug/L	99
55) Dimethyl Disulfide	12.43	79	128064	19.5936	ug/L	100
58) Toluene	12.57	91	601340	20.5217	ug/L	99
59) Ethyl Methacrylate	12.65	69	147722	19.6689	ug/L	100
60) trans-1,3-Dichloropropene	12.73	75	205906	21.4515	ug/L	100
61) 1,1,2-Trichloroethane	12.93	97	120309	21.9366	ug/L	100
62) 2-Hexanone	12.87	43	94573	20.9137	ug/L	97
63) 1,3-Dichloropropane	13.22	76	194430	21.3419	ug/L	98
64) Tetrachloroethene	13.35	164	128025	19.3610	ug/L	98
65) Dibromochloromethane	13.60	129	169913	21.4627	ug/L	99
66) 1,2-Dibromoethane	13.83	107	116487	20.9214	ug/L	100
67) 1-Chlorohexane	13.90	91	184741	19.2201	ug/L	98
68) Chlorobenzene	14.30	112	438531	20.3470	ug/L	98
69) 1,1,1,2-Tetrachloroethane	14.33	131	170669	20.6584	ug/L	100
70) Ethylbenzene	14.32	106	213300	19.5051	ug/L	98
71) m-,p-Xylene	14.40	106	525668	40.3946	ug/L	98
72) o-Xylene	14.93	106	258380	19.9041	ug/L	100
73) Styrene	14.96	104	460486	20.9075	ug/L	98
74) Bromoform	15.44	173	105199	19.3211	ug/L	98
75) Isopropylbenzene	15.32	105	670649	20.4311	ug/L	98
77) 1,1,2,2-Tetrachloroethane	15.53	83	123349	19.3326	ug/L	100
79) 1,2,3-Trichloropropane	15.71	110	44309	21.1445	ug/L	96
80) trans-1,4-Dichloro-2-Butene	15.75	53	49400	18.0088	ug/L	92
81) n-Propylbenzene	15.80	91	775400	20.0669	ug/L	100
82) Bromobenzene	15.92	156	209840	19.5605	ug/L	99
83) 1,3,5-Trimethylbenzene	15.96	105	582815	19.8475	ug/L	100
84) 2-Chlorotoluene	16.06	91	557071	19.5335	ug/L	100
85) 4-Chlorotoluene	16.10	91	471440	20.1460	ug/L	100
86) a-Methylstyrene	16.35	118	319385	19.5717	ug/L	99
87) tert-Butylbenzene	16.40	134	126444	19.6225	ug/L	97
88) 1,2,4-Trimethylbenzene	16.45	105	603760	20.0909	ug/L	100
89) sec-Butylbenzene	16.66	105	697023	20.0573	ug/L	100
90) p-Isopropyltoluene	16.80	119	627234	19.8299	ug/L	99
91) 1,3-Dichlorobenzene	16.99	146	386503	19.3967	ug/L	100
92) 1,4-Dichlorobenzene	17.11	146	394826	19.4052	ug/L	100
93) n-Butylbenzene	17.29	91	550743	19.3393	ug/L	99
94) 1,2-Dichlorobenzene	17.58	146	371938	19.7988	ug/L	99
95) 1,2-Dibromo-3-Chloropropane	18.50	75	23916	19.0046	ug/L	99
96) 1,2,4-Trichlorobenzene	19.56	180	269254	19.2888	ug/L	99
97) Hexachlorobutadiene	19.70	225	101749	17.9416	ug/L	99
98) Naphthalene	19.90	128	580220	21.7188	ug/L	99
99) 1,2,3-Trichlorobenzene	20.20	180	254455	19.4676	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11589.D 8260_WT.M Wed May 04 11:41:37 2016

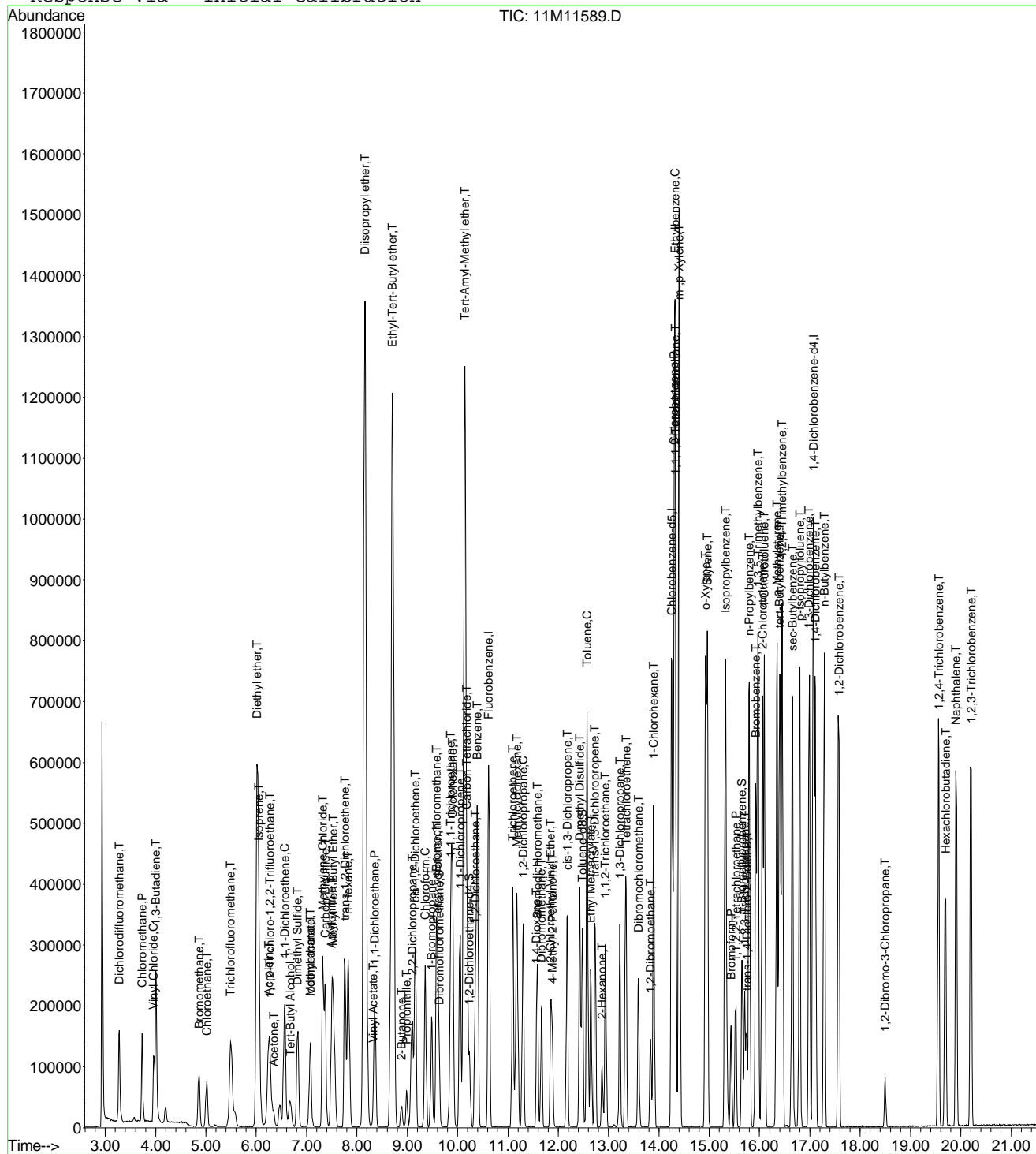
Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11589.D
Acq On : 3 May 2016 19:29
Sample : WG567372-07 20ug/L ICAL STD 8260
Misc : 1,1 STD75976
MS Integration Params: rteint.p
Quant Time: May 4 11:41 2016

Vial: 7
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050316\11M11590.D Vial: 8
 Acq On : 3 May 2016 20:01 Operator: JDS
 Sample : WG567372-08 50ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:38 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	688601	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.26	117	593030	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.07	152	358057	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	211767	27.0918	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	108.36%	
43) 1,2-Dichloroethane-d4	10.24	65	252379	26.6473	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	106.60%	
57) Toluene-d8	12.48	98	717225	25.7273	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	102.92%	
78) p-Bromofluorobenzene	15.65	95	297496	25.4361	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.76%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	564381	55.8573	ug/L	100
3) Chloromethane	3.73	50	465182	50.6997	ug/L	100
4) Vinyl Chloride	3.96	62	373063	50.9249	ug/L	100
5) 1,3-Butadiene	4.00	54	353433	51.2000	ug/L	100
6) Bromomethane	4.86	94	221092	47.5189	ug/L	100
7) Chloroethane	5.01	64	257768	51.9639	ug/L	100
8) Trichlorofluoromethane	5.49	101	716435	52.7956	ug/L	100
9) Diethyl ether	6.02	59	652423	105.6689	ug/L	100
10) Isoprene	6.05	67	465989	49.6614	ug/L	100
11) Acrolein	6.25	56	43599	56.3163	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	365298	53.4210	ug/L	100
13) Acetone	6.35	43	110689	53.7608	ug/L	100
14) 1,1-Dichloroethene	6.57	61	667760	52.6816	ug/L	100
15) Tert-Butyl Alcohol	6.68	59	128875	235.5606	ug/L	100
16) Dimethyl Sulfide	6.82	62	301835	52.5090	ug/L	100
17) Iodomethane	7.07	142	323429	51.0589	ug/L	100
18) Methyl acetate	7.07	43	416188	57.4247	ug/L	100
19) Methylene Chloride	7.32	84	370110	52.1467	ug/L	100
20) Carbon Disulfide	7.37	76	1143838	51.5558	ug/L	100
21) Acrylonitrile	7.50	53	153191	57.9002	ug/L	100
22) Methyl Tert Butyl Ether	7.53	73	1011114	54.8726	ug/L	100
23) trans-1,2-Dichloroethene	7.75	96	370470	51.0671	ug/L	100
24) n-Hexane	7.83	57	606922	51.0460	ug/L	100
25) Diisopropyl ether	8.16	45	3220597	102.3868	ug/L	100
26) Vinyl Acetate	8.32	43	171315	51.1646	ug/L	100
27) 1,1-Dichloroethane	8.35	63	763066	53.4442	ug/L	100
28) Ethyl-Tert-Butyl ether	8.71	59	2698317	104.7282	ug/L	100
29) 2-Butanone	8.88	43	164051	53.2672	ug/L	100
30) Propionitrile	8.99	54	102399	113.8271	ug/L	100
31) 2,2-Dichloropropane	9.10	77	510224	49.4803	ug/L	100
32) cis-1,2-Dichloroethene	9.16	96	425184	52.8025	ug/L	100
33) Chloroform	9.36	83	715062	53.6202	ug/L	100
34) 1-Bromopropane	9.49	122	70734	47.5673	ug/L	100
35) Bromochloromethane	9.59	130	283954	55.1091	ug/L	100
36) Tetrahydrofuran	9.61	42	229884	108.7767	ug/L	100
38) 1,1,1-Trichloroethane	9.86	97	687248	53.2959	ug/L	100
39) Cyclohexane	9.90	56	804555	51.5880	ug/L	100
40) 1,1-Dichloropropene	10.05	75	519458	53.3115	ug/L	100
41) Carbon Tetrachloride	10.18	117	658210	54.0779	ug/L	100
42) Tert-Amyl-Methyl ether	10.14	73	1947519	106.2364	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11590.D 8260_WT.M Wed May 04 11:41:39 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11590.D Vial: 8
 Acq On : 3 May 2016 20:01 Operator: JDS
 Sample : WG567372-08 50ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:38 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	635661	55.5539	ug/L	100
45) Benzene	10.39	78	1437769	51.5847	ug/L	100
46) Trichloroethene	11.09	130	451966	49.7550	ug/L	100
47) Methylcyclohexane	11.18	83	571672	51.8934	ug/L	100
48) 1,2-Dichloropropane	11.30	63	414062	52.3086	ug/L	100
49) 1,4-Dioxane	11.57	88	11991	249.8688	ug/L	100
50) Bromodichloromethane	11.58	83	571698	54.4888	ug/L	100
51) Dibromomethane	11.66	93	232736	56.0658	ug/L	100
52) 2-Chloroethyl Vinyl Ether	11.85	63	217311	52.6514	ug/L	100
53) 4-Methyl-2-Pentanone	11.88	58	135455	53.5241	ug/L	100
54) cis-1,3-Dichloropropene	12.18	75	607508	55.0090	ug/L	100
55) Dimethyl Disulfide	12.43	79	362384	52.5992	ug/L	100
58) Toluene	12.57	91	1627662	53.0032	ug/L	100
59) Ethyl Methacrylate	12.65	69	418845	52.4781	ug/L	100
60) trans-1,3-Dichloropropene	12.74	75	564902	56.1572	ug/L	100
61) 1,1,2-Trichloroethane	12.94	97	319038	55.5081	ug/L	100
62) 2-Hexanone	12.87	43	255974	54.0135	ug/L	100
63) 1,3-Dichloropropane	13.22	76	518009	54.2565	ug/L	100
64) Tetrachloroethene	13.35	164	362337	52.2866	ug/L	100
65) Dibromochloromethane	13.60	129	470299	56.6861	ug/L	100
66) 1,2-Dibromoethane	13.83	107	322640	55.2937	ug/L	100
67) 1-Chlorohexane	13.90	91	517151	51.3396	ug/L	100
68) Chlorobenzene	14.30	112	1176146	52.0721	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.33	131	465171	53.7277	ug/L	100
70) Ethylbenzene	14.32	106	598416	52.2162	ug/L	100
71) m-,p-Xylene	14.40	106	1451024	106.3973	ug/L	100
72) o-Xylene	14.93	106	719795	52.9098	ug/L	100
73) Styrene	14.96	104	1260429	54.6070	ug/L	100
74) Bromoform	15.44	173	297597	51.2478	ug/L	100
75) Isopropylbenzene	15.32	105	1858162	54.0163	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.52	83	350241	51.8027	ug/L	100
79) 1,2,3-Trichloropropane	15.71	110	118141	54.1459	ug/L	100
80) trans-1,4-Dichloro-2-Butene	15.74	53	148293	50.3473	ug/L	100
81) n-Propylbenzene	15.80	91	2174258	54.0413	ug/L	100
82) Bromobenzene	15.92	156	567684	50.8227	ug/L	100
83) 1,3,5-Trimethylbenzene	15.96	105	1625220	53.1555	ug/L	100
84) 2-Chlorotoluene	16.06	91	1527081	51.4270	ug/L	100
85) 4-Chlorotoluene	16.10	91	1303762	53.5083	ug/L	100
86) a-Methylstyrene	16.35	118	897966	52.8487	ug/L	100
87) tert-Butylbenzene	16.40	134	347232	51.7531	ug/L	100
88) 1,2,4-Trimethylbenzene	16.45	105	1680459	53.7059	ug/L	100
89) sec-Butylbenzene	16.66	105	1959075	54.1423	ug/L	100
90) p-Isopropyltoluene	16.80	119	1790679	54.3713	ug/L	100
91) 1,3-Dichlorobenzene	16.99	146	1071360	51.6381	ug/L	100
92) 1,4-Dichlorobenzene	17.11	146	1088478	51.3797	ug/L	100
93) n-Butylbenzene	17.29	91	1567047	52.8485	ug/L	100
94) 1,2-Dichlorobenzene	17.57	146	1015928	51.9386	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.50	75	69368	51.1712	ug/L	100
96) 1,2,4-Trichlorobenzene	19.55	180	760064	52.2940	ug/L	100
97) Hexachlorobutadiene	19.70	225	296481	50.2098	ug/L	100
98) Naphthalene	19.90	128	1594758	57.3321	ug/L	100
99) 1,2,3-Trichlorobenzene	20.20	180	707706	52.0014	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11590.D 8260_WT.M Wed May 04 11:41:39 2016

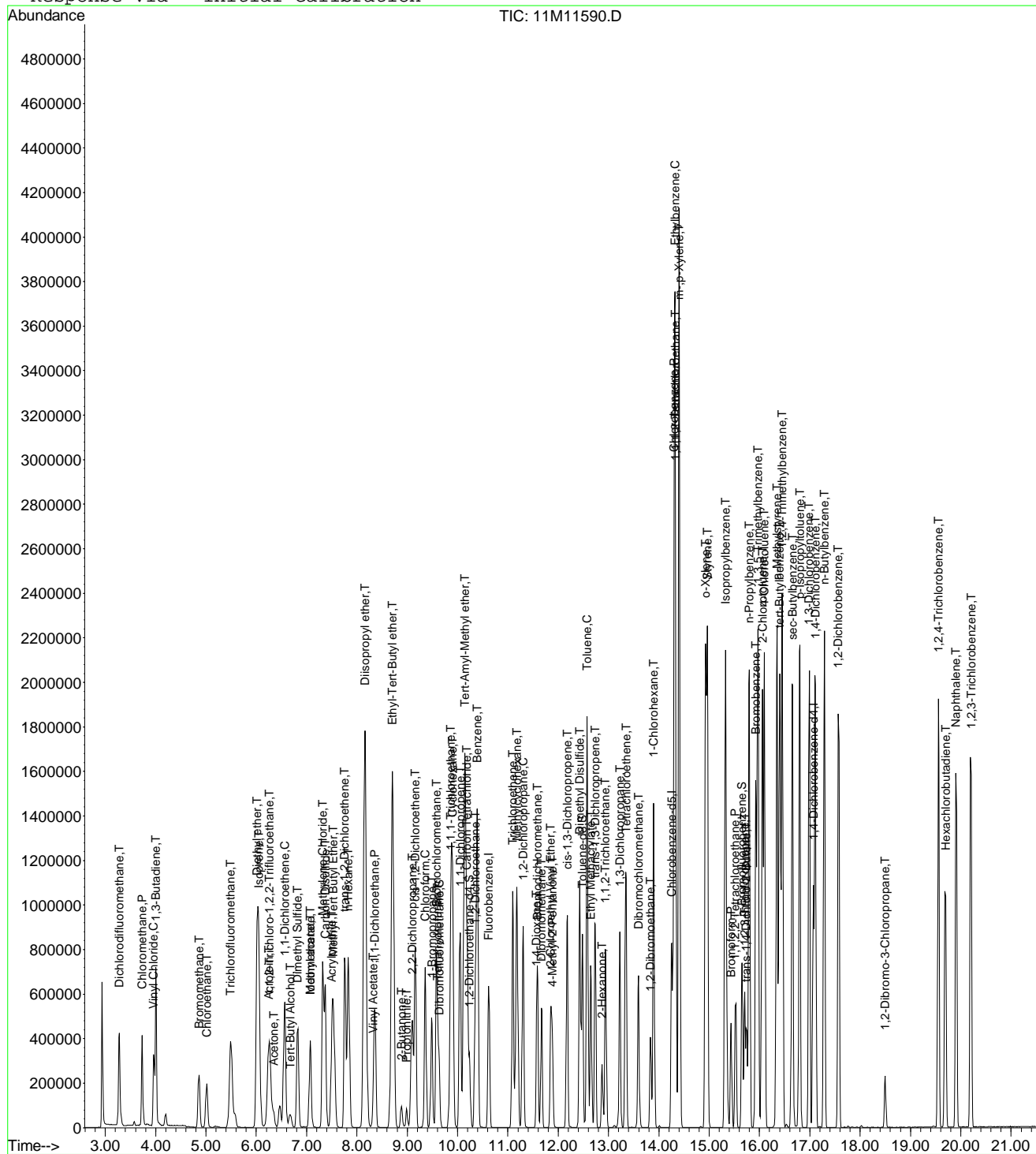
Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11590.D
Acq On : 3 May 2016 20:01
Sample : WG567372-08 50ug/L ICAL STD 8260
Misc : 1,1 STD75976
MS Integration Params: rteint.p
Quant Time: May 4 11:41 2016

Vial: 8
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050316\11M11591.D Vial: 9
 Acq On : 3 May 2016 20:33 Operator: JDS
 Sample : WG567372-09 100ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:40 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	670131	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.26	117	567291	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.07	152	340721	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	382072	50.2265	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	200.92%#	
43) 1,2-Dichloroethane-d4	10.24	65	443103	48.0743	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	192.28%#	
57) Toluene-d8	12.48	98	1280952	48.0333	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	192.12%#	
78) p-Bromofluorobenzene	15.65	95	545363	49.0013	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	196.00%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	1077538	109.5843	ug/L	100
3) Chloromethane	3.73	50	928232	103.9553	ug/L	100
4) Vinyl Chloride	3.96	62	734250	102.9912	ug/L	99
5) 1,3-Butadiene	4.00	54	674866	100.4588	ug/L	98
6) Bromomethane	4.86	94	465072	102.7121	ug/L	98
7) Chloroethane	5.01	64	495447	102.6308	ug/L	97
8) Trichlorofluoromethane	5.49	101	1349302	102.1734	ug/L	100
9) Diethyl ether	6.02	59	1201715	199.9987	ug/L	99
10) Isoprene	6.05	67	926491	101.4594	ug/L	98
11) Acrolein	6.25	56	80143	97.0506	ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	680070	102.1941	ug/L	99
13) Acetone	6.35	43	184039	91.8499	ug/L	99
14) 1,1-Dichloroethene	6.57	61	1252908	101.5701	ug/L	99
15) Tert-Butyl Alcohol	6.67	59	210144	394.6926	ug/L	100
16) Dimethyl Sulfide	6.82	62	566773	101.3167	ug/L	100
17) Iodomethane	7.07	142	624011	100.5992	ug/L	99
18) Methyl acetate	7.07	43	678086	95.9228	ug/L	99
19) Methylene Chloride	7.32	84	687252	99.4992	ug/L	100
20) Carbon Disulfide	7.37	76	2246069	104.0265	ug/L	100
21) Acrylonitrile	7.50	53	268868	104.4224	ug/L	99
22) Methyl Tert Butyl Ether	7.53	73	1770367	98.7248	ug/L	100
23) trans-1,2-Dichloroethene	7.75	96	710496	100.6370	ug/L	97
24) n-Hexane	7.83	57	1189741	102.8226	ug/L	99
25) Diisopropyl ether	8.16	45	6139222	200.5528	ug/L	99
26) Vinyl Acetate	8.32	43	366375	87.0452	ug/L	99
27) 1,1-Dichloroethane	8.35	63	1436217	103.3634	ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	5027887	200.5230	ug/L	99
29) 2-Butanone	8.88	43	283065	94.4442	ug/L	98
30) Propionitrile	8.99	54	176409	201.5017	ug/L	98
31) 2,2-Dichloropropane	9.10	77	1008612	100.5088	ug/L	100
32) cis-1,2-Dichloroethene	9.16	96	790500	100.8758	ug/L	98
33) Chloroform	9.36	83	1323811	102.0044	ug/L	99
34) 1-Bromopropane	9.49	122	143727	98.7305	ug/L	97
35) Bromochloromethane	9.59	130	521086	103.9184	ug/L	100
36) Tetrahydrofuran	9.61	42	387919	188.6150	ug/L	99
38) 1,1,1-Trichloroethane	9.86	97	1275647	101.6526	ug/L	100
39) Cyclohexane	9.90	56	1581257	104.1845	ug/L	100
40) 1,1-Dichloropropene	10.05	75	963567	101.6155	ug/L	100
41) Carbon Tetrachloride	10.18	117	1221960	103.1621	ug/L	99
42) Tert-Amyl-Methyl ether	10.14	73	3580958	200.7238	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11591.D 8260_WT.M Wed May 04 11:41:41 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11591.D Vial: 9
 Acq On : 3 May 2016 20:33 Operator: JDS
 Sample : WG567372-09 100ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:40 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	1148735	103.1612	ug/L	99
45) Benzene	10.39	78	2691102	99.2132	ug/L	99
46) Trichloroethene	11.09	130	857058	96.9502	ug/L	99
47) Methylcyclohexane	11.18	83	1131507	105.5432	ug/L	100
48) 1,2-Dichloropropane	11.30	63	778390	101.0445	ug/L	100
49) 1,4-Dioxane	11.57	88	18230	390.3473	ug/L	92
50) Bromodichloromethane	11.58	83	1054104	103.2361	ug/L	100
51) Dibromomethane	11.66	93	418801	103.6693	ug/L	99
52) 2-Chloroethyl Vinyl Ether	11.85	63	385199	95.9005	ug/L	98
53) 4-Methyl-2-Pentanone	11.88	58	233442	94.7854	ug/L	100
54) cis-1,3-Dichloropropene	12.18	75	1124554	104.6333	ug/L	99
55) Dimethyl Disulfide	12.43	79	676941	100.9645	ug/L	98
58) Toluene	12.57	91	3018421	102.7516	ug/L	99
59) Ethyl Methacrylate	12.65	69	740685	96.6464	ug/L	99
60) trans-1,3-Dichloropropene	12.74	75	1021566	106.1621	ug/L	100
61) 1,1,2-Trichloroethane	12.94	97	572937	104.2058	ug/L	100
62) 2-Hexanone	12.87	43	439332	96.9103	ug/L	98
63) 1,3-Dichloropropane	13.22	76	932229	102.0723	ug/L	100
64) Tetrachloroethene	13.35	164	677156	102.1496	ug/L	99
65) Dibromochloromethane	13.60	129	860363	108.4064	ug/L	99
66) 1,2-Dibromoethane	13.83	107	569030	101.9444	ug/L	98
67) 1-Chlorohexane	13.90	91	1023335	106.1998	ug/L	100
68) Chlorobenzene	14.30	112	2174210	100.6274	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.33	131	869952	105.0393	ug/L	100
70) Ethylbenzene	14.32	106	1129683	103.0455	ug/L	97
71) m-,p-Xylene	14.40	106	2685154	205.8239	ug/L	96
72) o-Xylene	14.93	106	1343895	103.2674	ug/L	99
73) Styrene	14.96	104	2338924	105.9294	ug/L	99
74) Bromoform	15.44	173	528344	94.6550	ug/L	100
75) Isopropylbenzene	15.32	105	3454477	104.9770	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.52	83	612488	93.9836	ug/L	100
79) 1,2,3-Trichloropropane	15.71	110	208912	100.6194	ug/L	99
80) trans-1,4-Dichloro-2-Butene	15.74	53	260849	92.3587	ug/L	100
81) n-Propylbenzene	15.80	91	4014188	104.8494	ug/L	98
82) Bromobenzene	15.92	156	1055910	99.3417	ug/L	99
83) 1,3,5-Trimethylbenzene	15.96	105	3057858	105.1009	ug/L	99
84) 2-Chlorotoluene	16.06	91	2850513	100.8801	ug/L	99
85) 4-Chlorotoluene	16.10	91	2396516	103.3608	ug/L	98
86) a-Methylstyrene	16.35	118	1756919	108.6625	ug/L	99
87) tert-Butylbenzene	16.40	134	662897	103.8284	ug/L	98
88) 1,2,4-Trimethylbenzene	16.45	105	3143208	105.5651	ug/L	99
89) sec-Butylbenzene	16.66	105	3641837	105.7693	ug/L	99
90) p-Isopropyltoluene	16.80	119	3360235	107.2197	ug/L	100
91) 1,3-Dichlorobenzene	16.99	146	2011321	101.8754	ug/L	99
92) 1,4-Dichlorobenzene	17.11	146	2024143	100.4075	ug/L	100
93) n-Butylbenzene	17.29	91	2964232	105.0549	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	1886519	101.3541	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.50	75	119824	92.0809	ug/L	99
96) 1,2,4-Trichlorobenzene	19.55	180	1414974	102.3066	ug/L	99
97) Hexachlorobutadiene	19.70	225	577993	102.8650	ug/L	100
98) Naphthalene	19.90	128	2747756	103.8089	ug/L	100
99) 1,2,3-Trichlorobenzene	20.20	180	1278170	98.6970	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11591.D 8260_WT.M Wed May 04 11:41:41 2016

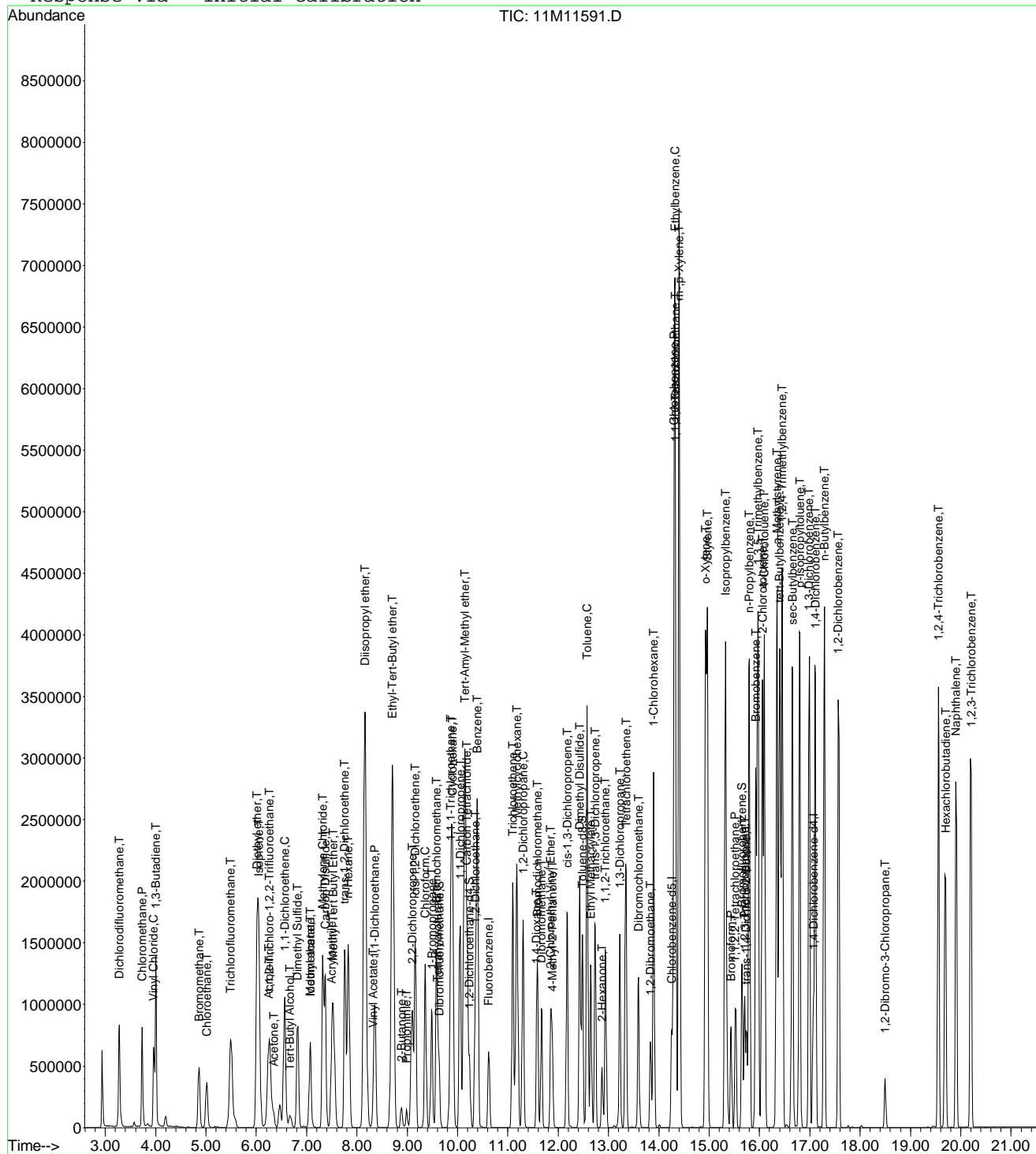
Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11591.D
Acq On : 3 May 2016 20:33
Sample : WG567372-09 100ug/L ICAL STD 8260
Misc : 1,1 STD75976
MS Integration Params: rteint.p
Quant Time: May 4 11:41 2016

Vial: 9
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050316\11M11592.D Vial: 10
 Acq On : 3 May 2016 21:05 Operator: JDS
 Sample : WG567372-10 200ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:44 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	659759	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	580966	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	343109	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	833093	111.2385	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery = 444.96%#			
43) 1,2-Dichloroethane-d4	10.24	65	959791	105.7693	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery = 423.08%#			
57) Toluene-d8	12.48	98	2708581	99.1760	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery = 396.72%#			
78) p-Bromofluorobenzene	15.65	95	1154295	102.9926	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery = 411.96%#			

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	2080685	214.9297	ug/L	100
3) Chloromethane	3.73	50	1802648	205.0574	ug/L	99
4) Vinyl Chloride	3.96	62	1433567	204.2436	ug/L	100
5) 1,3-Butadiene	4.00	54	1302393	196.9186	ug/L	98
6) Bromomethane	4.86	94	1005089	225.4657	ug/L	99
7) Chloroethane	5.01	64	981524	206.5170	ug/L	99
8) Trichlorofluoromethane	5.49	101	2656193	204.2973	ug/L	99
9) Diethyl ether	6.02	59	2302	0.3891	ug/L #	1
10) Isoprene	6.05	67	1865735	207.5274	ug/L	97
11) Acrolein	6.26	56	8422	13.3640	ug/L	83
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	1363879	208.1721	ug/L	99
13) Acetone	6.35	43	419249	212.5276	ug/L	99
14) 1,1-Dichloroethene	6.56	61	2474014	203.7151	ug/L	98
15) Tert-Butyl Alcohol	6.67	59	5175	9.8725	ug/L #	79
16) Dimethyl Sulfide	6.81	62	1167264	211.9412	ug/L	99
17) Iodomethane	7.06	142	1244818	203.1820	ug/L	99
18) Methyl acetate	7.07	43	1489231	213.5843	ug/L	98
19) Methylene Chloride	7.32	84	1410731	207.4542	ug/L	98
20) Carbon Disulfide	7.37	76	4388834	206.4640	ug/L	99
21) Acrylonitrile	7.52	53	49703	19.6070	ug/L #	38
22) Methyl Tert Butyl Ether	7.53	73	3887003	220.1671	ug/L	100
23) trans-1,2-Dichloroethene	7.75	96	1419024	204.1551	ug/L	96
24) n-Hexane	7.83	57	2346275	205.9632	ug/L	99
25) Diisopropyl ether	8.16	45	16265	0.5397	ug/L	94
26) Vinyl Acetate	8.32	43	1550669	215.5856	ug/L	99
27) 1,1-Dichloroethane	8.35	63	2865392	209.4619	ug/L	99
28) Ethyl-Tert-Butyl ether	8.72	59	9162	0.3711	ug/L	90
29) 2-Butanone	8.88	43	652551	221.1454	ug/L	100
30) Propionitrile	9.00	54	3247	3.7672	ug/L #	60
31) 2,2-Dichloropropane	9.10	77	2037293	206.2090	ug/L	100
32) cis-1,2-Dichloroethene	9.16	96	1619480	209.9109	ug/L	100
33) Chloroform	9.36	83	2667441	208.7671	ug/L	99
34) 1-Bromopropane	9.49	122	286773	199.5360	ug/L	97
35) Bromochloromethane	9.57	130	1095855	221.9782	ug/L	100
36) Tetrahydrofuran	9.61	42	8943	4.4166	ug/L	89
38) 1,1,1-Trichloroethane	9.86	97	2546223	206.0909	ug/L	99
39) Cyclohexane	9.90	56	3143173	210.3504	ug/L	99
40) 1,1-Dichloropropene	10.05	75	1917326	205.3754	ug/L	99
41) Carbon Tetrachloride	10.18	117	2440406	209.2665	ug/L	99
42) Tert-Amyl-Methyl ether	10.14	73	6158	0.3506	ug/L #	93

(#) = qualifier out of range (m) = manual integration
 11M11592.D 8260_WT.M Wed May 04 11:41:45 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11592.D Vial: 10
 Acq On : 3 May 2016 21:05 Operator: JDS
 Sample : WG567372-10 200ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:44 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	2393514	218.3268	ug/L	99
45) Benzene	10.39	78	5248498	196.5391	ug/L	97
46) Trichloroethene	11.09	130	1676533	192.6305	ug/L	98
47) Methylcyclohexane	11.18	83	2256716	213.8082	ug/L	99
48) 1,2-Dichloropropane	11.30	63	1616779	213.1771	ug/L	99
49) 1,4-Dioxane	11.58	88	3145	68.4005	ug/L #	18
50) Bromodichloromethane	11.58	83	2208939	219.7386	ug/L	99
51) Dibromomethane	11.66	93	910738	228.9868	ug/L	99
52) 2-Chloroethyl Vinyl Ether	11.85	63	845453	213.7961	ug/L	98
53) 4-Methyl-2-Pentanone	11.88	58	546383	225.3379	ug/L	99
54) cis-1,3-Dichloropropene	12.18	75	2358953	222.9376	ug/L	99
55) Dimethyl Disulfide	12.43	79	1464831	221.9114	ug/L	96
58) Toluene	12.57	91	5747222	191.0389	ug/L	96
59) Ethyl Methacrylate	12.65	69	1679924	213.5164	ug/L	98
60) trans-1,3-Dichloropropene	12.74	75	2183202	221.5401	ug/L	99
61) 1,1,2-Trichloroethane	12.93	97	1234321	219.2140	ug/L	99
62) 2-Hexanone	12.87	43	1022690	220.2807	ug/L	98
63) 1,3-Dichloropropane	13.22	76	2020495	216.0221	ug/L	98
64) Tetrachloroethene	13.35	164	1347402	198.4726	ug/L	100
65) Dibromochloromethane	13.60	129	1864004	229.3375	ug/L	99
66) 1,2-Dibromoethane	13.83	107	1269577	222.0969	ug/L	98
67) 1-Chlorohexane	13.90	91	2036516	206.3712	ug/L	99
68) Chlorobenzene	14.30	112	4236794	191.4729	ug/L	98
69) 1,1,1,2-Tetrachloroethane	14.33	131	1796007	211.7482	ug/L	100
70) Ethylbenzene	14.32	106	2229795	198.6061	ug/L	87
71) m-,p-Xylene	14.40	106	5092413	381.1583	ug/L	80
72) o-Xylene	14.93	106	2669442	200.2967	ug/L	94
73) Styrene	14.96	104	4596303	203.2657	ug/L	96
74) Bromoform	15.44	173	1203330	209.8541	ug/L	99
75) Isopropylbenzene	15.32	105	6361241	188.7595	ug/L	96
77) 1,1,2,2-Tetrachloroethane	15.53	83	1428522	211.2672	ug/L	100
79) 1,2,3-Trichloropropane	15.71	110	471178	225.3565	ug/L	99
80) trans-1,4-Dichloro-2-Butene	15.75	53	599666	209.7740	ug/L	100
81) n-Propylbenzene	15.80	91	7177870	186.1790	ug/L	93
82) Bromobenzene	15.92	156	2174386	203.1458	ug/L	99
83) 1,3,5-Trimethylbenzene	15.96	105	5710663	194.9137	ug/L	96
84) 2-Chlorotoluene	16.06	91	5409203	190.1002	ug/L	97
85) 4-Chlorotoluene	16.10	91	4572054	195.8186	ug/L	96
86) a-Methylstyrene	16.35	118	3428213	210.5534	ug/L	95
87) tert-Butylbenzene	16.40	134	1295858	201.5554	ug/L	96
88) 1,2,4-Trimethylbenzene	16.45	105	5814744	193.9299	ug/L	95
89) sec-Butylbenzene	16.66	105	6594014	190.1760	ug/L	95
90) p-Isopropyltoluene	16.80	119	6081815	192.7103	ug/L	95
91) 1,3-Dichlorobenzene	16.99	146	3905109	196.4210	ug/L	98
92) 1,4-Dichlorobenzene	17.11	146	3942672	194.2147	ug/L	98
93) n-Butylbenzene	17.29	91	5442538	191.5458	ug/L	97
94) 1,2-Dichlorobenzene	17.58	146	3723093	198.6328	ug/L	98
95) 1,2-Dibromo-3-Chloropropane	18.50	75	273310	207.3146	ug/L	99
96) 1,2,4-Trichlorobenzene	19.56	180	2799873	201.0298	ug/L	98
97) Hexachlorobutadiene	19.70	225	1105917	195.4494	ug/L	99
98) Naphthalene	19.90	128	5508977	206.6780	ug/L	97
99) 1,2,3-Trichlorobenzene	20.20	180	2627897	201.5071	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11592.D 8260_WT.M Wed May 04 11:41:46 2016

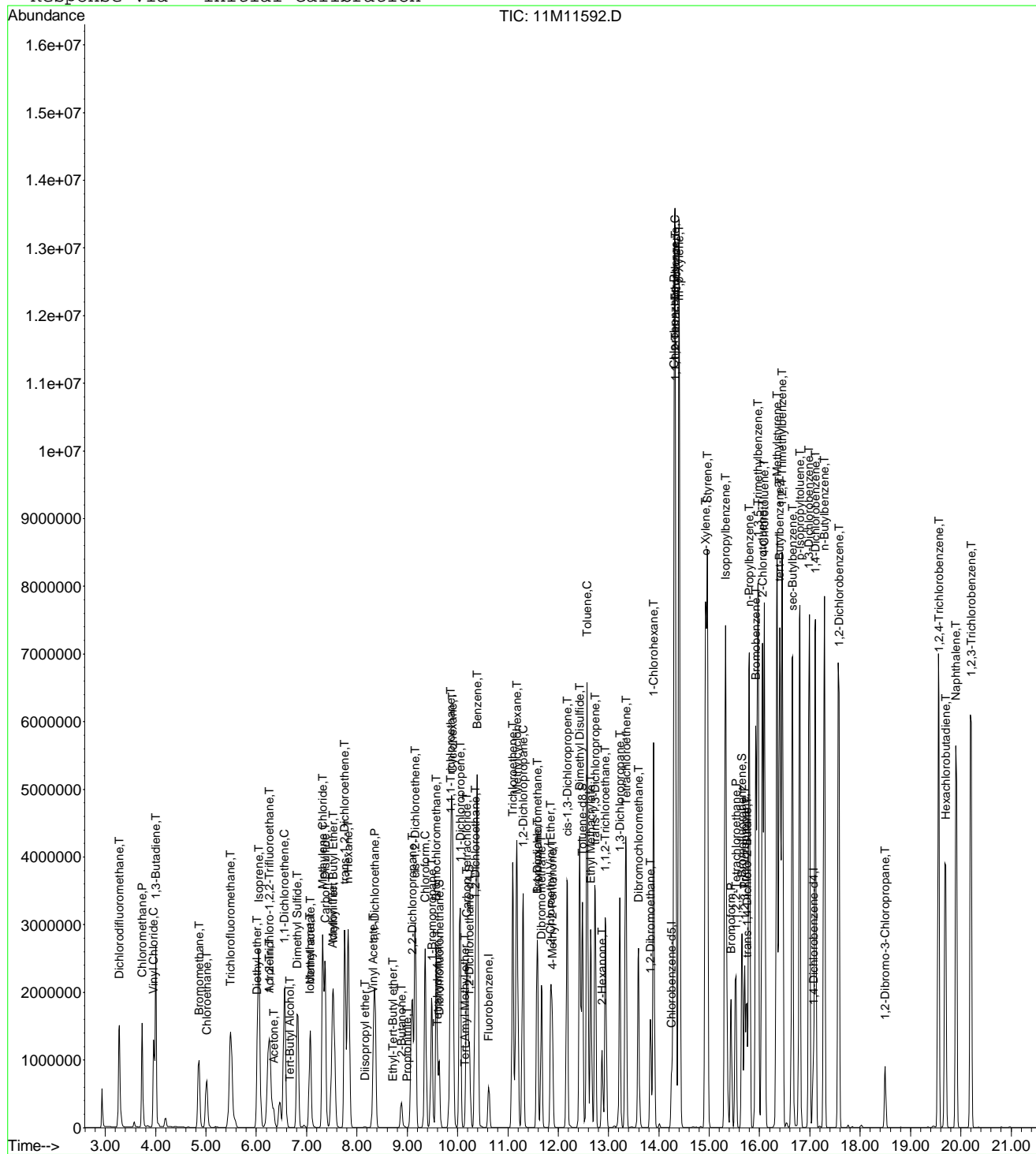
Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11592.D
Acq On : 3 May 2016 21:05
Sample : WG567372-10 200ug/L ICAL STD 8260
Misc : 1,1 STD75976
MS Integration Params: rteint.p
Quant Time: May 4 11:41 2016

Vial: 10
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050316\11M11593.D Vial: 11
 Acq On : 3 May 2016 21:37 Operator: JDS
 Sample : WG567372-11 300ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:46 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	677963	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.26	117	606186	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.07	152	360146	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	1204392	156.4980	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	= 626.00%#		
43) 1,2-Dichloroethane-d4	10.24	65	1357633	145.5944	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	= 582.36%#		
57) Toluene-d8	12.48	98	4067567	142.7395	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	= 570.96%#		
78) p-Bromofluorobenzene	15.65	95	1773411	150.7482	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	= 603.00%#		

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	3451378	346.9461	ug/L	100
3) Chloromethane	3.73	50	2892411	320.1870	ug/L	100
4) Vinyl Chloride	3.96	62	2360389	327.2603	ug/L	99
5) 1,3-Butadiene	4.00	54	1966856	289.3988	ug/L	99
6) Bromomethane	4.86	94	1736353	379.0471	ug/L	100
7) Chloroethane	5.01	64	1618732	331.4432	ug/L	99
8) Trichlorofluoromethane	5.49	101	4227257	316.4032	ug/L	100
9) Diethyl ether	6.02	59	1823828	300.0291	ug/L	98
10) Isoprene	6.05	67	2954936	319.8549	ug/L	96
11) Acrolein	6.25	56	139409	150.4303	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	2232958	331.6703	ug/L	98
13) Acetone	6.35	43	534977	263.9111	ug/L	99
14) 1,1-Dichloroethene	6.56	61	3933339	315.1823	ug/L	97
15) Tert-Butyl Alcohol	6.69	59	343523	637.7515	ug/L	98
16) Dimethyl Sulfide	6.82	62	1673732	295.7410	ug/L	97
17) Iodomethane	7.07	142	1867380	296.3204	ug/L	99
18) Methyl acetate	7.08	43	2015053	281.1355	ug/L	98
19) Methylene Chloride	7.32	84	2092600	299.4633	ug/L	96
20) Carbon Disulfide	7.36	76	6638641	303.9161	ug/L	98
21) Acrylonitrile	7.50	53	441410	169.4535	ug/L	95
22) Methyl Tert Butyl Ether	7.53	73	5459469	300.9312	ug/L	99
23) trans-1,2-Dichloroethene	7.75	96	2237971	313.3317	ug/L	96
24) n-Hexane	7.83	57	3678186	314.2127	ug/L	99
25) Diisopropyl ether	8.16	45	8969497	289.6258	ug/L	98
26) Vinyl Acetate	8.32	43	2723776	294.0659	ug/L	99
27) 1,1-Dichloroethane	8.35	63	4369128	310.8101	ug/L	98
28) Ethyl-Tert-Butyl ether	8.71	59	7467068	294.3625	ug/L	98
29) 2-Butanone	8.88	43	889026	293.1955	ug/L	100
30) Propionitrile	8.99	54	273368	308.6452	ug/L	100
31) 2,2-Dichloropropane	9.10	77	3296858	324.7385	ug/L	100
32) cis-1,2-Dichloroethene	9.16	96	2471211	311.7085	ug/L	99
33) Chloroform	9.36	83	4021746	306.3100	ug/L	98
34) 1-Bromopropane	9.49	122	450839	304.9837	ug/L	97
35) Bromochloromethane	9.58	130	1579380	311.3317	ug/L	98
36) Tetrahydrofuran	9.61	42	596459	286.6616	ug/L	98
38) 1,1,1-Trichloroethane	9.86	97	4017632	316.4550	ug/L	99
39) Cyclohexane	9.90	56	4916719	320.2062	ug/L	98
40) 1,1-Dichloropropene	10.05	75	3081333	321.1962	ug/L	99
41) Carbon Tetrachloride	10.18	117	3875306	323.3873	ug/L	99
42) Tert-Amyl-Methyl ether	10.14	73	5444214	301.6397	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11593.D 8260_WT.M Wed May 04 11:41:47 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11593.D Vial: 11
 Acq On : 3 May 2016 21:37 Operator: JDS
 Sample : WG567372-11 300ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:46 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	3332909	295.8515	ug/L	98
45) Benzene	10.39	78	7646819	278.6596	ug/L	94
46) Trichloroethene	11.09	130	2616224	292.5278	ug/L	98
47) Methylcyclohexane	11.18	83	3558232	328.0658	ug/L	99
48) 1,2-Dichloropropane	11.30	63	2412857	309.5999	ug/L	99
49) 1,4-Dioxane	11.57	88	31390	664.3692	ug/L	100
50) Bromodichloromethane	11.58	83	3227113	312.4036	ug/L	99
51) Dibromomethane	11.66	93	1278322	312.7782	ug/L	99
52) 2-Chloroethyl Vinyl Ether	11.85	63	1205397	296.6332	ug/L	99
53) 4-Methyl-2-Pentanone	11.88	58	765290	307.1443	ug/L	100
54) cis-1,3-Dichloropropene	12.18	75	3448559	317.1620	ug/L	99
55) Dimethyl Disulfide	12.43	79	2100459	309.6604	ug/L	95
58) Toluene	12.57	91	8114496	258.5058	ug/L	90
59) Ethyl Methacrylate	12.65	69	2366917	288.1651	ug/L	98
60) trans-1,3-Dichloropropene	12.74	75	3087986	300.3160	ug/L	98
61) 1,1,2-Trichloroethane	12.95	97	1746853	297.3318	ug/L	98
62) 2-Hexanone	12.87	43	1442485	297.7753	ug/L	98
63) 1,3-Dichloropropane	13.22	76	2847738	291.8000	ug/L	98
64) Tetrachloroethene	13.35	164	2143057	302.5393	ug/L	100
65) Dibromochloromethane	13.60	129	2685723	316.6900	ug/L	100
66) 1,2-Dibromoethane	13.83	107	1822067	305.4869	ug/L	99
67) 1-Chlorohexane	13.90	91	3275198	318.0853	ug/L	98
68) Chlorobenzene	14.30	112	6095767	264.0238	ug/L	95
69) 1,1,1,2-Tetrachloroethane	14.33	131	2715599	306.8472	ug/L	100
70) Ethylbenzene	14.32	106	3506137	299.2963	ug/L	70
71) m-,p-Xylene	14.40	106	7336759	526.2970	ug/L	68
72) o-Xylene	14.93	106	4106140	295.2785	ug/L	84
73) Styrene	14.96	104	6601653	279.8034	ug/L	91
74) Bromoform	15.44	173	1769257	295.4933	ug/L	98
75) Isopropylbenzene	15.32	105	9007764	256.1703	ug/L	88
77) 1,1,2,2-Tetrachloroethane	15.53	83	2131436	294.4008	ug/L	99
79) 1,2,3-Trichloropropane	15.71	110	691369	315.0275	ug/L	98
80) trans-1,4-Dichloro-2-Butene	15.75	53	901929	300.2239	ug/L	99
81) n-Propylbenzene	15.80	91	9816837	242.5829	ug/L	83
82) Bromobenzene	15.92	156	3270714	291.1169	ug/L	99
83) 1,3,5-Trimethylbenzene	15.96	105	8192767	266.4035	ug/L	89
84) 2-Chlorotoluene	16.06	91	7660580	256.4865	ug/L	91
85) 4-Chlorotoluene	16.10	91	6496419	265.0758	ug/L	88
86) a-Methylstyrene	16.35	118	5183792	303.3162	ug/L	92
87) tert-Butylbenzene	16.41	134	2118038	313.8516	ug/L	87
88) 1,2,4-Trimethylbenzene	16.45	105	8196628	260.4371	ug/L	86
89) sec-Butylbenzene	16.66	105	9340882	256.6536	ug/L	87
90) p-Isopropyltoluene	16.80	119	8652469	261.1952	ug/L	87
91) 1,3-Dichlorobenzene	16.99	146	5762006	276.1099	ug/L	94
92) 1,4-Dichlorobenzene	17.11	146	5761066	270.3634	ug/L	94
93) n-Butylbenzene	17.29	91	7956082	266.7619	ug/L	90
94) 1,2-Dichlorobenzene	17.58	146	5462034	277.6227	ug/L	94
95) 1,2-Dibromo-3-Chloropropane	18.50	75	416390	300.4568	ug/L	99
96) 1,2,4-Trichlorobenzene	19.56	180	4397928	300.8318	ug/L	95
97) Hexachlorobutadiene	19.70	225	1960497	330.0894	ug/L	99
98) Naphthalene	19.90	128	7601119	271.6780	ug/L #	93
99) 1,2,3-Trichlorobenzene	20.20	180	4074166	297.6284	ug/L	96

(#) = qualifier out of range (m) = manual integration
 11M11593.D 8260_WT.M Wed May 04 11:41:47 2016

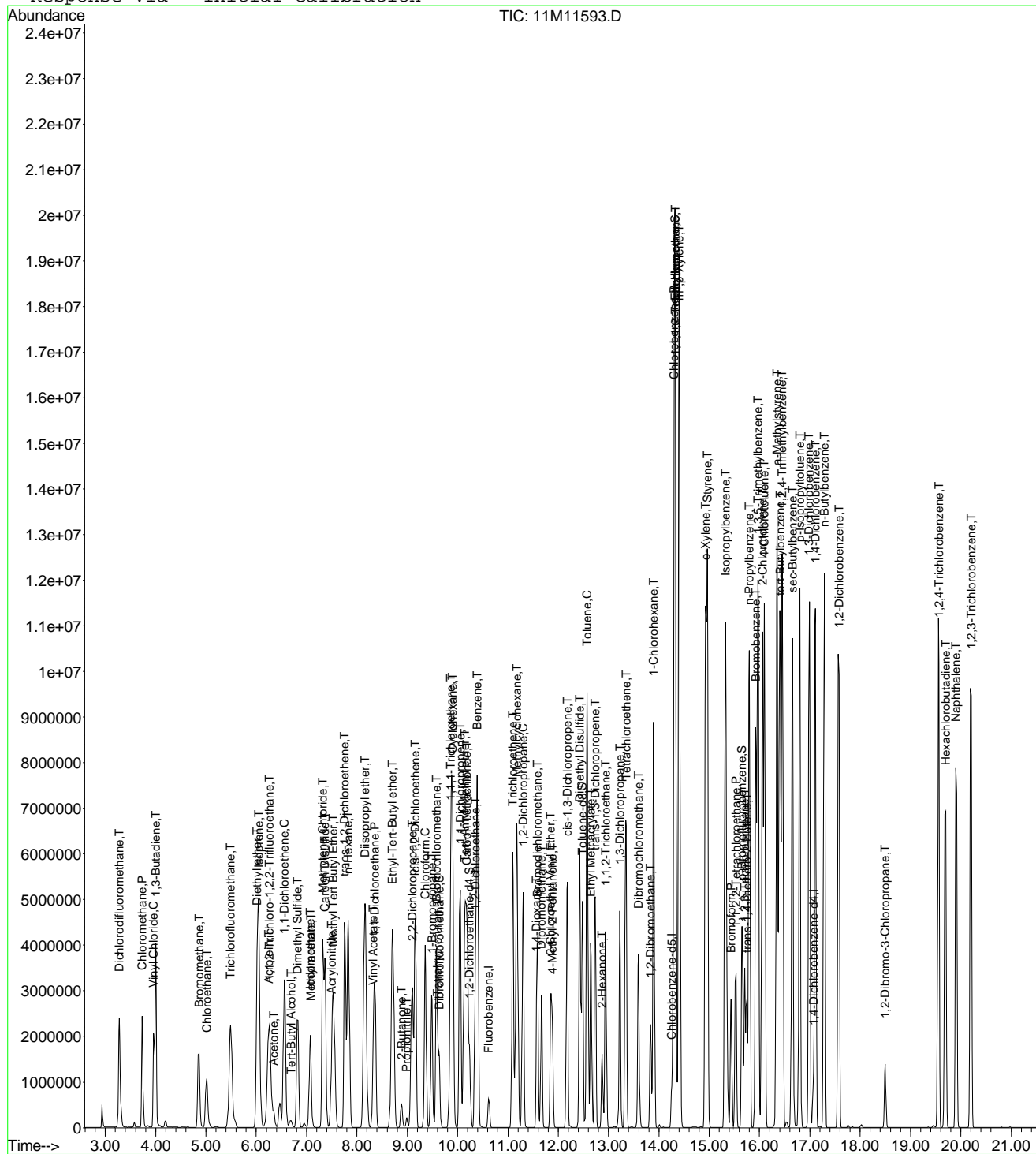
Page 2

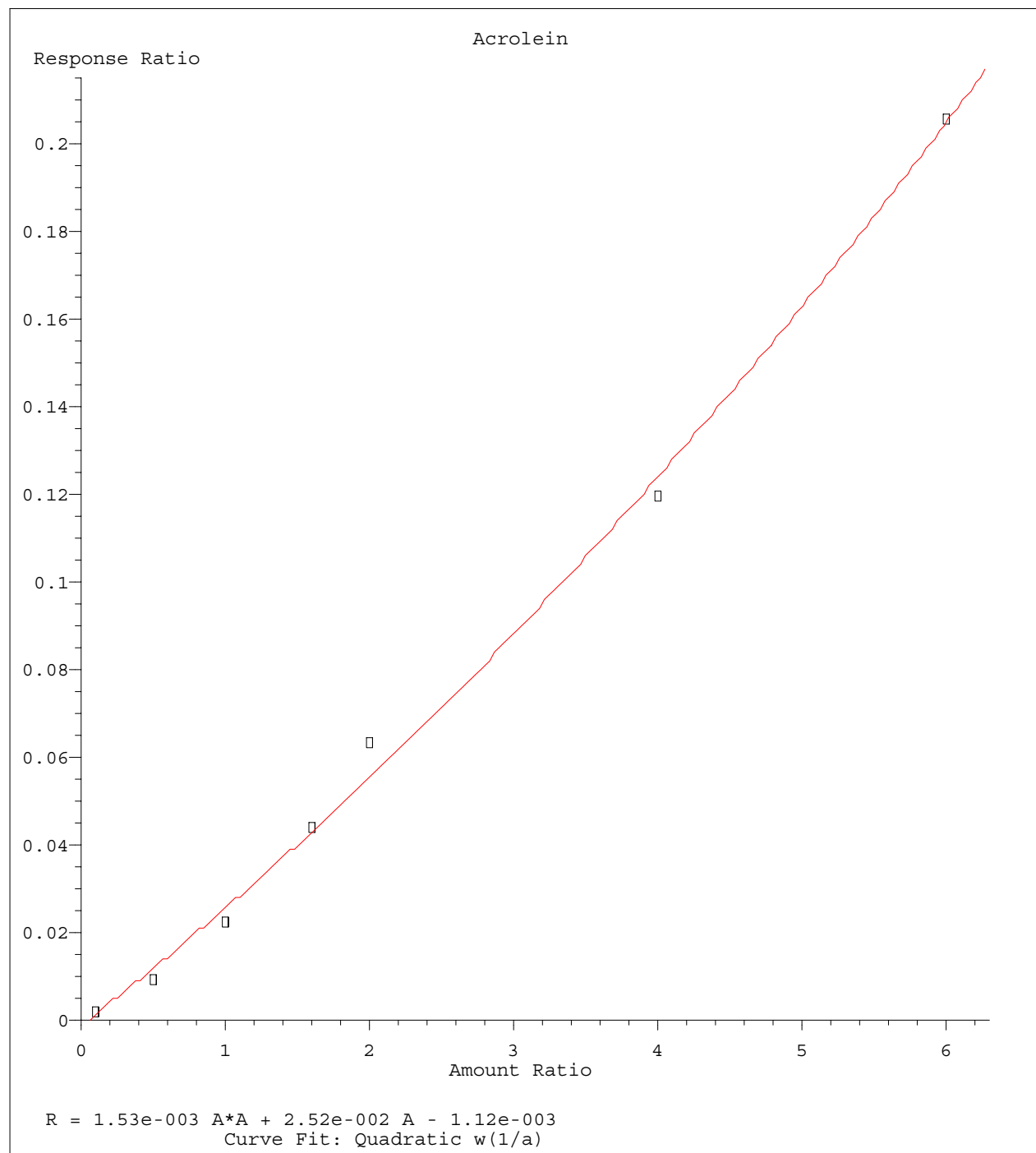
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Acq On : 3 May 2016 21:37
Sample : WG567372-11 300ug/L ICAL STD 8260
Misc : 1,1 STD75976
MS Integration Params: rteint.p
Quant Time: May 4 11:41 2016

Vial: 11
Operator: JDS
Inst : hpms11
Multiplr: 1.00

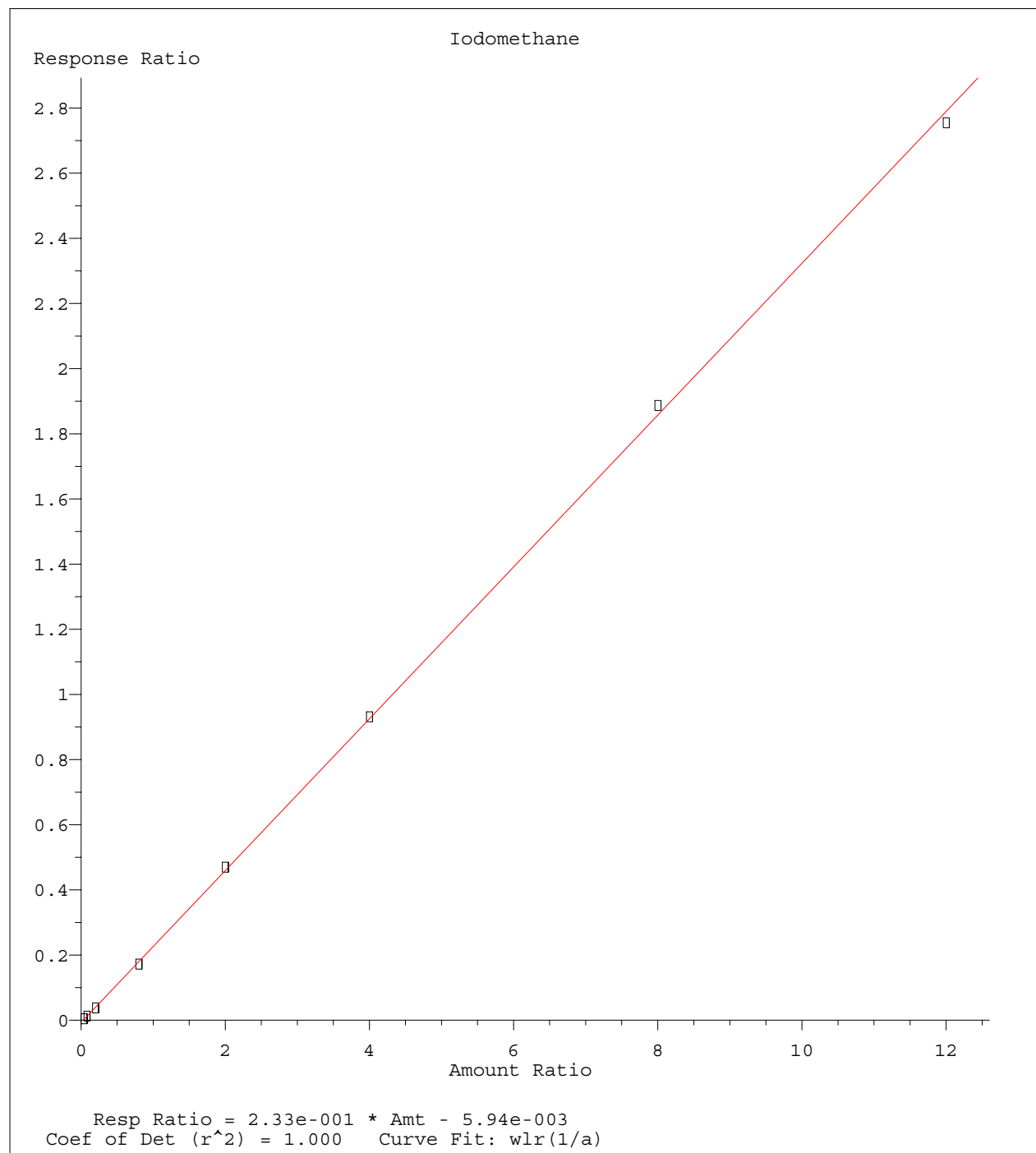
Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration

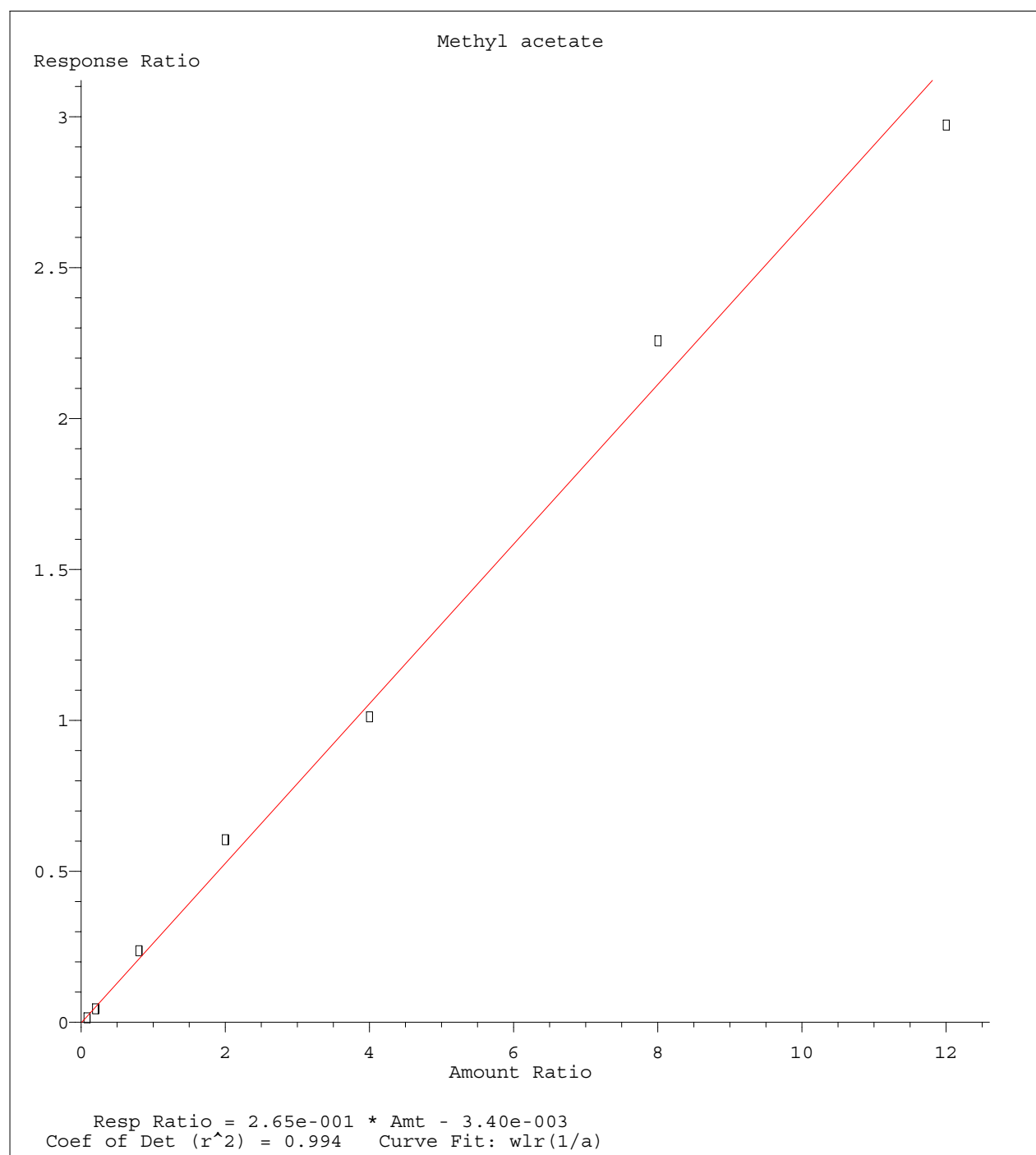




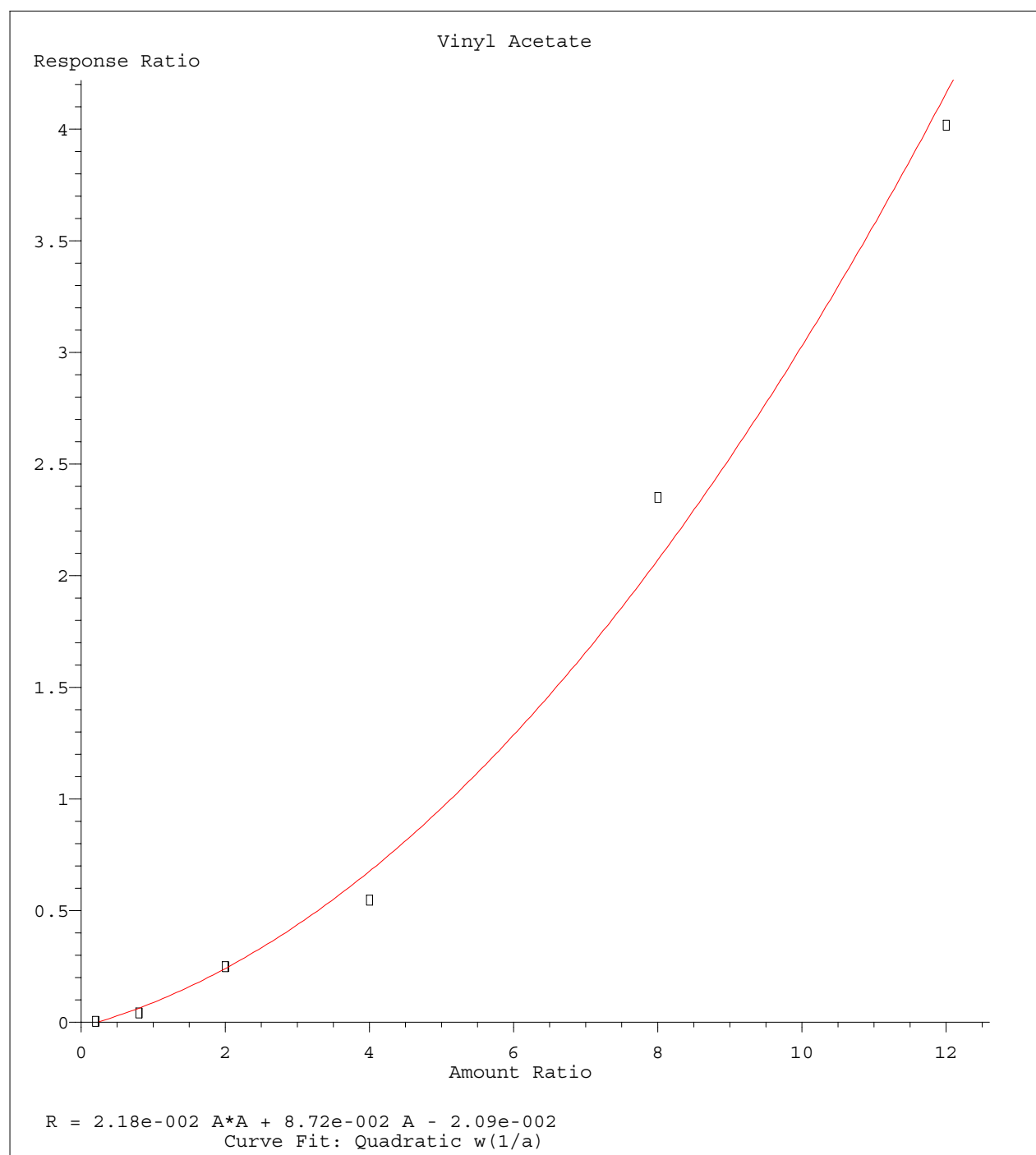
Method Name: C:\MSDCHEM\1\METHODS\8260_WT.M
Calibration Table Last Updated: Wed May 04 09:44:01 2016



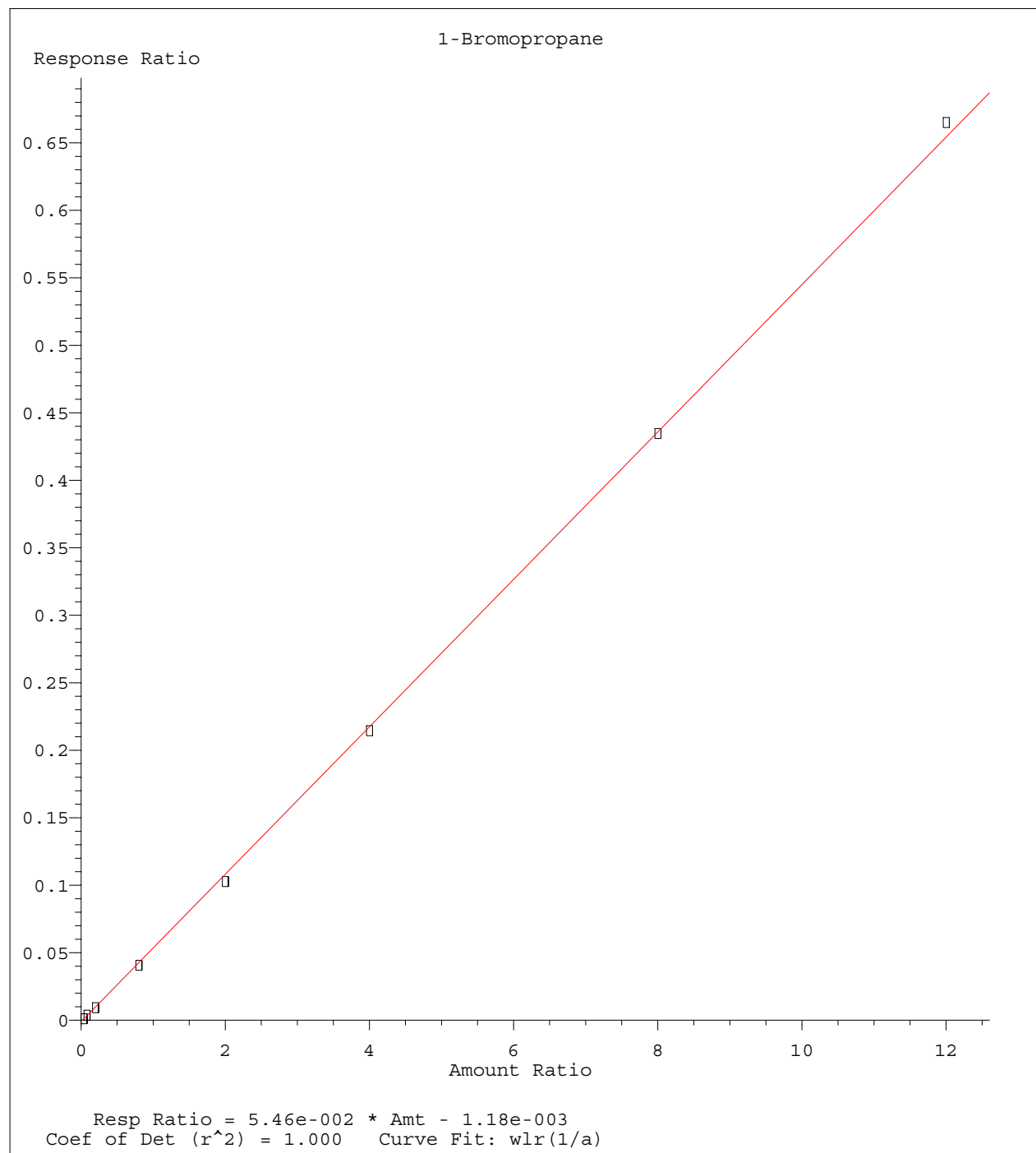
Method Name: C:\MSDCHEM\1\METHODS\8260_WT.M
Calibration Table Last Updated: Wed May 04 09:44:01 2016



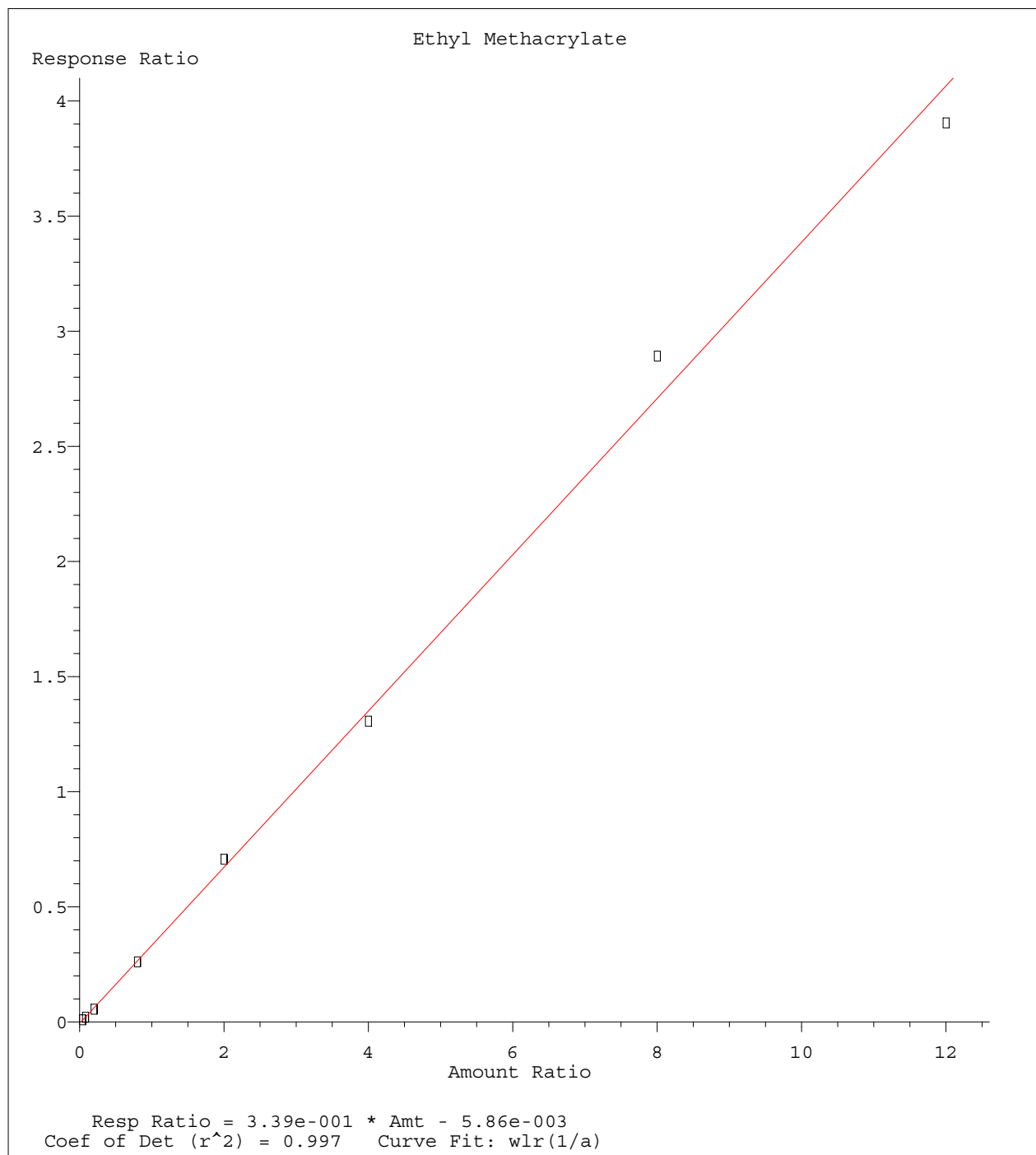
Method Name: C:\MSDCHEM\1\METHODS\8260_WT.M
Calibration Table Last Updated: Wed May 04 09:44:01 2016



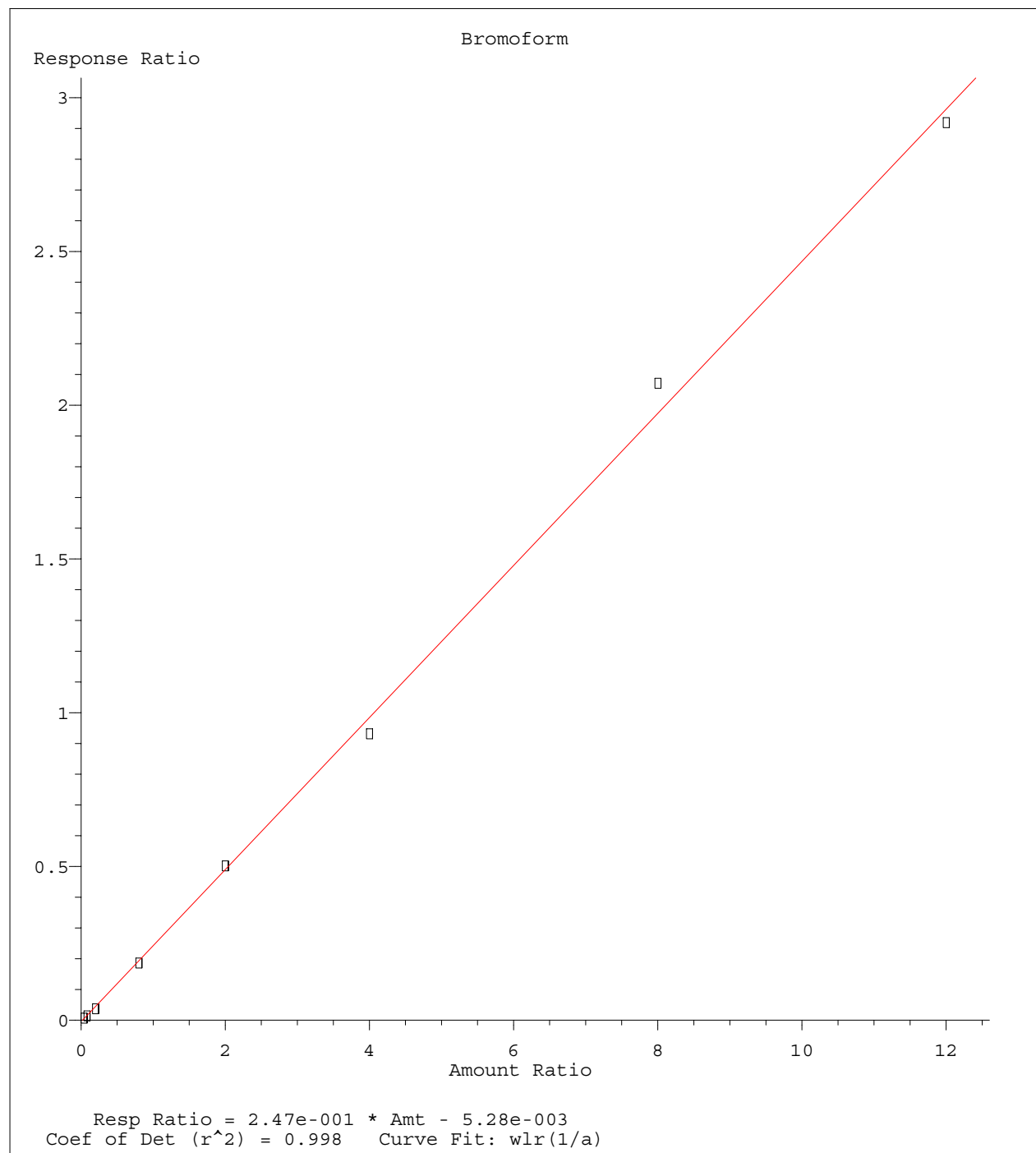
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Calibration Table Last Updated: Wed May 04 09:44:01 2016



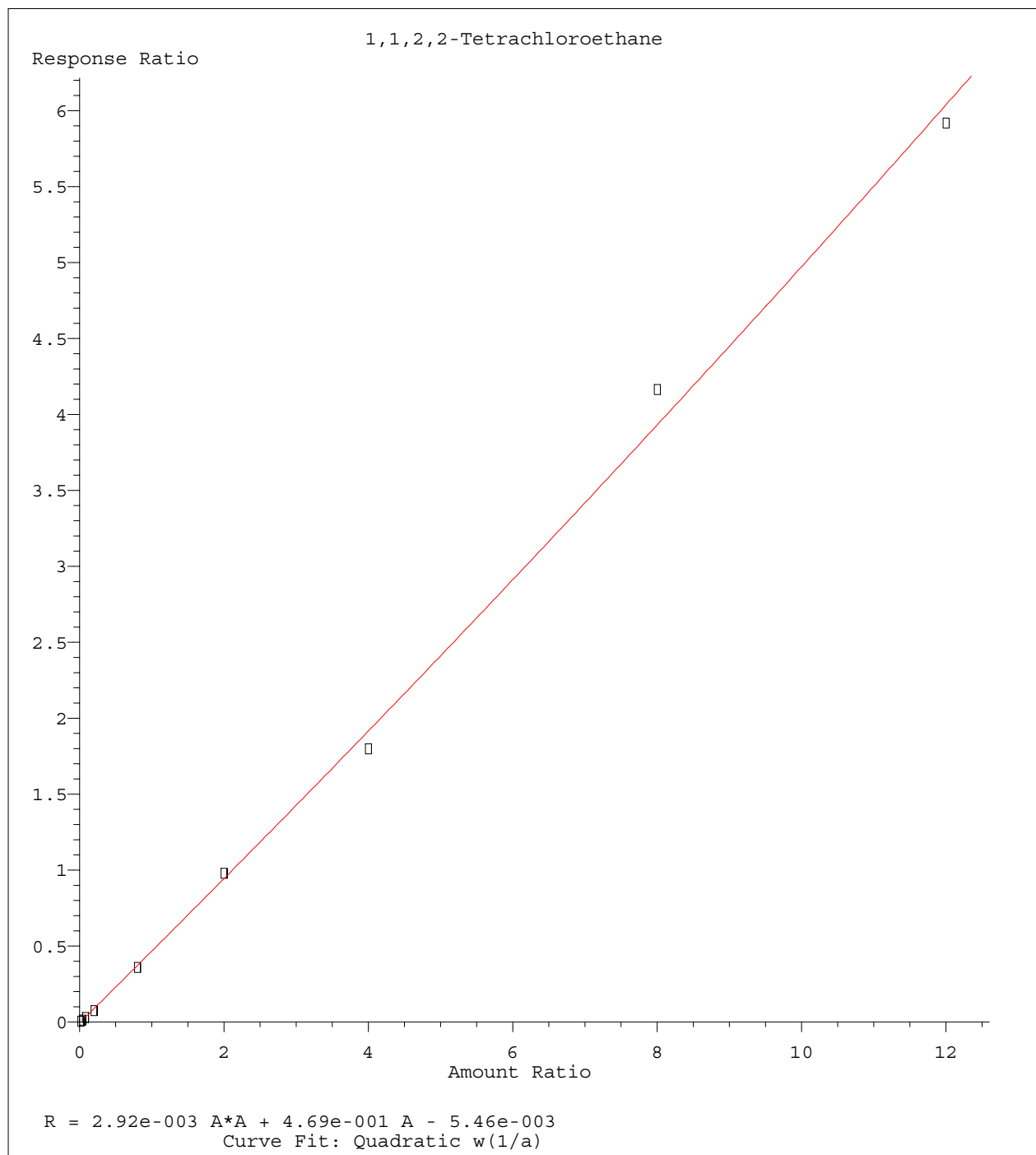
Method Name: C:\MSDCHEM\1\METHODS\8260_WT.M
Calibration Table Last Updated: Wed May 04 09:44:01 2016



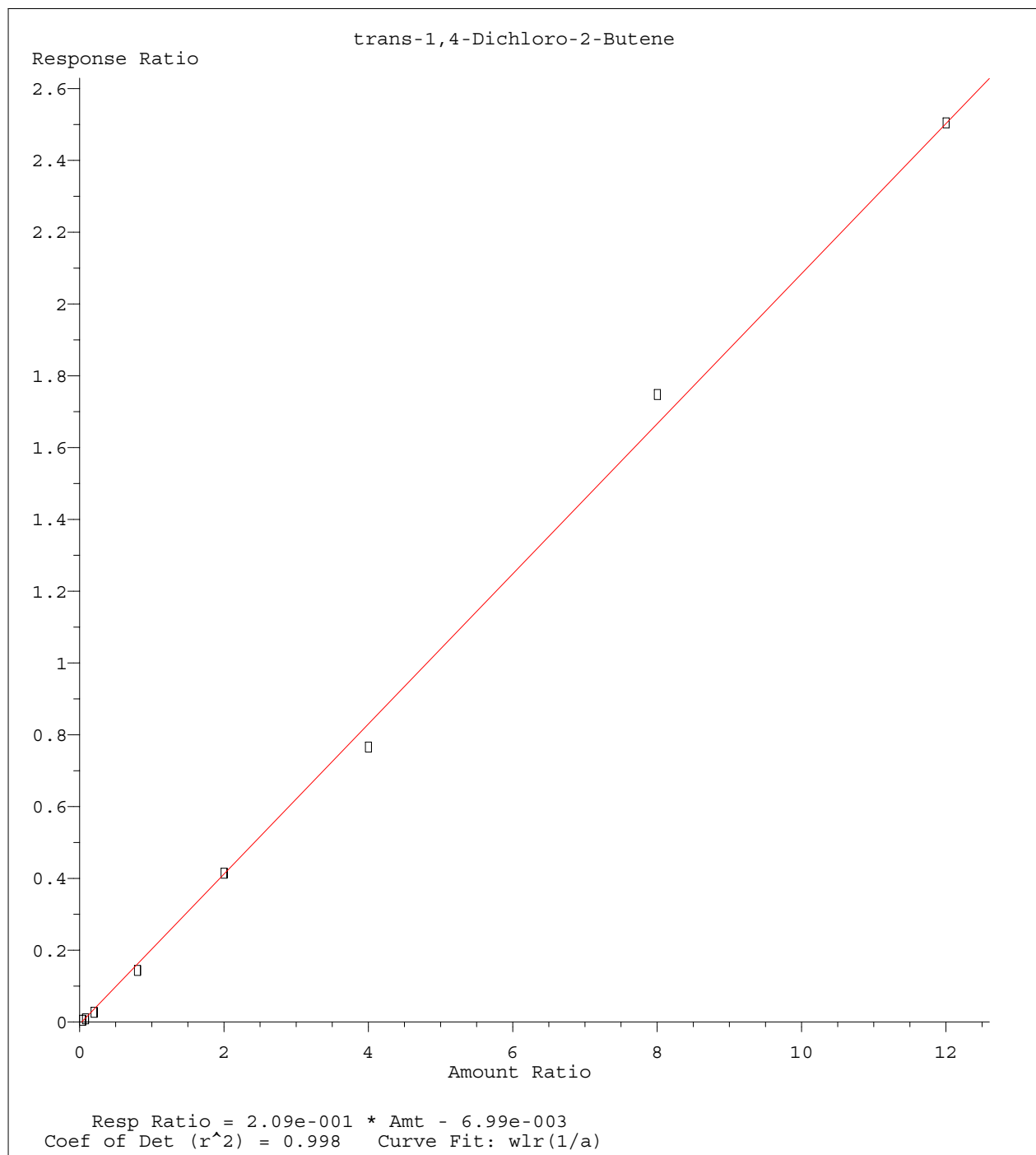
Method Name: C:\MSDCHEM\1\METHODS\8260_WT.M
Calibration Table Last Updated: Wed May 04 09:44:01 2016



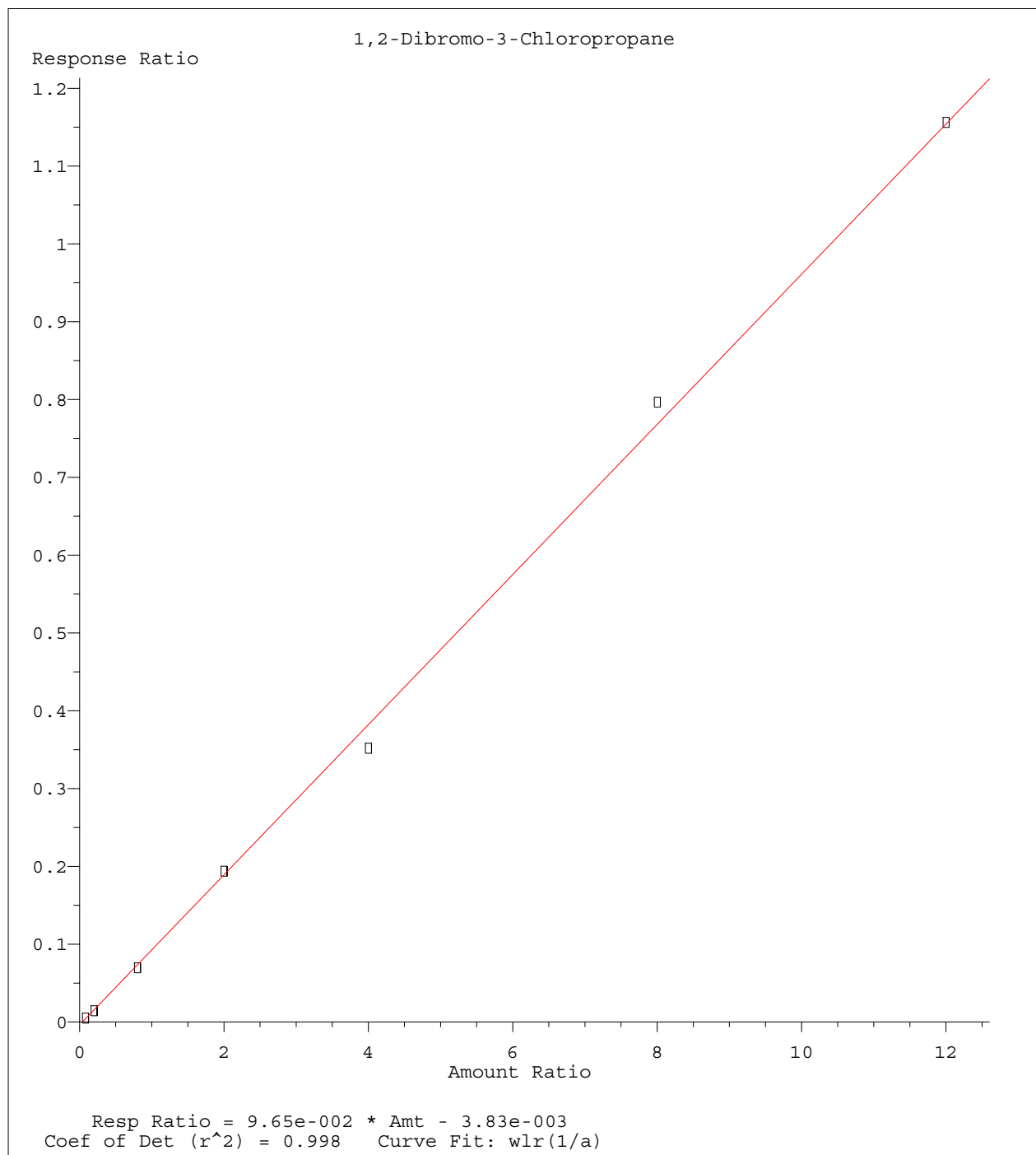
Method Name: C:\MSDCHEM\1\METHODS\8260_WT.M
Calibration Table Last Updated: Wed May 04 09:44:01 2016



Method Name: C:\MSDCHEM\1\METHODS\8260_WT.M
Calibration Table Last Updated: Wed May 04 09:44:01 2016



Method Name: C:\MSDCHEM\1\METHODS\8260_WT.M
Calibration Table Last Updated: Wed May 04 09:44:01 2016



Method Name: C:\MSDCHEM\1\METHODS\8260_WT.M
Calibration Table Last Updated: Wed May 04 09:44:01 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11596.D Vial: 14
 Acq On : 3 May 2016 23:12 Operator: JDS
 Sample : WG567372-12 50ug/L ALT SRC STD 8260 Inst : hpms11
 Misc : 1,1 STD75977 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:52 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	644654	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	541986	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	323625	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	184458	25.2068	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery = 100.84%			
43) 1,2-Dichloroethane-d4	10.24	65	211888	23.8972	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery = 95.60%			
57) Toluene-d8	12.48	98	648173	25.4401	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery = 101.76%			
78) p-Bromofluorobenzene	15.65	95	259742	24.5709	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery = 98.28%			

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	615191	65.0367	ug/L	99
3) Chloromethane	3.73	50	555484	64.6688	ug/L	99
4) Vinyl Chloride	3.96	62	397608	57.9754	ug/L	100
5) 1,3-Butadiene	4.00	54	2933763	453.9714	ug/L	99
6) Bromomethane	4.85	94	222144	50.9999	ug/L	97
7) Chloroethane	5.00	64	261840	56.3832	ug/L	97
8) Trichlorofluoromethane	5.49	101	643981	50.6914	ug/L	100
9) Diethyl ether	6.02	59	632837	109.4840	ug/L	98
10) Isoprene	6.05	67	505033	57.4915	ug/L	97
11) Acrolein	6.25	56	86014	106.2502	ug/L	92
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	350962	54.8233	ug/L	100
13) Acetone	6.35	43	106049	55.0185	ug/L	98
14) 1,1-Dichloroethene	6.56	61	598100	50.4027	ug/L	98
15) Tert-Butyl Alcohol	6.68	59	117289	228.9983	ug/L	99
16) Dimethyl Sulfide	6.82	62	391979	72.8396	ug/L	95
17) Iodomethane	7.06	142	222523	37.6931	ug/L	97
18) Methyl acetate	7.07	43	406329	59.8726	ug/L	98
19) Methylene Chloride	7.32	84	350038	52.6807	ug/L	94
20) Carbon Disulfide	7.36	76	994436	47.8774	ug/L	100
21) Acrylonitrile	7.50	53	139650	56.3805	ug/L	99
22) Methyl Tert Butyl Ether	7.53	73	921840	53.4382	ug/L	99
23) trans-1,2-Dichloroethene	7.75	96	358756	52.8236	ug/L	97
24) n-Hexane	7.83	57	527211	47.3646	ug/L	99
25) Diisopropyl ether	8.16	45	3176688	107.8756	ug/L	99
26) Vinyl Acetate	8.32	43	147366	48.2606	ug/L	100
27) 1,1-Dichloroethane	8.35	63	683183	51.1113	ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	2468259	102.3299	ug/L	100
29) 2-Butanone	8.88	43	146207	50.7096	ug/L	98
30) Propionitrile	8.99	54	93418	110.9230	ug/L	99
31) 2,2-Dichloropropane	9.10	77	422963	43.8142	ug/L	100
32) cis-1,2-Dichloroethene	9.16	96	405173	53.7475	ug/L	97
33) Chloroform	9.36	83	642995	51.5031	ug/L	100
34) 1-Bromopropane	9.48	122	91803	65.7359	ug/L	98
35) Bromochloromethane	9.57	130	251099	52.0548	ug/L	99
36) Tetrahydrofuran	9.61	42	199360	100.7642	ug/L	98
38) 1,1,1-Trichloroethane	9.86	97	625395	51.8055	ug/L	99
39) Cyclohexane	9.90	56	769341	52.6929	ug/L	100
40) 1,1-Dichloropropene	10.05	75	472357	51.7823	ug/L	100
41) Carbon Tetrachloride	10.18	117	583467	51.2050	ug/L	100
42) Tert-Amyl-Methyl ether	10.14	73	1869495	108.9324	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11596.D 8260_WT.M Wed May 04 11:41:53 2016

Data File : C:\MSDCHEM\1\DATA\050316\11M11596.D Vial: 14
 Acq On : 3 May 2016 23:12 Operator: JDS
 Sample : WG567372-12 50ug/L ALT SRC STD 8260 Inst : hpms11
 Misc : 1,1 STD75977 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:52 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	551710	51.5040	ug/L	99
45) Benzene	10.39	78	1363750	52.2646	ug/L	100
46) Trichloroethene	11.09	130	443898	52.1981	ug/L	99
47) Methylcyclohexane	11.18	83	555143	53.8283	ug/L	98
48) 1,2-Dichloropropane	11.30	63	403238	54.4139	ug/L	97
49) 1,4-Dioxane	11.57	88	10673	237.5659	ug/L	92
50) Bromodichloromethane	11.58	83	505412	51.4549	ug/L	100
51) Dibromomethane	11.66	93	196231	50.4944	ug/L	98
52) 2-Chloroethyl Vinyl Ether	11.85	63	210006	54.3501	ug/L	100
53) 4-Methyl-2-Pentanone	11.88	58	122888	51.8687	ug/L	98
54) cis-1,3-Dichloropropene	12.17	75	591660	57.2262	ug/L	100
55) Dimethyl Disulfide	12.43	79	338078	52.4165	ug/L	100
58) Toluene	12.57	91	1556215	55.4493	ug/L	100
59) Ethyl Methacrylate	12.65	69	386902	53.0367	ug/L	95
60) trans-1,3-Dichloropropene	12.73	75	490428	53.3453	ug/L	99
61) 1,1,2-Trichloroethane	12.94	97	291655	55.5229	ug/L	99
62) 2-Hexanone	12.87	43	233719	53.9621	ug/L	98
63) 1,3-Dichloropropane	13.22	76	497538	57.0203	ug/L	97
64) Tetrachloroethene	13.34	164	339960	53.6777	ug/L	99
65) Dibromochloromethane	13.60	129	414514	54.6676	ug/L	98
66) 1,2-Dibromoethane	13.83	107	288074	54.0194	ug/L	98
67) 1-Chlorohexane	13.90	91	509562	55.3504	ug/L	98
68) Chlorobenzene	14.30	112	1128072	54.6474	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.33	131	426589	53.9118	ug/L	98
70) Ethylbenzene	14.32	106	567741	54.2051	ug/L	99
71) m-,p-Xylene	14.40	106	1388850	111.4294	ug/L	100
72) o-Xylene	14.93	106	692552	55.7017	ug/L	100
73) Styrene	14.96	104	1175118	55.7057	ug/L	100
74) Bromoform	15.44	173	244057	46.0409	ug/L	99
75) Isopropylbenzene	15.32	105	1798874	57.2177	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	317406	51.9385	ug/L	99
79) 1,2,3-Trichloropropane	15.71	110	107917	54.7224	ug/L	86
80) trans-1,4-Dichloro-2-Butene	15.75	53	86986	32.9682	ug/L #	45
81) n-Propylbenzene	15.80	91	2112048	58.0803	ug/L	100
82) Bromobenzene	15.92	156	519856	51.4925	ug/L	99
83) 1,3,5-Trimethylbenzene	15.96	105	1551216	56.1330	ug/L	100
84) 2-Chlorotoluene	16.06	91	1460411	54.4145	ug/L	100
85) 4-Chlorotoluene	16.10	91	1232341	55.9582	ug/L	100
86) a-Methylstyrene	16.35	118	898374	58.4981	ug/L	100
87) tert-Butylbenzene	16.40	134	336318	55.4597	ug/L	99
88) 1,2,4-Trimethylbenzene	16.45	105	1550838	54.8366	ug/L	100
89) sec-Butylbenzene	16.65	105	1889088	57.7628	ug/L	100
90) p-Isopropyltoluene	16.80	119	1683646	56.5604	ug/L	100
91) 1,3-Dichlorobenzene	16.99	146	1002913	53.4821	ug/L	99
92) 1,4-Dichlorobenzene	17.11	146	1023890	53.4730	ug/L	100
93) n-Butylbenzene	17.29	91	1470835	54.8814	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	949166	53.6883	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.50	75	62981	51.3982	ug/L	98
96) 1,2,4-Trichlorobenzene	19.55	180	724876	55.1793	ug/L	100
97) Hexachlorobutadiene	19.70	225	292581	54.8211	ug/L	98
98) Naphthalene	19.90	128	1403569	55.8274	ug/L	100
99) 1,2,3-Trichlorobenzene	20.20	180	680977	55.3611	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11596.D 8260_WT.M Wed May 04 11:41:53 2016

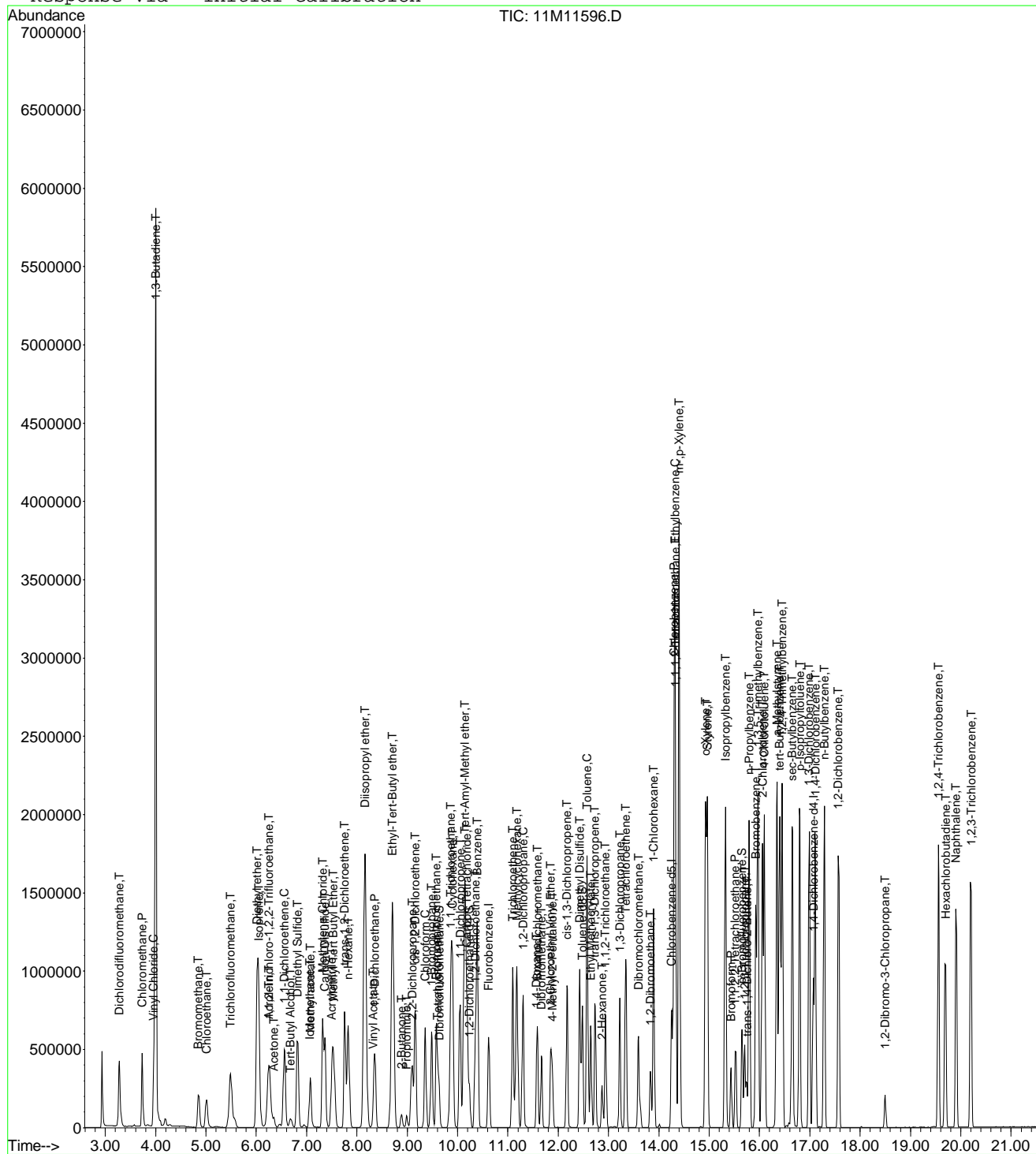
Page 2

Data File : C:\MSDCHEM\1\DATA\050316\11M11596.D
Acq On : 3 May 2016 23:12
Sample : WG567372-12 50ug/L ALT SRC STD 8260
Misc : 1,1 STD75977
MS Integration Params: rteint.p
Quant Time: May 4 11:41 2016

Vial: 14
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\050316\11M11596.D Vial: 14
 Acq On : 3 May 2016 23:12 Operator: JDS
 Sample : WG567372-12 50ug/L ALT SRC STD 8260 Inst : hpms11
 Misc : 1,1 STD75977 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	94	0.00
2 T	Dichlorodifluoromethane	50.0000	65.0367	-30.1#	109	0.00
3 P	Chloromethane	50.0000	64.6688	-29.3#	119	0.00
4 C	Vinyl Chloride	50.0000	57.9755	-16.0	107	0.00
5 T	1,3-Butadiene	50.0000	453.9713	-807.9#	830	0.00
6 T	Bromomethane	50.0000	50.9999	-2.0	100	-0.01
7 T	Chloroethane	50.0000	56.3832	-12.8	102	-0.01
8 T	Trichlorofluoromethane	50.0000	50.6914	-1.4	90	0.00
9 T	Diethyl ether	100.0000	109.4840	-9.5	97	0.00
10 T	Isoprene	50.0000	57.4915	-15.0	108	0.00
11 T	Acrolein	50.0000	106.2502	-112.5#	197	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	54.8233	-9.6	96	-0.01
13 T	Acetone	50.0000	55.0185	-10.0	96	0.00
14 C	1,1-Dichloroethene	50.0000	50.4027	-0.8	90	-0.01
15 T	Tert-Butyl Alcohol	200.0000	228.9983	-14.5	91	0.00
16 T	Dimethyl Sulfide	50.0000	72.8396	-45.7#	130	0.00
17 T	Iodomethane	50.0000	37.6931	24.6	69	0.00
18 T	Methyl acetate	50.0000	59.8726	-19.7	98	0.00
19 T	Methylene Chloride	50.0000	52.6807	-5.4	95	0.00
20 T	Carbon Disulfide	50.0000	47.8774	4.2	87	-0.01
21 T	Acrylonitrile	50.0000	56.3805	-12.8	91	0.00
22 T	Methyl Tert Butyl Ether	50.0000	53.4382	-6.9	91	0.00
23 T	trans-1,2-Dichloroethene	50.0000	52.8236	-5.6	97	0.00
24 T	n-Hexane	50.0000	47.3646	5.3	87	0.00
25 T	Diisopropyl ether	100.0000	107.8756	-7.9	99	0.00
26 T	Vinyl Acetate	50.0000	48.2606	3.5	86	0.00
27 P	1,1-Dichloroethane	50.0000	51.1113	-2.2	90	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	102.3299	-2.3	91	0.00
29 T	2-Butanone	50.0000	50.7096	-1.4	89	0.00
30 T	Propionitrile	100.0000	110.9230	-10.9	91	0.00
31 T	2,2-Dichloropropane	50.0000	43.8142	12.4	83	0.00
32 T	cis-1,2-Dichloroethene	50.0000	53.7475	-7.5	95	0.00
33 C	Chloroform	50.0000	51.5031	-3.0	90	0.00
34 T	1-Bromopropane	50.0000	65.7359	-31.5#	130	0.00
35 T	Bromochloromethane	50.0000	52.0548	-4.1	88	-0.01
36 T	Tetrahydrofuran	100.0000	100.7642	-0.8	87	0.00
37 S	Dibromofluoromethane	25.0000	25.2068	-0.8	87	0.00
38 T	1,1,1-Trichloroethane	50.0000	51.8055	-3.6	91	0.00
39 T	Cyclohexane	50.0000	52.6930	-5.4	96	0.00
40 T	1,1-Dichloropropene	50.0000	51.7823	-3.6	91	0.00
41 T	Carbon Tetrachloride	50.0000	51.2050	-2.4	89	0.00
42 T	Tert-Amyl-Methyl ether	100.0000	108.9324	-8.9	96	0.00
43 S	1,2-Dichloroethane-d4	25.0000	23.8972	4.4	84	0.00
44 T	1,2-Dichloroethane	50.0000	51.5040	-3.0	87	0.00
45 T	Benzene	50.0000	52.2646	-4.5	95	0.00
46 T	Trichloroethene	50.0000	52.1981	-4.4	98	0.00
47 T	Methylcyclohexane	50.0000	53.8283	-7.7	97	0.00
48 C	1,2-Dichloropropane	50.0000	54.4139	-8.8	97	0.00
49 T	1,4-Dioxane	200.0000	237.5659	-18.8	89	0.00
50 T	Bromodichloromethane	50.0000	51.4549	-2.9	88	0.00
51 T	Dibromomethane	50.0000	50.4944	-1.0	84	0.00
52 T	2-Chloroethyl Vinyl Ether	50.0000	54.3501	-8.7	97	0.00
53 T	4-Methyl-2-Pentanone	50.0000	51.8687	-3.7	91	0.00
54 T	cis-1,3-Dichloropropene	50.0000	57.2262	-14.5	97	-0.01

(#) = Out of Range

11M11596.D 8260_WT.M Wed May 04 09:46:56 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\050316\11M11596.D Vial: 14
 Acq On : 3 May 2016 23:12 Operator: JDS
 Sample : WG567372-12 50ug/L ALT SRC STD 8260 Inst : hpms11
 Misc : 1,1 STD75977 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	Dimethyl Disulfide	50.0000	52.4165	-4.8	93	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	91	-0.01
57 S	Toluene-d8	25.0000	25.4401	-1.8	90	0.00
58 C	Toluene	50.0000	55.4493	-10.9	96	0.00
59 T	Ethyl Methacrylate	50.0000	53.0367	-6.1	92	0.00
60 T	trans-1,3-Dichloropropene	50.0000	53.3453	-6.7	87	-0.01
61 T	1,1,2-Trichloroethane	50.0000	55.5229	-11.0	91	0.00
62 T	2-Hexanone	50.0000	53.9621	-7.9	91	0.00
63 T	1,3-Dichloropropane	50.0000	57.0203	-14.0	96	0.00
64 T	Tetrachloroethene	50.0000	53.6777	-7.4	94	-0.01
65 T	Dibromochloromethane	50.0000	54.6676	-9.3	88	0.00
66 T	1,2-Dibromoethane	50.0000	54.0194	-8.0	89	0.00
67 T	1-Chlorohexane	50.0000	55.3504	-10.7	99	0.00
68 P	Chlorobenzene	50.0000	54.6474	-9.3	96	0.00
69 T	1,1,1,2-Tetrachloroethane	50.0000	53.9118	-7.8	92	0.00
70 C	Ethylbenzene	50.0000	54.2052	-8.4	95	0.00
71 T	m-,p-Xylene	100.0000	111.4294	-11.4	96	0.00
72 T	o-Xylene	50.0000	55.7017	-11.4	96	0.00
73 T	Styrene	50.0000	55.7057	-11.4	93	0.00
74 P	Bromoform	50.0000	46.0409	7.9	82	0.00
75 T	Isopropylbenzene	50.0000	57.2177	-14.4	97	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	90	0.00
77 P	1,1,2,2-Tetrachloroethane	50.0000	51.9385	-3.9	91	0.00
78 S	p-Bromofluorobenzene	25.0000	24.5709	1.7	87	0.00
79 T	1,2,3-Trichloropropane	50.0000	54.7224	-9.4	91	0.00
80 T	trans-1,4-Dichloro-2-Butene	50.0000	32.9682	34.1#	59	0.01
81 T	n-Propylbenzene	50.0000	58.0803	-16.2	97	0.00
82 T	Bromobenzene	50.0000	51.4926	-3.0	92	0.00
83 T	1,3,5-Trimethylbenzene	50.0000	56.1330	-12.3	95	0.00
84 T	2-Chlorotoluene	50.0000	54.4145	-8.8	96	0.00
85 T	4-Chlorotoluene	50.0000	55.9582	-11.9	95	0.00
86 T	a-Methylstyrene	50.0000	58.4981	-17.0	100	0.00
87 T	tert-Butylbenzene	50.0000	55.4597	-10.9	97	0.00
88 T	1,2,4-Trimethylbenzene	50.0000	54.8366	-9.7	92	0.00
89 T	sec-Butylbenzene	50.0000	57.7628	-15.5	96	-0.01
90 T	p-Isopropyltoluene	50.0000	56.5604	-13.1	94	0.00
91 T	1,3-Dichlorobenzene	50.0000	53.4821	-7.0	94	0.00
92 T	1,4-Dichlorobenzene	50.0000	53.4730	-6.9	94	0.00
93 T	n-Butylbenzene	50.0000	54.8814	-9.8	94	0.00
94 T	1,2-Dichlorobenzene	50.0000	53.6883	-7.4	93	0.00
95 T	1,2-Dibromo-3-Chloropropane	50.0000	51.3982	-2.8	91	0.00
96 T	1,2,4-Trichlorobenzene	50.0000	55.1793	-10.4	95	0.00
97 T	Hexachlorobutadiene	50.0000	54.8211	-9.6	99	0.00
98 T	Naphthalene	50.0000	55.8274	-11.7	88	0.00
99 T	1,2,3-Trichlorobenzene	50.0000	55.3611	-10.7	96	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11596.D 8260_WT.M Wed May 04 09:46:56 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051016\11M11724.D Vial: 3
 Acq On : 10 May 2016 15:30 Operator: JDS
 Sample : WG568232-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 10 15:54:09 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	566489	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	499964	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	299784	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	174881	27.1956	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	108.80%	
43) 1,2-Dichloroethane-d4	10.24	65	188143	24.1471	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	96.60%	
57) Toluene-d8	12.48	98	585788	24.9240	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	99.68%	
78) p-Bromofluorobenzene	15.64	95	246499	25.1726	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	100.68%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	382812	46.0542	ug/L	99
3) Chloromethane	3.73	50	297027	39.3509	ug/L	99
4) Vinyl Chloride	3.96	62	283472	47.0364	ug/L	99
5) 1,3-Butadiene	4.00	54	214718	37.8100	ug/L	99
6) Bromomethane	4.86	94	157021	41.0230	ug/L	98
7) Chloroethane	5.01	64	202863	49.7109	ug/L	99
8) Trichlorofluoromethane	5.49	101	590796	52.9218	ug/L	100
9) Diethyl ether	6.02	59	479118	94.3271	ug/L	99
10) Isoprene	6.05	67	343877	44.5474	ug/L	97
11) Acrolein	6.25	56	32099	51.0746	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	294211	52.2997	ug/L	98
13) Acetone	6.35	43	71154	42.0084	ug/L	95
14) 1,1-Dichloroethene	6.57	61	535211	51.3263	ug/L	98
15) Tert-Butyl Alcohol	6.67	59	77021	171.1273	ug/L	97
16) Dimethyl Sulfide	6.82	62	214778	45.4182	ug/L	96
17) Iodomethane	7.07	142	206135	39.7005	ug/L	96
18) Methyl acetate	7.07	43	232476	39.0942	ug/L	100
19) Methylene Chloride	7.32	84	282155	48.3236	ug/L	96
20) Carbon Disulfide	7.37	76	826603	45.2883	ug/L	100
21) Acrylonitrile	7.50	53	106216	48.7992	ug/L	100
22) Methyl Tert Butyl Ether	7.53	73	737847	48.6741	ug/L	99
23) trans-1,2-Dichloroethene	7.75	96	296211	49.6324	ug/L	99
24) n-Hexane	7.83	57	482465	49.3254	ug/L	100
25) Diisopropyl ether	8.16	45	2664066	102.9505	ug/L	99
26) Vinyl Acetate	8.32	43	348704	94.0701	ug/L	99
27) 1,1-Dichloroethane	8.35	63	608728	51.8249	ug/L	100
28) Ethyl-Tert-Butyl ether	8.71	59	2123758	100.1963	ug/L	100
29) 2-Butanone	8.88	43	110253	43.5159	ug/L	96
30) Propionitrile	8.99	54	65964	89.1319	ug/L	99
31) 2,2-Dichloropropane	9.10	77	444395	52.3862	ug/L	99
32) cis-1,2-Dichloroethene	9.16	96	338410	51.0854	ug/L	98
33) Chloroform	9.36	83	579157	52.7907	ug/L	99
34) 1-Bromopropane	9.48	122	59083	48.2886	ug/L	99
35) Bromochloromethane	9.57	130	213368	50.3362	ug/L	100
36) Tetrahydrofuran	9.61	42	154669	88.9624	ug/L	97
38) 1,1,1-Trichloroethane	9.86	97	570995	53.8256	ug/L	100
39) Cyclohexane	9.90	56	651772	50.8001	ug/L	99
40) 1,1-Dichloropropene	10.05	75	410710	51.2368	ug/L	100
41) Carbon Tetrachloride	10.18	117	558381	55.7651	ug/L	99
42) Tert-Amyl-Methyl ether	10.14	73	1481408	98.2296	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11724.D 8260_WT.M Tue May 10 15:54:10 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051016\11M11724.D Vial: 3
 Acq On : 10 May 2016 15:30 Operator: JDS
 Sample : WG568232-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 10 15:54:09 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	496234	52.7171	ug/L	99
45) Benzene	10.39	78	1133573	49.4376	ug/L	100
46) Trichloroethene	11.09	130	362562	48.5164	ug/L	99
47) Methylcyclohexane	11.18	83	477097	52.6439	ug/L	99
48) 1,2-Dichloropropane	11.30	63	317978	48.8293	ug/L	94
49) 1,4-Dioxane	11.57	88	6883	174.3454	ug/L	95
50) Bromodichloromethane	11.58	83	453148	52.4997	ug/L	99
51) Dibromomethane	11.66	93	173951	50.9375	ug/L	96
52) 2-Chloroethyl Vinyl Ether	11.85	63	157570	46.4064	ug/L	100
53) 4-Methyl-2-Pentanone	11.88	58	92704	44.5276	ug/L	99
54) cis-1,3-Dichloropropene	12.17	75	470843	51.8244	ug/L	100
55) Dimethyl Disulfide	12.43	79	281510	49.6684	ug/L	96
58) Toluene	12.57	91	1303211	50.3374	ug/L	99
59) Ethyl Methacrylate	12.65	69	308074	45.8396	ug/L	97
60) trans-1,3-Dichloropropene	12.73	75	435470	51.3486	ug/L	100
61) 1,1,2-Trichloroethane	12.94	97	235912	48.6858	ug/L	99
62) 2-Hexanone	12.87	43	183192	45.8512	ug/L	100
63) 1,3-Dichloropropane	13.22	76	380413	47.2615	ug/L	98
64) Tetrachloroethene	13.34	164	295567	50.5908	ug/L	99
65) Dibromochloromethane	13.60	129	370275	52.9377	ug/L	99
66) 1,2-Dibromoethane	13.83	107	233391	47.4438	ug/L	97
67) 1-Chlorohexane	13.90	91	456473	53.7512	ug/L	99
68) Chlorobenzene	14.30	112	940803	49.4061	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.32	131	377511	51.7194	ug/L	99
70) Ethylbenzene	14.32	106	478438	49.5182	ug/L	97
71) m-,p-Xylene	14.40	106	1156381	100.5761	ug/L	97
72) o-Xylene	14.93	106	575850	50.2082	ug/L	96
73) Styrene	14.96	104	1001477	51.4646	ug/L	100
74) Bromoform	15.44	173	221691	45.3448	ug/L	98
75) Isopropylbenzene	15.32	105	1544194	53.2452	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	262191	46.4097	ug/L	100
79) 1,2,3-Trichloropropane	15.71	110	88628	48.5154	ug/L	96
80) trans-1,4-Dichloro-2-Butene	15.74	53	116027	47.1046	ug/L	91
81) n-Propylbenzene	15.79	91	1784993	52.9902	ug/L	99
82) Bromobenzene	15.92	156	450577	48.1797	ug/L	100
83) 1,3,5-Trimethylbenzene	15.96	105	1342550	52.4457	ug/L	99
84) 2-Chlorotoluene	16.06	91	1311065	52.7348	ug/L	100
85) 4-Chlorotoluene	16.10	91	1012360	49.6251	ug/L	99
86) a-Methylstyrene	16.35	118	773839	54.3962	ug/L	99
87) tert-Butylbenzene	16.40	134	283586	50.4830	ug/L	94
88) 1,2,4-Trimethylbenzene	16.45	105	1385058	52.8696	ug/L	100
89) sec-Butylbenzene	16.65	105	1629922	53.8018	ug/L	100
90) p-Isopropyltoluene	16.79	119	1503494	54.5252	ug/L	99
91) 1,3-Dichlorobenzene	16.99	146	879096	50.6075	ug/L	100
92) 1,4-Dichlorobenzene	17.10	146	885385	49.9169	ug/L	99
93) n-Butylbenzene	17.29	91	1330983	53.6126	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	819718	50.0536	ug/L	99
95) 1,2-Dibromo-3-Chloropropane	18.50	75	55146	48.6375	ug/L	97
96) 1,2,4-Trichlorobenzene	19.55	180	621081	51.0380	ug/L	99
97) Hexachlorobutadiene	19.69	225	251268	50.8244	ug/L	98
98) Naphthalene	19.90	128	1209180	51.9204	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	565044	49.5893	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11724.D 8260_WT.M Tue May 10 15:54:10 2016

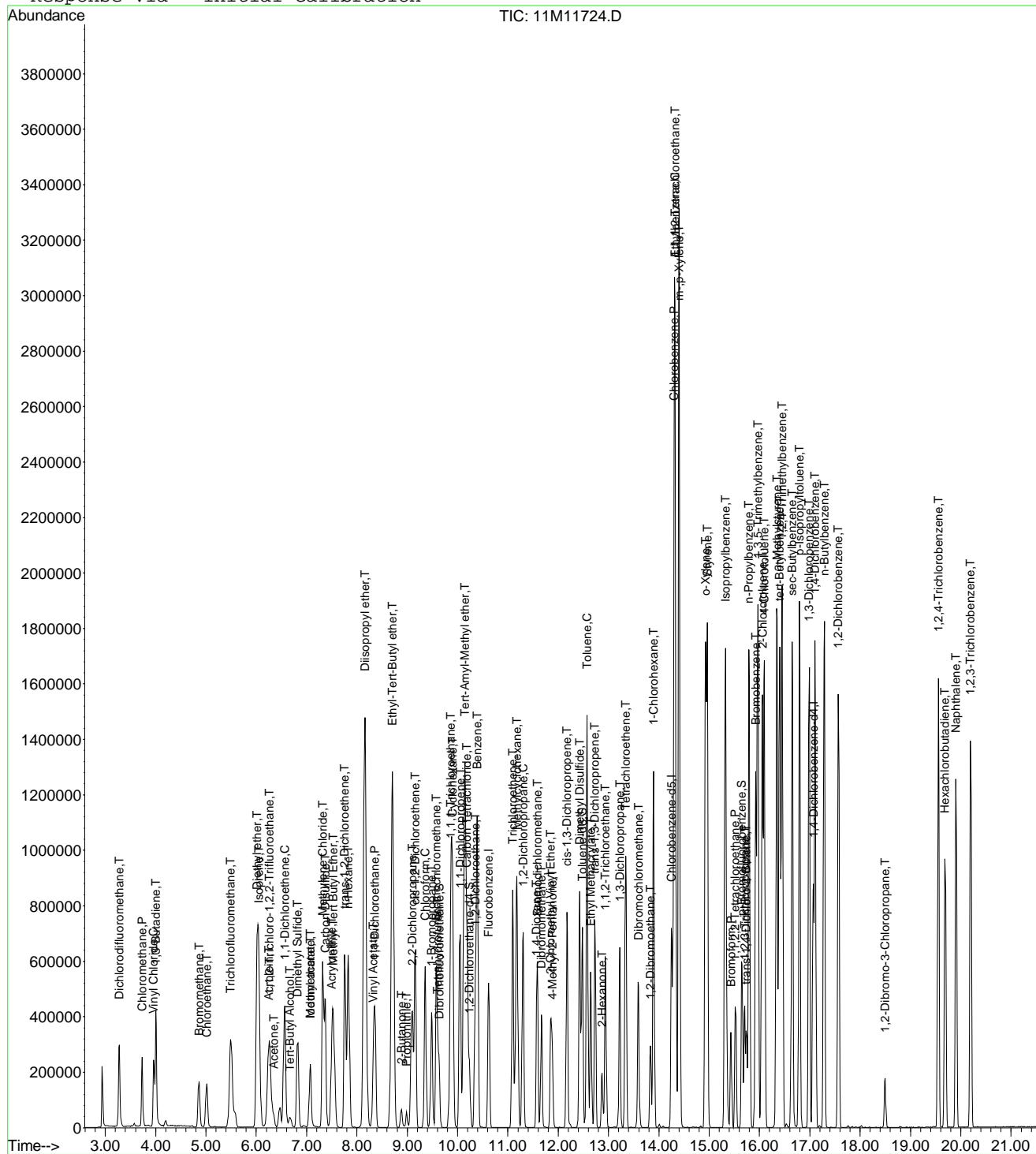
Page 2

Data File : C:\MSDCHEM\1\DATA\051016\11M11724.D
Acq On : 10 May 2016 15:30
Sample : WG568232-02 50ug/L CCV STD 8260
Misc : 1,1 STD75976
MS Integration Params: rteint.p
Quant Time: May 10 15:54 2016

Vial: 3
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051016\11M11724.D Vial: 3
 Acq On : 10 May 2016 15:30 Operator: JDS
 Sample : WG568232-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	82	0.00
2 T	Dichlorodifluoromethane	0.3668	0.3379	7.9	68	0.00
3 P	Chloromethane	0.3331	0.2622	21.3	64	0.00
4 C	Vinyl Chloride	0.2660	0.2502	5.9	76	0.00
5 T	1,3-Butadiene	0.2506	0.1895	24.4	61	0.00
6 T	Bromomethane	0.1689	0.1386	18.0	71	0.00
7 T	Chloroethane	0.1801	0.1790	0.6	79	0.00
8 T	Trichlorofluoromethane	0.4927	0.5214	-5.8	82	0.00
9 T	Diethyl ether	0.2242	0.2114	5.7	73	0.00
10 T	Isoprene	0.3407	0.3035	10.9	74	0.00
11 T	Acrolein	0.0262	0.0283	-8.3	74	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	0.2483	0.2597	-4.6	81	0.00
13 T	Acetone	0.0747	0.0628	16.0	64	0.00
14 C	1,1-Dichloroethene	0.4602	0.4724	-2.7	80	0.00
15 T	Tert-Butyl Alcohol	0.0199	0.0170	14.4	60	-0.01
16 T	Dimethyl Sulfide	0.2087	0.1896	9.2	71	0.00
17 T	Iodomethane	0.1997	0.1819	8.9	64	0.00
18 T	Methyl acetate	0.2550	0.2052	19.5	56	0.00
19 T	Methylene Chloride	0.2577	0.2490	3.4	76	0.00
20 T	Carbon Disulfide	0.8055	0.7296	9.4	72	0.00
21 T	Acrylonitrile	0.0961	0.0938	2.4	69	0.00
22 T	Methyl Tert Butyl Ether	0.6690	0.6513	2.7	73	0.00
23 T	trans-1,2-Dichloroethene	0.2634	0.2614	0.7	80	0.00
24 T	n-Hexane	0.4317	0.4258	1.3	79	0.00
25 T	Diisopropyl ether	1.1420	1.1757	-3.0	83	0.00
26 T	Vinyl Acetate	0.1601	0.3078	-92.3#	204#	0.00
27 P	1,1-Dichloroethane	0.5184	0.5373	-3.6	80	0.00
28 T	Ethyl-Tert-Butyl ether	0.9354	0.9373	-0.2	79	0.00
29 T	2-Butanone	0.1118	0.0973	13.0	67	0.00
30 T	Propionitrile	0.0327	0.0291	10.9	64	0.00
31 T	2,2-Dichloropropane	0.3744	0.3922	-4.8	87	0.00
32 T	cis-1,2-Dichloroethene	0.2923	0.2987	-2.2	80	0.00
33 C	Chloroform	0.4842	0.5112	-5.6	81	0.00
34 T	1-Bromopropane	0.0480	0.0522	-8.6	84	0.00
35 T	Bromochloromethane	0.1871	0.1883	-0.7	75	-0.01
36 T	Tetrahydrofuran	0.0767	0.0683	11.0	67	0.00
37 S	Dibromofluoromethane	0.2838	0.3087	-8.8	83	0.00
38 T	1,1,1-Trichloroethane	0.4682	0.5040	-7.7	83	0.00
39 T	Cyclohexane	0.5662	0.5753	-1.6	81	0.00
40 T	1,1-Dichloropropene	0.3538	0.3625	-2.5	79	0.00
41 T	Carbon Tetrachloride	0.4419	0.4928	-11.5	85	0.00
42 T	Tert-Amyl-Methyl ether	0.6655	0.6538	1.8	76	0.00
43 S	1,2-Dichloroethane-d4	0.3438	0.3321	3.4	75	0.00
44 T	1,2-Dichloroethane	0.4154	0.4380	-5.4	78	0.00
45 T	Benzene	1.0119	1.0005	1.1	79	0.00
46 T	Trichloroethene	0.3298	0.3200	3.0	80	0.00
47 T	Methylcyclohexane	0.4000	0.4211	-5.3	83	0.00
48 C	1,2-Dichloropropane	0.2874	0.2807	2.3	77	0.00
49 T	1,4-Dioxane	0.0017	0.0015	12.6	57	0.00
50 T	Bromodichloromethane	0.3809	0.4000	-5.0	79	0.00
51 T	Dibromomethane	0.1507	0.1535	-1.9	75	0.00
52 T	2-Chloroethyl Vinyl Ether	0.1499	0.1391	7.2	73	0.00
53 T	4-Methyl-2-Pentanone	0.0919	0.0818	10.9	68	0.00
54 T	cis-1,3-Dichloropropene	0.4009	0.4156	-3.6	78	-0.01

(#) = Out of Range

11M11724.D 8260_WT.M Tue May 10 15:54:20 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051016\11M11724.D Vial: 3
 Acq On : 10 May 2016 15:30 Operator: JDS
 Sample : WG568232-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	Dimethyl Disulfide	0.2501	0.2485	0.7	78	0.00
56 I	Chlorobenzene-d5	1.0000	1.0000	0.0	84	-0.01
57 S	Toluene-d8	1.1752	1.1717	0.3	82	0.00
58 C	Toluene	1.2946	1.3033	-0.7	80	0.00
59 T	Ethyl Methacrylate	0.3065	0.3081	-0.5	74	0.00
60 T	trans-1,3-Dichloropropene	0.4241	0.4355	-2.7	77	-0.01
61 T	1,1,2-Trichloroethane	0.2423	0.2359	2.6	74	0.00
62 T	2-Hexanone	0.1998	0.1832	8.3	72	0.00
63 T	1,3-Dichloropropane	0.4025	0.3804	5.5	73	0.00
64 T	Tetrachloroethene	0.2921	0.2956	-1.2	82	-0.01
65 T	Dibromochloromethane	0.3498	0.3703	-5.9	79	0.00
66 T	1,2-Dibromoethane	0.2460	0.2334	5.1	72	0.00
67 T	1-Chlorohexane	0.4247	0.4565	-7.5	88	0.00
68 P	Chlorobenzene	0.9522	0.9409	1.2	80	0.00
69 T	1,1,1,2-Tetrachloroethane	0.3650	0.3775	-3.4	81	-0.01
70 C	Ethylbenzene	0.4831	0.4785	1.0	80	0.00
71 T	m-,p-Xylene	0.5749	0.5782	-0.6	80	0.00
72 T	o-Xylene	0.5735	0.5759	-0.4	80	0.00
73 T	Styrene	0.9730	1.0015	-2.9	79	0.00
74 P	Bromoform	0.2179	0.2217	-1.8	74	0.00
75 T	Isopropylbenzene	1.4502	1.5443	-6.5	83	0.00
76 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	84	0.00
77 P	1,1,2,2-Tetrachloroethane	0.4124	0.4373	-6.0	75	0.00
78 S	p-Bromofluorobenzene	0.8166	0.8223	-0.7	83	-0.01
79 T	1,2,3-Trichloropropane	0.1523	0.1478	3.0	75	0.00
80 T	trans-1,4-Dichloro-2-Butene	0.1701	0.1935	-13.8	78	0.00
81 T	n-Propylbenzene	2.8091	2.9771	-6.0	82	-0.01
82 T	Bromobenzene	0.7799	0.7515	3.6	79	0.00
83 T	1,3,5-Trimethylbenzene	2.1348	2.2392	-4.9	83	0.00
84 T	2-Chlorotoluene	2.0733	2.1867	-5.5	86	0.00
85 T	4-Chlorotoluene	1.7012	1.6885	0.8	78	0.00
86 T	a-Methylstyrene	1.1864	1.2907	-8.8	86	0.00
87 T	tert-Butylbenzene	0.4685	0.4730	-1.0	82	0.00
88 T	1,2,4-Trimethylbenzene	2.1847	2.3101	-5.7	82	0.00
89 T	sec-Butylbenzene	2.5264	2.7185	-7.6	83	-0.01
90 T	p-Isopropyltoluene	2.2995	2.5076	-9.1	84	-0.01
91 T	1,3-Dichlorobenzene	1.4486	1.4662	-1.2	82	0.00
92 T	1,4-Dichlorobenzene	1.4792	1.4767	0.2	81	-0.01
93 T	n-Butylbenzene	2.0703	2.2199	-7.2	85	0.00
94 T	1,2-Dichlorobenzene	1.3657	1.3672	-0.1	81	0.00
95 T	1,2-Dibromo-3-Chloropropane	0.0858	0.0920	-7.3	79	0.00
96 T	1,2,4-Trichlorobenzene	1.0148	1.0359	-2.1	82	0.00
97 T	Hexachlorobutadiene	0.4123	0.4191	-1.6	85	-0.01
98 T	Naphthalene	1.9422	2.0168	-3.8	76	0.00
99 T	1,2,3-Trichlorobenzene	0.9502	0.9424	0.8	80	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11724.D 8260_WT.M Tue May 10 15:54:20 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051016\11M11724.D Vial: 3
 Acq On : 10 May 2016 15:30 Operator: JDS
 Sample : WG568232-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	82	0.00
2 T	Dichlorodifluoromethane	50.0000	46.0542	7.9	68	0.00
3 P	Chloromethane	50.0000	39.3509	21.3	64	0.00
4 C	Vinyl Chloride	50.0000	47.0364	5.9	76	0.00
5 T	1,3-Butadiene	50.0000	37.8100	24.4	61	0.00
6 T	Bromomethane	50.0000	41.0230	18.0	71	0.00
7 T	Chloroethane	50.0000	49.7109	0.6	79	0.00
8 T	Trichlorofluoromethane	50.0000	52.9218	-5.8	82	0.00
9 T	Diethyl ether	100.0000	94.3271	5.7	73	0.00
10 T	Isoprene	50.0000	44.5474	10.9	74	0.00
11 T	Acrolein	50.0000	51.0746	-2.1	74	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	52.2997	-4.6	81	0.00
13 T	Acetone	50.0000	42.0084	16.0	64	0.00
14 C	1,1-Dichloroethene	50.0000	51.3263	-2.7	80	0.00
15 T	Tert-Butyl Alcohol	200.0000	171.1273	14.4	60	-0.01
16 T	Dimethyl Sulfide	50.0000	45.4182	9.2	71	0.00
17 T	Iodomethane	50.0000	39.7005	20.6	64	0.00
18 T	Methyl acetate	50.0000	39.0942	21.8	56	0.00
19 T	Methylene Chloride	50.0000	48.3236	3.4	76	0.00
20 T	Carbon Disulfide	50.0000	45.2883	9.4	72	0.00
21 T	Acrylonitrile	50.0000	48.7992	2.4	69	0.00
22 T	Methyl Tert Butyl Ether	50.0000	48.6741	2.7	73	0.00
23 T	trans-1,2-Dichloroethene	50.0000	49.6324	0.7	80	0.00
24 T	n-Hexane	50.0000	49.3254	1.3	79	0.00
25 T	Diisopropyl ether	100.0000	102.9506	-3.0	83	0.00
26 T	Vinyl Acetate	50.0000	94.0700	-88.1#	204	0.00
27 P	1,1-Dichloroethane	50.0000	51.8248	-3.6	80	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	100.1964	-0.2	79	0.00
29 T	2-Butanone	50.0000	43.5159	13.0	67	0.00
30 T	Propionitrile	100.0000	89.1319	10.9	64	0.00
31 T	2,2-Dichloropropane	50.0000	52.3862	-4.8	87	0.00
32 T	cis-1,2-Dichloroethene	50.0000	51.0854	-2.2	80	0.00
33 C	Chloroform	50.0000	52.7907	-5.6	81	0.00
34 T	1-Bromopropane	50.0000	48.2886	3.4	84	0.00
35 T	Bromochloromethane	50.0000	50.3362	-0.7	75	-0.01
36 T	Tetrahydrofuran	100.0000	88.9624	11.0	67	0.00
37 S	Dibromofluoromethane	25.0000	27.1956	-8.8	83	0.00
38 T	1,1,1-Trichloroethane	50.0000	53.8256	-7.7	83	0.00
39 T	Cyclohexane	50.0000	50.8001	-1.6	81	0.00
40 T	1,1-Dichloropropene	50.0000	51.2368	-2.5	79	0.00
41 T	Carbon Tetrachloride	50.0000	55.7651	-11.5	85	0.00
42 T	Tert-Amyl-Methyl ether	100.0000	98.2296	1.8	76	0.00
43 S	1,2-Dichloroethane-d4	25.0000	24.1471	3.4	75	0.00
44 T	1,2-Dichloroethane	50.0000	52.7171	-5.4	78	0.00
45 T	Benzene	50.0000	49.4376	1.1	79	0.00
46 T	Trichloroethene	50.0000	48.5164	3.0	80	0.00
47 T	Methylcyclohexane	50.0000	52.6439	-5.3	83	0.00
48 C	1,2-Dichloropropane	50.0000	48.8293	2.3	77	0.00
49 T	1,4-Dioxane	200.0000	174.3454	12.8	57	0.00
50 T	Bromodichloromethane	50.0000	52.4997	-5.0	79	0.00
51 T	Dibromomethane	50.0000	50.9375	-1.9	75	0.00
52 T	2-Chloroethyl Vinyl Ether	50.0000	46.4064	7.2	73	0.00
53 T	4-Methyl-2-Pentanone	50.0000	44.5276	10.9	68	0.00
54 T	cis-1,3-Dichloropropene	50.0000	51.8244	-3.6	78	-0.01

(#) = Out of Range

11M11724.D 8260_WT.M Tue May 10 15:54:22 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051016\11M11724.D Vial: 3
 Acq On : 10 May 2016 15:30 Operator: JDS
 Sample : WG568232-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	Dimethyl Disulfide	50.0000	49.6684	0.7	78	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	84	-0.01
57 S	Toluene-d8	25.0000	24.9240	0.3	82	0.00
58 C	Toluene	50.0000	50.3374	-0.7	80	0.00
59 T	Ethyl Methacrylate	50.0000	45.8396	8.3	74	0.00
60 T	trans-1,3-Dichloropropene	50.0000	51.3486	-2.7	77	-0.01
61 T	1,1,2-Trichloroethane	50.0000	48.6858	2.6	74	0.00
62 T	2-Hexanone	50.0000	45.8512	8.3	72	0.00
63 T	1,3-Dichloropropane	50.0000	47.2615	5.5	73	0.00
64 T	Tetrachloroethene	50.0000	50.5908	-1.2	82	-0.01
65 T	Dibromochloromethane	50.0000	52.9376	-5.9	79	0.00
66 T	1,2-Dibromoethane	50.0000	47.4438	5.1	72	0.00
67 T	1-Chlorohexane	50.0000	53.7512	-7.5	88	0.00
68 P	Chlorobenzene	50.0000	49.4061	1.2	80	0.00
69 T	1,1,1,2-Tetrachloroethane	50.0000	51.7194	-3.4	81	-0.01
70 C	Ethylbenzene	50.0000	49.5183	1.0	80	0.00
71 T	m-,p-Xylene	100.0000	100.5761	-0.6	80	0.00
72 T	o-Xylene	50.0000	50.2082	-0.4	80	0.00
73 T	Styrene	50.0000	51.4646	-2.9	79	0.00
74 P	Bromoform	50.0000	45.3449	9.3	74	0.00
75 T	Isopropylbenzene	50.0000	53.2452	-6.5	83	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	84	0.00
77 P	1,1,2,2-Tetrachloroethane	50.0000	46.4097	7.2	75	0.00
78 S	p-Bromofluorobenzene	25.0000	25.1726	-0.7	83	-0.01
79 T	1,2,3-Trichloropropane	50.0000	48.5154	3.0	75	0.00
80 T	trans-1,4-Dichloro-2-Butene	50.0000	47.1046	5.8	78	0.00
81 T	n-Propylbenzene	50.0000	52.9902	-6.0	82	-0.01
82 T	Bromobenzene	50.0000	48.1797	3.6	79	0.00
83 T	1,3,5-Trimethylbenzene	50.0000	52.4457	-4.9	83	0.00
84 T	2-Chlorotoluene	50.0000	52.7348	-5.5	86	0.00
85 T	4-Chlorotoluene	50.0000	49.6251	0.7	78	0.00
86 T	a-Methylstyrene	50.0000	54.3962	-8.8	86	0.00
87 T	tert-Butylbenzene	50.0000	50.4830	-1.0	82	0.00
88 T	1,2,4-Trimethylbenzene	50.0000	52.8696	-5.7	82	0.00
89 T	sec-Butylbenzene	50.0000	53.8017	-7.6	83	-0.01
90 T	p-Isopropyltoluene	50.0000	54.5252	-9.1	84	-0.01
91 T	1,3-Dichlorobenzene	50.0000	50.6075	-1.2	82	0.00
92 T	1,4-Dichlorobenzene	50.0000	49.9169	0.2	81	-0.01
93 T	n-Butylbenzene	50.0000	53.6127	-7.2	85	0.00
94 T	1,2-Dichlorobenzene	50.0000	50.0536	-0.1	81	0.00
95 T	1,2-Dibromo-3-Chloropropane	50.0000	48.6375	2.7	79	0.00
96 T	1,2,4-Trichlorobenzene	50.0000	51.0380	-2.1	82	0.00
97 T	Hexachlorobutadiene	50.0000	50.8244	-1.6	85	-0.01
98 T	Naphthalene	50.0000	51.9204	-3.8	76	0.00
99 T	1,2,3-Trichlorobenzene	50.0000	49.5893	0.8	80	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11724.D 8260_WT.M Tue May 10 15:54:22 2016

Page 2

Data File : C:\MSDCHEM\1\data\051016\11M11725.D Vial: 4
 Acq On : 10 May 2016 16:03 Operator: JDS
 Sample : WG568234-01 50ug/L A9-CCV CCV 8260 Inst : hpms11
 Misc : 1,1 STD75791 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 10 16:25:32 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	560099	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	488362	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	287676	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	170615	26.8349	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	107.32%	
43) 1,2-Dichloroethane-d4	10.24	65	181548	23.5665	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	94.28%	
57) Toluene-d8	12.48	98	576216	25.0991	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	100.40%	
78) p-Bromofluorobenzene	15.64	95	239509	25.4882	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.96%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Chloromethane	3.72	50	6285	0.8422	ug/L	83
4) Vinyl Chloride	3.97	62	2123	0.3563	ug/L	84
5) 1,3-Butadiene	4.00	54	1477	0.2631	ug/L #	1
6) Bromomethane	4.86	94	2411	0.6371	ug/L	83
7) Chloroethane	5.01	64	1582	0.3921	ug/L #	45
9) Diethyl ether	6.02	59	2246	0.4472	ug/L	78
10) Isoprene	6.05	67	1085	0.1422	ug/L	65
13) Acetone	6.35	43	12998	7.7614	ug/L	96
14) 1,1-Dichloroethene	6.57	61	2155	0.2090	ug/L	96
15) Tert-Butyl Alcohol	6.67	59	11627	26.1279	ug/L #	61
16) Dimethyl Sulfide	6.81	62	1874	0.4008	ug/L #	53
17) Iodomethane	7.07	142	1295	0.8863	ug/L #	31
18) Methyl acetate	7.07	43	5403	1.2330	ug/L #	76
19) Methylene Chloride	7.32	84	4403	0.7627	ug/L	96
20) Carbon Disulfide	7.37	76	11516	0.6381	ug/L	92
21) Acrylonitrile	7.50	53	1950	0.9061	ug/L	87
22) Methyl Tert Butyl Ether	7.53	73	5794	0.3866	ug/L #	79
23) trans-1,2-Dichloroethene	7.75	96	2460	0.4169	ug/L	98
24) n-Hexane	7.84	57	3894	0.4026	ug/L #	73
25) Diisopropyl ether	8.16	45	13722	0.5363	ug/L	92
26) Vinyl Acetate	8.32	43	2225	6.6841	ug/L #	78
27) 1,1-Dichloroethane	8.34	63	4222	0.3635	ug/L #	75
28) Ethyl-Tert-Butyl ether	8.71	59	8175	0.3901	ug/L	98
29) 2-Butanone	8.88	43	4362	1.7413	ug/L #	60
30) Propionitrile	9.00	54	3470	4.7422	ug/L #	60
31) 2,2-Dichloropropane	9.11	77	1783	0.2126	ug/L #	65
32) cis-1,2-Dichloroethene	9.16	96	2860	0.4367	ug/L	61
33) Chloroform	9.36	83	3866	0.3564	ug/L	90
35) Bromochloromethane	9.57	130	1006	0.2400	ug/L	92
36) Tetrahydrofuran	9.61	42	8013	4.6615	ug/L	94
38) 1,1,1-Trichloroethane	9.85	97	1627	0.1551	ug/L #	53
40) 1,1-Dichloropropene	10.05	75	1334	0.1683	ug/L	81
41) Carbon Tetrachloride	10.19	117	1261	0.1274	ug/L #	88
42) Tert-Amyl-Methyl ether	10.14	73	5852	0.3925	ug/L #	82
44) 1,2-Dichloroethane	10.35	62	2580	0.2772	ug/L #	73
45) Benzene	10.38	78	7860	0.3467	ug/L	95
46) Trichloroethene	11.09	130	2486	0.3365	ug/L	94
47) Methylcyclohexane	11.17	83	1751	0.1954	ug/L #	86
48) 1,2-Dichloropropane	11.30	63	1689	0.2623	ug/L	82
49) 1,4-Dioxane	11.56	88	2527	64.7388	ug/L	83

(#) = qualifier out of range (m) = manual integration
 11M11725.D 8260_WT.M Tue May 10 16:25:32 2016

Page 1

Data File : C:\MSDCHEM\1\data\051016\11M11725.D Vial: 4
 Acq On : 10 May 2016 16:03 Operator: JDS
 Sample : WG568234-01 50ug/L A9-CCV CCV 8260 Inst : hpms11
 Misc : 1,1 STD75791 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 10 16:25:32 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50) Bromodichloromethane	11.57	83	1911	0.2239	ug/L #	85
51) Dibromomethane	11.66	93	1115	0.3302	ug/L #	68
52) 2-Chloroethyl Vinyl Ether	11.85	63	779	0.2320	ug/L #	50
53) 4-Methyl-2-Pentanone	11.88	58	1147	0.5572	ug/L #	42
54) cis-1,3-Dichloropropene	12.18	75	2488	0.2770	ug/L #	83
55) Dimethyl Disulfide	12.42	79	1145	0.2043	ug/L #	1
58) Toluene	12.57	91	9164	0.3624	ug/L	91
59) Ethyl Methacrylate	12.65	69	1932	0.7234	ug/L	92
60) trans-1,3-Dichloropropene	12.73	75	2147	0.2592	ug/L #	79
61) 1,1,2-Trichloroethane	12.92	97	797	0.1684	ug/L	90
62) 2-Hexanone	12.87	43	3693	0.9463	ug/L #	92
63) 1,3-Dichloropropane	13.22	76	1530	0.1946	ug/L	90
64) Tetrachloroethene	13.35	164	1315	0.2304	ug/L	99
65) Dibromochloromethane	13.59	129	1143	0.1673	ug/L	67
66) 1,2-Dibromoethane	13.83	107	1170	0.2435	ug/L	72
67) 1-Chlorohexane	13.90	91	1814	0.2187	ug/L	90
68) Chlorobenzene	14.30	112	6711	0.3608	ug/L	92
69) 1,1,1,2-Tetrachloroethane	14.32	131	1457	0.2044	ug/L	93
70) Ethylbenzene	14.32	106	2702	0.2863	ug/L	92
71) m-,p-Xylene	14.40	106	6768	0.6026	ug/L	91
72) o-Xylene	14.93	106	3052	0.2724	ug/L	85
73) Styrene	14.96	104	5073	0.2669	ug/L	93
74) Bromoform	15.44	173	1115	0.7643	ug/L	79
75) Isopropylbenzene	15.32	105	6842	0.2415	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.53	83	2087	0.6784	ug/L	83
79) 1,2,3-Trichloropropane	15.71	110	773	0.4410	ug/L #	56
80) trans-1,4-Dichloro-2-Butene	15.75	53	1103	1.2938	ug/L #	1
81) n-Propylbenzene	15.79	91	9067	0.2805	ug/L	99
82) Bromobenzene	15.93	156	2470	0.2752	ug/L	91
83) 1,3,5-Trimethylbenzene	15.96	105	6387	0.2600	ug/L	92
84) 2-Chlorotoluene	16.05	91	6389	0.2678	ug/L	95
85) 4-Chlorotoluene	16.09	91	8176	0.4176	ug/L	99
86) a-Methylstyrene	16.34	118	3757	0.2752	ug/L	99
87) tert-Butylbenzene	16.41	134	1025	0.1901	ug/L #	38
88) 1,2,4-Trimethylbenzene	16.45	105	7548	0.3002	ug/L	83
89) sec-Butylbenzene	16.65	105	8175	0.2812	ug/L	92
90) p-Isopropyltoluene	16.79	119	8114	0.3066	ug/L	83
91) 1,3-Dichlorobenzene	16.99	146	5585	0.3350	ug/L	89
92) 1,4-Dichlorobenzene	17.11	146	5730	0.3366	ug/L #	53
93) n-Butylbenzene	17.28	91	8305	0.3486	ug/L #	93
94) 1,2-Dichlorobenzene	17.57	146	4532	0.2884	ug/L	99
95) 1,2-Dibromo-3-Chloropropane	18.49	75	917	1.8166	ug/L	86
96) 1,2,4-Trichlorobenzene	19.55	180	4485	0.3841	ug/L	97
97) Hexachlorobutadiene	19.70	225	2585	0.5449	ug/L	97
98) Naphthalene	19.90	128	15388	0.6885	ug/L #	96
99) 1,2,3-Trichlorobenzene	20.19	180	4611	0.4217	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11725.D 8260_WT.M Tue May 10 16:25:33 2016

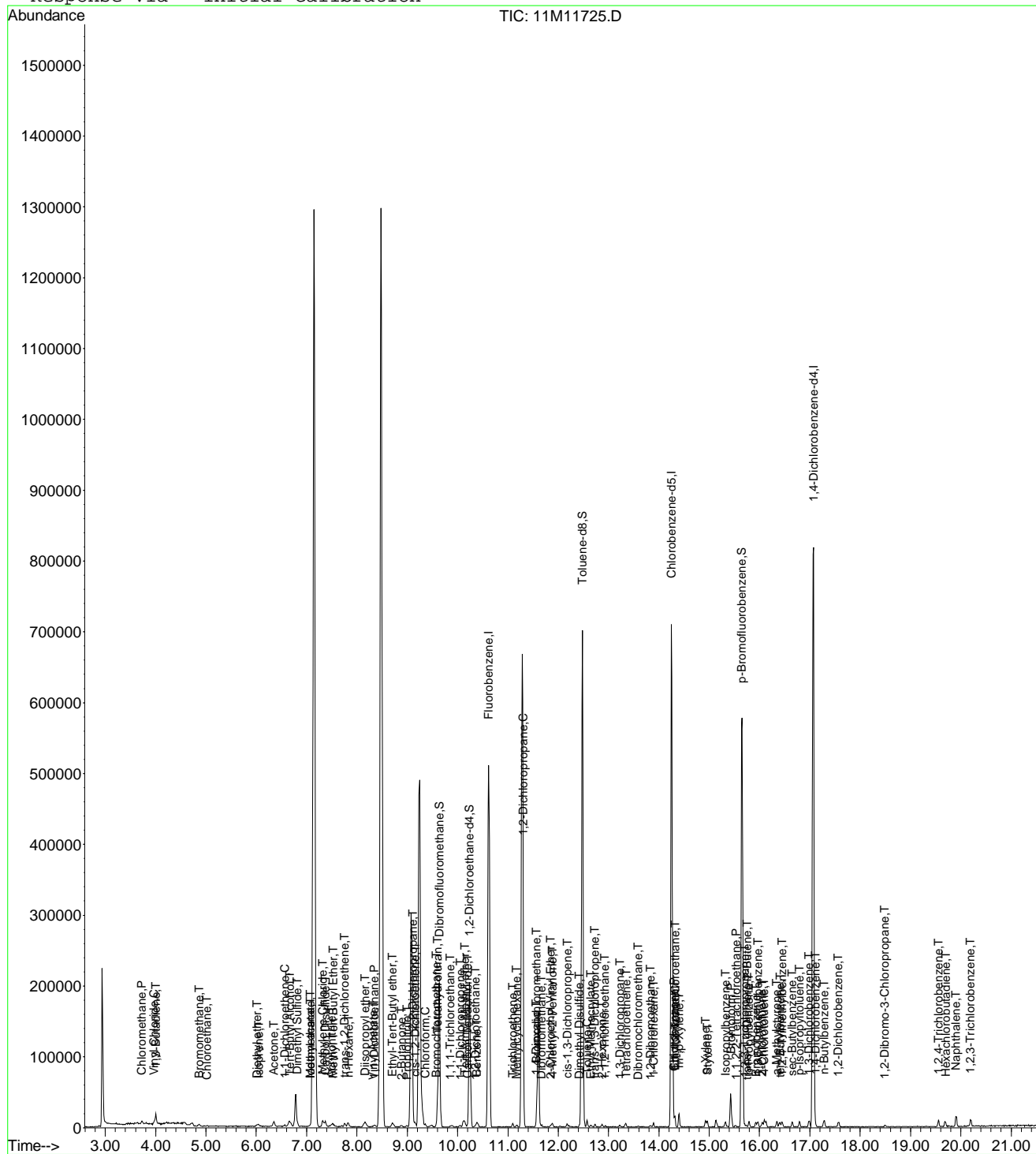
Page 2

Data File : C:\MSDchem\1\data\051016\11M11725.D
 Acq On : 10 May 2016 16:03
 Sample : WG568234-01 50ug/L A9-CCV CCV 8260
 Misc : 1,1 STD75791
 MS Integration Params: rteint.p
 Quant Time: May 10 16:25 2016

Vial: 4
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051016\11M11725.D Vial: 4
 Acq On : 10 May 2016 16:03 Operator: JDS
 Sample : WG568234-01 50ug/L A9-CCV CCV 8260 Inst : hpms11
 Misc : 1,1 STD75791 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 09:52:47 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Tue Apr 05 11:32:32 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	560099	25.00	ug/L	-0.01
12) Chlorobenzene-d5	14.25	117	488362	25.00	ug/L	-0.02
13) 1,4-Dichlorobenzene-d4	17.07	152	287676	25.00	ug/L	0.00

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.78	41	57539	133.9419	ug/L	98
3) 3-Chloro-1-propene	7.14	41	1420814	168.5468	ug/L	85
4) 2-Chloro-1,3-butadiene	8.48	53	1357676	134.1641	ug/L	76
5) Methacrylonitrile	9.24	41	397442	152.5427	ug/L	81
6) Isobutyl Alcohol	9.24	43	25937	193.4540	ug/L	91
7) 1-Butanol	10.12	56	4520	63.7319	ug/L #	56
8) Cyclohexanone	15.43	55	26758	41.5360	ug/L #	94
9) 2-Nitropropane	11.60	43	147058	175.1235	ug/L	98
10) Ethyl Acetate	9.08	43	505258	163.5059	ug/L	97
11) Methyl methacrylate	11.28	41	488054	135.8287	ug/L	81

 (#) = qualifier out of range (m) = manual integration
 11M11725.D A9FOOWT.M Thu May 12 09:52:49 2016

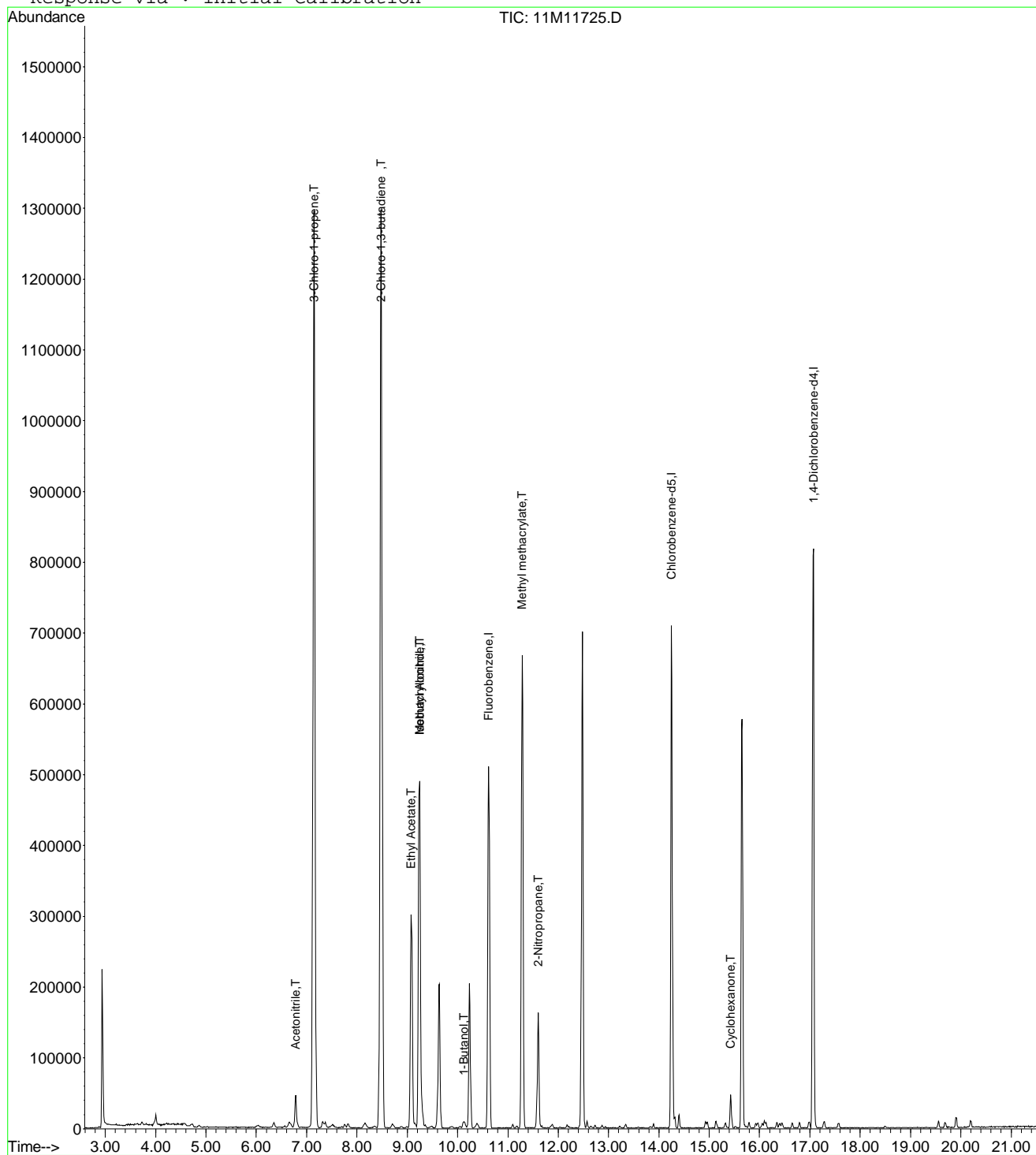
Page 1

Data File : C:\MSDCHEM\1\DATA\051016\11M11725.D
Acq On : 10 May 2016 16:03
Sample : WG568234-01 50ug/L A9-CCV CCV 8260
Misc : 1,1 STD75791
MS Integration Params: rteint.p
Quant Time: May 12 9:52 2016

Vial: 4
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
Last Update : Tue Apr 05 11:32:32 2016
Response via : Initial Calibration



11M11725.D A9FOOWT.M Thu May 12 09:52:49 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051016\11M11725.D Vial: 4
 Acq On : 10 May 2016 16:03 Operator: JDS
 Sample : WG568234-01 50ug/L A9-CCV CCV 8260 Inst : hpms11
 Misc : 1,1 STD75791 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Tue Apr 05 11:32:32 2016
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 75% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	1.0000	1.0000	0.0	94	-0.01
2 T	Acetonitrile	0.0192	0.0257	-34.0	138	0.01
3 T	3-Chloro-1-propene	0.3763	0.6342	-68.5	158	0.01
4 T	2-Chloro-1,3-butadiene	0.4517	0.6060	-34.2	129	0.00
5 T	Methacrylonitrile	0.1163	0.1774	-52.5	147	0.00
6 T	Isobutyl Alcohol	0.0060	0.0058	3.2	90	0.00
7 T	1-Butanol	0.0032	0.0020	36.3	59	0.00
8 T	Cyclohexanone	0.0288	0.0119	58.5	37	-0.01
9 T	2-Nitropropane	0.0368	0.0656	-78.4#	192	0.00
10 T	Ethyl Acetate	0.1379	0.2255	-63.5	152	-0.01
11 T	Methyl methacrylate	0.1604	0.2178	-35.8	130	0.00
12 I	Chlorobenzene-d5	1.0000	1.0000	0.0	112	-0.02
13 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	128	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11725.D A9FOOWT.M Thu May 12 09:55:48 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051016\11M11725.D Vial: 4
 Acq On : 10 May 2016 16:03 Operator: JDS
 Sample : WG568234-01 50ug/L A9-CCV CCV 8260 Inst : hpms11
 Misc : 1,1 STD75791 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Tue Apr 05 11:32:32 2016
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 75% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	25.0000	25.0000	0.0	94	-0.01
2 T	Acetonitrile	100.0000	133.9419	-33.9	138	0.01
3 T	3-Chloro-1-propene	100.0000	168.5468	-68.5	158	0.01
4 T	2-Chloro-1,3-butadiene	100.0000	134.1641	-34.2	129	0.00
5 T	Methacrylonitrile	100.0000	152.5427	-52.5	147	0.00
6 T	Isobutyl Alcohol	200.0000	193.4540	3.3	90	0.00
7 T	1-Butanol	100.0000	63.7319	36.3	59	0.00
8 T	Cyclohexanone	100.0000	41.5360	58.5	37	-0.01
9 T	2-Nitropropane	100.0000	175.1235	-75.1#	192	0.00
10 T	Ethyl Acetate	100.0000	163.5059	-63.5	152	-0.01
11 T	Methyl methacrylate	100.0000	135.8287	-35.8	130	0.00
12 I	Chlorobenzene-d5	25.0000	25.0000	0.0	112	-0.02
13 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	128	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11725.D A9FOOWT.M Thu May 12 09:55:50 2016

Page 1

Data File : C:\MSDCHEM\1\data\051116\11M11773.D Vial: 3
 Acq On : 11 May 2016 17:10 Operator: JDS
 Sample : WG568443-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76070 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 11 17:31:50 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	676711	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	558900	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	331084	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	176871	23.0250	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	92.12%	
43) 1,2-Dichloroethane-d4	10.24	65	197544	21.2241	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	84.88%	
57) Toluene-d8	12.48	98	611608	23.2785	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	93.12%	
78) p-Bromofluorobenzene	15.64	95	265514	24.5511	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	98.20%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	567574	57.1603	ug/L	100
3) Chloromethane	3.73	50	383989	42.5858	ug/L	99
4) Vinyl Chloride	3.96	62	356842	49.5665	ug/L	100
5) 1,3-Butadiene	4.00	54	76246	11.2394	ug/L	97
6) Bromomethane	4.86	94	206589	45.1820	ug/L	99
7) Chloroethane	5.01	64	237608	48.7414	ug/L	98
8) Trichlorofluoromethane	5.49	101	692355	51.9175	ug/L	100
9) Diethyl ether	6.02	59	516320	85.0944	ug/L	100
10) Isoprene	6.05	67	252830	27.4180	ug/L	100
11) Acrolein	6.25	56	33838	45.7180	ug/L	93
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	342490	50.9655	ug/L	99
13) Acetone	6.35	43	82761	40.9026	ug/L	96
14) 1,1-Dichloroethene	6.57	61	625388	50.2057	ug/L	99
15) Tert-Butyl Alcohol	6.67	59	98719	183.6112	ug/L	99
16) Dimethyl Sulfide	6.82	62	179523	31.7796	ug/L	98
17) Iodomethane	7.07	142	168206	27.3212	ug/L	98
18) Methyl acetate	7.07	43	245506	34.5981	ug/L	99
19) Methylene Chloride	7.32	84	316264	45.3430	ug/L	96
20) Carbon Disulfide	7.37	76	571135	26.1949	ug/L	100
21) Acrylonitrile	7.50	53	117258	45.0976	ug/L	99
22) Methyl Tert Butyl Ether	7.53	73	831293	45.9064	ug/L	98
23) trans-1,2-Dichloroethene	7.75	96	340923	47.8199	ug/L	98
24) n-Hexane	7.83	57	394306	33.7463	ug/L	100
25) Diisopropyl ether	8.16	45	2852935	92.2919	ug/L	99
26) Vinyl Acetate	8.32	43	347958	83.5966	ug/L	99
27) 1,1-Dichloroethane	8.35	63	685831	48.8788	ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	2327503	91.9232	ug/L	100
29) 2-Butanone	8.88	43	128611	42.4936	ug/L	98
30) Propionitrile	8.99	54	75400	85.2876	ug/L	98
31) 2,2-Dichloropropane	9.10	77	524243	51.7331	ug/L	100
32) cis-1,2-Dichloroethene	9.16	96	379686	47.9807	ug/L	97
33) Chloroform	9.36	83	650392	49.6277	ug/L	99
34) 1-Bromopropane	9.48	122	58402	40.0506	ug/L	97
35) Bromochloromethane	9.58	130	239383	47.2751	ug/L	100
36) Tetrahydrofuran	9.61	42	171812	82.7266	ug/L	99
38) 1,1,1-Trichloroethane	9.86	97	663898	52.3897	ug/L	99
39) Cyclohexane	9.90	56	590444	38.5244	ug/L	99
40) 1,1-Dichloropropene	10.05	75	480991	50.2310	ug/L	99
41) Carbon Tetrachloride	10.18	117	647268	54.1133	ug/L	99
42) Tert-Amyl-Methyl ether	10.14	73	1625249	90.2144	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11773.D 8260_WT.M Wed May 11 17:31:50 2016

Data File : C:\MSDCHEM\1\data\051116\11M11773.D Vial: 3
 Acq On : 11 May 2016 17:10 Operator: JDS
 Sample : WG568443-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76070 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 11 17:31:50 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	554819	49.3406	ug/L	99
45) Benzene	10.39	78	1279705	46.7203	ug/L	99
46) Trichloroethene	11.09	130	416659	46.6741	ug/L	99
47) Methylcyclohexane	11.18	83	465018	42.9536	ug/L	99
48) 1,2-Dichloropropane	11.30	63	364166	46.8135	ug/L	96
49) 1,4-Dioxane	11.57	88	8650	183.4159	ug/L	99
50) Bromodichloromethane	11.58	83	512821	49.7360	ug/L	99
51) Dibromomethane	11.66	93	191750	47.0040	ug/L	99
52) 2-Chloroethyl Vinyl Ether	11.85	63	186234	45.9147	ug/L	98
53) 4-Methyl-2-Pentanone	11.88	58	104932	42.1917	ug/L	98
54) cis-1,3-Dichloropropene	12.17	75	532413	49.0563	ug/L	99
55) Dimethyl Disulfide	12.43	79	299358	44.2145	ug/L	99
58) Toluene	12.57	91	1478290	51.0787	ug/L	99
59) Ethyl Methacrylate	12.65	69	340635	45.3445	ug/L	98
60) trans-1,3-Dichloropropene	12.73	75	492309	51.9293	ug/L	99
61) 1,1,2-Trichloroethane	12.93	97	262181	48.4014	ug/L	100
62) 2-Hexanone	12.87	43	201376	45.0876	ug/L	99
63) 1,3-Dichloropropane	13.22	76	430825	47.8804	ug/L	99
64) Tetrachloroethene	13.34	164	338487	51.8277	ug/L	98
65) Dibromochloromethane	13.60	129	415478	53.1365	ug/L	98
66) 1,2-Dibromoethane	13.83	107	265982	48.3673	ug/L	100
67) 1-Chlorohexane	13.90	91	491178	51.7388	ug/L	98
68) Chlorobenzene	14.30	112	1060860	49.8362	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.32	131	420531	51.5379	ug/L	99
70) Ethylbenzene	14.32	106	550849	51.0008	ug/L	99
71) m-,p-Xylene	14.40	106	1321984	102.8548	ug/L	98
72) o-Xylene	14.93	106	650482	50.7347	ug/L	99
73) Styrene	14.96	104	1110859	51.0659	ug/L	99
74) Bromoform	15.44	173	245954	45.0067	ug/L	99
75) Isopropylbenzene	15.32	105	1733419	53.4672	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.52	83	281120	45.0792	ug/L	100
79) 1,2,3-Trichloropropane	15.71	110	95522	47.3459	ug/L	95
80) trans-1,4-Dichloro-2-Butene	15.74	53	128780	47.3353	ug/L	92
81) n-Propylbenzene	15.79	91	2021648	54.3419	ug/L	100
82) Bromobenzene	15.92	156	506620	49.0510	ug/L	100
83) 1,3,5-Trimethylbenzene	15.96	105	1502004	53.1277	ug/L	99
84) 2-Chlorotoluene	16.06	91	1436650	52.3232	ug/L	99
85) 4-Chlorotoluene	16.10	91	1147601	50.9363	ug/L	100
86) a-Methylstyrene	16.35	118	835484	53.1773	ug/L	99
87) tert-Butylbenzene	16.40	134	319729	51.5363	ug/L	95
88) 1,2,4-Trimethylbenzene	16.45	105	1551262	53.6159	ug/L	99
89) sec-Butylbenzene	16.65	105	1811239	54.1347	ug/L	100
90) p-Isopropyltoluene	16.79	119	1664230	54.6486	ug/L	100
91) 1,3-Dichlorobenzene	16.99	146	964381	50.2687	ug/L	100
92) 1,4-Dichlorobenzene	17.11	146	973577	49.6999	ug/L	100
93) n-Butylbenzene	17.29	91	1475497	53.8150	ug/L	100
94) 1,2-Dichlorobenzene	17.57	146	893245	49.3869	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.50	75	57283	45.8049	ug/L	100
96) 1,2,4-Trichlorobenzene	19.55	180	680778	50.6549	ug/L	99
97) Hexachlorobutadiene	19.70	225	274914	50.3504	ug/L	97
98) Naphthalene	19.90	128	1281767	49.8341	ug/L	100
99) 1,2,3-Trichlorobenzene	20.20	180	598715	47.5769	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11773.D 8260_WT.M Wed May 11 17:31:51 2016

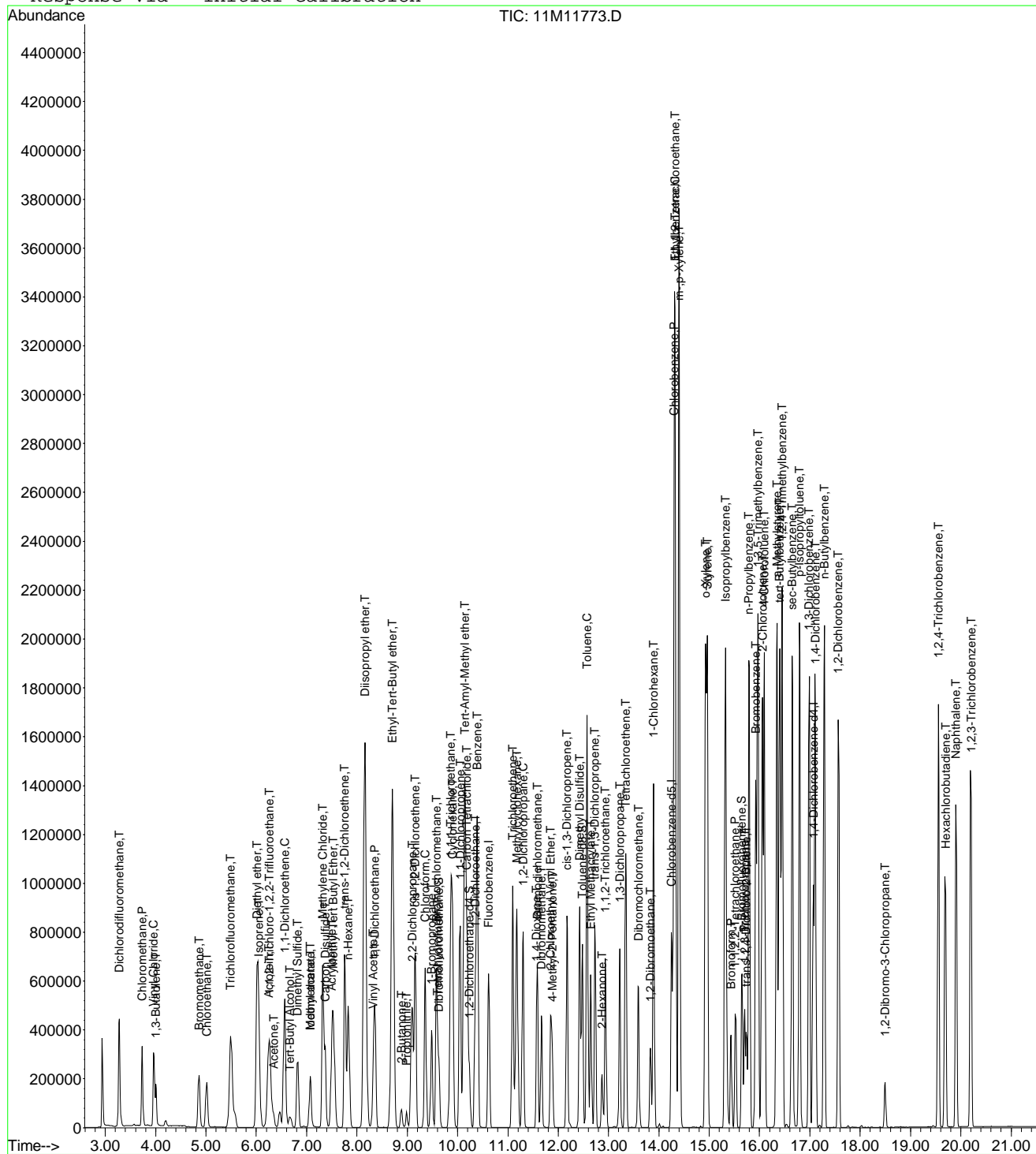
Page 2

Data File : C:\MSDchem\1\data\051116\11M11773.D
Acq On : 11 May 2016 17:10
Sample : WG568443-02 50ug/L CCV STD 8260
Misc : 1,1 STD76070
MS Integration Params: rteint.p
Quant Time: May 11 17:31 2016

Vial: 3
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\11M11773.D Vial: 3
 Acq On : 11 May 2016 17:10 Operator: JDS
 Sample : WG568443-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76070 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	98	0.00
2 T	Dichlorodifluoromethane	0.3668	0.4194	-14.3	101	0.00
3 P	Chloromethane	0.3331	0.2837	14.8	83	0.00
4 C	Vinyl Chloride	0.2660	0.2637	0.9	96	0.00
5 T	1,3-Butadiene	0.2506	0.0563	77.5#	22#	0.00
6 T	Bromomethane	0.1689	0.1526	9.6	93	0.00
7 T	Chloroethane	0.1801	0.1756	2.5	92	0.00
8 T	Trichlorofluoromethane	0.4927	0.5116	-3.8	97	0.00
9 T	Diethyl ether	0.2242	0.1908	14.9	79	0.00
10 T	Isoprene	0.3407	0.1868	45.2#	54	0.00
11 T	Acrolein	0.0262	0.0250	4.4	78	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	0.2483	0.2531	-1.9	94	0.00
13 T	Acetone	0.0747	0.0612	18.2	75	0.00
14 C	1,1-Dichloroethene	0.4602	0.4621	-0.4	94	0.00
15 T	Tert-Butyl Alcohol	0.0199	0.0182	8.2	77	-0.01
16 T	Dimethyl Sulfide	0.2087	0.1326	36.4#	59	0.00
17 T	Iodomethane	0.1997	0.1243	37.8#	52	0.00
18 T	Methyl acetate	0.2550	0.1814	28.9#	59	0.00
19 T	Methylene Chloride	0.2577	0.2337	9.3	85	0.00
20 T	Carbon Disulfide	0.8055	0.4220	47.6#	50#	0.00
21 T	Acrylonitrile	0.0961	0.0866	9.8	77	0.00
22 T	Methyl Tert Butyl Ether	0.6690	0.6142	8.2	82	0.00
23 T	trans-1,2-Dichloroethene	0.2634	0.2519	4.4	92	0.00
24 T	n-Hexane	0.4317	0.2913	32.5#	65	0.00
25 T	Diisopropyl ether	1.1420	1.0540	7.7	89	0.00
26 T	Vinyl Acetate	0.1601	0.2571	-60.6#	203#	0.00
27 P	1,1-Dichloroethane	0.5184	0.5067	2.2	90	0.00
28 T	Ethyl-Tert-Butyl ether	0.9354	0.8599	8.1	86	0.00
29 T	2-Butanone	0.1118	0.0950	15.0	78	0.00
30 T	Propionitrile	0.0327	0.0279	14.7	74	0.00
31 T	2,2-Dichloropropane	0.3744	0.3874	-3.5	103	0.00
32 T	cis-1,2-Dichloroethene	0.2923	0.2805	4.0	89	0.00
33 C	Chloroform	0.4842	0.4805	0.7	91	0.00
34 T	1-Bromopropane	0.0480	0.0432	10.1	83	0.00
35 T	Bromochloromethane	0.1871	0.1769	5.5	84	0.00
36 T	Tetrahydrofuran	0.0767	0.0635	17.3	75	0.00
37 S	Dibromofluoromethane	0.2838	0.2614	7.9	84	0.00
38 T	1,1,1-Trichloroethane	0.4682	0.4905	-4.8	97	0.00
39 T	Cyclohexane	0.5662	0.4363	23.0	73	0.00
40 T	1,1-Dichloropropene	0.3538	0.3554	-0.5	93	0.00
41 T	Carbon Tetrachloride	0.4419	0.4783	-8.2	98	0.00
42 T	Tert-Amyl-Methyl ether	0.6655	0.6004	9.8	83	0.00
43 S	1,2-Dichloroethane-d4	0.3438	0.2919	15.1	78	0.00
44 T	1,2-Dichloroethane	0.4154	0.4099	1.3	87	0.00
45 T	Benzene	1.0119	0.9455	6.6	89	0.00
46 T	Trichloroethene	0.3298	0.3079	6.6	92	0.00
47 T	Methylcyclohexane	0.4000	0.3436	14.1	81	0.00
48 C	1,2-Dichloropropane	0.2874	0.2691	6.4	88	0.00
49 T	1,4-Dioxane	0.0017	0.0016	8.0	72	0.00
50 T	Bromodichloromethane	0.3809	0.3789	0.5	90	0.00
51 T	Dibromomethane	0.1507	0.1417	6.0	82	0.00
52 T	2-Chloroethyl Vinyl Ether	0.1499	0.1376	8.2	86	0.00
53 T	4-Methyl-2-Pentanone	0.0919	0.0775	15.6	77	0.00
54 T	cis-1,3-Dichloropropene	0.4009	0.3934	1.9	88	-0.01

(#) = Out of Range

11M11773.D 8260_WT.M Wed May 11 17:32:33 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051116\11M11773.D Vial: 3
 Acq On : 11 May 2016 17:10 Operator: JDS
 Sample : WG568443-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76070 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	Dimethyl Disulfide	0.2501	0.2212	11.6	83	0.00
56 I	Chlorobenzene-d5	1.0000	1.0000	0.0	94	-0.01
57 S	Toluene-d8	1.1752	1.0943	6.9	85	0.00
58 C	Toluene	1.2946	1.3225	-2.2	91	0.00
59 T	Ethyl Methacrylate	0.3065	0.3047	0.6	81	0.00
60 T	trans-1,3-Dichloropropene	0.4241	0.4404	-3.9	87	-0.01
61 T	1,1,2-Trichloroethane	0.2423	0.2346	3.2	82	0.00
62 T	2-Hexanone	0.1998	0.1802	9.8	79	0.00
63 T	1,3-Dichloropropane	0.4025	0.3854	4.2	83	0.00
64 T	Tetrachloroethene	0.2921	0.3028	-3.7	93	-0.01
65 T	Dibromochloromethane	0.3498	0.3717	-6.3	88	0.00
66 T	1,2-Dibromoethane	0.2460	0.2379	3.3	82	0.00
67 T	1-Chlorohexane	0.4247	0.4394	-3.5	95	0.00
68 P	Chlorobenzene	0.9522	0.9491	0.3	90	0.00
69 T	1,1,1,2-Tetrachloroethane	0.3650	0.3762	-3.1	90	-0.01
70 C	Ethylbenzene	0.4831	0.4928	-2.0	92	0.00
71 T	m-,p-Xylene	0.5749	0.5913	-2.9	91	0.00
72 T	o-Xylene	0.5735	0.5819	-1.5	90	0.00
73 T	Styrene	0.9730	0.9938	-2.1	88	0.00
74 P	Bromoform	0.2179	0.2200	-1.0	83	0.00
75 T	Isopropylbenzene	1.4502	1.5507	-6.9	93	0.00
76 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	92	0.00
77 P	1,1,2,2-Tetrachloroethane	0.4124	0.4245	-3.0	80	0.00
78 S	p-Bromofluorobenzene	0.8166	0.8020	1.8	89	-0.01
79 T	1,2,3-Trichloropropane	0.1523	0.1443	5.3	81	0.00
80 T	trans-1,4-Dichloro-2-Butene	0.1701	0.1945	-14.4	87	0.00
81 T	n-Propylbenzene	2.8091	3.0531	-8.7	93	-0.01
82 T	Bromobenzene	0.7799	0.7651	1.9	89	0.00
83 T	1,3,5-Trimethylbenzene	2.1348	2.2683	-6.3	92	0.00
84 T	2-Chlorotoluene	2.0733	2.1696	-4.6	94	0.00
85 T	4-Chlorotoluene	1.7012	1.7331	-1.9	88	0.00
86 T	a-Methylstyrene	1.1864	1.2617	-6.4	93	0.00
87 T	tert-Butylbenzene	0.4685	0.4829	-3.1	92	0.00
88 T	1,2,4-Trimethylbenzene	2.1847	2.3427	-7.2	92	0.00
89 T	sec-Butylbenzene	2.5264	2.7353	-8.3	92	-0.01
90 T	p-Isopropyltoluene	2.2995	2.5133	-9.3	93	-0.01
91 T	1,3-Dichlorobenzene	1.4486	1.4564	-0.5	90	0.00
92 T	1,4-Dichlorobenzene	1.4792	1.4703	0.6	89	0.00
93 T	n-Butylbenzene	2.0703	2.2283	-7.6	94	0.00
94 T	1,2-Dichlorobenzene	1.3657	1.3490	1.2	88	0.00
95 T	1,2-Dibromo-3-Chloropropane	0.0858	0.0865	-0.9	83	0.00
96 T	1,2,4-Trichlorobenzene	1.0148	1.0281	-1.3	90	0.00
97 T	Hexachlorobutadiene	0.4123	0.4152	-0.7	93	0.00
98 T	Naphthalene	1.9422	1.9357	0.3	80	0.00
99 T	1,2,3-Trichlorobenzene	0.9502	0.9042	4.8	85	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11773.D 8260_WT.M Wed May 11 17:32:33 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051116\11M11773.D Vial: 3
 Acq On : 11 May 2016 17:10 Operator: JDS
 Sample : WG568443-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76070 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	98	0.00
2 T	Dichlorodifluoromethane	50.0000	57.1603	-14.3	101	0.00
3 P	Chloromethane	50.0000	42.5859	14.8	83	0.00
4 C	Vinyl Chloride	50.0000	49.5665	0.9	96	0.00
5 T	1,3-Butadiene	50.0000	11.2394	77.5#	22	0.00
6 T	Bromomethane	50.0000	45.1820	9.6	93	0.00
7 T	Chloroethane	50.0000	48.7414	2.5	92	0.00
8 T	Trichlorofluoromethane	50.0000	51.9175	-3.8	97	0.00
9 T	Diethyl ether	100.0000	85.0944	14.9	79	0.00
10 T	Isoprene	50.0000	27.4180	45.2#	54	0.00
11 T	Acrolein	50.0000	45.7180	8.6	78	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	50.9656	-1.9	94	0.00
13 T	Acetone	50.0000	40.9026	18.2	75	0.00
14 C	1,1-Dichloroethene	50.0000	50.2057	-0.4	94	0.00
15 T	Tert-Butyl Alcohol	200.0000	183.6112	8.2	77	-0.01
16 T	Dimethyl Sulfide	50.0000	31.7796	36.4#	59	0.00
17 T	Iodomethane	50.0000	27.3212	45.4#	52	0.00
18 T	Methyl acetate	50.0000	34.5981	30.8#	59	0.00
19 T	Methylene Chloride	50.0000	45.3430	9.3	85	0.00
20 T	Carbon Disulfide	50.0000	26.1949	47.6#	50	0.00
21 T	Acrylonitrile	50.0000	45.0976	9.8	77	0.00
22 T	Methyl Tert Butyl Ether	50.0000	45.9065	8.2	82	0.00
23 T	trans-1,2-Dichloroethene	50.0000	47.8199	4.4	92	0.00
24 T	n-Hexane	50.0000	33.7463	32.5#	65	0.00
25 T	Diisopropyl ether	100.0000	92.2920	7.7	89	0.00
26 T	Vinyl Acetate	50.0000	83.5966	-67.2#	203	0.00
27 P	1,1-Dichloroethane	50.0000	48.8788	2.2	90	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	91.9232	8.1	86	0.00
29 T	2-Butanone	50.0000	42.4936	15.0	78	0.00
30 T	Propionitrile	100.0000	85.2876	14.7	74	0.00
31 T	2,2-Dichloropropane	50.0000	51.7332	-3.5	103	0.00
32 T	cis-1,2-Dichloroethene	50.0000	47.9807	4.0	89	0.00
33 C	Chloroform	50.0000	49.6277	0.7	91	0.00
34 T	1-Bromopropane	50.0000	40.0506	19.9	83	0.00
35 T	Bromochloromethane	50.0000	47.2751	5.4	84	0.00
36 T	Tetrahydrofuran	100.0000	82.7266	17.3	75	0.00
37 S	Dibromofluoromethane	25.0000	23.0250	7.9	84	0.00
38 T	1,1,1-Trichloroethane	50.0000	52.3897	-4.8	97	0.00
39 T	Cyclohexane	50.0000	38.5244	23.0	73	0.00
40 T	1,1-Dichloropropene	50.0000	50.2310	-0.5	93	0.00
41 T	Carbon Tetrachloride	50.0000	54.1133	-8.2	98	0.00
42 T	Tert-Amyl-Methyl ether	100.0000	90.2144	9.8	83	0.00
43 S	1,2-Dichloroethane-d4	25.0000	21.2241	15.1	78	0.00
44 T	1,2-Dichloroethane	50.0000	49.3406	1.3	87	0.00
45 T	Benzene	50.0000	46.7203	6.6	89	0.00
46 T	Trichloroethene	50.0000	46.6741	6.7	92	0.00
47 T	Methylcyclohexane	50.0000	42.9536	14.1	81	0.00
48 C	1,2-Dichloropropane	50.0000	46.8135	6.4	88	0.00
49 T	1,4-Dioxane	200.0000	183.4159	8.3	72	0.00
50 T	Bromodichloromethane	50.0000	49.7360	0.5	90	0.00
51 T	Dibromomethane	50.0000	47.0040	6.0	82	0.00
52 T	2-Chloroethyl Vinyl Ether	50.0000	45.9147	8.2	86	0.00
53 T	4-Methyl-2-Pentanone	50.0000	42.1917	15.6	77	0.00
54 T	cis-1,3-Dichloropropene	50.0000	49.0563	1.9	88	-0.01

(#) = Out of Range

11M11773.D 8260_WT.M Wed May 11 17:32:35 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051116\11M11773.D Vial: 3
 Acq On : 11 May 2016 17:10 Operator: JDS
 Sample : WG568443-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76070 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 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	Dimethyl Disulfide	50.0000	44.2145	11.6	83	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	94	-0.01
57 S	Toluene-d8	25.0000	23.2785	6.9	85	0.00
58 C	Toluene	50.0000	51.0787	-2.2	91	0.00
59 T	Ethyl Methacrylate	50.0000	45.3445	9.3	81	0.00
60 T	trans-1,3-Dichloropropene	50.0000	51.9293	-3.9	87	-0.01
61 T	1,1,2-Trichloroethane	50.0000	48.4014	3.2	82	0.00
62 T	2-Hexanone	50.0000	45.0876	9.8	79	0.00
63 T	1,3-Dichloropropane	50.0000	47.8804	4.2	83	0.00
64 T	Tetrachloroethene	50.0000	51.8277	-3.7	93	-0.01
65 T	Dibromochloromethane	50.0000	53.1365	-6.3	88	0.00
66 T	1,2-Dibromoethane	50.0000	48.3674	3.3	82	0.00
67 T	1-Chlorohexane	50.0000	51.7388	-3.5	95	0.00
68 P	Chlorobenzene	50.0000	49.8362	0.3	90	0.00
69 T	1,1,1,2-Tetrachloroethane	50.0000	51.5378	-3.1	90	-0.01
70 C	Ethylbenzene	50.0000	51.0008	-2.0	92	0.00
71 T	m-,p-Xylene	100.0000	102.8548	-2.9	91	0.00
72 T	o-Xylene	50.0000	50.7347	-1.5	90	0.00
73 T	Styrene	50.0000	51.0659	-2.1	88	0.00
74 P	Bromoform	50.0000	45.0067	10.0	83	0.00
75 T	Isopropylbenzene	50.0000	53.4672	-6.9	93	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	92	0.00
77 P	1,1,2,2-Tetrachloroethane	50.0000	45.0793	9.8	80	0.00
78 S	p-Bromofluorobenzene	25.0000	24.5511	1.8	89	-0.01
79 T	1,2,3-Trichloropropane	50.0000	47.3459	5.3	81	0.00
80 T	trans-1,4-Dichloro-2-Butene	50.0000	47.3353	5.3	87	0.00
81 T	n-Propylbenzene	50.0000	54.3419	-8.7	93	-0.01
82 T	Bromobenzene	50.0000	49.0510	1.9	89	0.00
83 T	1,3,5-Trimethylbenzene	50.0000	53.1277	-6.3	92	0.00
84 T	2-Chlorotoluene	50.0000	52.3232	-4.6	94	0.00
85 T	4-Chlorotoluene	50.0000	50.9363	-1.9	88	0.00
86 T	a-Methylstyrene	50.0000	53.1773	-6.4	93	0.00
87 T	tert-Butylbenzene	50.0000	51.5363	-3.1	92	0.00
88 T	1,2,4-Trimethylbenzene	50.0000	53.6159	-7.2	92	0.00
89 T	sec-Butylbenzene	50.0000	54.1347	-8.3	92	-0.01
90 T	p-Isopropyltoluene	50.0000	54.6486	-9.3	93	-0.01
91 T	1,3-Dichlorobenzene	50.0000	50.2687	-0.5	90	0.00
92 T	1,4-Dichlorobenzene	50.0000	49.6999	0.6	89	0.00
93 T	n-Butylbenzene	50.0000	53.8150	-7.6	94	0.00
94 T	1,2-Dichlorobenzene	50.0000	49.3869	1.2	88	0.00
95 T	1,2-Dibromo-3-Chloropropane	50.0000	45.8049	8.4	83	0.00
96 T	1,2,4-Trichlorobenzene	50.0000	50.6549	-1.3	90	0.00
97 T	Hexachlorobutadiene	50.0000	50.3504	-0.7	93	0.00
98 T	Naphthalene	50.0000	49.8341	0.3	80	0.00
99 T	1,2,3-Trichlorobenzene	50.0000	47.5769	4.8	85	0.00

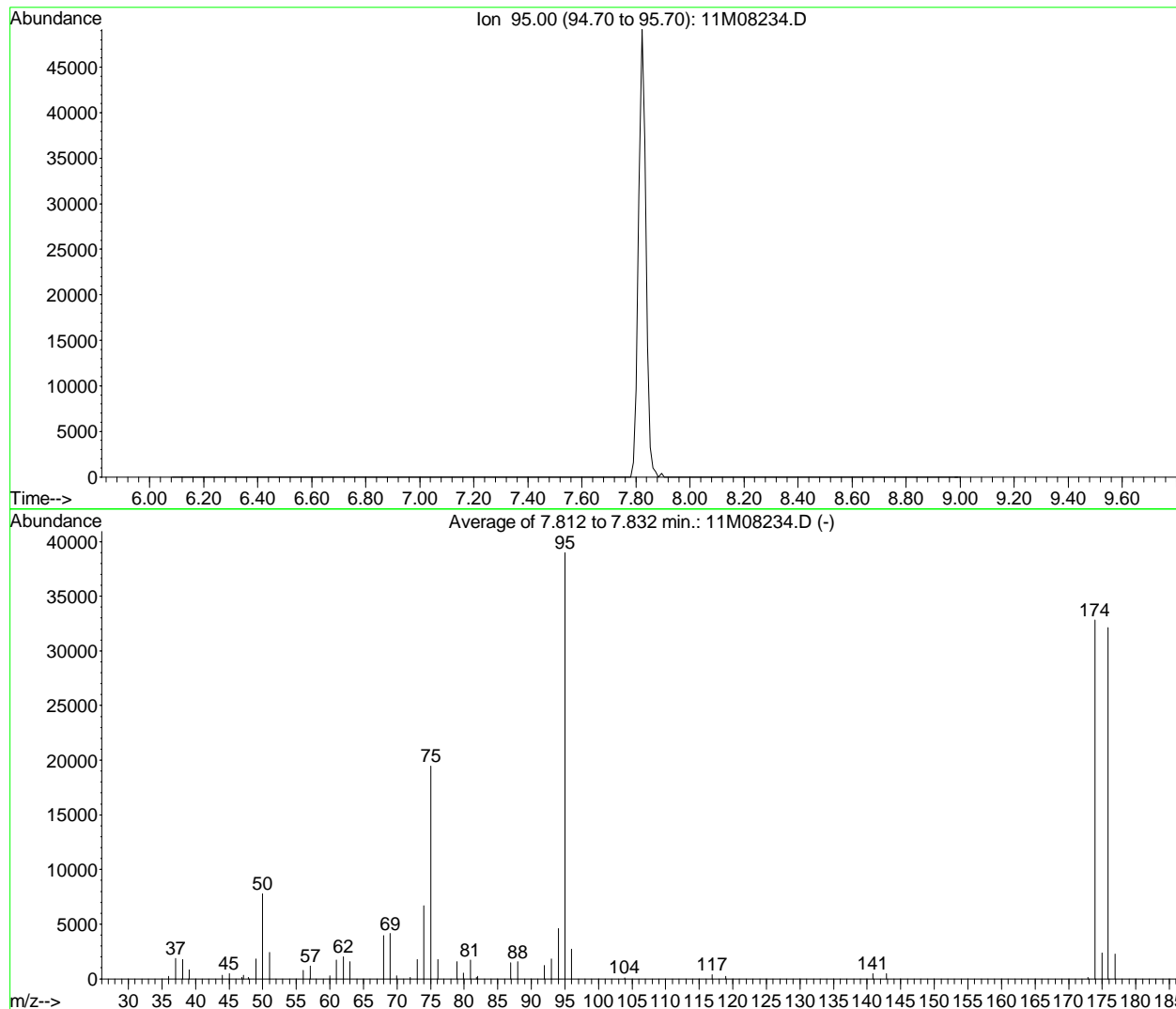
(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11773.D 8260_WT.M Wed May 11 17:32:35 2016

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2.1.1.5 Raw QC Data

BFB

Data File : C:\MSDCHEM\1\DATA\061415\11M08234.D Vial: 1
 Acq On : 14 Jun 2015 9:34 Operator: TMB /DLW
 Sample : WG527475-01 50ng BFB STD Inst : hpms11
 Misc : 1,1 STD70707 Multiplr: 1.00
 MS Integration Params: rteint.p
 Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 06/13/15 HPMS11



AutoFind: Scans 168, 169, 170; Background Corrected with Scan 163

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.9	7754	PASS
75	95	30	60	49.9	19472	PASS
95	95	100	100	100.0	38997	PASS
96	95	5	9	7.0	2731	PASS
173	174	0.00	2	0.3	111	PASS
174	95	50	100	84.2	32837	PASS
175	174	5	9	7.2	2357	PASS
176	174	95	101	97.9	32146	PASS
177	176	5	9	7.1	2284	PASS

11M08234.D 8260WTR.M Sun Jun 14 09:44:09 2015

Data File : C:\MSDCHEM\1\DATA\050316\11M11583.D Vial: 1
 Acq On : 3 May 2016 16:26 Operator: JDS
 Sample : WG567372-01 50ng BFB STD 8260 Inst : hpms11
 Misc : 1,1 STD75485 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 04 11:41:24 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : BFB

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	0.00	96	0	0.00	ug/L	-10.62
56) Chlorobenzene-d5	0.00	117	0	0.00	ug/L	-14.26
76) 1,4-Dichlorobenzene-d4	0.00	152	0	0.00	ug/L	-17.07

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%#	
57) Toluene-d8	0.00	98	0	0.0000	ug/L	
Spiked Amount	25.000	Range 88 - 110	Recovery	=	0.00%#	
78) p-Bromofluorobenzene	0.00	95	0	0.0000	ug/L	
Spiked Amount	25.000	Range 86 - 115	Recovery	=	0.00%#	

Target Compounds

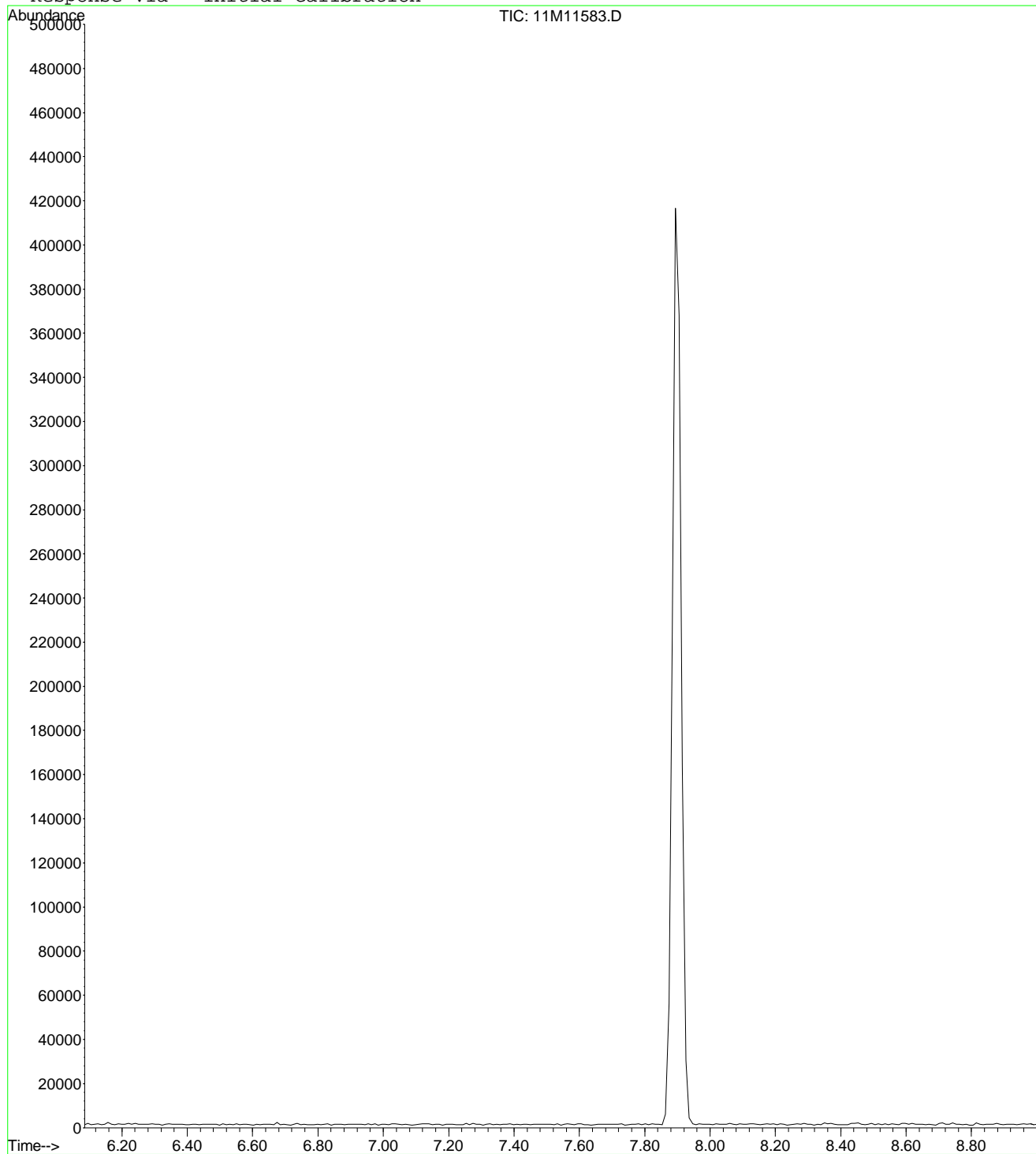
Qvalue

 (#) = qualifier out of range (m) = manual integration
 11M11583.D 8260_WT.M Wed May 04 11:41:25 2016

Page 1

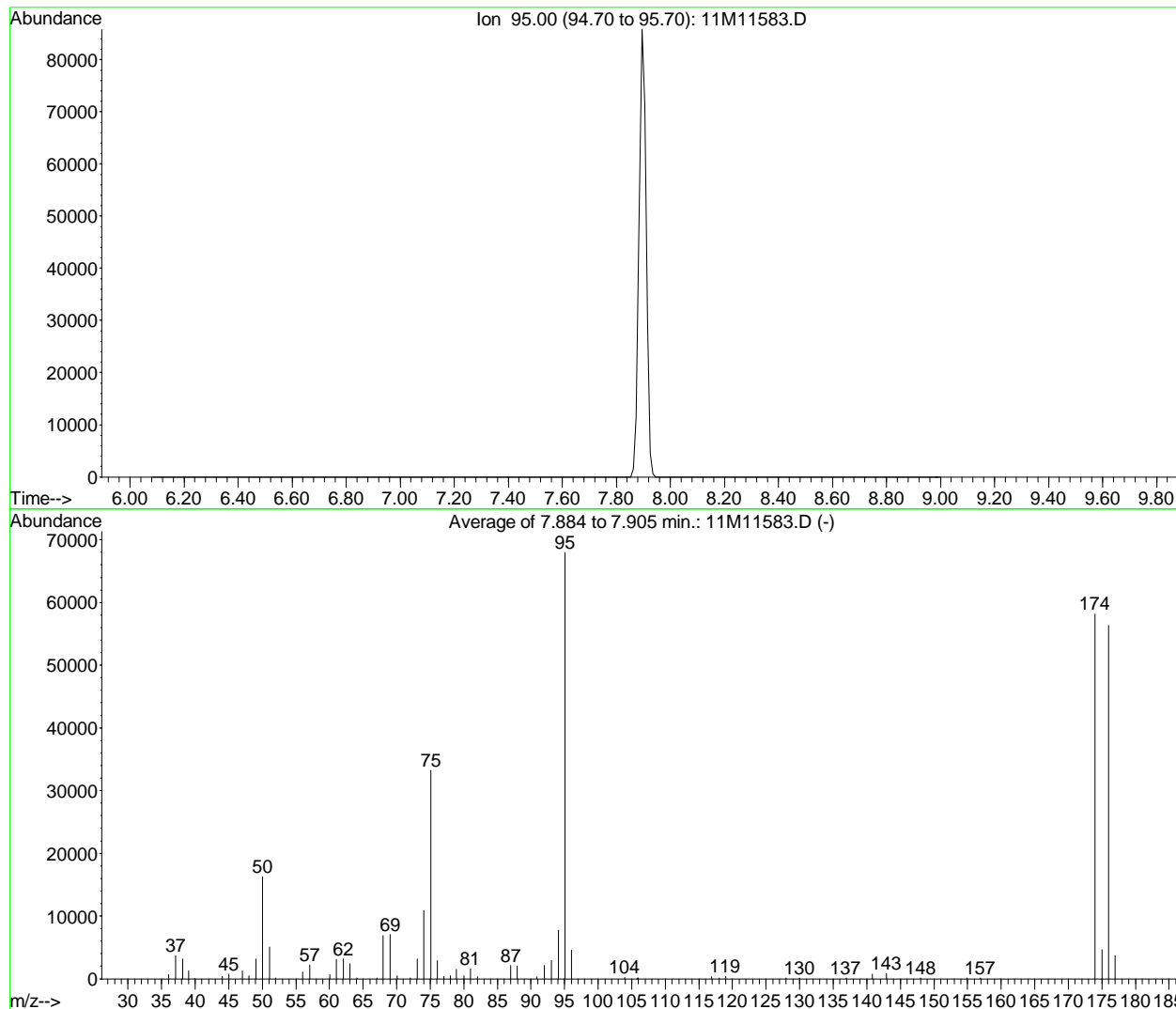
Data File : C:\MSDCHEM\1\DATA\050316\11M11583.D Vial: 1
Acq On : 3 May 2016 16:26 Operator: JDS
Sample : WG567372-01 50ng BFB STD 8260 Inst : hpms11
Misc : 1,1 STD75485 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 4 11:41 2016 Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



BFB

Data File : C:\MSDCHEM\1\DATA\050316\11M11583.D Vial: 1
 Acq On : 3 May 2016 16:26 Operator: JDS
 Sample : WG567372-01 50ng BFB STD 8260 Inst : hpms11
 Misc : 1,1 STD75485 Multiplr: 1.00
 MS Integration Params: rteint.p
 Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11



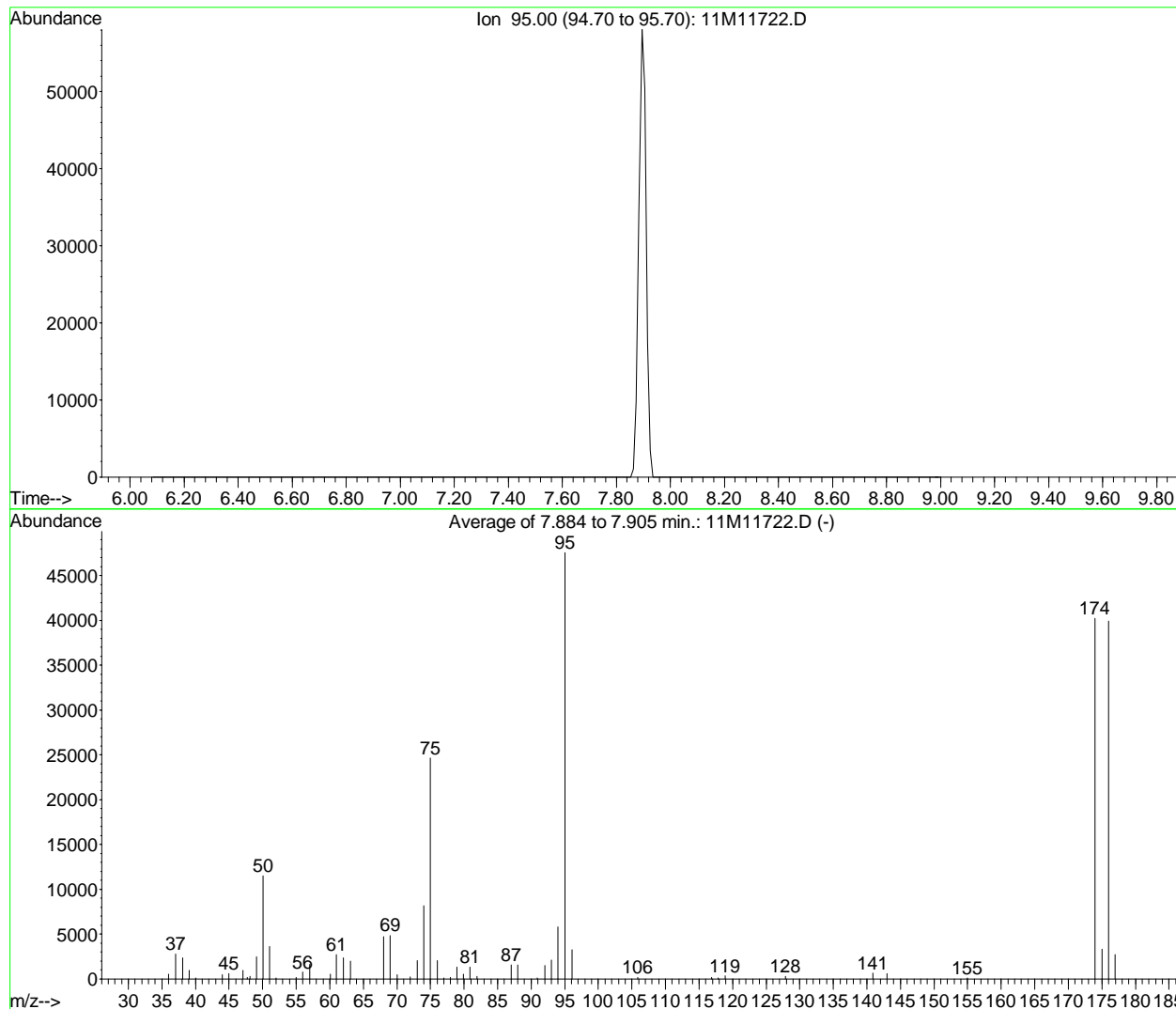
AutoFind: Scans 175, 176, 177; Background Corrected with Scan 170

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.9	16246	PASS
75	95	30	60	48.9	33205	PASS
95	95	100	100	100.0	67968	PASS
96	95	5	9	6.7	4555	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	85.6	58200	PASS
175	174	5	9	8.0	4642	PASS
176	174	95	101	96.8	56354	PASS
177	176	5	9	6.5	3645	PASS

11M11583.D 8260_WT.M Fri May 06 15:29:15 2016

BFB

Data File : C:\MSDCHEM\1\DATA\051016\11M11722.D Vial: 1
 Acq On : 10 May 2016 14:34 Operator: JDS
 Sample : WG568232-01 BFB 50ng 8260 Inst : hpms11
 Misc : 1,1 STD75485 Multiplr: 1.00
 MS Integration Params: rteint.p
 Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11



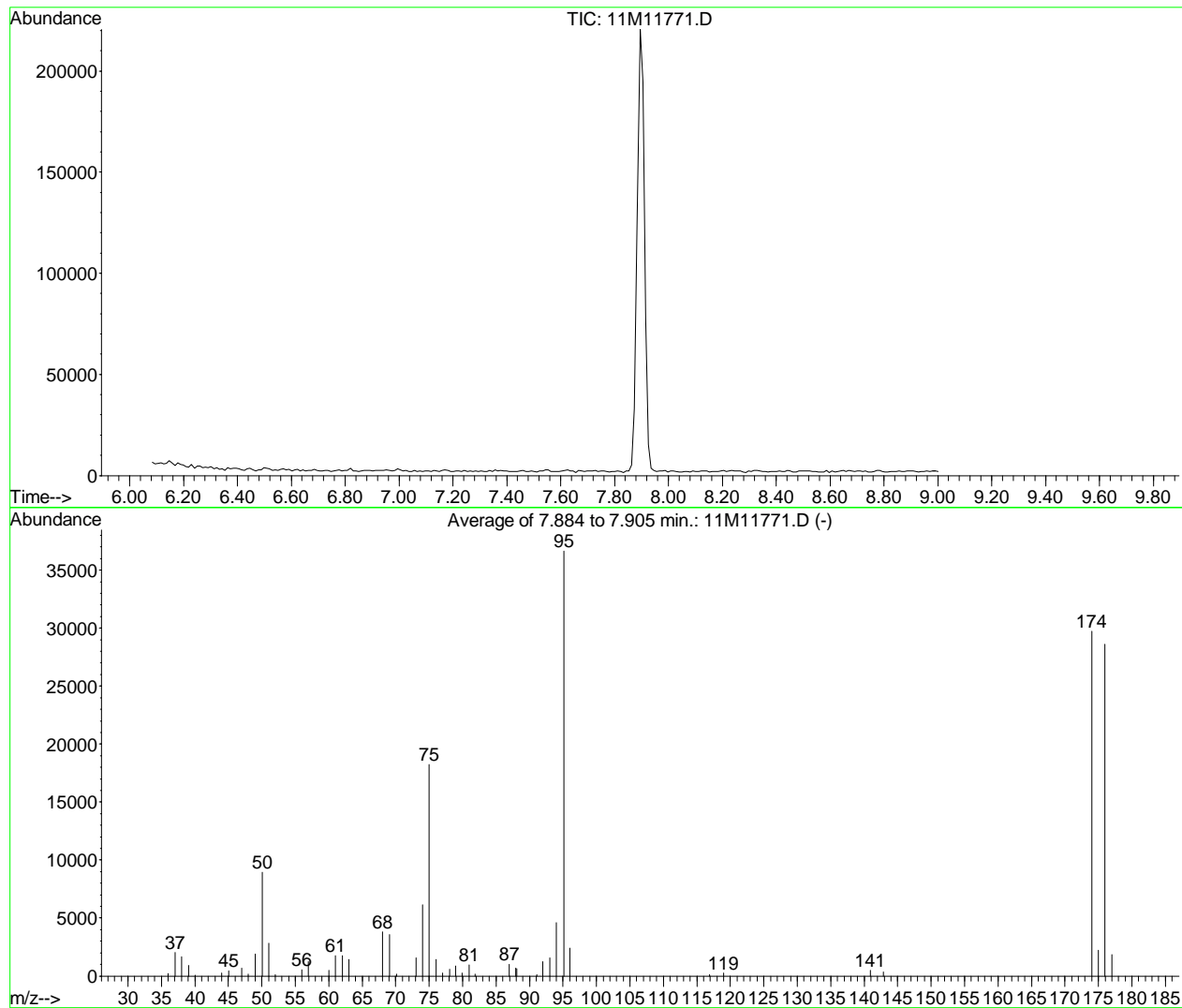
AutoFind: Scans 175, 176, 177; Background Corrected with Scan 170

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.1	11466	PASS
75	95	30	60	51.8	24669	PASS
95	95	100	100	100.0	47589	PASS
96	95	5	9	6.8	3225	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	84.6	40245	PASS
175	174	5	9	8.2	3295	PASS
176	174	95	101	99.2	39936	PASS
177	176	5	9	6.7	2686	PASS

11M11722.D 8260_WT.M Wed May 11 11:57:16 2016

BFB

Data File : C:\MSDCHEM\1\DATA\051116\11M11771.D Vial: 1
 Acq On : 11 May 2016 16:13 Operator: JDS
 Sample : WG568443-01 BFB 50ng 8260 Inst : hpms11
 Misc : 1,1 STD76034 Multiplr: 1.00
 MS Integration Params: rteint.p
 Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11



AutoFind: Scans 175, 176, 177; Background Corrected with Scan 170

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.5	8967	PASS
75	95	30	60	49.7	18222	PASS
95	95	100	100	100.0	36653	PASS
96	95	5	9	6.5	2397	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	81.1	29732	PASS
175	174	5	9	7.5	2232	PASS
176	174	95	101	96.2	28607	PASS
177	176	5	9	6.4	1826	PASS

11M11771.D 8260_WT.M Wed May 11 17:59:55 2016

Data File : C:\MSDCHEM\1\DATA\051016\11M11726.D Vial: 5
 Acq On : 10 May 2016 16:35 Operator: JDS
 Sample : WG568233-01 BLANK STD 8260 Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 09:31:55 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	551300	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	485483	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	285079	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.64	111	157930	25.2362	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	100.96%	
43) 1,2-Dichloroethane-d4	10.24	65	177387	23.3939	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	93.56%	
57) Toluene-d8	12.48	98	554613	24.3014	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	97.20%	
78) p-Bromofluorobenzene	15.64	95	229191	24.6124	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	98.44%	
Target Compounds						
						Qvalue
3) Chloromethane	3.73	50	906	0.1233	ug/L #	1
6) Bromomethane	4.87	94	679	0.1823	ug/L	66
13) Acetone	6.35	43	1086	0.6588	ug/L #	45
36) Tetrahydrofuran	9.61	42	2999	1.7725	ug/L #	61

 (#) = qualifier out of range (m) = manual integration
 11M11726.D 8260_WT.M Thu May 12 09:31:56 2016

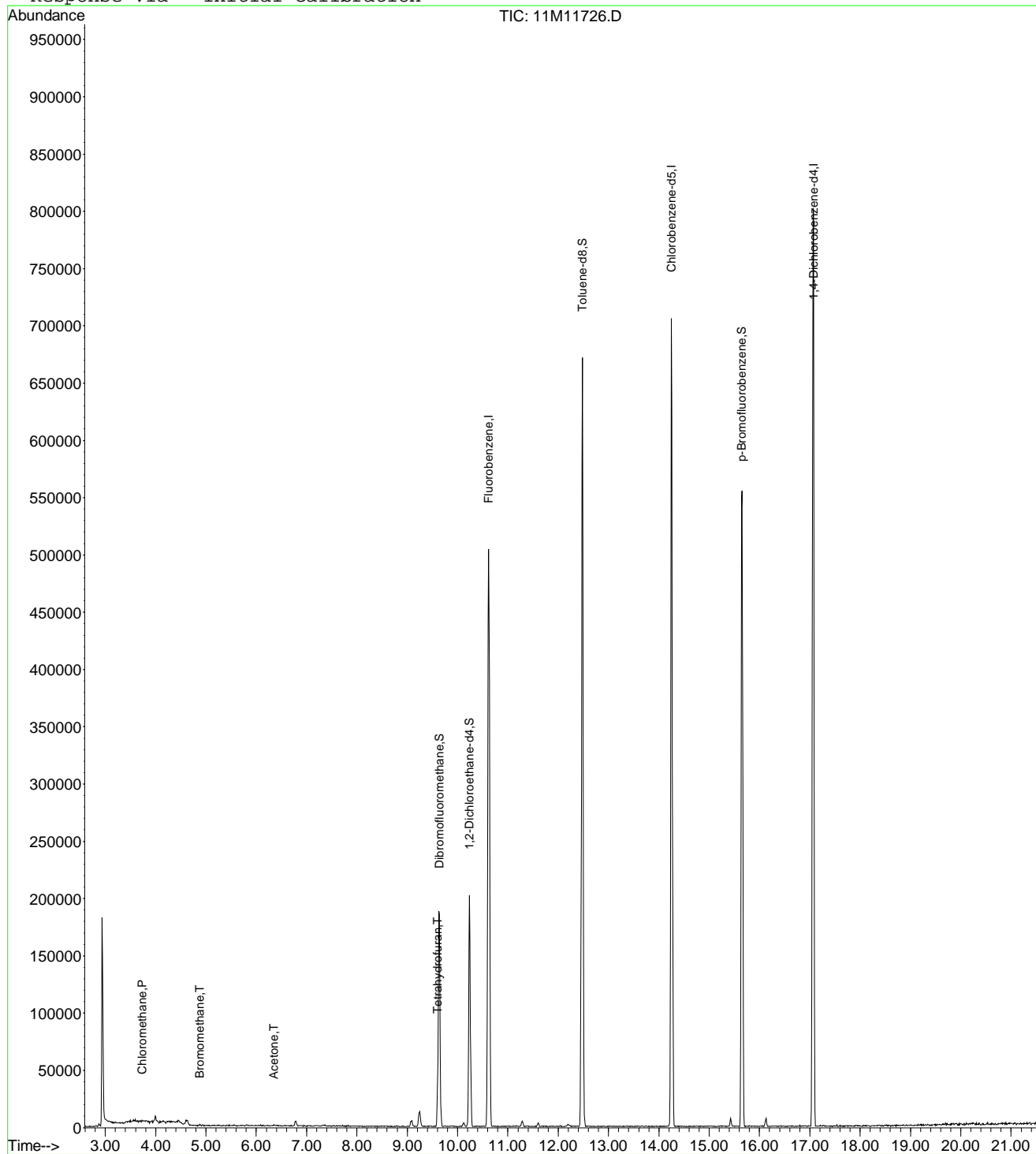
Page 1

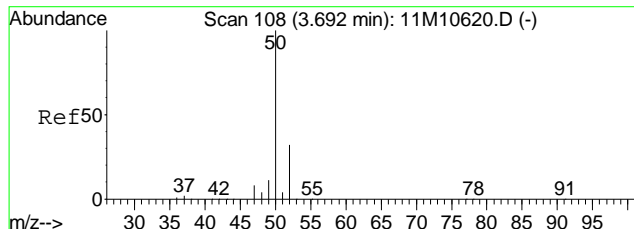
Data File : C:\MSDCHEM\1\DATA\051016\11M11726.D
 Acq On : 10 May 2016 16:35
 Sample : WG568233-01 BLANK STD 8260
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 12 9:31 2016

Vial: 5
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260_WT.RES

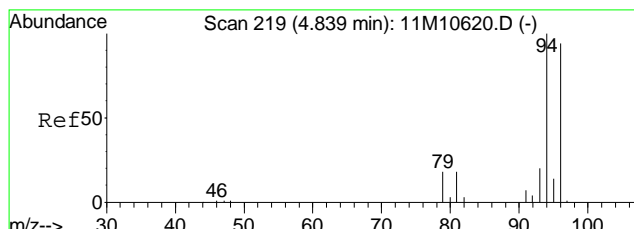
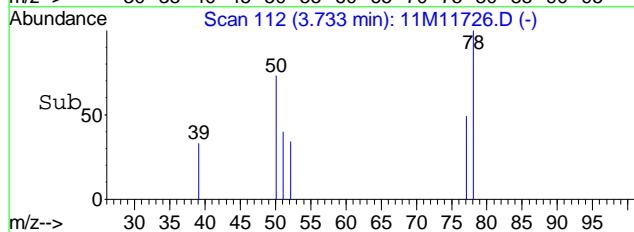
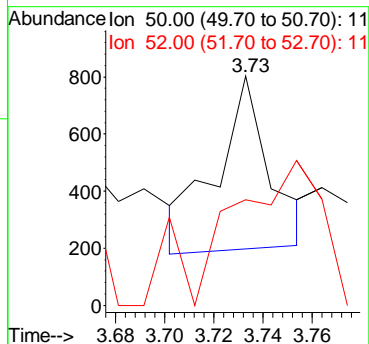
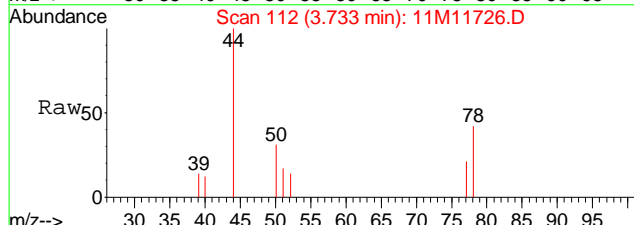
Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration





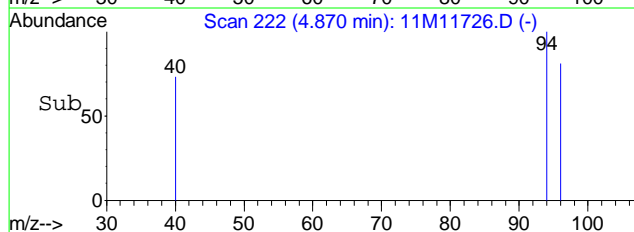
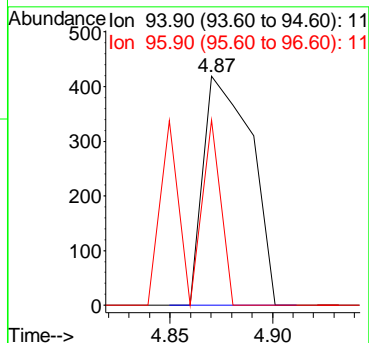
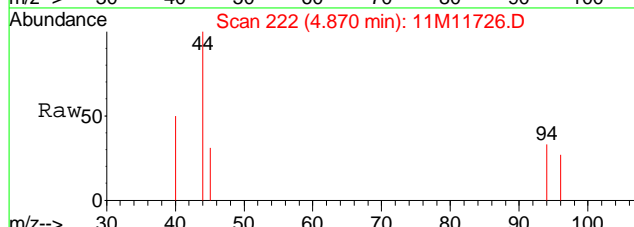
#3
 Chloromethane
 Concen: 0.12 ug/L
 RT: 3.73 min Scan# 112
 Delta R.T. 0.00 min
 Lab File: 11M11726.D
 Acq: 10 May 2016 16:35

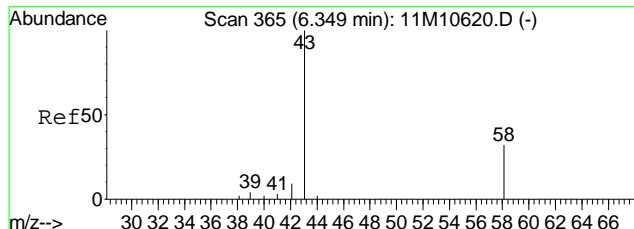
Tgt Ion: 50 Resp: 906
 Ion Ratio Lower Upper
 50 100
 52 153.3 19.9 46.5#



#6
 Bromomethane
 Concen: 0.18 ug/L
 RT: 4.87 min Scan# 222
 Delta R.T. 0.01 min
 Lab File: 11M11726.D
 Acq: 10 May 2016 16:35

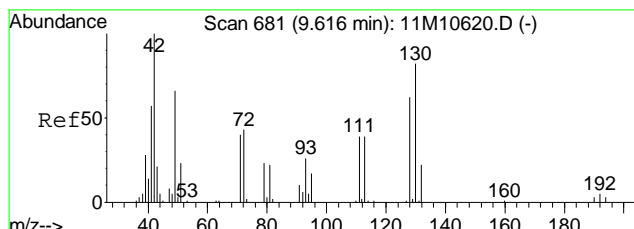
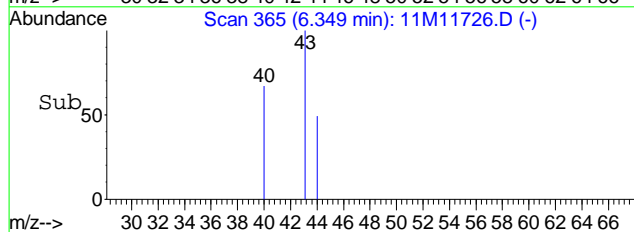
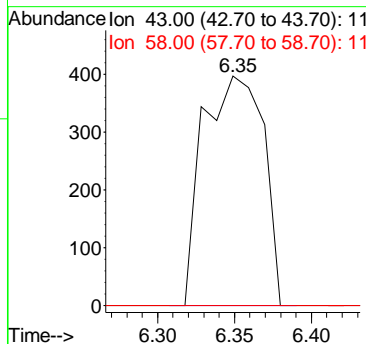
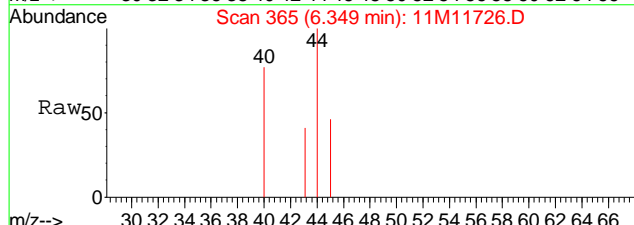
Tgt Ion: 94 Resp: 679
 Ion Ratio Lower Upper
 94 100
 96 61.9 56.9 132.7





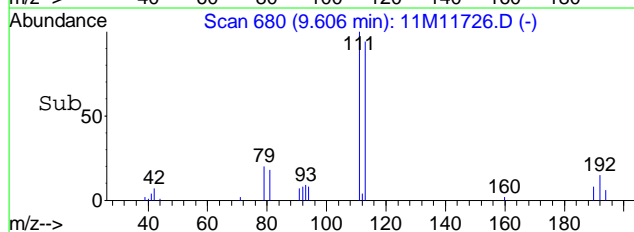
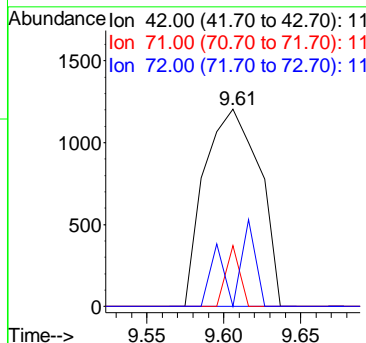
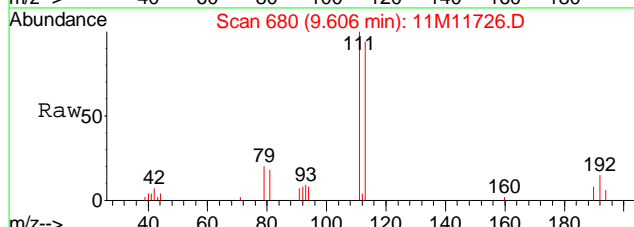
#13
 Acetone
 Concen: 0.66 ug/L
 RT: 6.35 min Scan# 365
 Delta R.T. 0.00 min
 Lab File: 11M11726.D
 Acq: 10 May 2016 16:35

Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.8	41.6#



#36
 Tetrahydrofuran
 Concen: 1.77 ug/L
 RT: 9.61 min Scan# 680
 Delta R.T. 0.00 min
 Lab File: 11M11726.D
 Acq: 10 May 2016 16:35

Tgt Ion	Ratio	Lower	Upper
42	100		
71	7.6	17.0	39.6#
72	7.9	17.3	40.5#



Data File : C:\MSDCHEM\1\DATA\051016\11M11726.D Vial: 5
 Acq On : 10 May 2016 16:35 Operator: JDS
 Sample : WG568233-01 BLANK STD 8260 Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 09:52:50 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Tue Apr 05 11:32:32 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	551300	25.00	ug/L	-0.01
12) Chlorobenzene-d5	14.25	117	485483	25.00	ug/L	-0.02
13) 1,4-Dichlorobenzene-d4	17.07	152	285079	25.00	ug/L	0.00

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.78	41	5991	14.1687	ug/L	97
5) Methacrylonitrile	9.24	41	10381	4.0479	ug/L	53
6) Isobutyl Alcohol	9.24	43	6385	48.3833	ug/L #	55
7) 1-Butanol	10.11	56	2299	32.9332	ug/L #	72
8) Cyclohexanone	15.43	55	4340	6.8444	ug/L #	91
9) 2-Nitropropane	11.60	43	2747	35.2665	ug/L	96
10) Ethyl Acetate	9.09	43	9221	3.0316	ug/L #	68
11) Methyl methacrylate	11.28	41	4440	1.2554	ug/L	66

 (#) = qualifier out of range (m) = manual integration
 11M11726.D A9FOOWT.M Thu May 12 09:52:51 2016

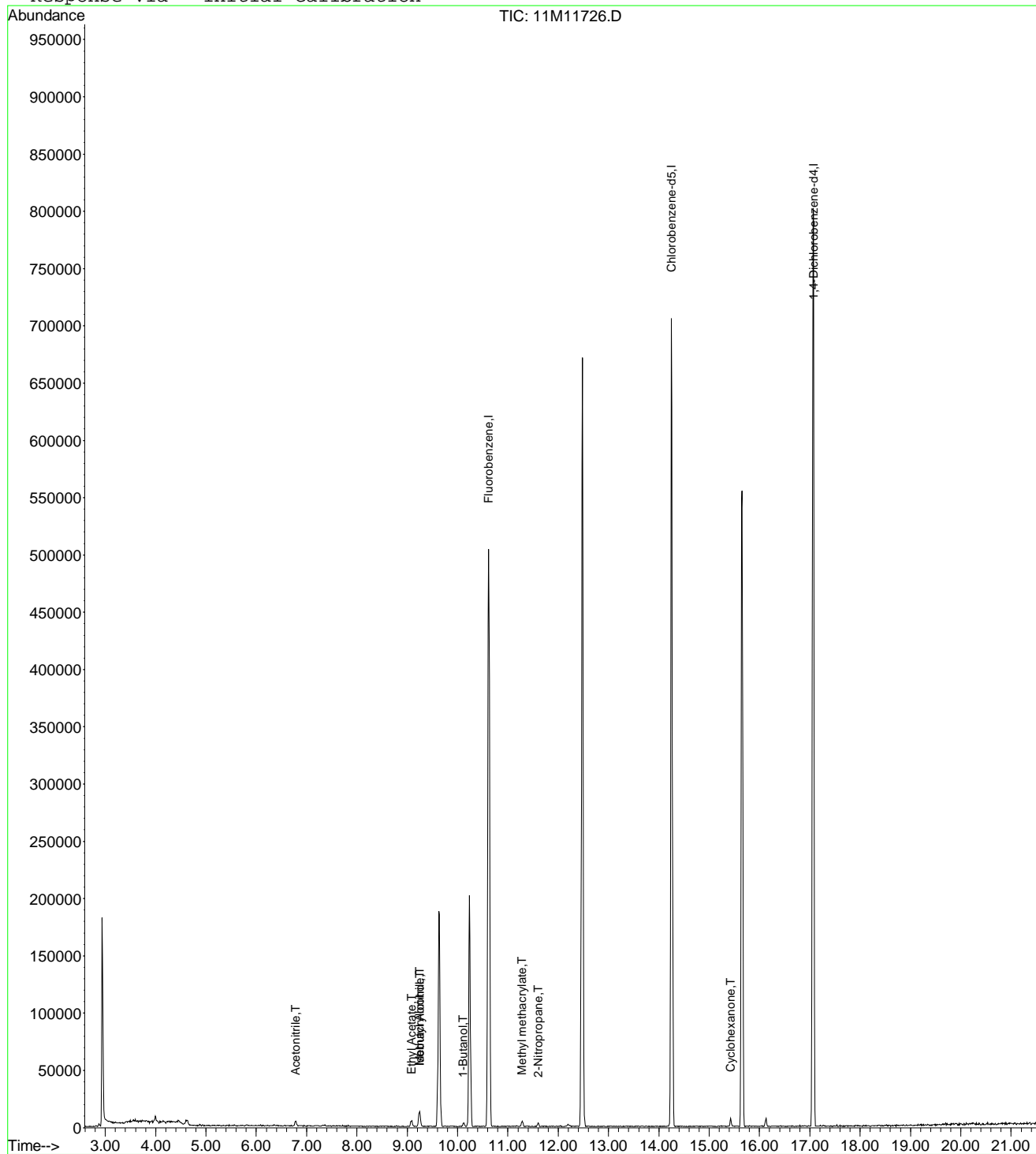
Page 1

Data File : C:\MSDCHEM\1\DATA\051016\11M11726.D
 Acq On : 10 May 2016 16:35
 Sample : WG568233-01 BLANK STD 8260
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 12 9:52 2016

Vial: 5
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Tue Apr 05 11:32:32 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\11M11775.D Vial: 5
 Acq On : 11 May 2016 18:14 Operator: JDS
 Sample : WG568444-01 BLANK STD 8260 Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 09:29:56 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	634188	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	517999	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	297038	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	165805	23.0317	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	92.12%	
43) 1,2-Dichloroethane-d4	10.24	65	180098	20.6471	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	82.60%	
57) Toluene-d8	12.48	98	589522	24.2095	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	96.84%	
78) p-Bromofluorobenzene	15.64	95	247312	25.4891	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.96%	
Target Compounds						
						Qvalue
3) Chloromethane	3.73	50	2106	0.2492	ug/L	86
13) Acetone	6.35	43	1183	0.6239	ug/L #	45
36) Tetrahydrofuran	9.61	42	3164	1.6256	ug/L #	87

 (#) = qualifier out of range (m) = manual integration
 11M11775.D 8260_WT.M Thu May 12 09:29:57 2016

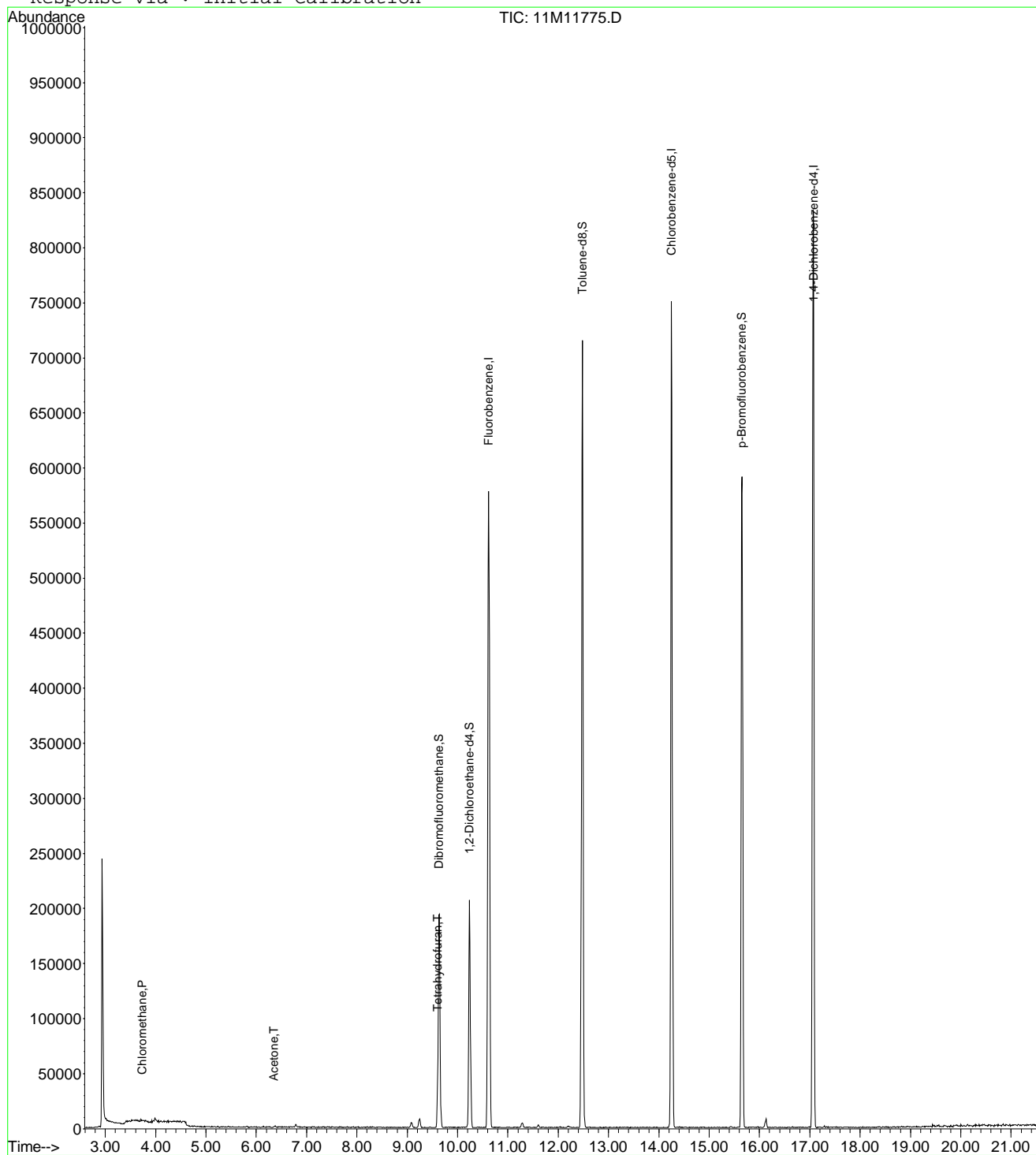
Page 1

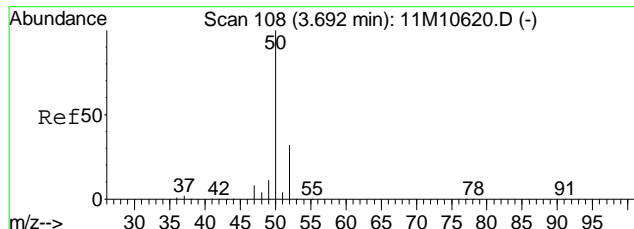
Data File : C:\MSDCHEM\1\DATA\051116\11M11775.D
 Acq On : 11 May 2016 18:14
 Sample : WG568444-01 BLANK STD 8260
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 12 9:29 2016

Vial: 5
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260_WT.RES

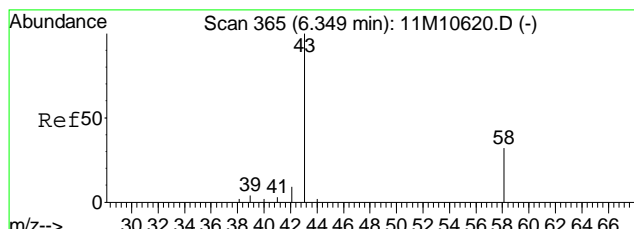
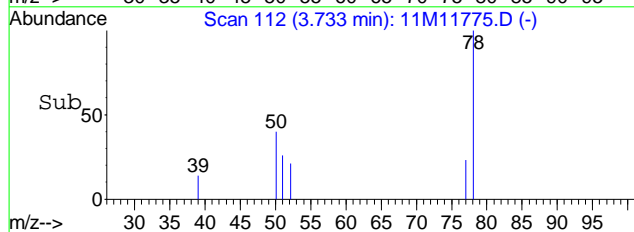
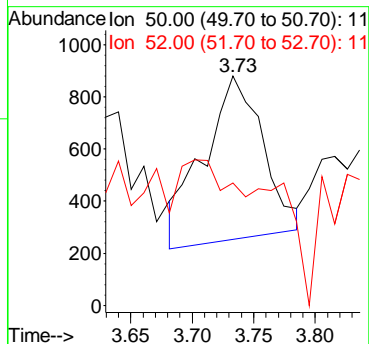
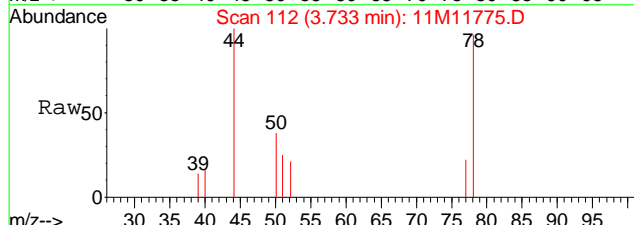
Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration





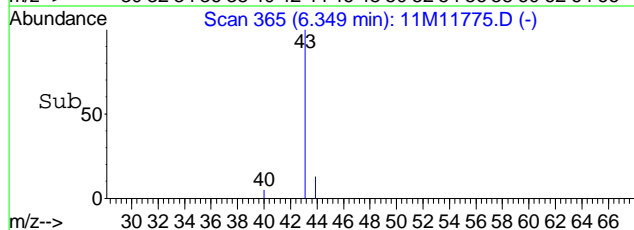
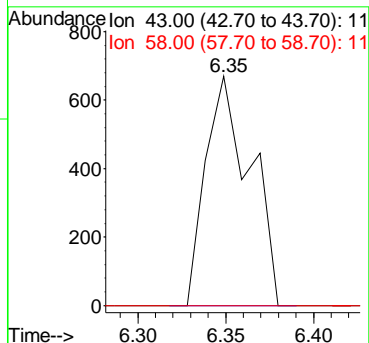
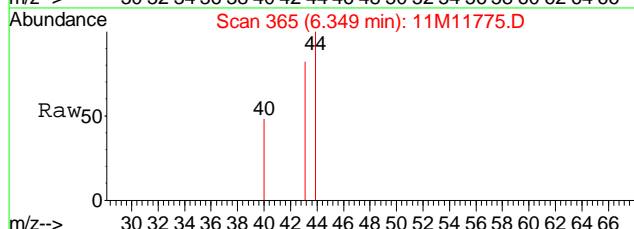
#3
 Chloromethane
 Concen: 0.25 ug/L
 RT: 3.73 min Scan# 112
 Delta R.T. 0.00 min
 Lab File: 11M11775.D
 Acq: 11 May 2016 18:14

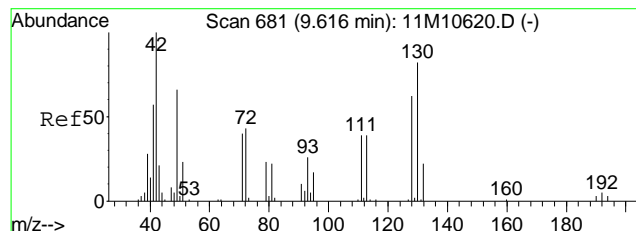
Tgt Ion	Ratio	Lower	Upper
50	100		
52	25.0	19.9	46.5



#13
 Acetone
 Concen: 0.62 ug/L
 RT: 6.35 min Scan# 365
 Delta R.T. 0.00 min
 Lab File: 11M11775.D
 Acq: 11 May 2016 18:14

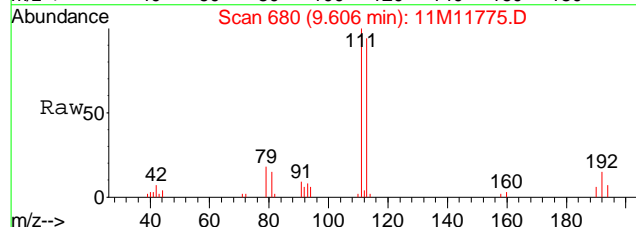
Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.8	41.6#



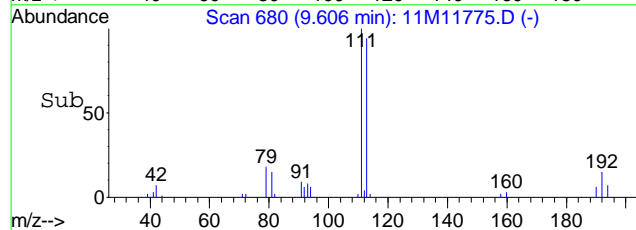
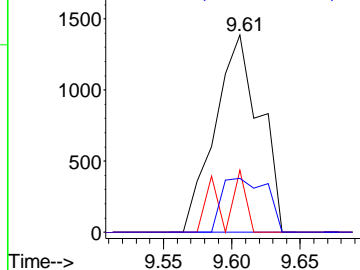


#36
 Tetrahydrofuran
 Concen: 1.63 ug/L
 RT: 9.61 min Scan# 680
 Delta R.T. 0.00 min
 Lab File: 11M11775.D
 Acq: 11 May 2016 18:14

Tgt Ion	Ratio	Lower	Upper
42	100		
71	16.2	17.0	39.6#
72	27.3	17.3	40.5



Abundance Ion 42.00 (41.70 to 42.70): 11
 Ion 71.00 (70.70 to 71.70): 11
 Ion 72.00 (71.70 to 72.70): 11



Data File : C:\MSDCHEM\1\data\051016\11M11731.D Vial: 10
 Acq On : 10 May 2016 19:15 Operator: JDS
 Sample : WG568233-02 20ug/L LCS STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 10 19:37:00 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	566703	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	494654	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	301277	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	168882	26.2528	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	105.00%	
43) 1,2-Dichloroethane-d4	10.24	65	183948	23.5998	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	94.40%	
57) Toluene-d8	12.48	98	570410	24.5302	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	98.12%	
78) p-Bromofluorobenzene	15.64	95	244630	24.8579	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	99.44%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	200139	24.0686	ug/L	99
3) Chloromethane	3.73	50	123674	16.3784	ug/L	98
4) Vinyl Chloride	3.96	62	125111	20.7518	ug/L	99
5) 1,3-Butadiene	4.00	54	869227	153.0058	ug/L	98
6) Bromomethane	4.86	94	63487	16.5802	ug/L	100
7) Chloroethane	5.01	64	91603	22.4385	ug/L	99
8) Trichlorofluoromethane	5.49	101	247355	22.1490	ug/L	100
9) Diethyl ether	6.02	59	509735	100.3170	ug/L	99
10) Isoprene	6.05	67	175116	22.6768	ug/L	98
11) Acrolein	6.25	56	66339	95.3365	ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	127714	22.6942	ug/L	97
13) Acetone	6.35	43	31603	18.6510	ug/L	94
14) 1,1-Dichloroethene	6.57	61	213301	20.4477	ug/L	99
15) Tert-Butyl Alcohol	6.67	59	57589	127.9045	ug/L	98
16) Dimethyl Sulfide	6.82	62	132695	28.0499	ug/L	98
17) Iodomethane	7.07	142	55237	11.1015	ug/L	95
18) Methyl acetate	7.07	43	82823	14.1297	ug/L	99
19) Methylene Chloride	7.32	84	118076	20.2148	ug/L	98
20) Carbon Disulfide	7.37	76	342484	18.7571	ug/L	100
21) Acrylonitrile	7.50	53	41348	18.9895	ug/L	97
22) Methyl Tert Butyl Ether	7.53	73	310507	20.4757	ug/L	98
23) trans-1,2-Dichloroethene	7.75	96	125233	20.9758	ug/L	98
24) n-Hexane	7.83	57	198474	20.2836	ug/L	100
25) Diisopropyl ether	8.16	45	2824740	109.1184	ug/L	99
26) Vinyl Acetate	8.32	43	138741	50.6008	ug/L	99
27) 1,1-Dichloroethane	8.35	63	237609	20.2215	ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	2129317	100.4207	ug/L	99
29) 2-Butanone	8.88	43	45825	18.0799	ug/L	96
30) Propionitrile	8.99	54	62180	83.9872	ug/L	99
31) 2,2-Dichloropropane	9.10	77	181325	21.3669	ug/L	99
32) cis-1,2-Dichloroethene	9.16	96	141700	21.3825	ug/L	97
33) Chloroform	9.36	83	235869	21.4916	ug/L	99
34) 1-Bromopropane	9.48	122	33212	27.3704	ug/L	94
35) Bromochloromethane	9.57	130	85692	20.2082	ug/L	99
36) Tetrahydrofuran	9.61	42	141614	81.4227	ug/L	99
38) 1,1,1-Trichloroethane	9.86	97	237811	22.4091	ug/L	100
39) Cyclohexane	9.90	56	271846	21.1801	ug/L	100
40) 1,1-Dichloropropene	10.05	75	166907	20.8141	ug/L	99
41) Carbon Tetrachloride	10.18	117	231766	23.1375	ug/L	99
42) Tert-Amyl-Methyl ether	10.14	73	1533894	101.6715	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11731.D 8260_WT.M Tue May 10 19:37:01 2016

Page 1

Data File : C:\MSDCHEM\1\data\051016\11M11731.D Vial: 10
 Acq On : 10 May 2016 19:15 Operator: JDS
 Sample : WG568233-02 20ug/L LCS STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 10 19:37:00 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	200455	21.2872	ug/L	99
45) Benzene	10.39	78	470719	20.5213	ug/L	100
46) Trichloroethene	11.09	130	153466	20.5284	ug/L	98
47) Methylcyclohexane	11.18	83	192543	21.2376	ug/L	96
48) 1,2-Dichloropropane	11.30	63	136910	21.0162	ug/L	96
49) 1,4-Dioxane	11.57	88	5662	143.3635	ug/L	97
50) Bromodichloromethane	11.58	83	185134	21.4407	ug/L	99
51) Dibromomethane	11.66	93	65945	19.3032	ug/L	97
52) 2-Chloroethyl Vinyl Ether	11.85	63	64526	18.9966	ug/L	99
53) 4-Methyl-2-Pentanone	11.88	58	36559	17.5534	ug/L	98
54) cis-1,3-Dichloropropene	12.17	75	205096	22.5658	ug/L	99
55) Dimethyl Disulfide	12.43	79	114662	20.2228	ug/L	95
58) Toluene	12.57	91	545444	21.2943	ug/L	100
59) Ethyl Methacrylate	12.65	69	120623	18.4016	ug/L	100
60) trans-1,3-Dichloropropene	12.73	75	170180	20.2822	ug/L	100
61) 1,1,2-Trichloroethane	12.94	97	95138	19.8446	ug/L	99
62) 2-Hexanone	12.87	43	69581	17.6024	ug/L	98
63) 1,3-Dichloropropane	13.22	76	164433	20.6480	ug/L	99
64) Tetrachloroethene	13.34	164	117968	20.4088	ug/L	96
65) Dibromochloromethane	13.60	129	143020	20.6668	ug/L	100
66) 1,2-Dibromoethane	13.83	107	93854	19.2835	ug/L	99
67) 1-Chlorohexane	13.90	91	182685	21.7427	ug/L	99
68) Chlorobenzene	14.30	112	401838	21.3290	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	151979	21.0448	ug/L	100
70) Ethylbenzene	14.32	106	201924	21.1234	ug/L	99
71) m-,p-Xylene	14.40	106	496216	43.6216	ug/L	97
72) o-Xylene	14.93	106	242220	21.3458	ug/L	96
73) Styrene	14.96	104	406799	21.1293	ug/L	98
74) Bromoform	15.44	173	79299	16.7347	ug/L	97
75) Isopropylbenzene	15.32	105	643819	22.4378	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	96587	17.3185	ug/L	100
79) 1,2,3-Trichloropropane	15.71	110	35592	19.3867	ug/L	85
80) trans-1,4-Dichloro-2-Butene	15.74	53	31342	13.2720	ug/L	85
81) n-Propylbenzene	15.79	91	767493	22.6713	ug/L	99
82) Bromobenzene	15.92	156	184290	19.6083	ug/L	100
83) 1,3,5-Trimethylbenzene	15.96	105	557995	21.6896	ug/L	99
84) 2-Chlorotoluene	16.06	91	546891	21.8885	ug/L	100
85) 4-Chlorotoluene	16.10	91	431717	21.0575	ug/L	99
86) a-Methylstyrene	16.35	118	328183	22.9550	ug/L	99
87) tert-Butylbenzene	16.40	134	122552	21.7082	ug/L	98
88) 1,2,4-Trimethylbenzene	16.45	105	566262	21.5079	ug/L	100
89) sec-Butylbenzene	16.65	105	682478	22.4161	ug/L	100
90) p-Isopropyltoluene	16.79	119	616313	22.2402	ug/L	100
91) 1,3-Dichlorobenzene	16.99	146	361422	20.7031	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	367165	20.5977	ug/L	99
93) n-Butylbenzene	17.29	91	531378	21.2981	ug/L	100
94) 1,2-Dichlorobenzene	17.57	146	332507	20.2029	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.50	75	18645	17.0206	ug/L	98
96) 1,2,4-Trichlorobenzene	19.55	180	235336	19.2432	ug/L	97
97) Hexachlorobutadiene	19.70	225	101889	20.5071	ug/L	96
98) Naphthalene	19.90	128	409089	17.4786	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	210569	18.3883	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11731.D 8260_WT.M Tue May 10 19:37:01 2016

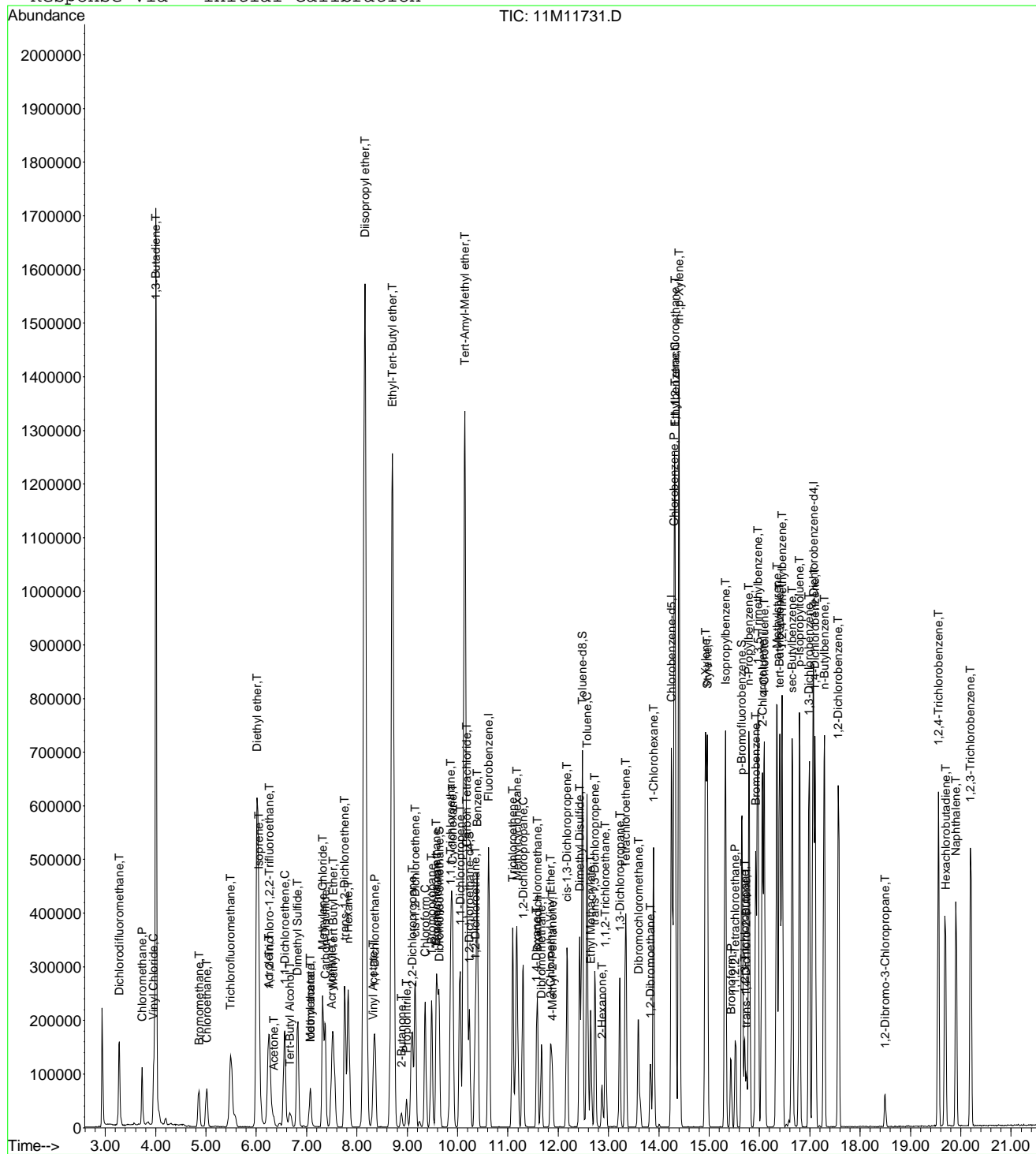
Page 2

Data File : C:\MSDchem\1\data\051016\11M11731.D
Acq On : 10 May 2016 19:15
Sample : WG568233-02 20ug/L LCS STD 8260
Misc : 1,1 STD75976
MS Integration Params: rteint.p
Quant Time: May 10 19:37 2016

Vial: 10
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\11M11776.D Vial: 6
 Acq On : 11 May 2016 18:46 Operator: JDS
 Sample : WG568444-02 20ug/L LCS STD 8260 Inst : hpms11
 Misc : 1,1 STD76109 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 10:43:48 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	627683	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	520055	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	304492	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	170047	23.8658	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	95.48%	
43) 1,2-Dichloroethane-d4	10.24	65	176898	20.4904	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	81.96%	
57) Toluene-d8	12.48	98	583865	23.8824	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	95.52%	
78) p-Bromofluorobenzene	15.64	95	245707	24.7037	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	98.80%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	236293	25.6558	ug/L	98
3) Chloromethane	3.73	50	146476	17.5136	ug/L	96
4) Vinyl Chloride	3.96	62	140742	21.0765	ug/L	99
5) 1,3-Butadiene	4.00	54	106816	16.9756	ug/L	98
6) Bromomethane	4.86	94	79446	18.7324	ug/L	100
7) Chloroethane	5.01	64	94066	20.8033	ug/L	100
8) Trichlorofluoromethane	5.49	101	255501	20.6557	ug/L	99
9) Diethyl ether	6.02	59	501609	89.1272	ug/L	100
10) Isoprene	6.05	67	175006	20.4608	ug/L	97
11) Acrolein	6.25	56	64703	85.6907	ug/L	90
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	132244	21.2162	ug/L	98
13) Acetone	6.35	43	32940	17.5514	ug/L	91
14) 1,1-Dichloroethene	6.56	61	222962	19.2973	ug/L	99
15) Tert-Butyl Alcohol	6.67	59	82535	165.5006	ug/L	99
16) Dimethyl Sulfide	6.81	62	132699	25.3256	ug/L	98
17) Iodomethane	7.06	142	56123	10.2365	ug/L	98
18) Methyl acetate	7.07	43	76563	11.8459	ug/L	99
19) Methylene Chloride	7.32	84	119364	18.4500	ug/L	98
20) Carbon Disulfide	7.37	76	350711	17.3416	ug/L	100
21) Acrylonitrile	7.50	53	41225	17.0936	ug/L	98
22) Methyl Tert Butyl Ether	7.53	73	308205	18.3494	ug/L	99
23) trans-1,2-Dichloroethene	7.75	96	127792	19.3250	ug/L	100
24) n-Hexane	7.83	57	202172	18.6542	ug/L	99
25) Diisopropyl ether	8.16	45	2836766	98.9369	ug/L	100
26) Vinyl Acetate	8.32	43	138385	47.0670	ug/L	99
27) 1,1-Dichloroethane	8.35	63	249107	19.1404	ug/L	100
28) Ethyl-Tert-Butyl ether	8.71	59	2133641	90.8488	ug/L	99
29) 2-Butanone	8.88	43	45729	16.2892	ug/L	95
30) Propionitrile	8.99	54	66118	80.6301	ug/L	97
31) 2,2-Dichloropropane	9.10	77	194435	20.6859	ug/L	99
32) cis-1,2-Dichloroethene	9.16	96	147224	20.0578	ug/L	99
33) Chloroform	9.36	83	238782	19.6433	ug/L	98
34) 1-Bromopropane	9.48	122	33894	25.2612	ug/L	99
35) Bromochloromethane	9.57	130	84125	17.9113	ug/L	99
36) Tetrahydrofuran	9.61	42	143238	74.3554	ug/L	100
38) 1,1,1-Trichloroethane	9.86	97	241779	20.5696	ug/L	100
39) Cyclohexane	9.90	56	278238	19.5721	ug/L	99
40) 1,1-Dichloropropene	10.05	75	175295	19.7364	ug/L	100
41) Carbon Tetrachloride	10.18	117	234306	21.1186	ug/L	100
42) Tert-Amyl-Methyl ether	10.14	73	1540619	92.1964	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11776.D 8260_WT.M Thu May 12 10:43:49 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051116\11M11776.D Vial: 6
 Acq On : 11 May 2016 18:46 Operator: JDS
 Sample : WG568444-02 20ug/L LCS STD 8260 Inst : hpms11
 Misc : 1,1 STD76109 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 10:43:48 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	202714	19.4357	ug/L	99
45) Benzene	10.39	78	490112	19.2910	ug/L	99
46) Trichloroethene	11.09	130	162553	19.6315	ug/L	98
47) Methylcyclohexane	11.18	83	201242	20.0406	ug/L	99
48) 1,2-Dichloropropane	11.30	63	138760	19.2309	ug/L	96
49) 1,4-Dioxane	11.56	88	6315	144.3634	ug/L	98
50) Bromodichloromethane	11.58	83	184500	19.2914	ug/L	98
51) Dibromomethane	11.66	93	66655	17.6155	ug/L	98
52) 2-Chloroethyl Vinyl Ether	11.85	63	65983	17.5383	ug/L	99
53) 4-Methyl-2-Pentanone	11.88	58	36856	15.9768	ug/L	98
54) cis-1,3-Dichloropropene	12.17	75	207185	20.5810	ug/L	100
55) Dimethyl Disulfide	12.43	79	116102	18.4874	ug/L	96
58) Toluene	12.57	91	561537	20.8518	ug/L	100
59) Ethyl Methacrylate	12.65	69	120142	17.4558	ug/L	99
60) trans-1,3-Dichloropropene	12.73	75	174057	19.7311	ug/L	99
61) 1,1,2-Trichloroethane	12.94	97	97946	19.4325	ug/L	97
62) 2-Hexanone	12.87	43	69245	16.6618	ug/L	100
63) 1,3-Dichloropropane	13.22	76	164077	19.5970	ug/L	100
64) Tetrachloroethene	13.34	164	125626	20.6721	ug/L	96
65) Dibromochloromethane	13.60	129	146913	20.1925	ug/L	96
66) 1,2-Dibromoethane	13.83	107	95071	18.5795	ug/L	99
67) 1-Chlorohexane	13.90	91	185898	21.0444	ug/L	100
68) Chlorobenzene	14.30	112	408398	20.6184	ug/L	98
69) 1,1,1,2-Tetrachloroethane	14.32	131	155599	20.4937	ug/L	99
70) Ethylbenzene	14.32	106	206758	20.5727	ug/L	98
71) m-,p-Xylene	14.40	106	512154	42.8237	ug/L	97
72) o-Xylene	14.93	106	251455	21.0773	ug/L	97
73) Styrene	14.96	104	417637	20.6327	ug/L	99
74) Bromoform	15.44	173	80469	16.1707	ug/L	99
75) Isopropylbenzene	15.32	105	670283	22.2191	ug/L	98
77) 1,1,2,2-Tetrachloroethane	15.52	83	95296	16.9152	ug/L	99
79) 1,2,3-Trichloropropane	15.71	110	34562	18.6269	ug/L	88
80) trans-1,4-Dichloro-2-Butene	15.74	53	30064	12.6390	ug/L	78
81) n-Propylbenzene	15.79	91	787657	23.0212	ug/L	99
82) Bromobenzene	15.92	156	187269	19.7148	ug/L	99
83) 1,3,5-Trimethylbenzene	15.96	105	577905	22.2264	ug/L	100
84) 2-Chlorotoluene	16.06	91	568123	22.4982	ug/L	99
85) 4-Chlorotoluene	16.10	91	447869	21.6147	ug/L	99
86) a-Methylstyrene	16.35	118	329603	22.8109	ug/L	98
87) tert-Butylbenzene	16.40	134	124885	21.8879	ug/L	96
88) 1,2,4-Trimethylbenzene	16.45	105	590247	22.1822	ug/L	100
89) sec-Butylbenzene	16.65	105	707728	23.0000	ug/L	100
90) p-Isopropyltoluene	16.79	119	640291	22.8615	ug/L	98
91) 1,3-Dichlorobenzene	16.99	146	371169	21.0369	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	377927	20.9776	ug/L	100
93) n-Butylbenzene	17.29	91	547914	21.7290	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	341666	20.5402	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.50	75	18881	17.0521	ug/L	95
96) 1,2,4-Trichlorobenzene	19.55	180	245655	19.8749	ug/L	99
97) Hexachlorobutadiene	19.70	225	107472	21.4024	ug/L	99
98) Naphthalene	19.90	128	407508	17.2272	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	219875	18.9983	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11776.D 8260_WT.M Thu May 12 10:43:50 2016

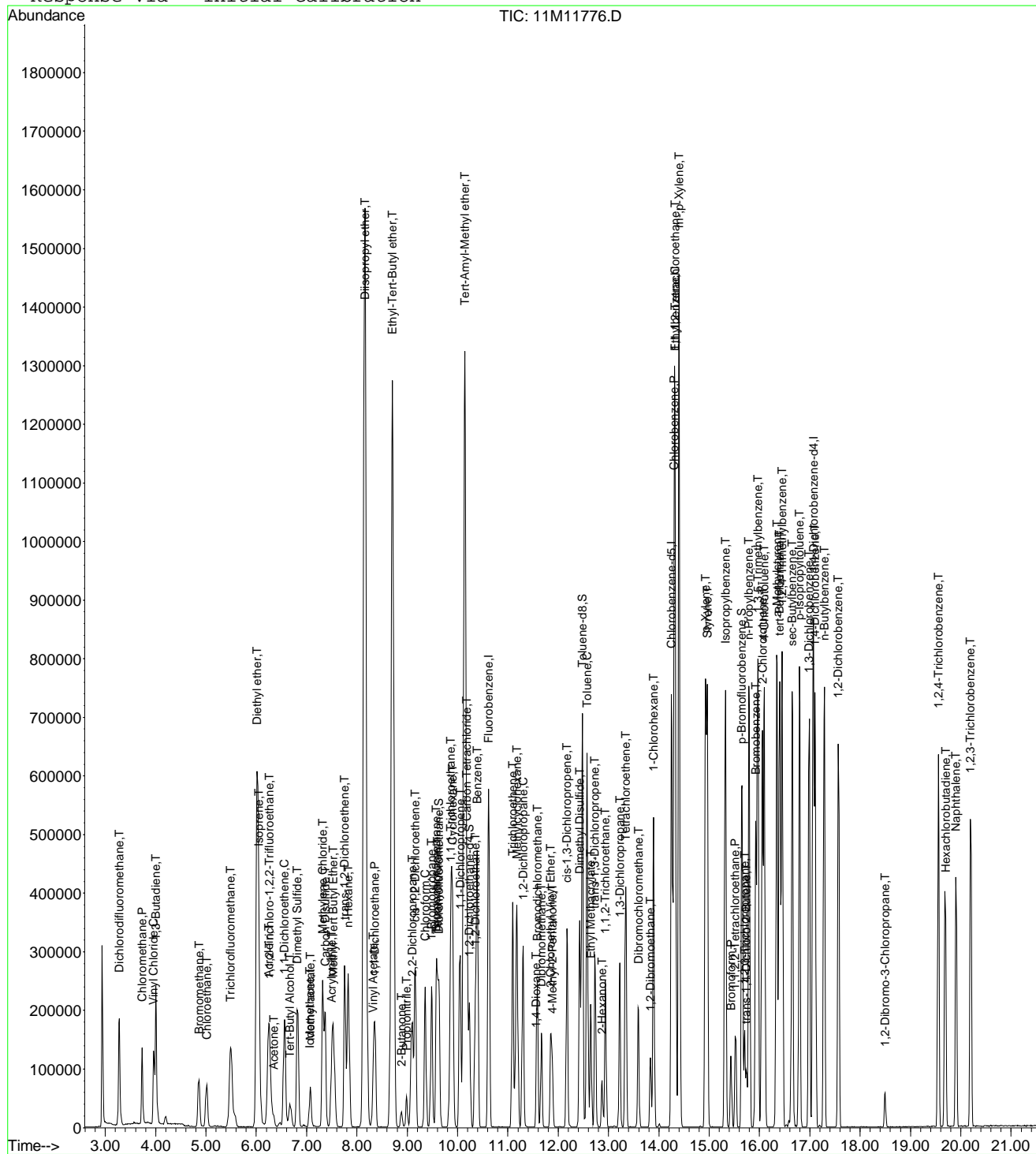
Page 2

Data File : C:\MSDCHEM\1\DATA\051116\11M11776.D
Acq On : 11 May 2016 18:46
Sample : WG568444-02 20ug/L LCS STD 8260
Misc : 1,1 STD76109
MS Integration Params: rteint.p
Quant Time: May 12 10:43 2016

Vial: 6
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\11M11776.D Vial: 6
 Acq On : 11 May 2016 18:46 Operator: JDS
 Sample : WG568444-02 20ug/L LCS STD 8260 Inst : hpms11
 Misc : 1,1 STD76109 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 10:42:40 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Tue Apr 05 11:32:32 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	627683	25.00	ug/L	-0.01
12) Chlorobenzene-d5	14.25	117	520055	25.00	ug/L	-0.02
13) 1,4-Dichlorobenzene-d4	17.07	152	304492	25.00	ug/L	0.00

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.67	41	20075	41.6998	ug/L	59
4) 2-Chloro-1,3-butadiene	8.71	53	17227	1.5191	ug/L #	1
5) Methacrylonitrile	9.09	41	129128	44.2245	ug/L #	24
6) Isobutyl Alcohol	9.48	43	253786	1689.0791	ug/L #	12
7) 1-Butanol	10.14	56	34466	433.6444	ug/L #	1
10) Ethyl Acetate	8.88	43	45729	13.2049	ug/L #	68
11) Methyl methacrylate	11.30	41	103252	25.6417	ug/L #	23

 (#) = qualifier out of range (m) = manual integration
 11M11776.D A9FOOWT.M Thu May 12 10:42:41 2016

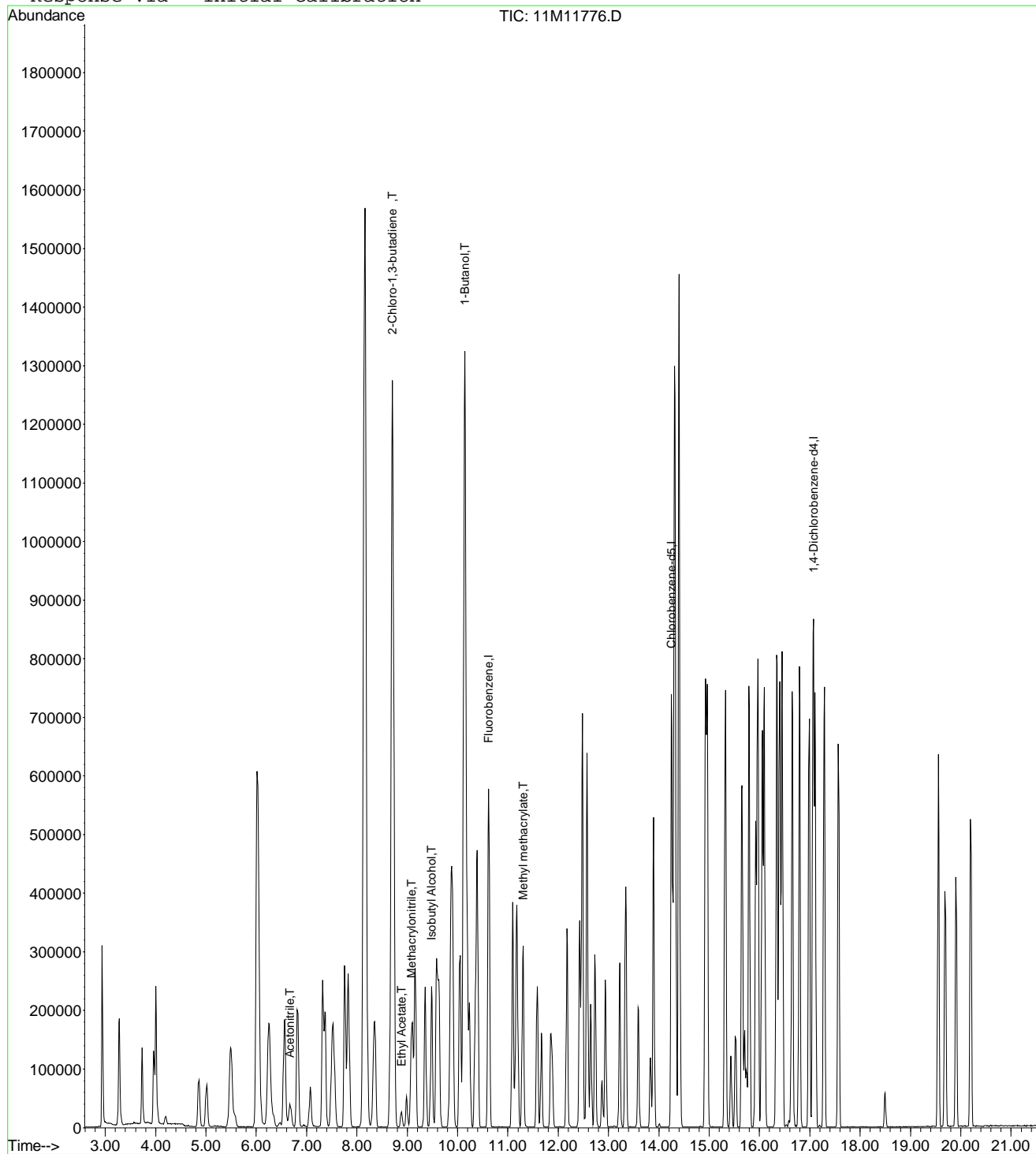
Page 1

Data File : C:\MSDCHEM\1\DATA\051116\11M11776.D
 Acq On : 11 May 2016 18:46
 Sample : WG568444-02 20ug/L LCS STD 8260
 Misc : 1,1 STD76109
 MS Integration Params: rteint.p
 Quant Time: May 12 10:42 2016

Vial: 6
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Tue Apr 05 11:32:32 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\data\051016\11M11732.D Vial: 11
 Acq On : 10 May 2016 19:47 Operator: JDS
 Sample : WG568233-03 20ug/L LCS2 STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 10 20:08:57 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	560962	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	490813	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	295334	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.64	111	164411	25.8193	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	103.28%	
43) 1,2-Dichloroethane-d4	10.24	65	178922	23.1899	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	92.76%	
57) Toluene-d8	12.48	98	567559	24.5986	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	98.40%	
78) p-Bromofluorobenzene	15.64	95	239915	24.8694	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	99.48%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	193823	23.5476	ug/L	100
3) Chloromethane	3.73	50	125519	16.7929	ug/L	98
4) Vinyl Chloride	3.96	62	125055	20.9548	ug/L	99
5) 1,3-Butadiene	4.00	54	858048	152.5837	ug/L	97
6) Bromomethane	4.86	94	66609	17.5736	ug/L	100
7) Chloroethane	5.01	64	90395	22.3692	ug/L	99
8) Trichlorofluoromethane	5.49	101	236048	21.3528	ug/L	100
9) Diethyl ether	6.02	59	489745	97.3693	ug/L	97
10) Isoprene	6.05	67	166705	21.8085	ug/L	97
11) Acrolein	6.25	56	65869	95.5809	ug/L	93
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	118740	21.3155	ug/L	100
13) Acetone	6.35	43	33407	19.9174	ug/L	90
14) 1,1-Dichloroethene	6.57	61	207785	20.1227	ug/L	99
15) Tert-Butyl Alcohol	6.67	59	74501	167.1592	ug/L	99
16) Dimethyl Sulfide	6.82	62	126869	27.0928	ug/L	96
17) Iodomethane	7.07	142	69163	13.8735	ug/L	99
18) Methyl acetate	7.07	43	85489	14.7200	ug/L	99
19) Methylene Chloride	7.32	84	113529	19.6353	ug/L	96
20) Carbon Disulfide	7.37	76	329638	18.2383	ug/L	100
21) Acrylonitrile	7.50	53	41457	19.2344	ug/L	99
22) Methyl Tert Butyl Ether	7.53	73	303317	20.2063	ug/L	98
23) trans-1,2-Dichloroethene	7.75	96	121101	20.4913	ug/L	99
24) n-Hexane	7.83	57	173065	17.8678	ug/L	99
25) Diisopropyl ether	8.16	45	2739923	106.9252	ug/L	99
26) Vinyl Acetate	8.32	43	125516	47.5507	ug/L	100
27) 1,1-Dichloroethane	8.35	63	230812	19.8441	ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	2060801	98.1841	ug/L	100
29) 2-Butanone	8.88	43	46370	18.4821	ug/L	97
30) Propionitrile	8.99	54	65881	89.8969	ug/L	97
31) 2,2-Dichloropropane	9.10	77	182315	21.7034	ug/L	100
32) cis-1,2-Dichloroethene	9.16	96	137059	20.8939	ug/L	96
33) Chloroform	9.36	83	228680	21.0498	ug/L	100
34) 1-Bromopropane	9.48	122	32487	27.0533	ug/L	97
35) Bromochloromethane	9.57	130	82131	19.5666	ug/L	99
36) Tetrahydrofuran	9.61	42	144688	84.0415	ug/L	98
38) 1,1,1-Trichloroethane	9.86	97	227196	21.6279	ug/L	99
39) Cyclohexane	9.90	56	255157	20.0833	ug/L	99
40) 1,1-Dichloropropene	10.05	75	163728	20.6266	ug/L	99
41) Carbon Tetrachloride	10.18	117	214322	21.6151	ug/L	99
42) Tert-Amyl-Methyl ether	10.14	73	1490310	99.7935	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11732.D 8260_WT.M Tue May 10 20:08:58 2016

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Data File : C:\MSDCHEM\1\data\051016\11M11732.D Vial: 11
 Acq On : 10 May 2016 19:47 Operator: JDS
 Sample : WG568233-03 20ug/L LCS2 STD 8260 Inst : hpms11
 Misc : 1,1 STD75976 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 10 20:08:57 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	200974	21.5607	ug/L	98
45) Benzene	10.39	78	456547	20.1072	ug/L	100
46) Trichloroethene	11.09	130	151601	20.4865	ug/L	99
47) Methylcyclohexane	11.18	83	177769	19.8087	ug/L	99
48) 1,2-Dichloropropane	11.30	63	132108	20.4866	ug/L	96
49) 1,4-Dioxane	11.57	88	6252	159.9226	ug/L	100
50) Bromodichloromethane	11.58	83	174927	20.4659	ug/L	99
51) Dibromomethane	11.66	93	64790	19.1592	ug/L	97
52) 2-Chloroethyl Vinyl Ether	11.85	63	63202	18.7972	ug/L	98
53) 4-Methyl-2-Pentanone	11.88	58	36439	17.6748	ug/L	98
54) cis-1,3-Dichloropropene	12.17	75	197948	22.0023	ug/L	100
55) Dimethyl Disulfide	12.43	79	112460	20.0374	ug/L	96
58) Toluene	12.57	91	522665	20.5647	ug/L	99
59) Ethyl Methacrylate	12.65	69	117803	18.1188	ug/L	99
60) trans-1,3-Dichloropropene	12.73	75	165208	19.8438	ug/L	100
61) 1,1,2-Trichloroethane	12.93	97	93032	19.5572	ug/L	98
62) 2-Hexanone	12.87	43	69912	17.8246	ug/L	99
63) 1,3-Dichloropropane	13.22	76	159589	20.1966	ug/L	97
64) Tetrachloroethene	13.34	164	117733	20.5275	ug/L	100
65) Dibromochloromethane	13.60	129	137515	20.0269	ug/L	99
66) 1,2-Dibromoethane	13.83	107	92488	19.1515	ug/L	98
67) 1-Chlorohexane	13.90	91	171418	20.5614	ug/L	98
68) Chlorobenzene	14.30	112	386137	20.6560	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	148174	20.6785	ug/L	99
70) Ethylbenzene	14.32	106	194531	20.5093	ug/L	97
71) m-,p-Xylene	14.40	106	479033	42.4406	ug/L	97
72) o-Xylene	14.93	106	239756	21.2940	ug/L	99
73) Styrene	14.96	104	396164	20.7379	ug/L	99
74) Bromoform	15.44	173	79933	16.9920	ug/L	99
75) Isopropylbenzene	15.32	105	627112	22.0266	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	94800	17.3397	ug/L	100
79) 1,2,3-Trichloropropane	15.71	110	34216	19.0122	ug/L	88
80) trans-1,4-Dichloro-2-Butene	15.74	53	30439	13.1568	ug/L	79
81) n-Propylbenzene	15.79	91	735512	22.1638	ug/L	100
82) Bromobenzene	15.92	156	176698	19.1788	ug/L	100
83) 1,3,5-Trimethylbenzene	15.96	105	544648	21.5968	ug/L	99
84) 2-Chlorotoluene	16.06	91	534648	21.8291	ug/L	100
85) 4-Chlorotoluene	16.10	91	415816	20.6901	ug/L	99
86) a-Methylstyrene	16.35	118	315298	22.4975	ug/L	99
87) tert-Butylbenzene	16.40	134	117003	21.1423	ug/L	96
88) 1,2,4-Trimethylbenzene	16.45	105	550541	21.3316	ug/L	100
89) sec-Butylbenzene	16.65	105	655140	21.9512	ug/L	100
90) p-Isopropyltoluene	16.79	119	589516	21.7013	ug/L	100
91) 1,3-Dichlorobenzene	16.99	146	350256	20.4672	ug/L	100
92) 1,4-Dichlorobenzene	17.10	146	357889	20.4813	ug/L	100
93) n-Butylbenzene	17.29	91	513657	21.0021	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	323559	20.0548	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.49	75	19522	18.1123	ug/L	96
96) 1,2,4-Trichlorobenzene	19.55	180	235450	19.6399	ug/L	99
97) Hexachlorobutadiene	19.70	225	95386	19.5846	ug/L	98
98) Naphthalene	19.90	128	408538	17.8063	ug/L	99
99) 1,2,3-Trichlorobenzene	20.19	180	211070	18.8030	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11732.D 8260_WT.M Tue May 10 20:08:58 2016

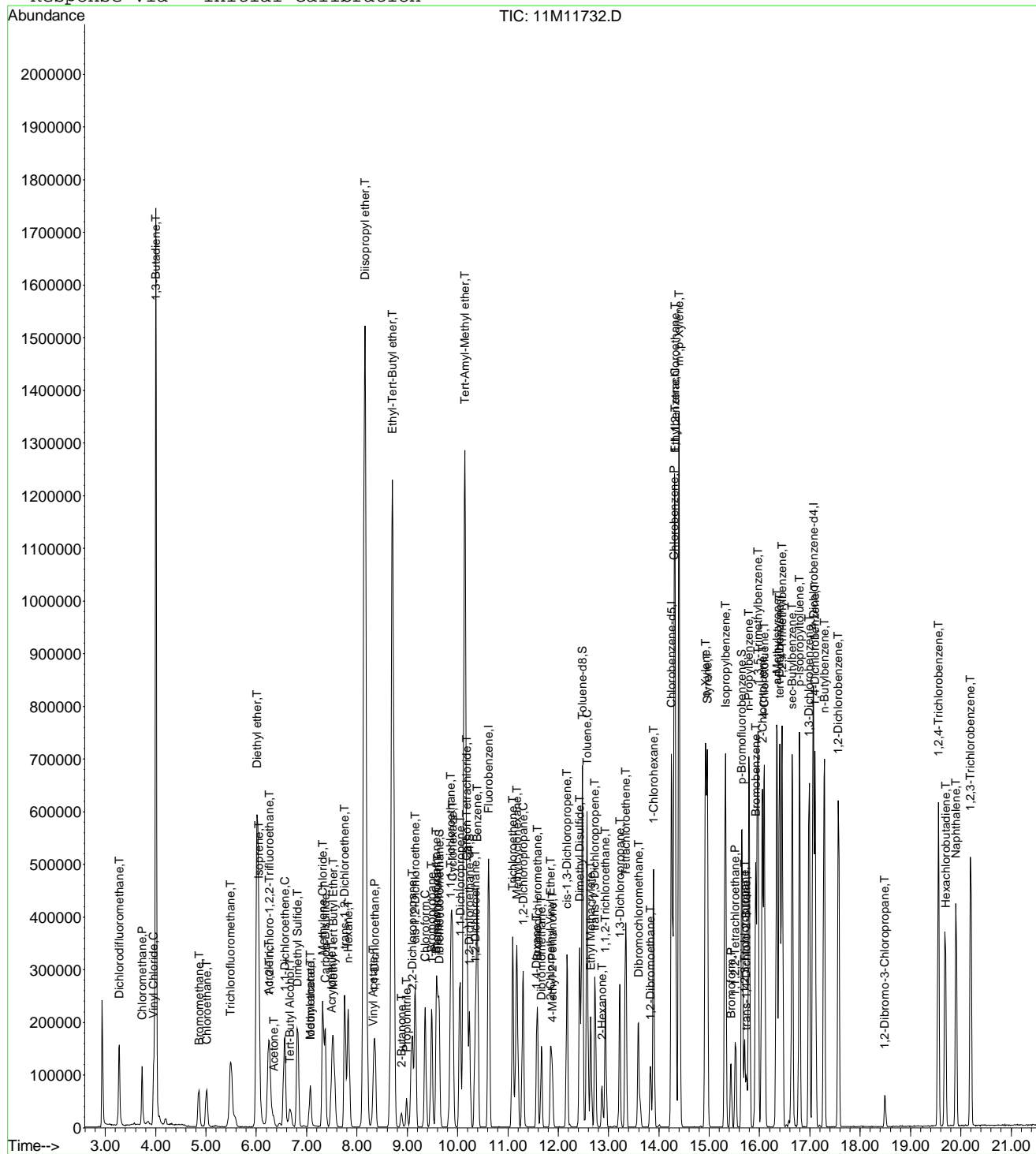
Page 2

Data File : C:\MSDchem\1\data\051016\11M11732.D
Acq On : 10 May 2016 19:47
Sample : WG568233-03 20ug/L LCS2 STD 8260
Misc : 1,1 STD75976
MS Integration Params: rteint.p
Quant Time: May 10 20:08 2016

Vial: 11
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\11M11777.D Vial: 7
 Acq On : 11 May 2016 19:17 Operator: JDS
 Sample : WG568444-03 20ug/L LCS2 STD 8260 Inst : hpms11
 Misc : 1,1 STD76109 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 10:43:51 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	642405	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	525420	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.07	152	304070	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	168784	23.1456	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	92.60%	
43) 1,2-Dichloroethane-d4	10.24	65	176928	20.0242	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	80.08%	
57) Toluene-d8	12.48	98	590470	23.9060	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	95.64%	
78) p-Bromofluorobenzene	15.64	95	248582	25.0275	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	100.12%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.28	85	240687	25.5340	ug/L	99
3) Chloromethane	3.73	50	153866	17.9756	ug/L	100
4) Vinyl Chloride	3.96	62	144472	21.1393	ug/L	99
5) 1,3-Butadiene	4.00	54	109231	16.9616	ug/L	98
6) Bromomethane	4.86	94	85610	19.7232	ug/L	96
7) Chloroethane	5.01	64	95701	20.6799	ug/L	98
8) Trichlorofluoromethane	5.49	101	259219	20.4760	ug/L	99
9) Diethyl ether	6.01	59	509141	88.3923	ug/L	100
10) Isoprene	6.05	67	177446	20.2707	ug/L	99
11) Acrolein	6.25	56	64702	84.0278	ug/L	92
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	131961	20.6856	ug/L	100
13) Acetone	6.35	43	32540	16.9409	ug/L	94
14) 1,1-Dichloroethene	6.57	61	227282	19.2204	ug/L	99
15) Tert-Butyl Alcohol	6.67	59	84996	166.5295	ug/L	99
16) Dimethyl Sulfide	6.81	62	136012	25.3630	ug/L	100
17) Iodomethane	7.07	142	67920	11.9879	ug/L	96
18) Methyl acetate	7.07	43	79666	12.0382	ug/L	99
19) Methylene Chloride	7.32	84	119645	18.0696	ug/L	96
20) Carbon Disulfide	7.37	76	348742	16.8491	ug/L	99
21) Acrylonitrile	7.50	53	41260	16.7161	ug/L	100
22) Methyl Tert Butyl Ether	7.53	73	309123	17.9823	ug/L	99
23) trans-1,2-Dichloroethene	7.75	96	133439	19.7165	ug/L	97
24) n-Hexane	7.83	57	198719	17.9154	ug/L	100
25) Diisopropyl ether	8.16	45	2859869	97.4569	ug/L	100
26) Vinyl Acetate	8.32	43	149209	48.7947	ug/L	99
27) 1,1-Dichloroethane	8.35	63	252553	18.9605	ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	2163674	90.0163	ug/L	100
29) 2-Butanone	8.88	43	47904	16.6729	ug/L	98
30) Propionitrile	8.99	54	66011	78.6548	ug/L	99
31) 2,2-Dichloropropane	9.09	77	198398	20.6238	ug/L	99
32) cis-1,2-Dichloroethene	9.16	96	149211	19.8626	ug/L	97
33) Chloroform	9.36	83	245760	19.7540	ug/L	99
34) 1-Bromopropane	9.48	122	34155	24.8807	ug/L	96
35) Bromochloromethane	9.57	130	88046	18.3165	ug/L	96
36) Tetrahydrofuran	9.61	42	148998	75.5730	ug/L	99
38) 1,1,1-Trichloroethane	9.86	97	248600	20.6652	ug/L	100
39) Cyclohexane	9.90	56	273979	18.8308	ug/L	100
40) 1,1-Dichloropropene	10.05	75	179358	19.7310	ug/L	98
41) Carbon Tetrachloride	10.18	117	237470	20.9133	ug/L	99
42) Tert-Amyl-Methyl ether	10.14	73	1567036	91.6282	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11777.D 8260_WT.M Thu May 12 10:43:52 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051116\11M11777.D Vial: 7
 Acq On : 11 May 2016 19:17 Operator: JDS
 Sample : WG568444-03 20ug/L LCS2 STD 8260 Inst : hpms11
 Misc : 1,1 STD76109 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 10:43:51 2016 Quant Results File: 8260_WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
 Last Update : Wed May 04 09:44:01 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.35	62	206024	19.3004	ug/L	100
45) Benzene	10.39	78	497121	19.1184	ug/L	100
46) Trichloroethene	11.09	130	164644	19.4283	ug/L	99
47) Methylcyclohexane	11.18	83	200099	19.4701	ug/L	99
48) 1,2-Dichloropropane	11.30	63	140045	18.9642	ug/L	95
49) 1,4-Dioxane	11.56	88	6793	151.7319	ug/L	78
50) Bromodichloromethane	11.58	83	188090	19.2161	ug/L	100
51) Dibromomethane	11.66	93	67973	17.5521	ug/L	96
52) 2-Chloroethyl Vinyl Ether	11.85	63	65044	16.8925	ug/L	99
53) 4-Methyl-2-Pentanone	11.88	58	36130	15.3032	ug/L	99
54) cis-1,3-Dichloropropene	12.17	75	211370	20.5156	ug/L	100
55) Dimethyl Disulfide	12.43	79	116903	18.1884	ug/L	96
58) Toluene	12.57	91	575967	21.1693	ug/L	99
59) Ethyl Methacrylate	12.65	69	124393	17.8781	ug/L	96
60) trans-1,3-Dichloropropene	12.73	75	174627	19.5936	ug/L	99
61) 1,1,2-Trichloroethane	12.94	97	97574	19.1610	ug/L	100
62) 2-Hexanone	12.87	43	70867	16.8780	ug/L	100
63) 1,3-Dichloropropane	13.22	76	167082	19.7521	ug/L	99
64) Tetrachloroethene	13.34	164	126961	20.6784	ug/L	99
65) Dibromochloromethane	13.59	129	143673	19.5455	ug/L	100
66) 1,2-Dibromoethane	13.83	107	94001	18.1828	ug/L	97
67) 1-Chlorohexane	13.90	91	185719	20.8095	ug/L	99
68) Chlorobenzene	14.30	112	416475	20.8115	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.33	131	159366	20.7755	ug/L	99
70) Ethylbenzene	14.32	106	212576	20.9356	ug/L	98
71) m-,p-Xylene	14.40	106	527056	43.6197	ug/L	99
72) o-Xylene	14.93	106	260503	21.6128	ug/L	99
73) Styrene	14.96	104	431669	21.1082	ug/L	99
74) Bromoform	15.44	173	80592	16.0347	ug/L	100
75) Isopropylbenzene	15.32	105	682960	22.4082	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	96282	17.1097	ug/L	99
79) 1,2,3-Trichloropropane	15.71	110	34818	18.7909	ug/L	91
80) trans-1,4-Dichloro-2-Butene	15.74	53	29062	12.2614	ug/L	71
81) n-Propylbenzene	15.79	91	803084	23.5047	ug/L	100
82) Bromobenzene	15.92	156	190685	20.1023	ug/L	99
83) 1,3,5-Trimethylbenzene	15.96	105	595826	22.9474	ug/L	99
84) 2-Chlorotoluene	16.06	91	570765	22.6342	ug/L	100
85) 4-Chlorotoluene	16.10	91	459029	22.1841	ug/L	100
86) a-Methylstyrene	16.35	118	337044	23.3582	ug/L	100
87) tert-Butylbenzene	16.40	134	127130	22.3123	ug/L	95
88) 1,2,4-Trimethylbenzene	16.45	105	603105	22.6969	ug/L	98
89) sec-Butylbenzene	16.65	105	721008	23.4641	ug/L	99
90) p-Isopropyltoluene	16.79	119	649571	23.2251	ug/L	98
91) 1,3-Dichlorobenzene	16.99	146	380131	21.5748	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	383408	21.3114	ug/L	99
93) n-Butylbenzene	17.29	91	561498	22.2986	ug/L	100
94) 1,2-Dichlorobenzene	17.57	146	345037	20.7717	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.50	75	18796	17.0019	ug/L	97
96) 1,2,4-Trichlorobenzene	19.55	180	253077	20.5038	ug/L	99
97) Hexachlorobutadiene	19.70	225	107659	21.4694	ug/L	96
98) Naphthalene	19.90	128	415103	17.5727	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	223765	19.3612	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11777.D 8260_WT.M Thu May 12 10:43:52 2016

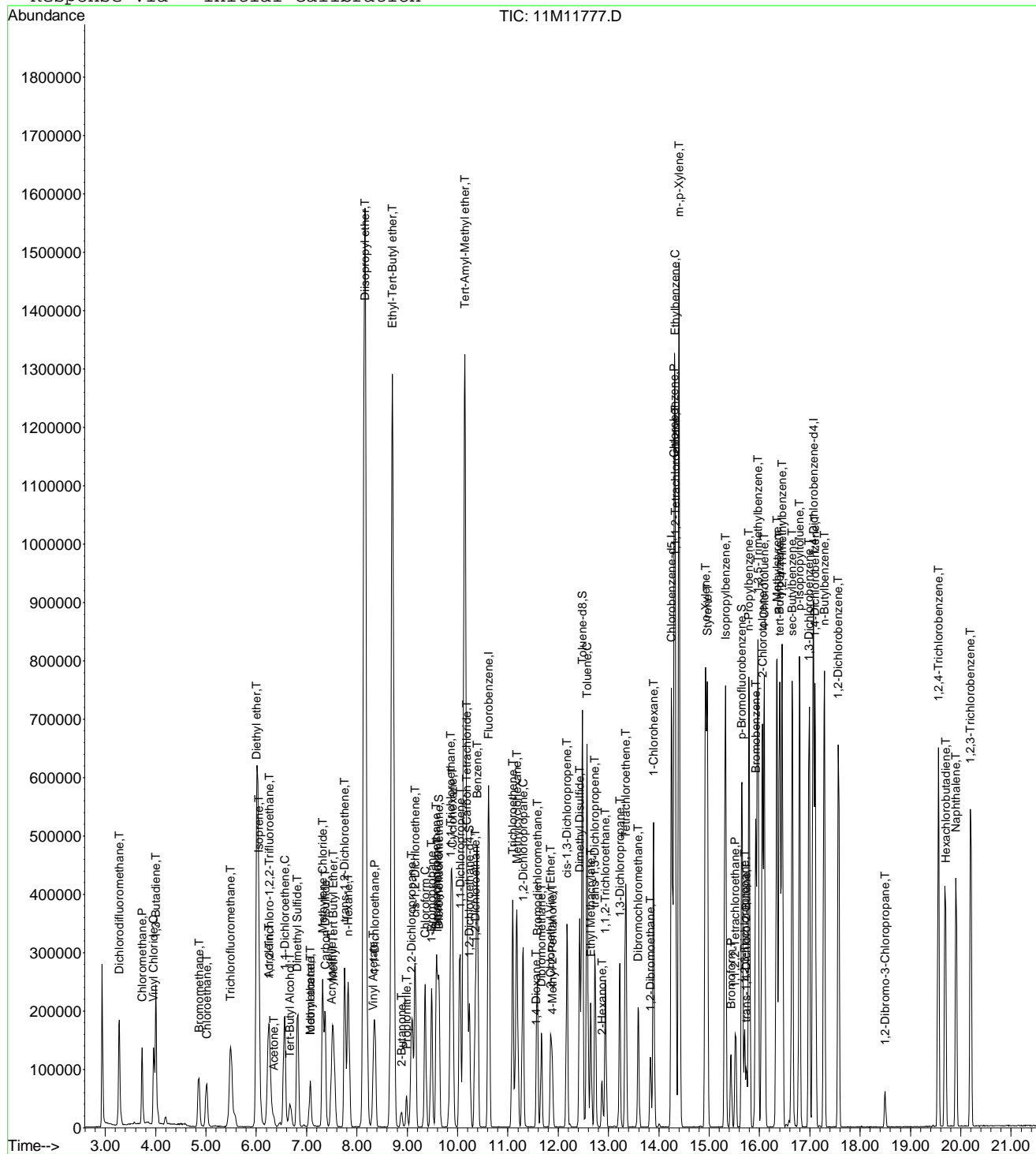
Page 2

Data File : C:\MSDCHEM\1\DATA\051116\11M11777.D
Acq On : 11 May 2016 19:17
Sample : WG568444-03 20ug/L LCS2 STD 8260
Misc : 1,1 STD76109
MS Integration Params: rteint.p
Quant Time: May 12 10:43 2016

Vial: 7
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260_WT.RES

Method : C:\MSDCHEM\1\METHODS\8260_WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 050316 HPMS11
Last Update : Wed May 04 09:44:01 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051116\11M11777.D Vial: 7
 Acq On : 11 May 2016 19:17 Operator: JDS
 Sample : WG568444-03 20ug/L LCS2 STD 8260 Inst : hpms11
 Misc : 1,1 STD76109 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 12 10:42:42 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Tue Apr 05 11:32:32 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260_WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.62	96	642405	25.00	ug/L	-0.01
12) Chlorobenzene-d5	14.25	117	525420	25.00	ug/L	-0.02
13) 1,4-Dichlorobenzene-d4	17.07	152	304070	25.00	ug/L	0.00

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.68	41	19472	39.5203	ug/L	49
4) 2-Chloro-1,3-butadiene	8.71	53	16493	1.4210	ug/L #	1
5) Methacrylonitrile	9.09	41	132870	44.4632	ug/L #	24
6) Isobutyl Alcohol	9.48	43	252765	1643.7309	ug/L #	12
7) 1-Butanol	10.14	56	33267	408.9667	ug/L #	1
10) Ethyl Acetate	8.88	43	47904	13.5160	ug/L #	68
11) Methyl methacrylate	11.29	41	104251	25.2965	ug/L #	23

 (#) = qualifier out of range (m) = manual integration
 11M11777.D A9FOOWT.M Thu May 12 10:42:43 2016

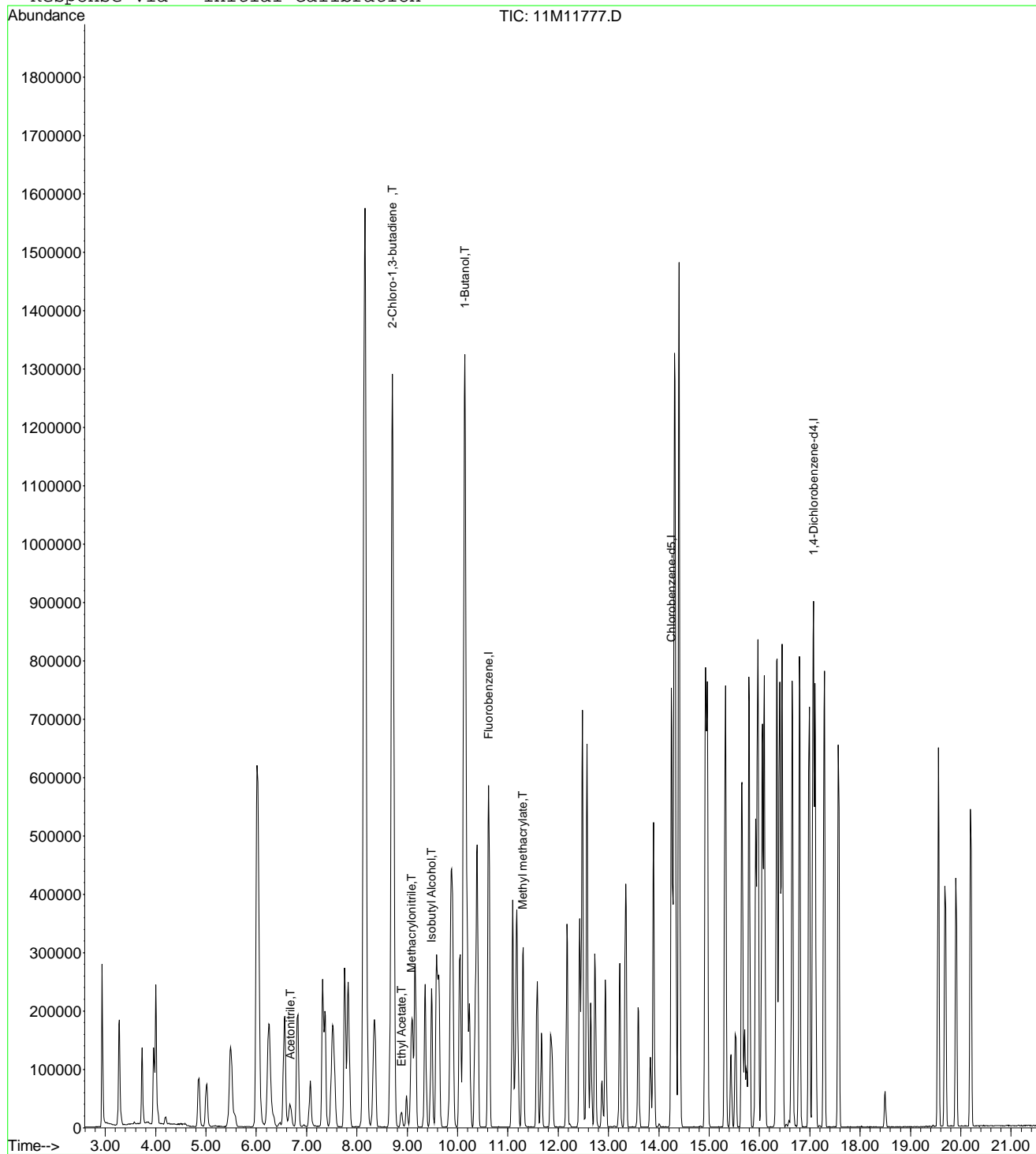
Page 1

Data File : C:\MSDCHEM\1\DATA\051116\11M11777.D
 Acq On : 11 May 2016 19:17
 Sample : WG568444-03 20ug/L LCS2 STD 8260
 Misc : 1,1 STD76109
 MS Integration Params: rteint.p
 Quant Time: May 12 10:42 2016

Vial: 7
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 061415 HPMS11
 Last Update : Tue Apr 05 11:32:32 2016
 Response via : Initial Calibration



2.1.2 RSK 175

2.1.2.1 Summary Data

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-03	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW14-050316	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG567637	Analyst: JDS	Run Date: 05/05/2016 15:02
Collect Date: 05/03/2016 09:25	Dilution: 1	File ID: 16G49851
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	2.83	J	5.00	2.00	1.00
ethene	74-85-1	2.00	U	5.00	2.00	1.00
ethane	74-84-0	2.00	U	5.00	2.00	1.00
J	Estimated value ; the analyte concentration was less than the LOQ.					
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-03

PrePrep Method: N/A

Instrument: HP16

Client ID: 50WW14-050316

Prep Method: 5021

Prep Date: N/A

Matrix: Water

Analytical Method: RSK175

Cal Date: 03/25/2016 12:34

Workgroup #: WG567895

Analyst: JDS

Run Date: 05/06/2016 17:53

Collect Date: 05/03/2016 09:25

Dilution: 10

File ID: 16G49861

Sample Tag: DL01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	990000		100000	50000	25000
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-05	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW08-050316	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG567637	Analyst: JDS	Run Date: 05/05/2016 15:14
Collect Date: 05/03/2016 10:45	Dilution: 1	File ID: 16G49852
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	2.07	J	5.00	2.00	1.00
ethene	74-85-1	2.00	U	5.00	2.00	1.00
ethane	74-84-0	2.00	U	5.00	2.00	1.00
J	Estimated value ; the analyte concentration was less than the LOQ.					
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-05	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW08-050316	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG567895	Analyst: JDS	Run Date: 05/06/2016 18:05
Collect Date: 05/03/2016 10:45	Dilution: 5	File ID: 16G49862
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	427000		50000	25000	12500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-07	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW18-050316	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG567637	Analyst: JDS	Run Date: 05/05/2016 15:26
Collect Date: 05/03/2016 13:10	Dilution: 1	File ID: 16G49853
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	2.00	U	5.00	2.00	1.00
ethene	74-85-1	2.00	U	5.00	2.00	1.00
ethane	74-84-0	2.00	U	5.00	2.00	1.00
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-07	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW18-050316	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG567895	Analyst: JDS	Run Date: 05/06/2016 18:16
Collect Date: 05/03/2016 13:10	Dilution: 5	File ID: 16G49863
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	465000		50000	25000	12500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-09

PrePrep Method: N/A

Instrument: HP16

Client ID: 50WW25-050316

Prep Method: 5021

Prep Date: N/A

Matrix: Water

Analytical Method: RSK175

Cal Date: 03/25/2016 12:34

Workgroup #: WG567637

Analyst: JDS

Run Date: 05/05/2016 15:37

Collect Date: 05/03/2016 14:40

Dilution: 1

File ID: 16G49854

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	3.41	J	5.00	2.00	1.00
ethene	74-85-1	2.00	U	5.00	2.00	1.00
ethane	74-84-0	2.00	U	5.00	2.00	1.00
J	Estimated value ; the analyte concentration was less than the LOQ.					
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-09	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW25-050316	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG567895	Analyst: JDS	Run Date: 05/06/2016 18:28
Collect Date: 05/03/2016 14:40	Dilution: 20	File ID: 16G49864
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	1360000		200000	100000	50000
U	Analyte was not detected. The concentration is below the reported LOD.					

2.1.2.2 QC Summary Data

RSK-175 - Example Calculation for Methane**1.0 Linear Calibration Models****Option A - Average RF Method**

ICAL_x	ICAL_r	RF
1.67	19901	11917
6.67	69174	10371
16.7	176923	10594
66.7	685135	10272
133	1324853	9961
300	2845104	9484
Average RF:		10433

Where:

ICAL_x = the ICAL concentration

ICAL_r = the ICAL response (area)

RF = calibration factor = ICAL_r / ICAL_x

Option B - Agilent Linear Regression Constant

ICAL_x	ICAL_r	[ICAL_r]^2	[ICAL-x][ICAL-r]
1.67	19901	396049801	33235
6.67	69174	4785042276	461391
16.7	176923	31301747929	2954614
66.7	685135	4.6941E+11	45698505
133	1324853	1.75524E+12	176205449
300	2845104	8.09462E+12	853531200
Summation:		1.03557E+13	1078884393

Agilent Linear Regression Constant : **9598.567853**
 (1.03557E+13)/1078884393)

2.0 Calculate the concentration in extract, Cx

Where:

y = area response of methane from quant report

a = average RF (or Agilent regression constant)

Cx = y/a

1157414
10433.00
110.9377935

3.0 Calculate the concentration in sample**Cs = Cx (MW/Tf) (HS/S) (DF)**

Where:

Cx = Concentration in extract

MW = molecular weight of analyte

TF = temperature factor = (22.4)(313/273)

HS = headspace volume

S = sample volume remaining after headspace removal

DF = dilution factor

Cs = calculated sample concentration

110.9377935 umol/mol
16.04 ug/umol
25.68 L/mol
0.015 L
0.00547 L
2
380.034301 ug/L

RSK-175 - Example Calculation for Carbon DioxideICAL Plot - Quadratic Regression ($y = Ax^2 + Bx + C$)

$$Ax^2 + Bx + (C - y) = 0$$

Step 1 - Calculate the concentration in extract, CxData from quadratic regression plot:

Value of A from plot:	0.916
Value of B from plot:	1540
Value of C from plot:	0
Response for methane from quantitation report (y):	8763828
Value of C - y	-8763828

Solving for Cx using the quadratic formula:

Root 1 - Computed Cx1:	2364.716284 umol/mol
Root 2 - Computed Cx2:	-4045.938991

Step 2 - Calculate the concentration in sample

$$C_s = C_x (MW/T_f) (HS/S) (DF)$$

Where:

Cx = Concentration in extract :	2364.716284 umol/mol
MW = molecular weight of analyte:	44.0 ug/umol
TF = temperature factor = (22.4)(313/273):	25.68 L/mol
HS = initial headspace volume (extraction log):	0.015 L
S = final volume (extraction log):	0.00547 L
DF = dilution factor:	10
Cs = calculated sample concentration:	111106.798 ug/L

Other Notes:

Temperature of headspace = 40 C = 313 K

Analyte	MW (g/mol)
Methane	16.04
Ethane	30.07
Ethene	28.05
Propane	44.1
Carbon Dioxide	44.0

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 032516
 Analyst1: JDS Analyst2: NA
 Method: RSK175 SOP: RSK01 Rev: 19
 Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID: _____

Internal Standard: NA Surrogate Standard: NA
 CCV: STD75351 LCS: STD68250 MS/MSD: NA
 Column 1 ID: RTQBOND Column 2 ID: RTQBOND
 Workgroups: WG562401 WG562514

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G49625	RINSE	NA	1	1		03/25/16 11:11
16G49626	WG562401-01 0.67umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:22
16G49627	WG562401-02 1.67umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:34
16G49628	WG562401-03 33.3umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:46
16G49629	WG562401-04 66.7umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:58
16G49630	WG562401-05 133umol/moL STD RSK175	NA	1	1	STD75351	03/25/16 12:10
16G49631	WG562401-06 333umol/moL STD RSK175	NA	1	1	STD75351	03/25/16 12:22
16G49632	WG562401-07 533umol/moL STD RSK175	NA	1	1	STD75351	03/25/16 12:34
16G49633	RINSE	NA	1	1		03/25/16 12:46
16G49634	WG562401-08 133umol/moL ALT SRC STD	NA	1	1	STD68250	03/25/16 13:47
16G49635	WG562401-08 133umol/moL ALT SRC STD	NA	1	1	STD68250	03/25/16 18:26
16G49636	WG562514-01 BLANK STD RSK175	NA	1	1		03/25/16 18:38
16G49637	WG562514-02 67umol/moL LCS STD RSK1	NA	1	1	STD68250	03/25/16 18:50
16G49638	WG562514-03 67umol/moL LCS2 STD RSK	NA	1	1	STD68250	03/25/16 19:02
16G49639	L16031272-14 B A1 RSK175	<2	1	1		03/25/16 19:14
16G49640	L16031272-15 B A1 RSK175	<2	1	1		03/25/16 19:26
16G49641	L16031272-22 B A1 RSK175	<2	1	1		03/25/16 19:38
16G49642	L16031272-03 B D1 10X RSK175	<2	1	10		03/25/16 19:50
16G49643	L16031272-04 B D1 5X RSK175	<2	1	5		03/25/16 20:01
16G49644	L16031272-08 B D1 50X RSK175	<2	1	50		03/25/16 20:13
16G49645	L16031272-19 B D1 10X RSK175	<2	1	10		03/25/16 20:25
16G49646	WG562401-09 133umol/moL CCV STD RSK	NA	1	1	STD75351	03/25/16 20:37
16G49647	L16031363-04 A RSK175	<2	1	1		03/25/16 20:49
16G49648	L16031363-05 A RSK175	<2	1	1		03/25/16 21:01
16G49649	L16031363-11 A RSK175	<2	1	1		03/25/16 21:12
16G49650	L16031363-12 A RSK175	<2	1	1		03/25/16 21:24
16G49651	L16031363-17 A RSK175	<2	1	1		03/25/16 21:36
16G49652	L16031388-01 A RSK175	<2	1	1		03/25/16 21:48
16G49653	WG562401-10 133umol/moL CCV STD RSK	NA	1	1	STD75351	03/25/16 21:59

Comments

Seq.	Rerun	Dil.	Reason	Analytes
10	X			CO2

Approved: April 01, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 032516
 Analyst1: JDS Analyst2: NA
 Method: RSK175 SOP: RSK01 Rev: 19
 Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID: _____

Internal Standard: NA Surrogate Standard: NA
 CCV: STD75351 LCS: STD68250 MS/MSD: NA
 Column 1 ID: RTQBOND Column 2 ID: RTQBOND
 Workgroups: WG562401 WG562514

Comments: **Comments**

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 16G49634				
Alt. Src. failed low for CO2				
23	X	50	Over Calibration Range	m
File ID: 16G49647				
L16031363-04				
24	X	20	Over Calibration Range	m
File ID: 16G49648				
L16031363-05				
25	X	5	Over Calibration Range	m
File ID: 16G49649				
L16031363-11				
26	X	5	Over Calibration Range	m
File ID: 16G49650				
L16031363-12				
27	X	10	Over Calibration Range	m
File ID: 16G49651				
L16031363-17				
28	X	5	Over Calibration Range	m, p
File ID: 16G49652				
L16031388-01 took prop. hit with high failing prop result in CCV.				
33			Check Standard Failure	p
File ID: 16G49653				
WG562401-10 failed high for prop.				

Approved: April 01, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 050516
 Analyst1: JDS Analyst2: NA
 Method: RSK175 SOP: RSK01 Rev: 19
 Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID: _____

Internal Standard: NA Surrogate Standard: NA
 CCV: STD75351 LCS: STD68250 MS/MSD: NA
 Column 1 ID: RTQBOND Column 2 ID: RTQBOND
 Workgroups: WG567637

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G49846	WG567635-01 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/05/16 11:51
16G49847	WG567637-01 BLANK STD RSK175	NA	1	1		05/05/16 14:15
16G49848	WG567637-02 67umol/mol LCS STD RSK17	NA	1	1	STD68250	05/05/16 14:28
16G49849	WG567637-03 67umol/mol LCS2 STD RSK1	NA	1	1	STD68250	05/05/16 14:39
16G49850	L16050151-01 A RSK175	7	1	1		05/05/16 14:51
16G49851	L16050151-03 A RSK175	7	1	1		05/05/16 15:02
16G49852	L16050151-05 A RSK175	7	1	1		05/05/16 15:14
16G49853	L16050151-07 A RSK175	7	1	1		05/05/16 15:26
16G49854	L16050151-09 A RSK175	7	1	1		05/05/16 15:37
16G49855	WG567635-02 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/05/16 15:49

Comments

Seq.	Rerun	Dil.	Reason	Analytes
5	X	10	Over Calibration Range	CO2
File ID: 16G49850				
L16050151-01				
6	X	10	Over Calibration Range	CO2
File ID: 16G49851				
L16050151-03				
7	X	5	Over Calibration Range	CO2
File ID: 16G49852				
L16050151-05				
8	X	5	Over Calibration Range	CO2
File ID: 16G49853				
L16050151-07				
9	X	20	Over Calibration Range	CO2
File ID: 16G49854				
L16050151-09				

Approved: May 11, 2016

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Sarah Vandenberg

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 050616
 Analyst1: JDS Analyst2: NA
 Method: RSK175 SOP: RSK01 Rev: 19
 Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID: _____

Internal Standard: NA Surrogate Standard: NA
 CCV: STD75351 LCS: STD68250 MS/MSD: NA
 Column 1 ID: RTQBOND Column 2 ID: RTQBOND
 Workgroups: WG567895

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G49856	WG567894-01 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/06/16 16:49
16G49857	WG567895-01 BLANK STD RSK175	NA	1	1		05/06/16 17:07
16G49858	WG567895-02 67umol/mol LCS STD RSK17	NA	1	1	STD68250	05/06/16 17:18
16G49859	WG567895-03 67umol/mol LCS2 STD RSK1	NA	1	1	STD68250	05/06/16 17:29
16G49860	L16050151-01 B D1 10X RSK175	7	1	10		05/06/16 17:41
16G49861	L16050151-03 B D1 10X RSK175	7	1	10		05/06/16 17:53
16G49862	L16050151-05 B D1 5X RSK175	7	1	5		05/06/16 18:05
16G49863	L16050151-07 B D1 5X RSK175	7	1	5		05/06/16 18:16
16G49864	L16050151-09 B D1 20X RSK175	7	1	20		05/06/16 18:28
16G49865	L16050240-01 A RSK175	<2	2	1		05/06/16 18:40
16G49866	L16050240-02 A RSK175	<2	2	1		05/06/16 18:51
16G49867	WG567894-02 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/06/16 19:03
16G49868	L16050240-03 A RSK175	<2	2	1		05/06/16 19:14
16G49869	L16050240-04 A RSK175	<2	2	1		05/06/16 19:26
16G49870	L16050240-05 A RSK175	<2	2	1		05/06/16 19:38
16G49871	L16050238-01 A RSK175	<2	1	1		05/06/16 19:49
16G49872	L16050238-02 A RSK175	<2	1	1		05/06/16 20:01
16G49873	WG567894-03 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/06/16 20:13

Approved: May 11, 2016

Page: 1




Batch #: B220401

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG562401-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-03	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-04	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-05	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-06	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-07	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-08	15	mL	15	mL					5.47	mL	5.47	mL	40



Batch #: B222440

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG567635-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG567635-02	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050151-09	15	mL	15	mL					5.47	mL	5.47	mL	40
WG567637-03	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
WG567637-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG567637-02	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16050151-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050151-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050151-07	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050151-05	15	mL	15	mL					5.47	mL	5.47	mL	40



Batch #: B222492

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG567894-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG567894-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG567894-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050238-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050240-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050240-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050238-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG567895-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG567895-03	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16050151-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050151-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050151-07	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050240-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG567895-02	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16050240-05	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050240-04	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050151-05	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050151-09	15	mL	15	mL					5.47	mL	5.47	mL	40



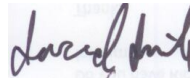
Microbac Laboratories Inc.

Data Checklist

Date: 25-MAR-2016
 Analyst: JDS
 Analyst: NA
 Method: RSK175
 Instrument: HP16
 Curve Workgroup: NA
 Runlog ID: 74110
 Analytical Workgroups: WG562401 WG562514

Initial Calibration	X
Average RF	X
Linear Req 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	NA
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	X
Surrogates	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	FJB
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 resonableness of the results	X

Primary Reviewer:
31-MAR-2016



Secondary Reviewer:
01-APR-2016



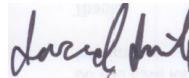

Microbac Laboratories Inc.

Data Checklist

Date: 05-MAY-2016
 Analyst: JDS
 Analyst: NA
 Method: RSK175
 Instrument: HP16
 Curve Workgroup: NA
 Runlog ID: 74964
 Analytical Workgroups: WG567637

Initial Calibration	X
Average RF	X
Linear Req 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	NA
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	X
Surrogates	NA
Calculations & Correct Factors	X
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	JDS
Secondary Reviewer	SAV
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 resonableness of the results	X

Primary Reviewer:
10-MAY-2016



Secondary Reviewer:
11-MAY-2016



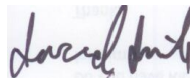

Microbac Laboratories Inc.

Data Checklist

Date: 06-MAY-2016
 Analyst: JDS
 Analyst: NA
 Method: RSK175
 Instrument: HP16
 Curve Workgroup: NA
 Runlog ID: 74980
 Analytical Workgroups: WG567895

Initial Calibration	X
Average RF	X
Linear Req 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	NA
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	X
Surrogates	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	SAV
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 resonableness of the results	X

Primary Reviewer:
10-MAY-2016



Secondary Reviewer:
11-MAY-2016




Analytical Method: RSK175
Login Number: L16050151

AAB#: WG567637

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
50WW14-050316	03	05/03/16					05/05/2016	2.2	7		05/05/16	2.2	7	
50WW08-050316	05	05/03/16					05/05/2016	2.2	7		05/05/16	2.2	7	
50WW18-050316	07	05/03/16					05/05/2016	2.1	7		05/05/16	2.1	7	
50WW25-050316	09	05/03/16					05/05/2016	2	7		05/05/16	2	7	

* = SEE PROJECT QAPP REQUIREMENTS



Analytical Method: RSK175
Login Number: L16050151

AAB#: WG567895

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
50WW14-050316	03	05/03/16					05/06/2016	3.4	7		05/06/16	3.4	7	
50WW08-050316	05	05/03/16					05/06/2016	3.3	7		05/06/16	3.3	7	
50WW18-050316	07	05/03/16					05/06/2016	3.2	7		05/06/16	3.2	7	
50WW25-050316	09	05/03/16					05/06/2016	3.2	7		05/06/16	3.2	7	

* = SEE PROJECT QAPP REQUIREMENTS



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG567637
 Blank File ID: 16G49847 Blank Sample ID: WG567637-01
 Prep Date: 05/05/16 14:15 Instrument ID: HP16
 Analyzed Date: 05/05/16 14:15 Method: RSK175
 Analyst: JDS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG567637-02	16G49848	05/05/16 14:28	01
LCS2	WG567637-03	16G49849	05/05/16 14:39	01
50WW14-050316	L16050151-03	16G49851	05/05/16 15:02	01
50WW08-050316	L16050151-05	16G49852	05/05/16 15:14	01
50WW18-050316	L16050151-07	16G49853	05/05/16 15:26	01
50WW25-050316	L16050151-09	16G49854	05/05/16 15:37	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4753741
 Report generated 05/13/2016 15:55



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG567895
 Blank File ID: 16G49857 Blank Sample ID: WG567895-01
 Prep Date: 05/06/16 17:07 Instrument ID: HP16
 Analyzed Date: 05/06/16 17:07 Method: RSK175
 Analyst: JDS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG567895-02	16G49858	05/06/16 17:18	01
LCS2	WG567895-03	16G49859	05/06/16 17:29	01
50WW14-050316	L16050151-03	16G49861	05/06/16 17:53	DL01
50WW08-050316	L16050151-05	16G49862	05/06/16 18:05	DL01
50WW18-050316	L16050151-07	16G49863	05/06/16 18:16	DL01
50WW25-050316	L16050151-09	16G49864	05/06/16 18:28	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 4753741
 Report generated 05/13/2016 15:55



Login Number: L16050151 Prep Date: 05/05/16 14:15 Sample ID: WG567637-01
 Instrument ID: HP16 Run Date: 05/05/16 14:15 Prep Method: 5021
 File ID: 16G49847 Analyst: JDS Method: RSK175
 Workgroup (AAB#): WG567637 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HP16-25-MAR-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Methane	1.00	5.00	1.00	1	U
ethene	1.00	5.00	1.00	1	U
ethane	1.00	5.00	1.00	1	U

DL 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: 4753742
 13-MAY-2016 15:56



Login Number: L16050151 Prep Date: 05/06/16 17:07 Sample ID: WG567895-01
Instrument ID: HP16 Run Date: 05/06/16 17:07 Prep Method: 5021
File ID: 16G49857 Analyst: JDS Method: RSK175
Workgroup (AAB#): WG567895 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: HP16-25-MAR-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Carbon Dioxide	2500	10000	2500	1	U

DL 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: 4753742
13-MAY-2016 15:56



Login Number: L16050151 Analyst: JDS Prep Method: 5021
 Instrument ID: HP16 Matrix: Water Method: RSK175
 Workgroup (AAB#): WG567895 Units: ug/L
 QC Key: DOD4 Lot #: STD68250
 Sample ID: WG567895-02 LCS File ID: 16G49858 Run Date: 05/06/2016 17:18
 Sample ID: WG567895-03 LCS2 File ID: 16G49859 Run Date: 05/06/2016 17:29

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Carbon Dioxide	31300	29700	94.9	31300	29000	92.5	2.54	53.1- 130	40	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4753743
 Report generated: 05/13/2016 15:56



Login Number: L16050151 Analyst: JDS Prep Method: 5021
 Instrument ID: HP16 Matrix: Water Method: RSK175
 Workgroup (AAB#): WG567637 Units: ug/L
 QC Key: DOD4 Lot #: STD68250
 Sample ID: WG567637-02 LCS File ID: 16G49848 Run Date: 05/05/2016 14:28
 Sample ID: WG567637-03 LCS2 File ID: 16G49849 Run Date: 05/05/2016 14:39

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Methane	114	118	103	114	117	103	0.786	85 - 115	20	
ethene	200	205	103	200	202	101	1.19	85 - 115	20	
ethane	214	222	104	214	220	103	1.16	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4753743
 Report generated: 05/13/2016 15:56



Calibration Table Report

Method: RSKEXT1.M

Title: RSK175 HP16 (SOP: OVL RSK01) 032516

Last Calibration: Fri Mar 25 13:38:01 2016

Curve: WG562401

Calibration Files

Compound	16G49626. 16G49627. 16G49628. 16G49629. 16G49630. 16G49631. 16G49632.D							Avg	%RSD	Linear
	0.67	1.67	33.3	66.7	133	333	533			
T methane		357678.3	191763.4	178440.8	176333.2	180289.8	181011.4	210919.0	34.2	1.00
T ethene		326426.9	323789.7	303078.0	300924.8	311353.3	306803.0	312063.0	3.4	
T acetylene		320308.2	339363.3	305153.5	300205.1	309436.5	299142.0	312268.0	4.9	
T ethane	315183.9	335780.5	332335.5	309080.0	306732.7	318673.0	314718.5	318929.0	3.5	
T propane	455610.0	490813.9	490102.0	464477.8	457676.8	478108.3	465536.1	471761.0	3.1	
T n-butane	583900.4	644607.5	634321.2	604644.0	590464.7	622084.9	599806.6	611404.0	3.7	
Signal #2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T carbon dioxide		4817.9	5324.5	5339.4	5356.8	5546.3	5286.4	5278.5	4.6	

Mon Mar 28 10:00:37 2016

Login Number: L16050151 Run Date: 03/25/2016 Sample ID: WG562401-08
 Instrument ID: HP16 Run Time: 18:26 Method: RSK175
 File ID: 16G49635 Analyst: JDS QC Key: DOD4
 ICal Workgroup: WG562401 Cal ID: HP16 - 25-MAR-16

Analyte	Expected	Found	Units	RF	%D	UCL	Q
carbon dioxide	62500	68700	ug/L	5800	9.90	15	
methane	228	235	ug/L	187000	3.20	15	
ethene	398	400	ug/L	314000	0.500	15	
ethane	427	434	ug/L	324000	1.70	15	

* Exceeds %D Limit



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567635-01
 Instrument ID: HP16 Run Time: 11:51 Method: RSK175
 File ID: 16G49846 Analyst: JDS QC Key: DOD4
 Workgroup (AAB#): WG567637 Cal ID: HP16 - 25-MAR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
methane	228	211	ug/L	168000	7.34	15	
ethene	398	369	ug/L	289000	7.31	15	
ethane	427	395	ug/L	295000	7.47	15	

* Exceeds %D Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567635-02
 Instrument ID: HP16 Run Time: 15:49 Method: RSK175
 File ID: 16G49855 Analyst: JDS QC Key: DOD4
 Workgroup (AAB#): WG567637 Cal ID: HP16 - 25-MAR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
methane	228	224	ug/L	178000	1.60	15	
ethene	398	386	ug/L	303000	3.03	15	
ethane	427	415	ug/L	310000	2.71	15	

* Exceeds %D Criteria



Login Number: L16050151 Run Date: 05/06/2016 Sample ID: WG567894-01
 Instrument ID: HP16 Run Time: 16:49 Method: RSK175
 File ID: 16G49856 Analyst: JDS QC Key: DOD4
 Workgroup (AAB#): WG567895 Cal ID: HP16 - 25-MAR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
carbon dioxide	62500	65200	ug/L	5500	4.25	15	

* Exceeds %D Criteria



Login Number: L16050151 Run Date: 05/06/2016 Sample ID: WG567894-02
 Instrument ID: HP16 Run Time: 19:03 Method: RSK175
 File ID: 16G49867 Analyst: JDS QC Key: DOD4
 Workgroup (AAB#): WG567895 Cal ID: HP16 - 25-MAR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
carbon dioxide	62500	56900	ug/L	4800	8.98	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
 PDF File ID: 4753745
 Report generated 05/13/2016 15:56



2.1.2.3 Sample Data

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49851.D\FID1A.CH Vial: 6
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49851.D\TCD2B.CH
 Acq On : 05 May 2016 15:02 Operator: JDS
 Sample : L16050151-03 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 09:19:46 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	585869	1.646 umol/
2) T ethene	0.00	0	N.D. umol/
3) T acetylene	0.00	0	N.D. umol/
4) T ethane	1.39	26709	0.084 umol/
5) T propane	0.00	0	N.D. umol/
6) T n-butane	0.00	0	N.D. umol/
8) T carbon dioxide	0.19	1264326590	239522.718 umol/

(f)=RT Delta > 1/2 Window

16G49851.D RSKEXT1.M Fri May 06 09:19:46 2016

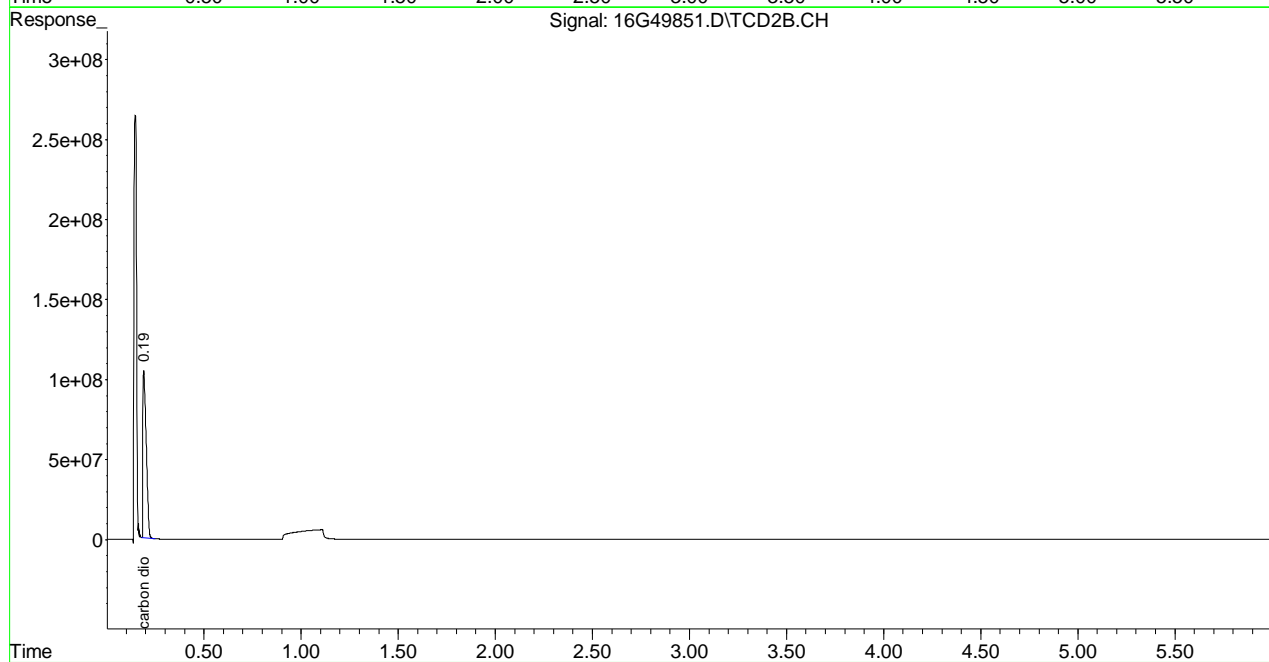
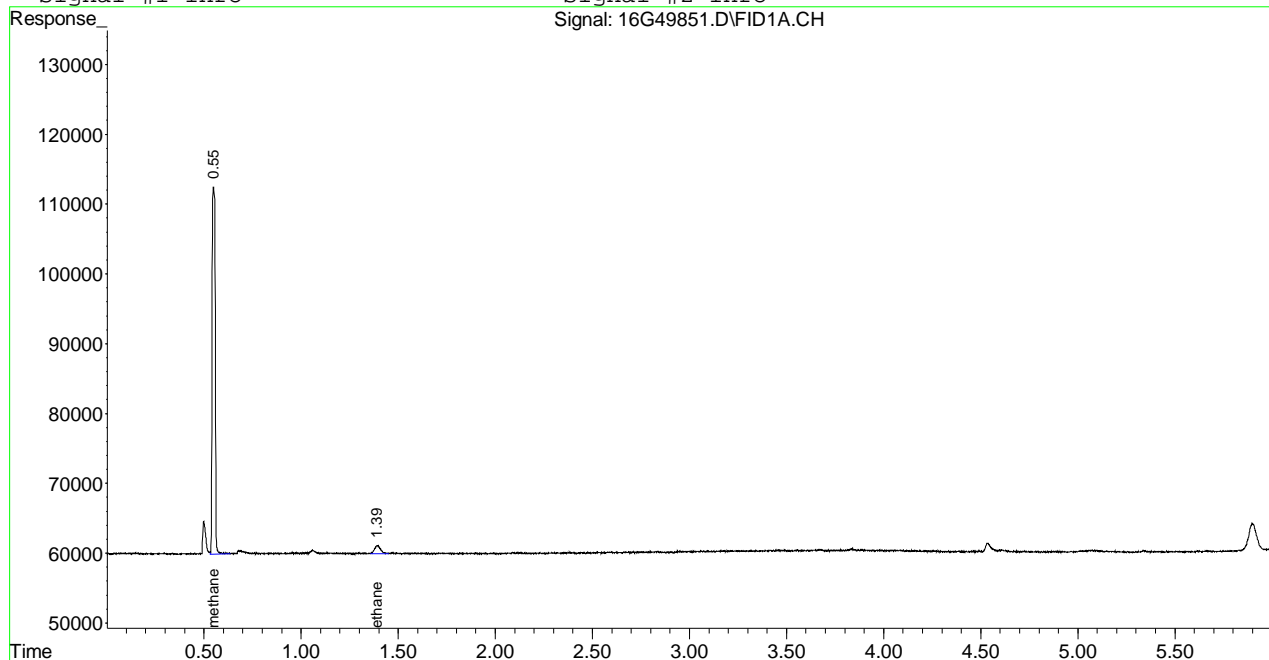
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49851.D\FID1A.CH Vial: 6
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49851.D\TCD2B.CH
 Acq On : 05 May 2016 15:02 Operator: JDS
 Sample : L16050151-03 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 6 9:19 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDchem\1\DATA\050616\16G49861.D\FID1A.CH Vial: 6
 Signal #2 : C:\MSDchem\1\DATA\050616\16G49861.D\TCD2B.CH
 Acq On : 06 May 2016 17:53 Operator: JDS
 Sample : L16050151-03 B D1 10X RSK175 Inst : HP16
 Misc : 1,10 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 17:59:38 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	298382	0.040 umol/
2) T ethene	0.00	0	N.D. umol/
3) T acetylene	0.00	0	N.D. umol/
4) T ethane	0.00	0	N.D. umol/
5) T propane	0.00	0	N.D. umol/
6) T n-butane	0.00	0	N.D. umol/
8) T carbon dioxide	0.20	111179453	21062.600 umol/

(f)=RT Delta > 1/2 Window
 16G49861.D RSKEXT1.M Fri May 06 17:59:39 2016

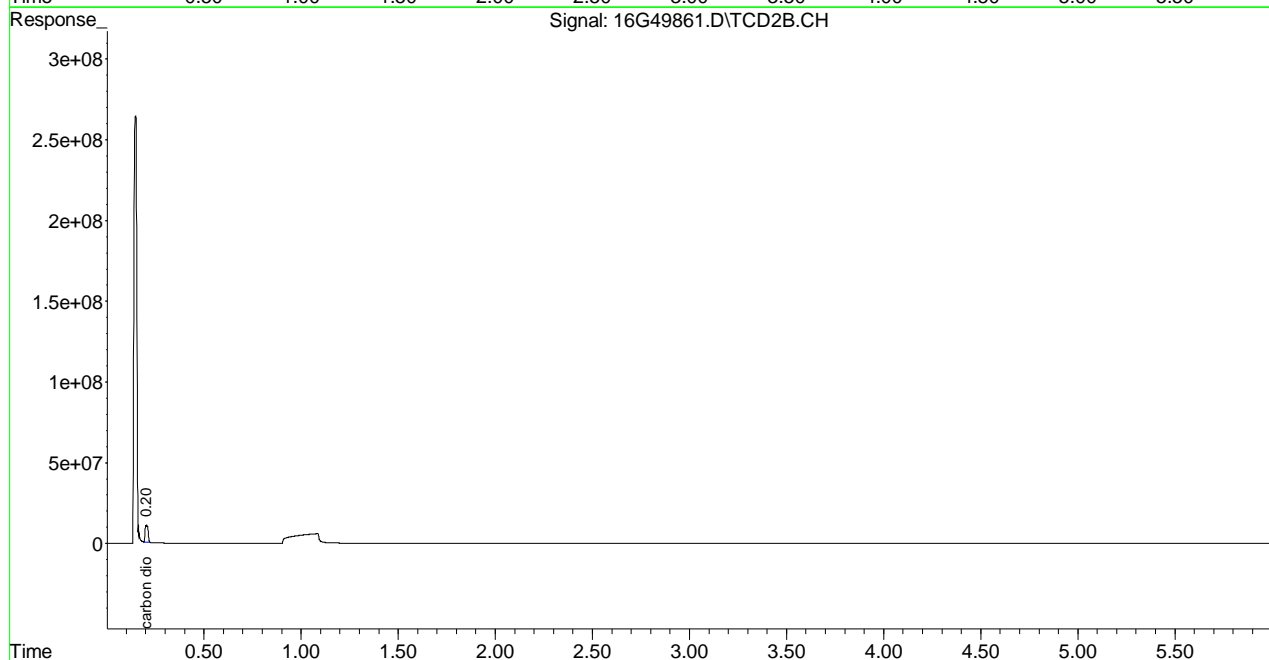
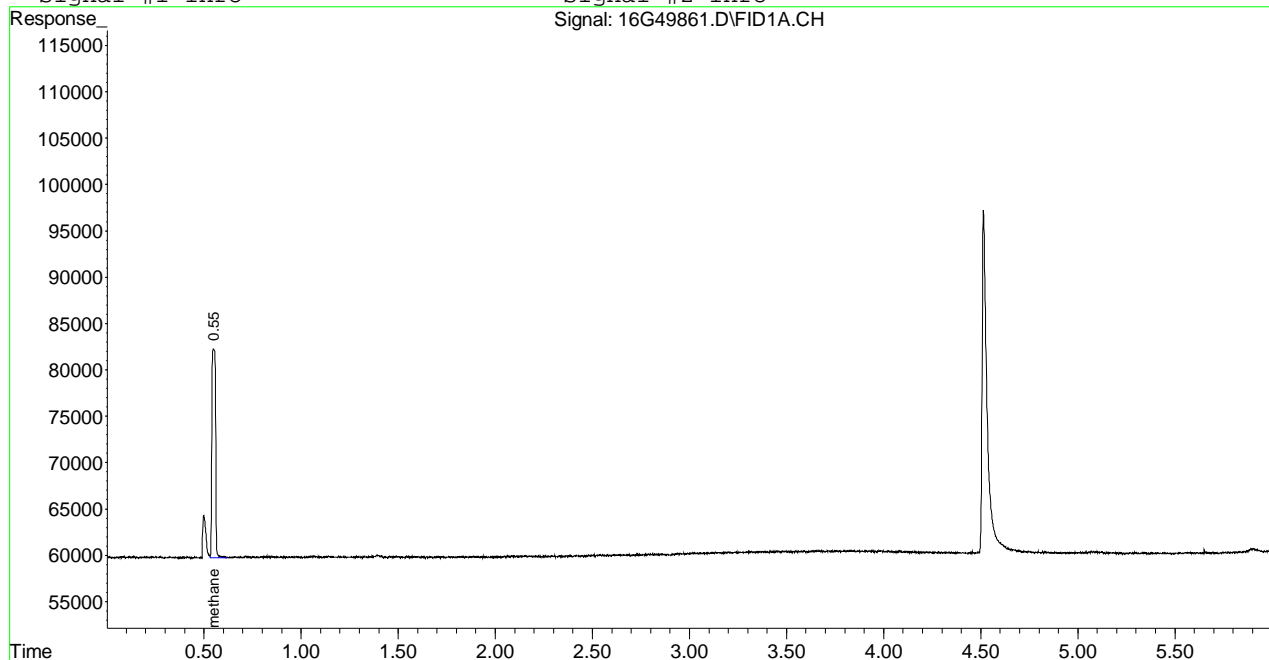
(m)=manual int.

Page 1

Signal #1 : C:\MSDchem\1\DATA\050616\16G49861.D\FID1A.CH Vial: 6
 Signal #2 : C:\MSDchem\1\DATA\050616\16G49861.D\TCD2B.CH
 Acq On : 06 May 2016 17:53 Operator: JDS
 Sample : L16050151-03 B D1 10X RSK175 Inst : HP16
 Misc : 1,10 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 6 17:59 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49852.D\FID1A.CH Vial: 7
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49852.D\TCD2B.CH
 Acq On : 05 May 2016 15:14 Operator: JDS
 Sample : L16050151-05 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 09:19:47 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	508334	1.213 umol/
2) T ethene	1.06	6932	0.022 umol/
3) T acetylene	0.00	0	N.D. umol/
4) T ethane	1.40	13812	0.043 umol/
5) T propane	0.00	0	N.D. umol/
6) T n-butane	0.00	0	N.D. umol/
8) T carbon dioxide	0.20	490041070	92836.748 umol/

(f)=RT Delta > 1/2 Window

16G49852.D RSKEXT1.M Fri May 06 09:19:47 2016

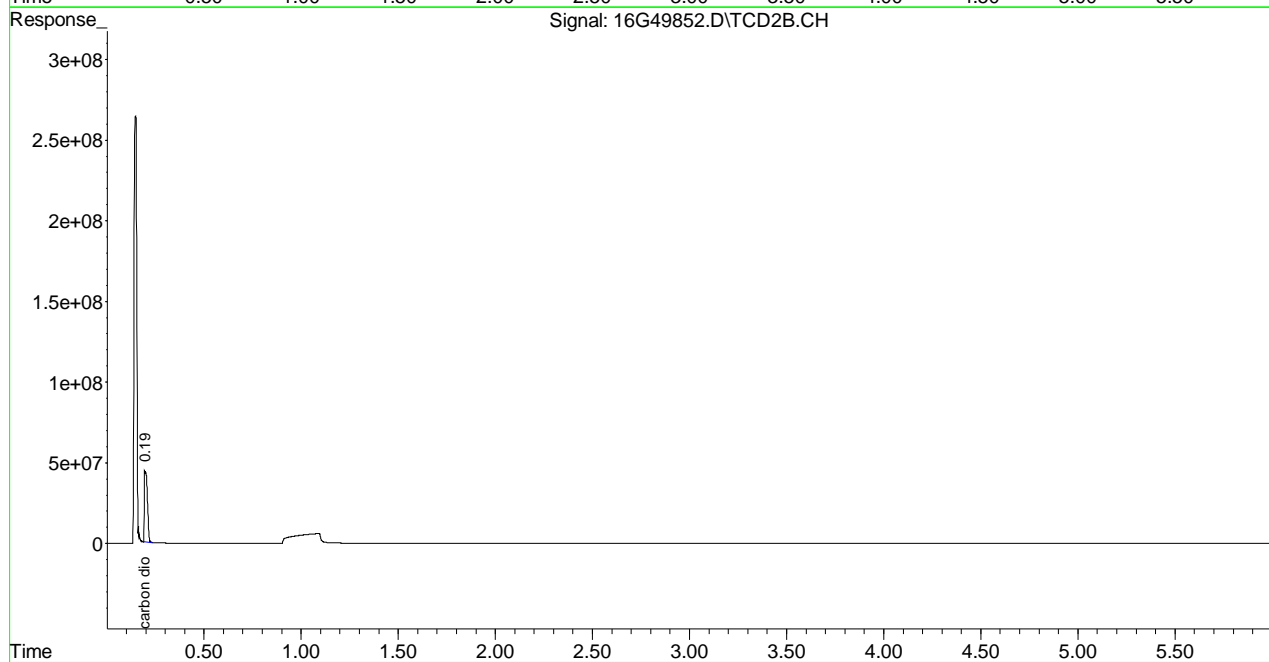
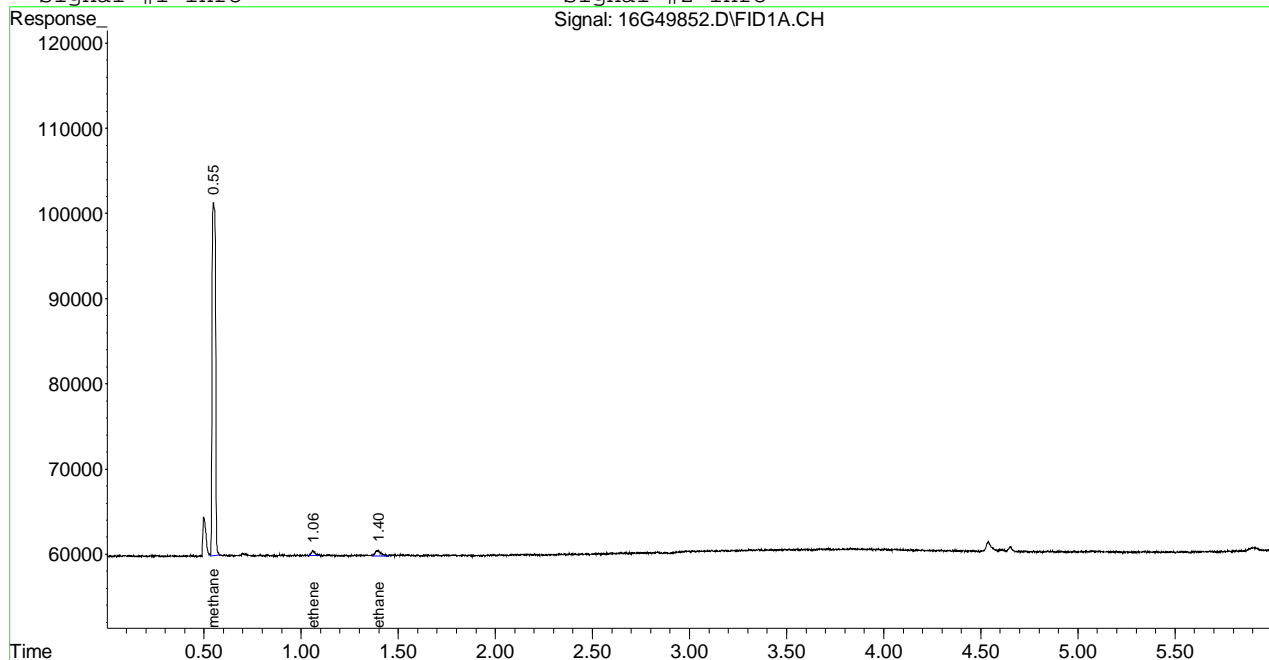
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49852.D\FID1A.CH Vial: 7
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49852.D\TCD2B.CH
 Acq On : 05 May 2016 15:14 Operator: JDS
 Sample : L16050151-05 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 6 9:19 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDchem\1\DATA\050616\16G49862.D\FID1A.CH Vial: 7
 Signal #2 : C:\MSDchem\1\DATA\050616\16G49862.D\TCD2B.CH
 Acq On : 06 May 2016 18:05 Operator: JDS
 Sample : L16050151-05 B D1 5X RSK175 Inst : HP16
 Misc : 1,5 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 18:11:38 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	319292	0.157 umol/
2) T ethene	0.00	0	N.D. umol/
3) T acetylene	0.00	0	N.D. umol/
4) T ethane	0.00	0	N.D. umol/
5) T propane	0.00	0	N.D. umol/
6) T n-butane	0.00	0	N.D. umol/
8) T carbon dioxide	0.20	95958323	18179.004 umol/

(f)=RT Delta > 1/2 Window
 16G49862.D RSKEXT1.M Fri May 06 18:11:38 2016

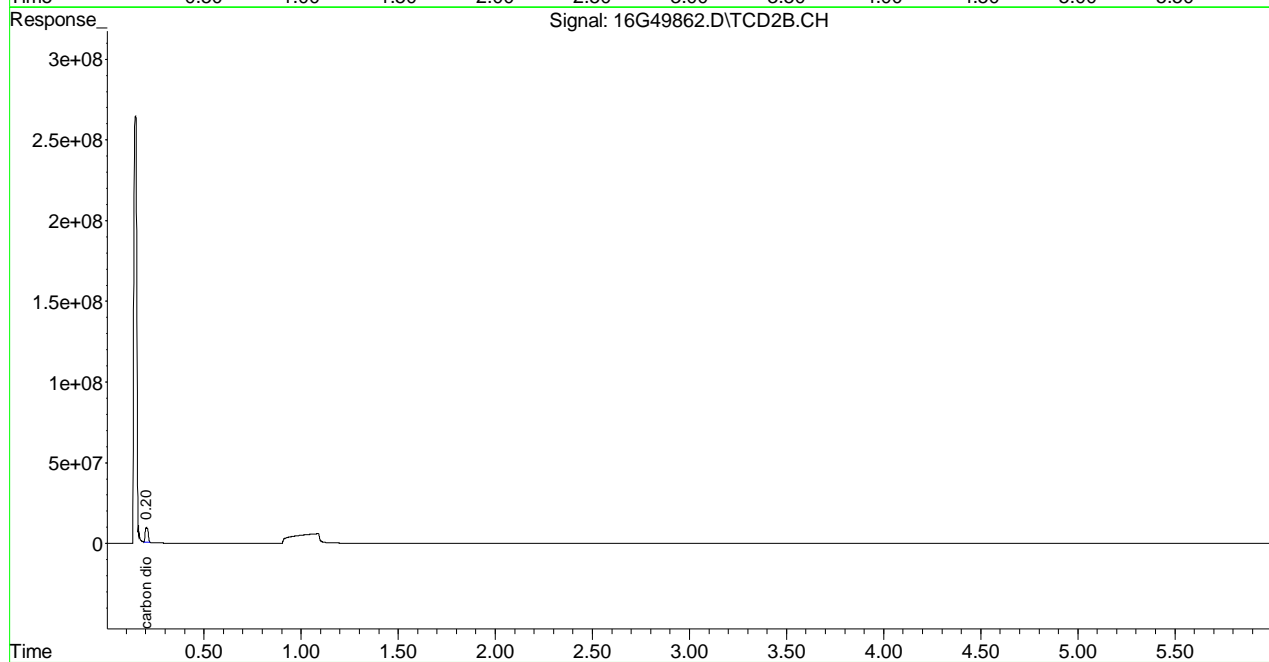
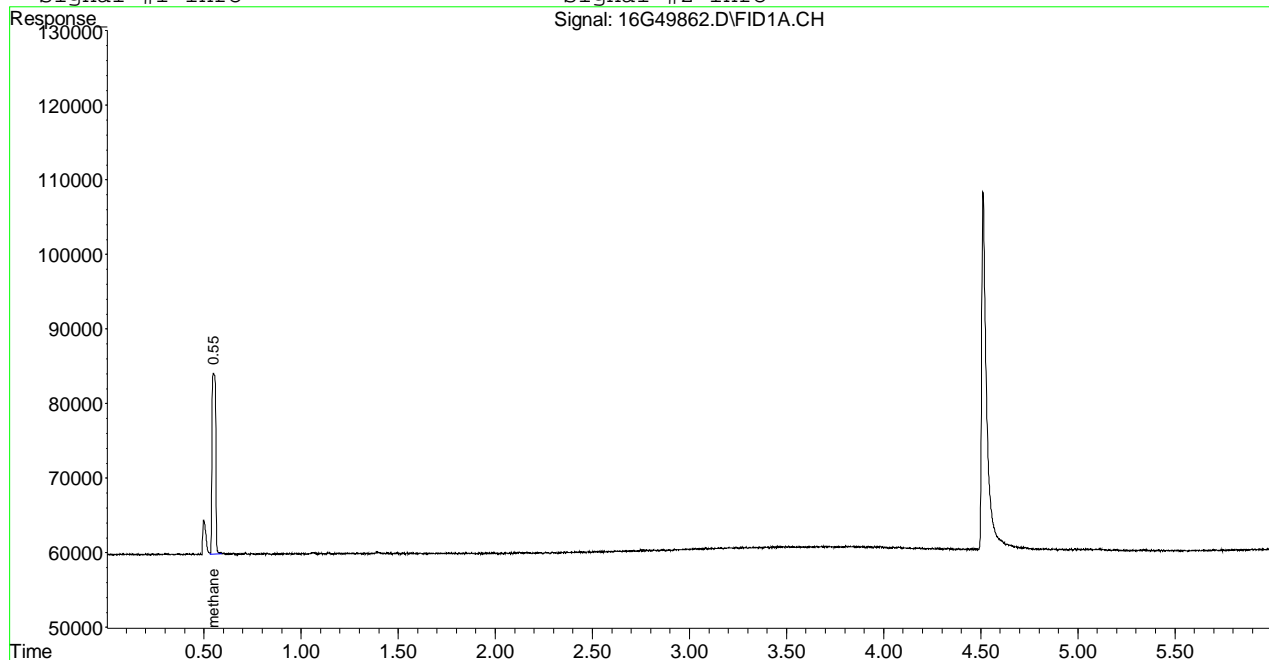
(m)=manual int.

Page 1

Signal #1 : C:\MSDchem\1\DATA\050616\16G49862.D\FID1A.CH Vial: 7
 Signal #2 : C:\MSDchem\1\DATA\050616\16G49862.D\TCD2B.CH
 Acq On : 06 May 2016 18:05 Operator: JDS
 Sample : L16050151-05 B D1 5X RSK175 Inst : HP16
 Misc : 1,5 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 6 18:11 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49853.D\FID1A.CH Vial: 8
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49853.D\TCD2B.CH
 Acq On : 05 May 2016 15:26 Operator: JDS
 Sample : L16050151-07 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 09:19:47 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	280019	N.D. umol/
2) T ethene	1.06	10569	0.034 umol/
3) T acetylene	0.00	0	N.D. umol/
4) T ethane	1.39	13289	0.042 umol/
5) T propane	0.00	0	N.D. umol/
6) T n-butane	0.00	0	N.D. umol/
8) T carbon dioxide	0.20	575778612	109079.457 umol/

(f)=RT Delta > 1/2 Window
 16G49853.D RSKEXT1.M Fri May 06 09:19:48 2016

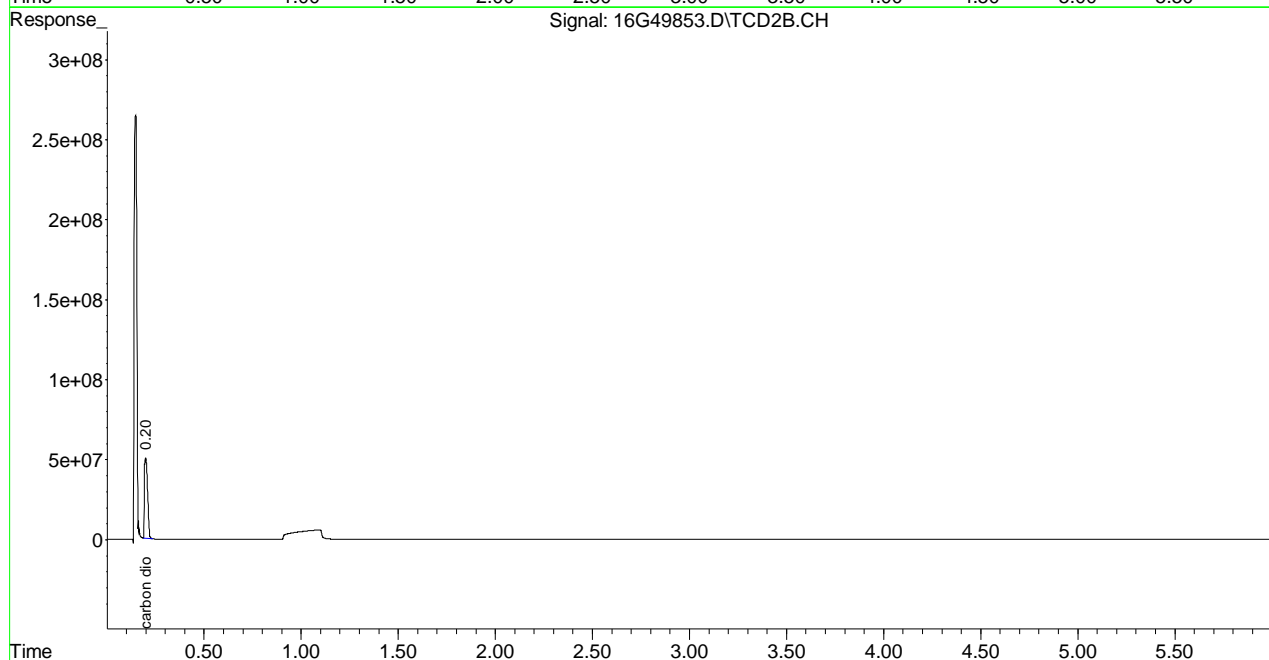
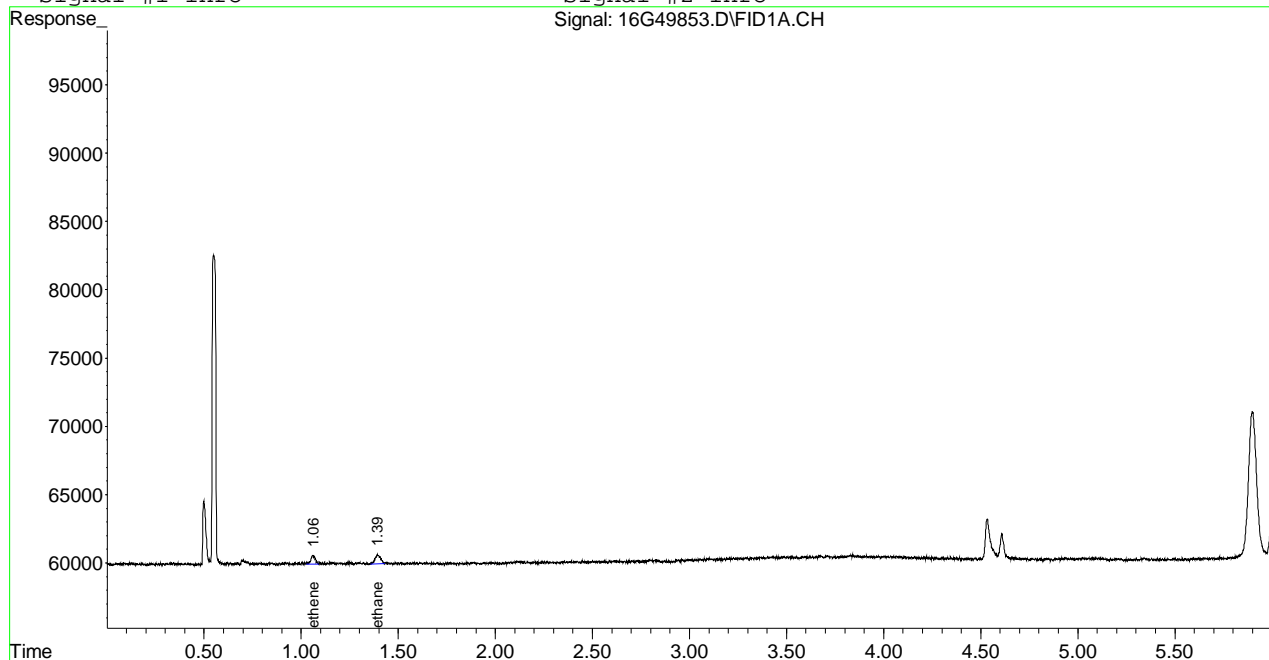
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49853.D\FID1A.CH Vial: 8
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49853.D\TCD2B.CH
 Acq On : 05 May 2016 15:26 Operator: JDS
 Sample : L16050151-07 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 6 9:19 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49863.D\FID1A.CH Vial: 8
 Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49863.D\TCD2B.CH
 Acq On : 06 May 2016 18:16 Operator: JDS
 Sample : L16050151-07 B D1 5X RSK175 Inst : HP16
 Misc : 1,5 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 18:22:55 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc	Units

Target Compounds				
1) T methane	0.55	269049	N.D.	umol/
2) T ethene	0.00	0	N.D.	umol/
3) T acetylene	0.00	0	N.D.	umol/
4) T ethane	0.00	0	N.D.	umol/
5) T propane	0.00	0	N.D.	umol/
6) T n-butane	0.00	0	N.D.	umol/
8) T carbon dioxide	0.20	104410882	19780.315	umol/

(f)=RT Delta > 1/2 Window

16G49863.D RSKEXT1.M Mon May 09 10:38:56 2016

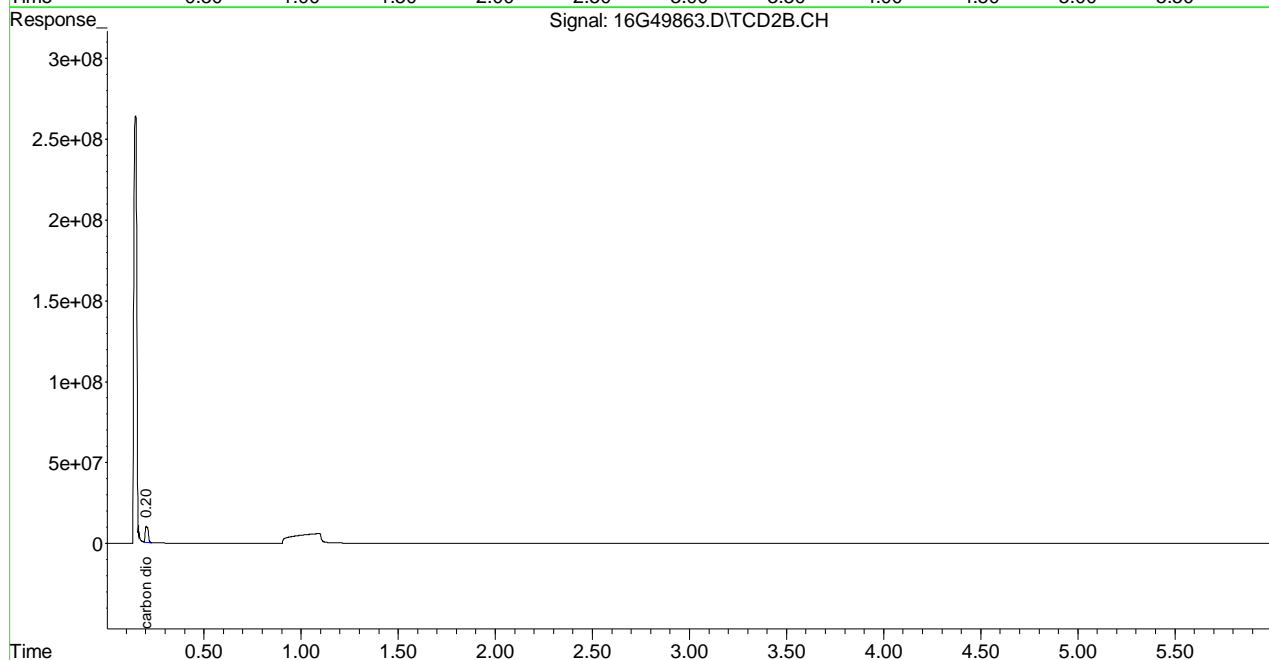
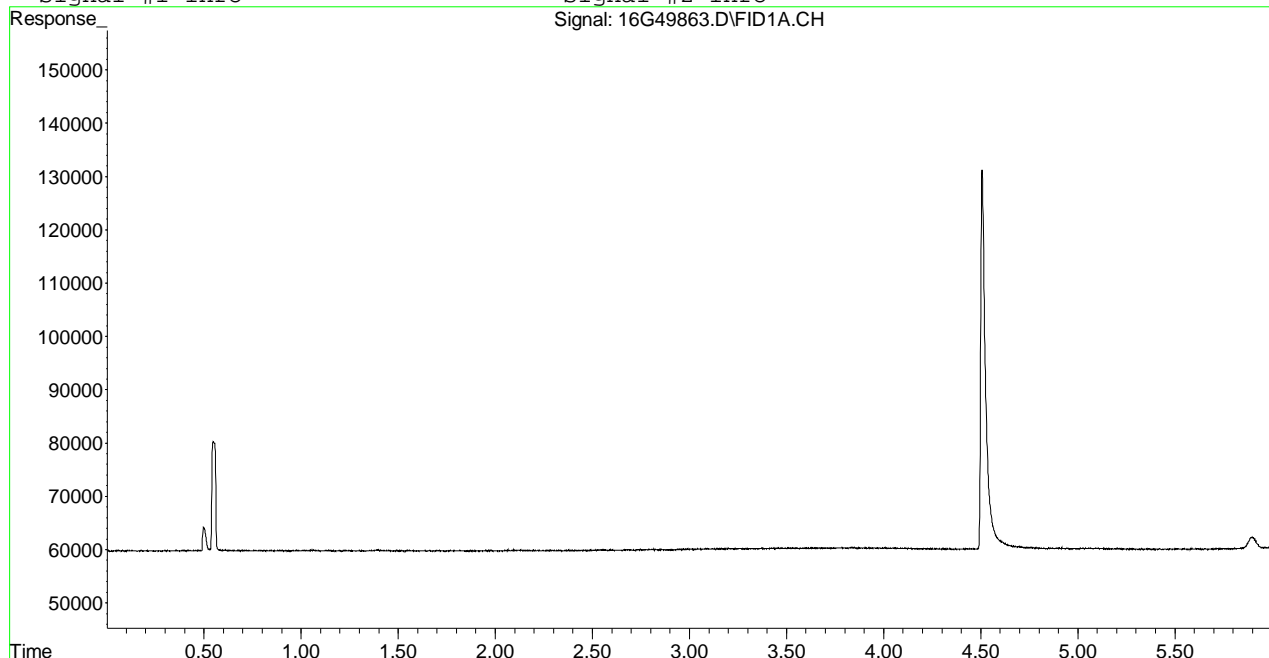
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49863.D\FID1A.CH Vial: 8
 Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49863.D\TCD2B.CH
 Acq On : 06 May 2016 18:16 Operator: JDS
 Sample : L16050151-07 B D1 5X RSK175 Inst : HP16
 Misc : 1,5 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 6 18:22 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49854.D\FID1A.CH Vial: 9
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49854.D\TCD2B.CH
 Acq On : 05 May 2016 15:37 Operator: JDS
 Sample : L16050151-09 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 09:19:48 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	648377	1.995 umol/
2) T ethene	1.06	15502	0.050 umol/
3) T acetylene	0.00	0	N.D. umol/
4) T ethane	1.39	41570	0.130 umol/
5) T propane	0.00	0	N.D. umol/
6) T n-butane	0.00	0	N.D. umol/
8) T carbon dioxide	0.18	2300505697	435823.609 umol/

(f)=RT Delta > 1/2 Window

16G49854.D RSKEXT1.M Fri May 06 09:19:48 2016

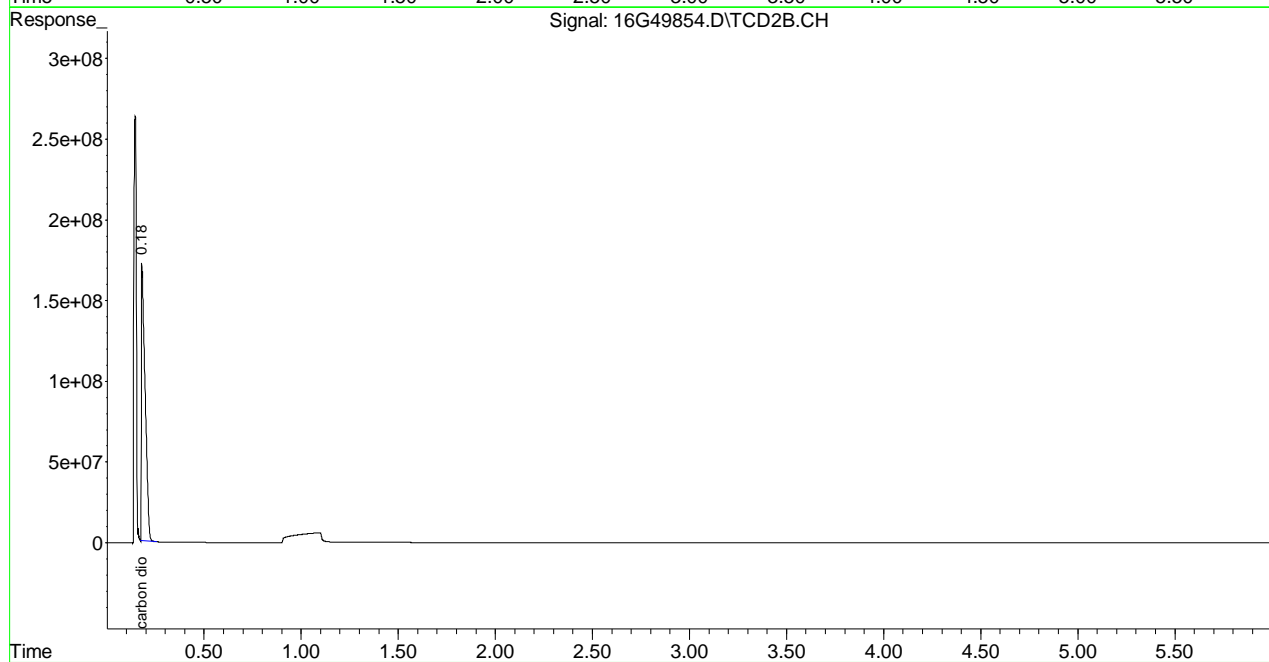
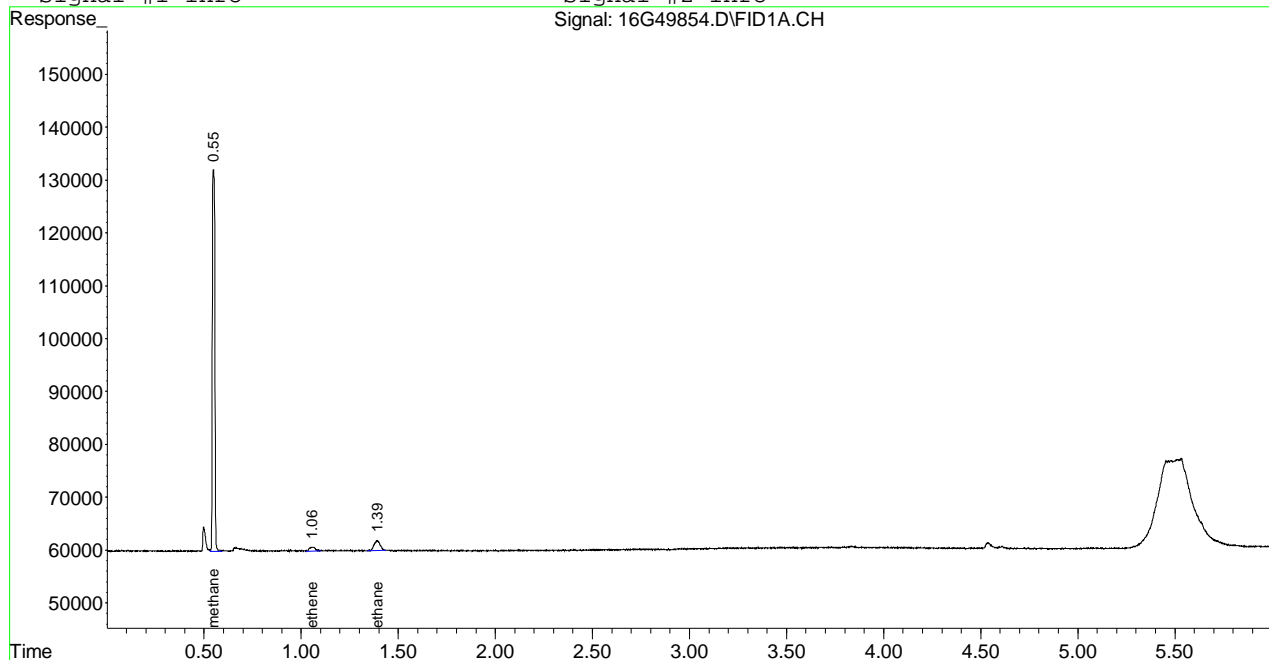
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49854.D\FID1A.CH Vial: 9
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49854.D\TCD2B.CH
 Acq On : 05 May 2016 15:37 Operator: JDS
 Sample : L16050151-09 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 6 9:19 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49864.D\FID1A.CH Vial: 9
 Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49864.D\TCD2B.CH
 Acq On : 06 May 2016 18:28 Operator: JDS
 Sample : L16050151-09 B D1 20X RSK175 Inst : HP16
 Misc : 1,20 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 18:34:45 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc	Units

Target Compounds				
1) T methane	0.55	276508	N.D.	umol/
2) T ethene	0.00	0	N.D.	umol/
3) T acetylene	0.00	0	N.D.	umol/
4) T ethane	0.00	0	N.D.	umol/
5) T propane	0.00	0	N.D.	umol/
6) T n-butane	0.00	0	N.D.	umol/
8) T carbon dioxide	0.20	76166088	14429.427	umol/

(f)=RT Delta > 1/2 Window

16G49864.D RSKEXT1.M

Mon May 09 10:39:01 2016

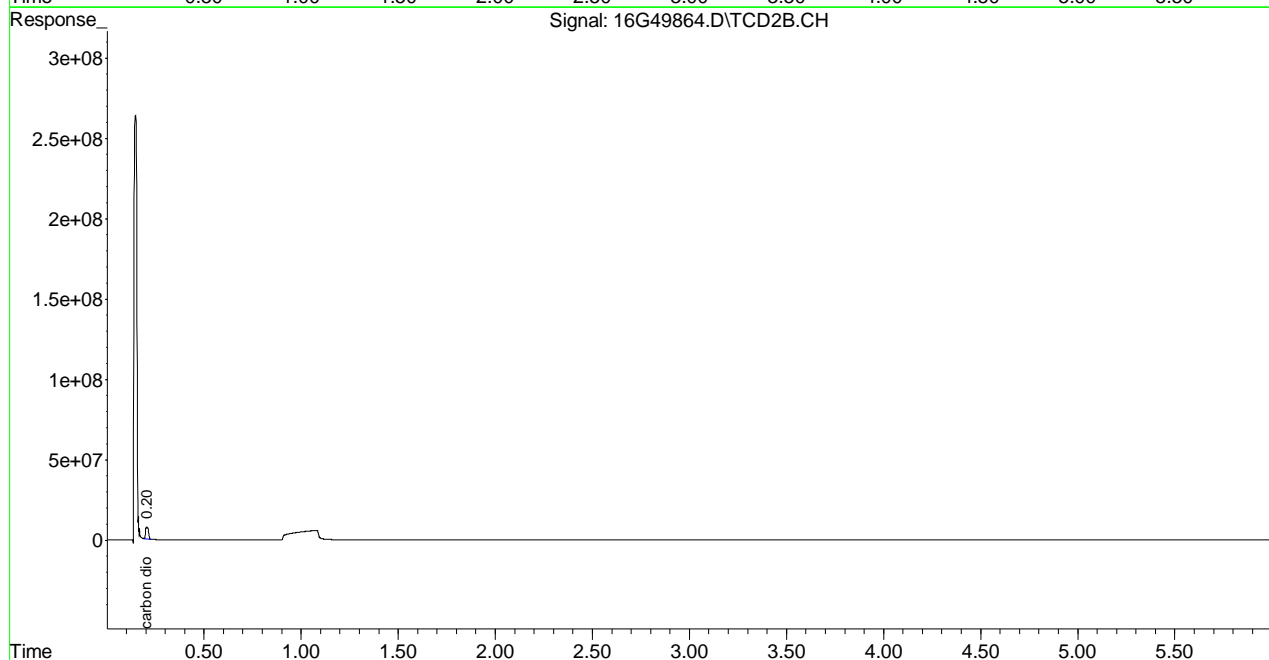
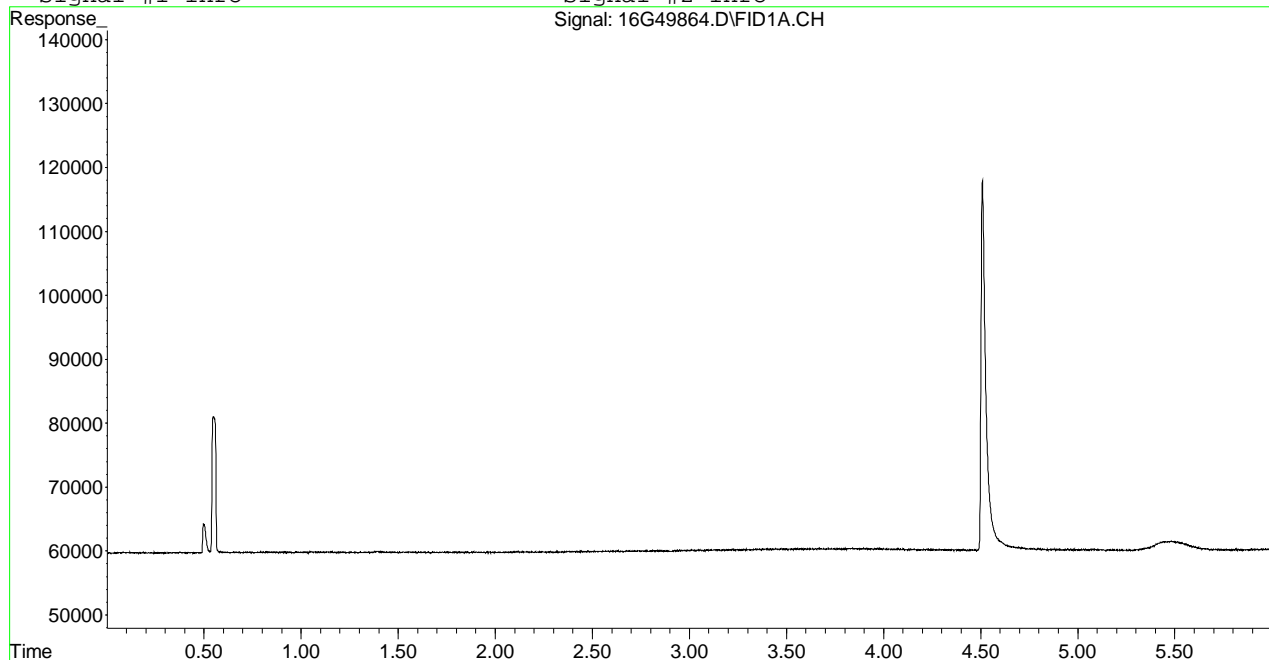
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49864.D\FID1A.CH Vial: 9
 Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49864.D\TCD2B.CH
 Acq On : 06 May 2016 18:28 Operator: JDS
 Sample : L16050151-09 B D1 20X RSK175 Inst : HP16
 Misc : 1,20 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 6 18:34 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



2.1.2.4 Standards Data

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49626.D\FID1A.CH Vial: 2
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49626.D\TCD2B.CH
 Acq On : 25 Mar 2016 11:22 Operator: JDS
 Sample : WG562401-01 0.67umol/mol STD RSK175 Inst : HP16
 Misc : 1,1 STD67276 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 13:32:57 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:31:58 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	386491	0.533 umol/
2) T ethene	1.06	205756	0.659 umol/
3) T acetylene	1.14	186400	0.597 umol/
4) T ethane	1.39	210228	0.659 umol/
5) T propane	3.83	303892	0.644 umol/
6) T n-butane	5.34	389462	0.637 umol/
8) T carbon dioxide	0.00	0	N.D. umol/

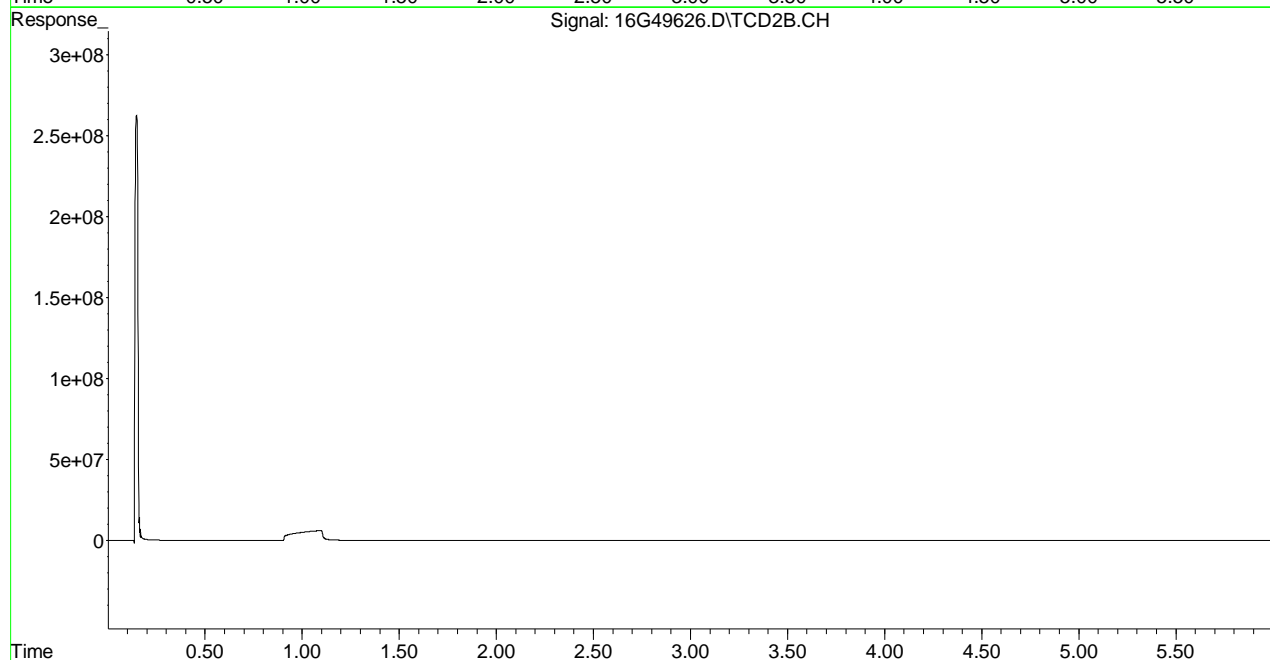
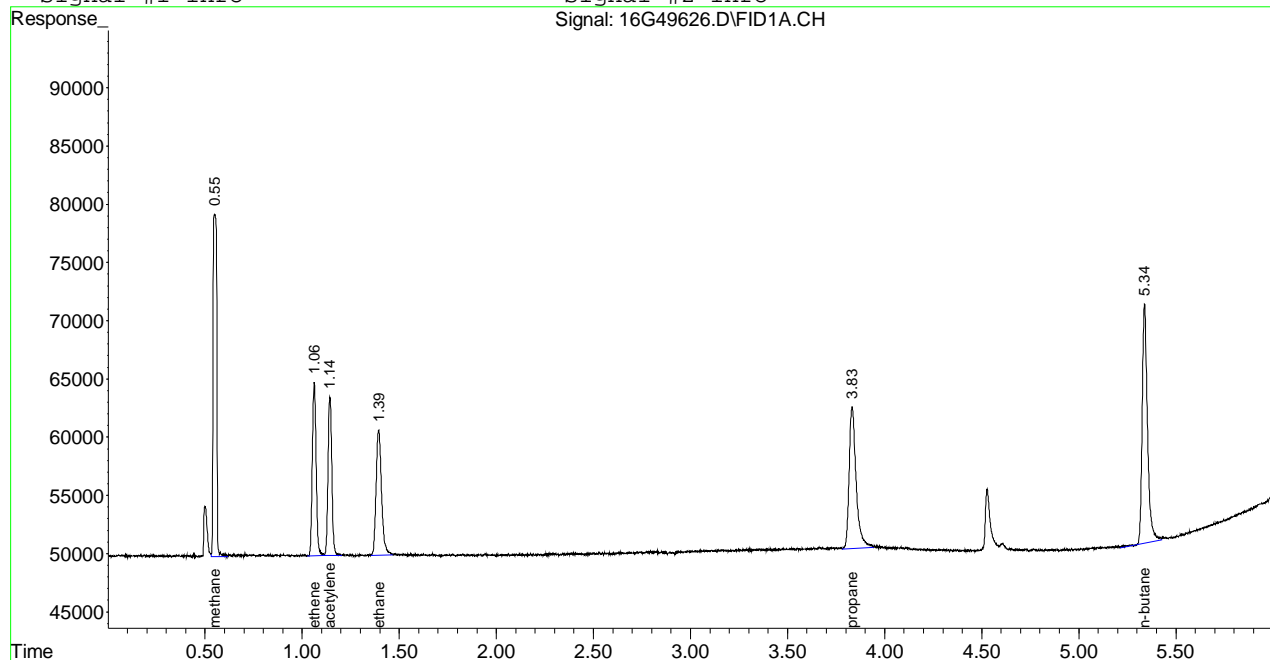
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49626.D RSKEXT1.M Fri Mar 25 13:33:07 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49626.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49626.D\TCD2B.CH
Acq On : 25 Mar 2016 11:22 Operator: JDS
Sample : WG562401-01 0.67umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:32 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:31:58 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
 Acq On : 25 Mar 2016 11:34 Operator: JDS
 Sample : WG562401-02 1.67umol/mol STD RSK175 Inst : HP16
 Misc : 1,1 STD67276 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 13:38:12 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	597323	1.710 umol/
2) T ethene	1.06	545133	1.747 umol/
3) T acetylene	1.14	534915	1.713 umol/
4) T ethane	1.39	560754	1.758 umol/
5) T propane	3.83	819659	1.737 umol/
6) T n-butane	5.34	1076495	1.761 umol/
8) T carbon dioxide	0.20	9635725	1825.458 umol/

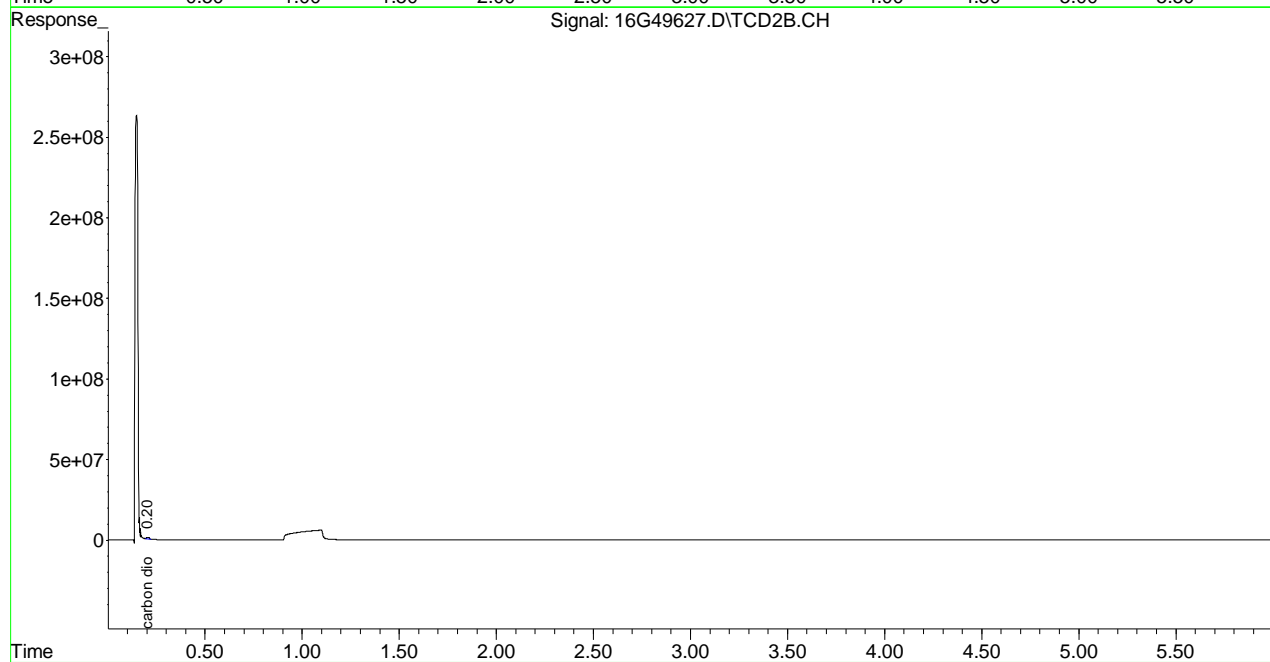
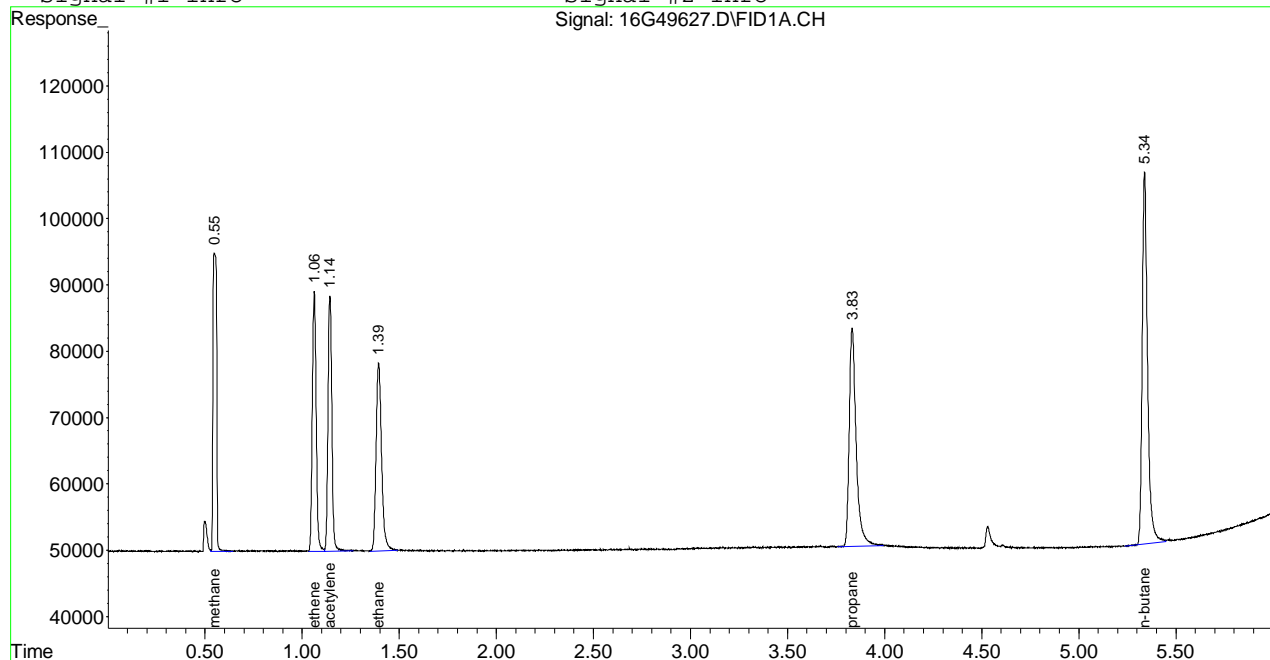
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49627.D RSKEXT1.M Fri Mar 25 13:38:12 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
Acq On : 25 Mar 2016 11:34 Operator: JDS
Sample : WG562401-02 1.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:38 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
 Acq On : 25 Mar 2016 11:34 Operator: JDS
 Sample : WG562401-02 1.67umol/moL STD RSK175 Inst : HP16
 Misc : 1,1 STD67276 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 T	methane	1.670	1.710	-2.4	100	0.00
2 T	ethene	1.670	1.747	-4.6	100	0.00
3 T	acetylene	1.670	1.713	-2.6	100	0.00
4 T	ethane	1.670	1.758	-5.3	100	0.00
5 T	propane	1.670	1.737	-4.0	100	0.00
6 T	n-butane	1.670	1.761	-5.4	100	0.00

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
8 T	carbon dioxide	2000.000	1825.458	8.7	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 16G49627.D RSKEXT1.M Fri Mar 25 13:38:22 2016

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Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
Acq On : 25 Mar 2016 11:34 Operator: JDS
Sample : WG562401-02 1.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
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Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49627.D RSKEXT1.M Fri Mar 25 13:38:22 2016

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Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49628.D\FID1A.CH Vial: 4
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49628.D\TCD2B.CH
 Acq On : 25 Mar 2016 11:46 Operator: JDS
 Sample : WG562401-03 33.3umol/mol STD RSK175 Inst : HP16
 Misc : 1,1 STD67276 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 13:33:25 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:32:42 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	6385721	34.033 umol/
2) T ethene	1.06	10782198	34.551 umol/
3) T acetylene	1.14	11300799	36.189 umol/
4) T ethane	1.39	11066771	34.700 umol/
5) T propane	3.83	16320395	34.595 umol/
6) T n-butane	5.34	21122896	34.548 umol/
8) T carbon dioxide	0.20	17730539	3358.995 umol/

(f)=RT Delta > 1/2 Window
 16G49628.D RSKEXT1.M Fri Mar 25 13:33:26 2016

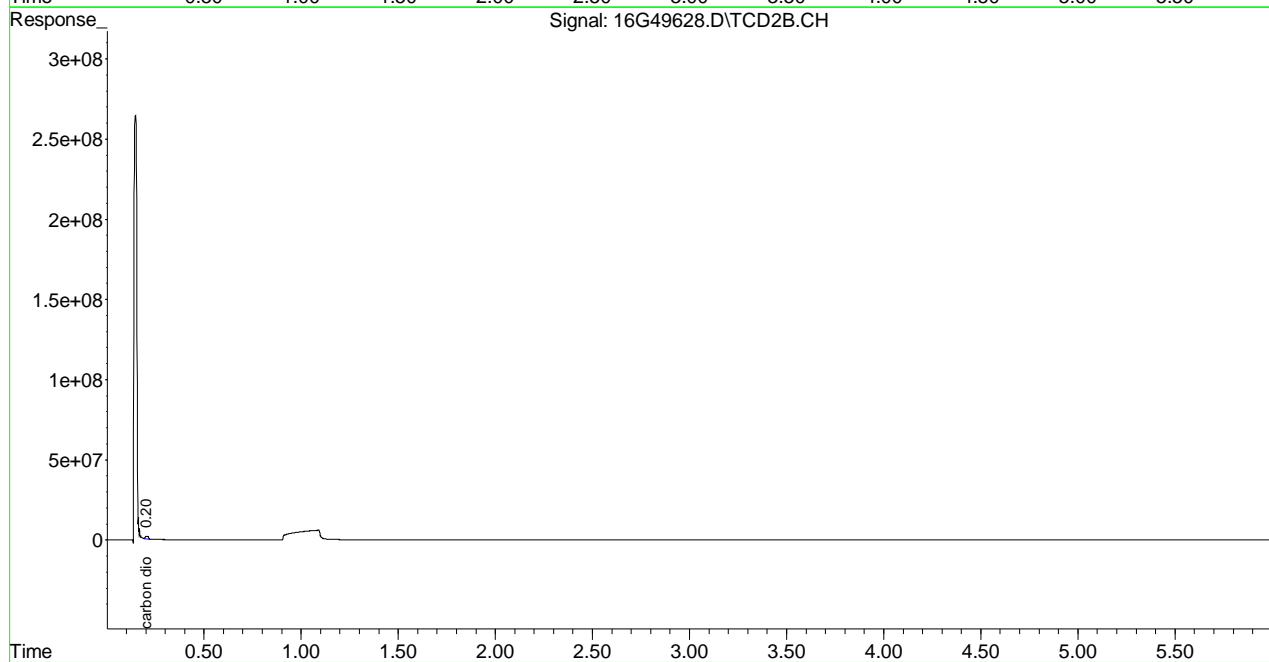
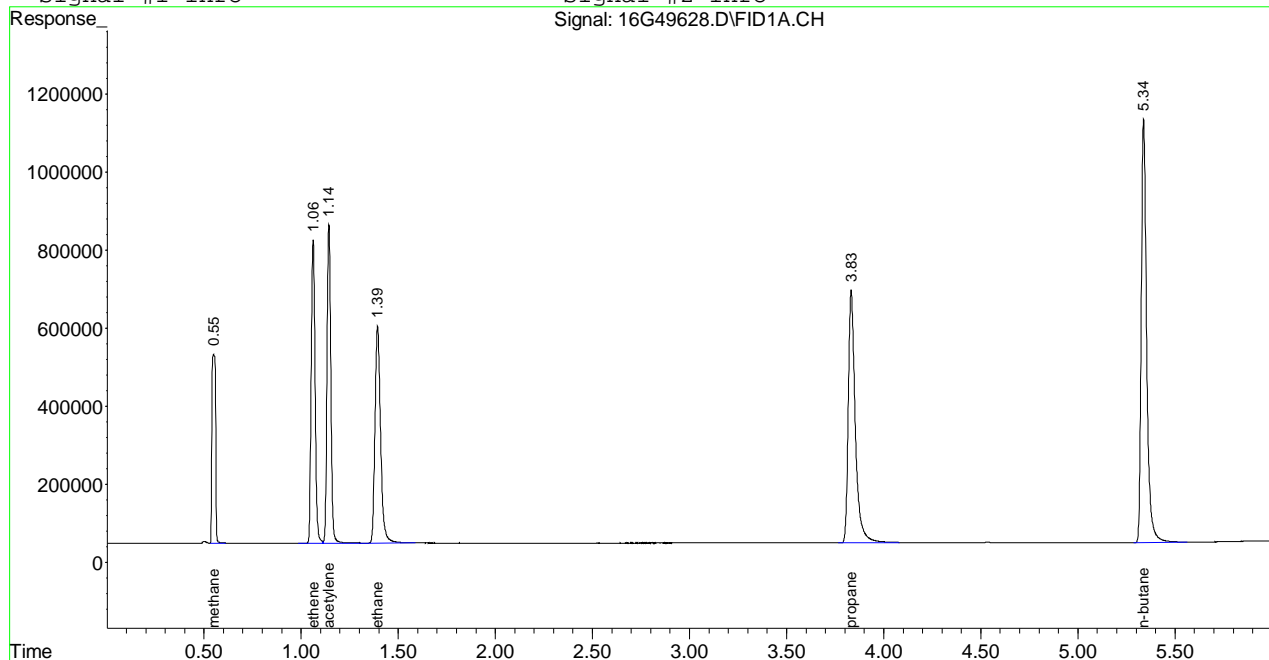
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49628.D\FID1A.CH Vial: 4
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49628.D\TCD2B.CH
 Acq On : 25 Mar 2016 11:46 Operator: JDS
 Sample : WG562401-03 33.3umol/mol STD RSK175 Inst : HP16
 Misc : 1,1 STD67276 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:32:42 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49629.D\FID1A.CH Vial: 5
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49629.D\TCD2B.CH
 Acq On : 25 Mar 2016 11:58 Operator: JDS
 Sample : WG562401-04 66.7umol/mol STD RSK175 Inst : HP16
 Misc : 1,1 STD67276 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 13:33:26 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:32:42 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	11901999	64.837 umol/
2) T ethene	1.06	20215300	64.780 umol/
3) T acetylene	1.14	20353735	65.180 umol/
4) T ethane	1.39	20615639	64.640 umol/
5) T propane	3.83	30980672	65.670 umol/
6) T n-butane	5.34	40329758	65.963 umol/
8) T carbon dioxide	0.20	35613763	6746.916 umol/

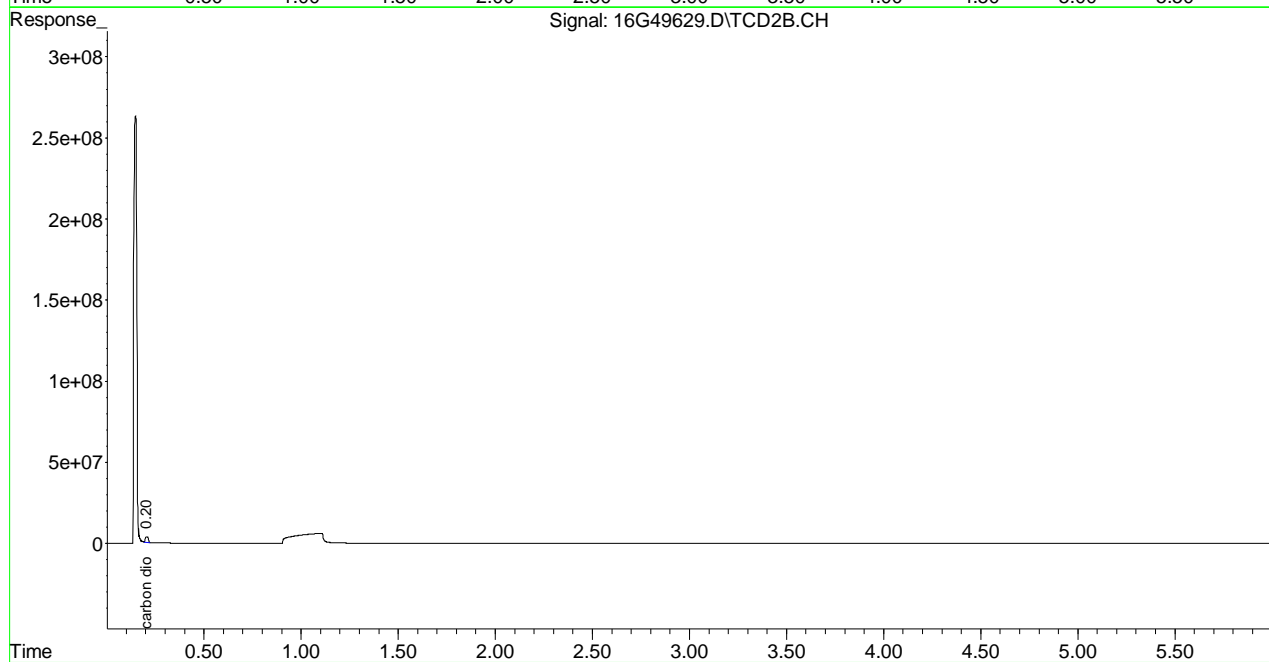
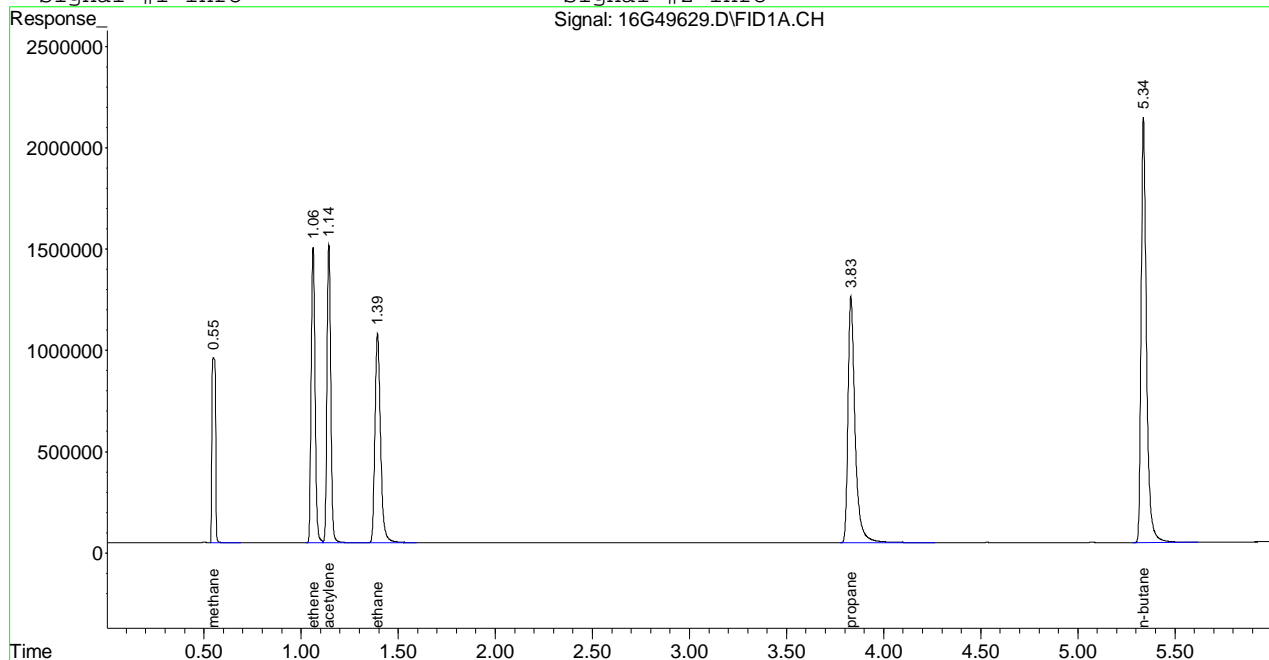
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49629.D RSKEXT1.M Fri Mar 25 13:33:27 2016

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Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49629.D\FID1A.CH Vial: 5
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49629.D\TCD2B.CH
 Acq On : 25 Mar 2016 11:58 Operator: JDS
 Sample : WG562401-04 66.7umol/moL STD RSK175 Inst : HP16
 Misc : 1,1 STD67276 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:32:42 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49630.D\FID1A.CH Vial: 6
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49630.D\TCD2B.CH
 Acq On : 25 Mar 2016 12:10 Operator: JDS
 Sample : WG562401-05 133umol/mol STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 13:33:27 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:32:42 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	23452315	129.335 umol/
2) T ethene	1.06	40022999	128.253 umol/
3) T acetylene	1.14	39927283	127.862 umol/
4) T ethane	1.39	40795450	127.914 umol/
5) T propane	3.83	60871012	129.029 umol/
6) T n-butane	5.34	78531804	128.445 umol/
8) T carbon dioxide	0.20	71244989	13497.140 umol/

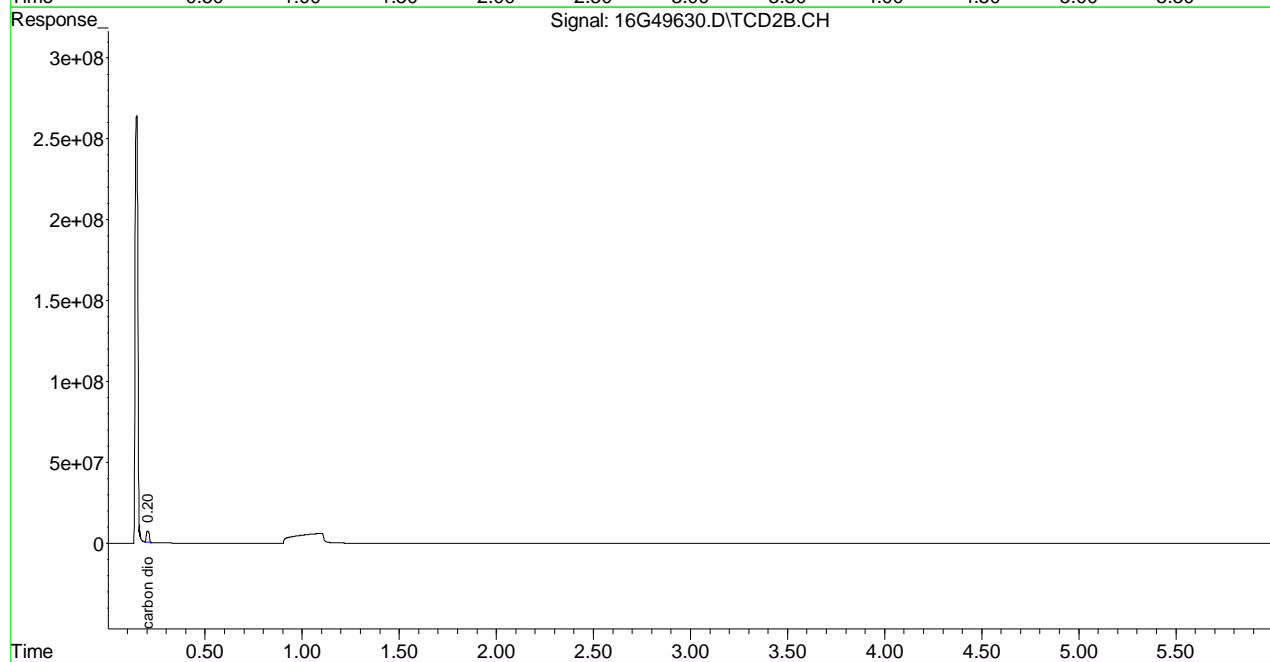
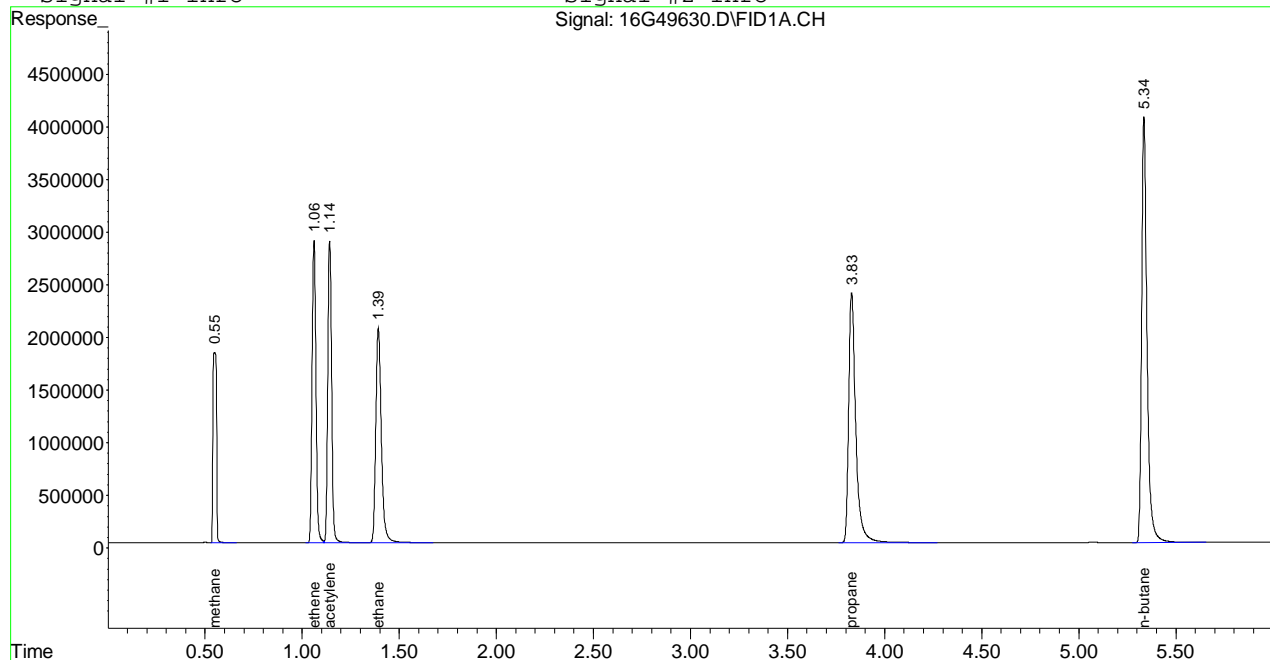
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49630.D RSKEXT1.M Fri Mar 25 13:33:27 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49630.D\FID1A.CH Vial: 6
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49630.D\TCD2B.CH
Acq On : 25 Mar 2016 12:10 Operator: JDS
Sample : WG562401-05 133umol/mol STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49631.D\FID1A.CH Vial: 7
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49631.D\TCD2B.CH
 Acq On : 25 Mar 2016 12:22 Operator: JDS
 Sample : WG562401-06 333umol/mol STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 13:33:28 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:32:42 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	60036501	333.627 umol/
2) T ethene	1.06	103680653	332.243 umol/
3) T acetylene	1.14	103042347	329.980 umol/
4) T ethane	1.39	106118124	332.733 umol/
5) T propane	3.83	159210076	337.481 umol/
6) T n-butane	5.33	207154261	338.817 umol/
8) T carbon dioxide	0.20	184690679	34989.072 umol/

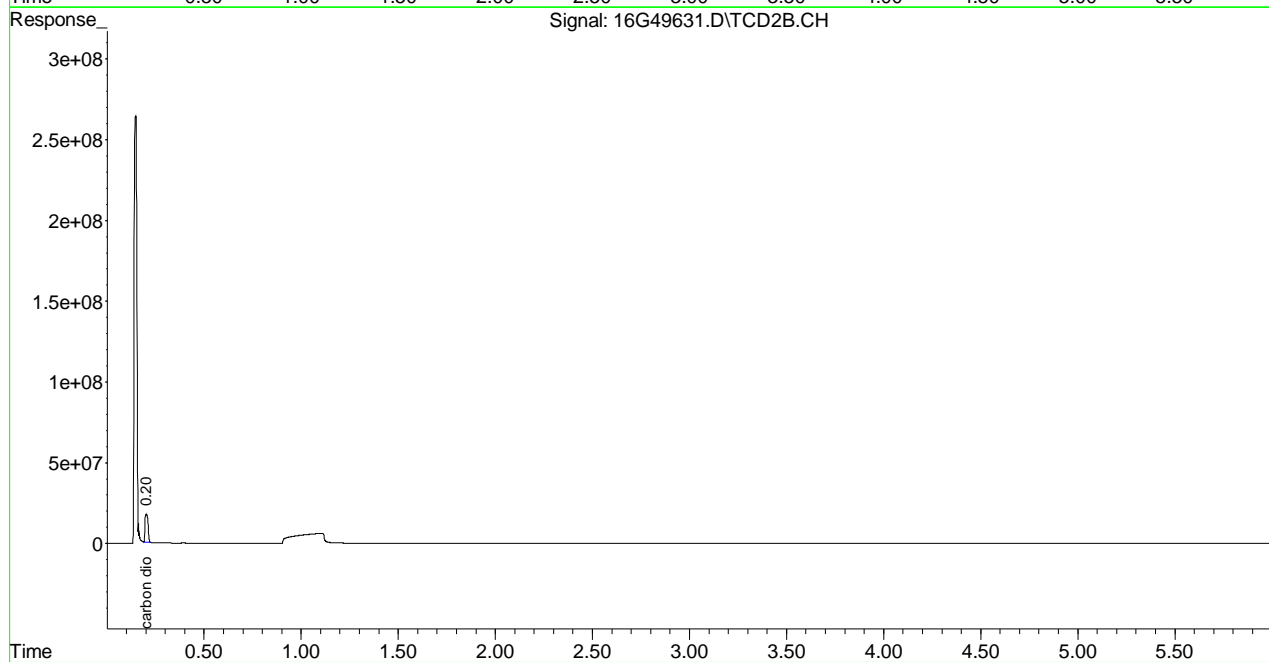
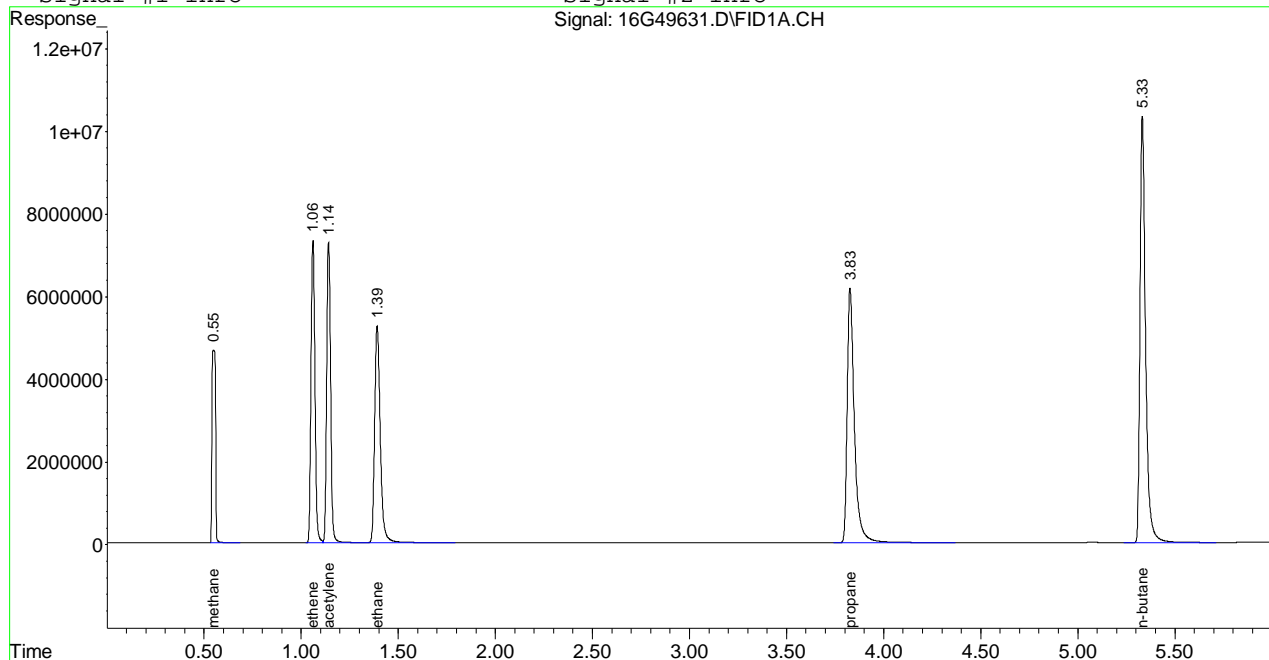
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49631.D RSKEXT1.M Fri Mar 25 13:33:28 2016

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Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49631.D\FID1A.CH Vial: 7
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49631.D\TCD2B.CH
 Acq On : 25 Mar 2016 12:22 Operator: JDS
 Sample : WG562401-06 333umol/moL STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:32:42 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49632.D\FID1A.CH Vial: 8
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49632.D\TCD2B.CH
 Acq On : 25 Mar 2016 12:34 Operator: JDS
 Sample : WG562401-07 533umol/mol STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 13:33:29 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:32:42 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	96479096	537.128 umol/
2) T ethene	1.06	163526008	524.017 umol/
3) T acetylene	1.14	159442689	510.596 umol/
4) T ethane	1.39	167744947	525.963 umol/
5) T propane	3.83	248130764	525.967 umol/
6) T n-butane	5.33	319696896	522.890 umol/
8) T carbon dioxide	0.20	281763639	53379.240 umol/

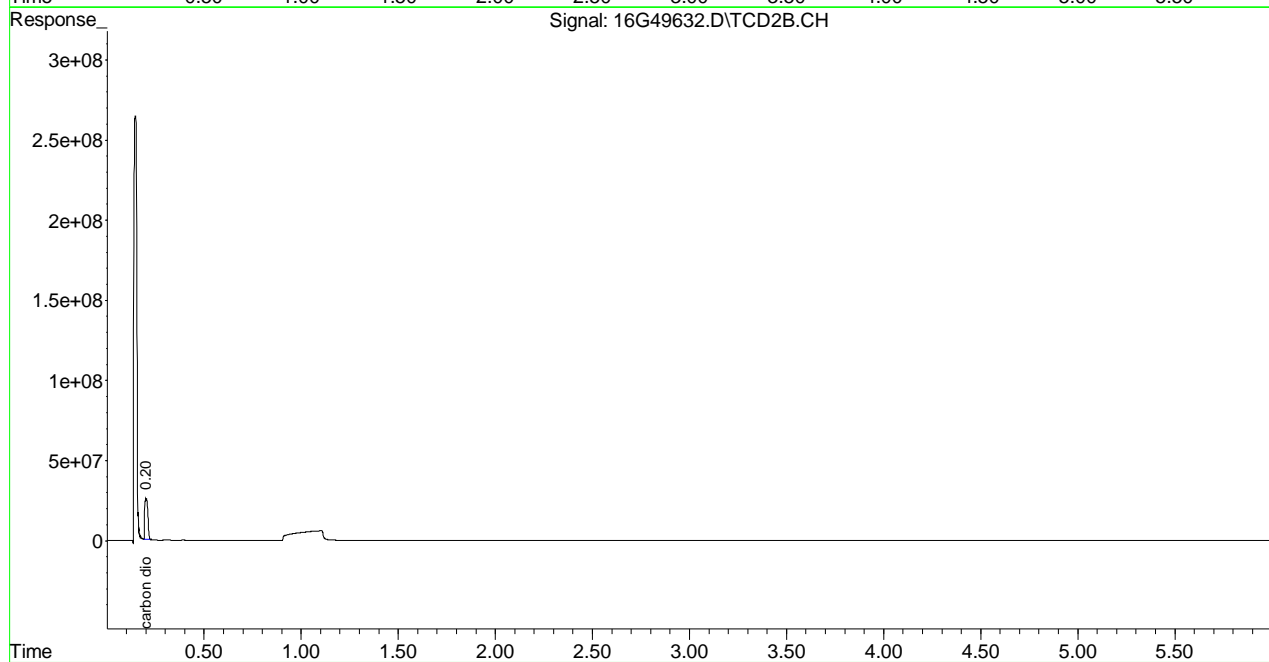
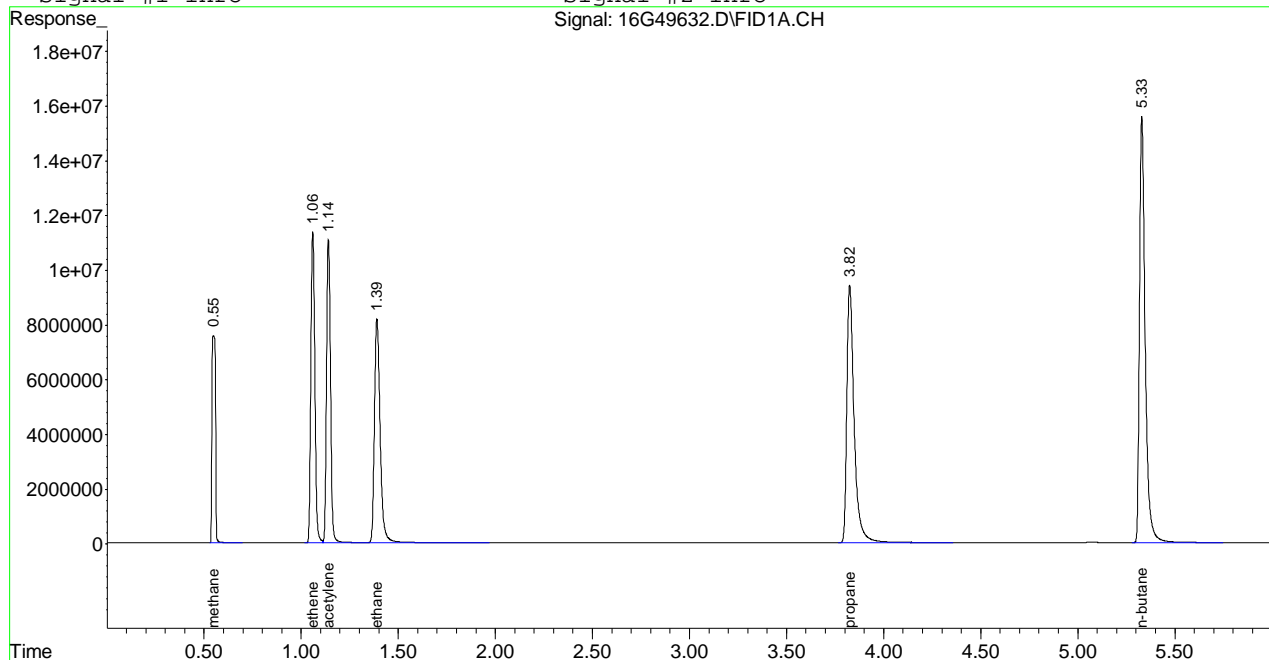
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49632.D RSKEXT1.M Fri Mar 25 13:33:29 2016

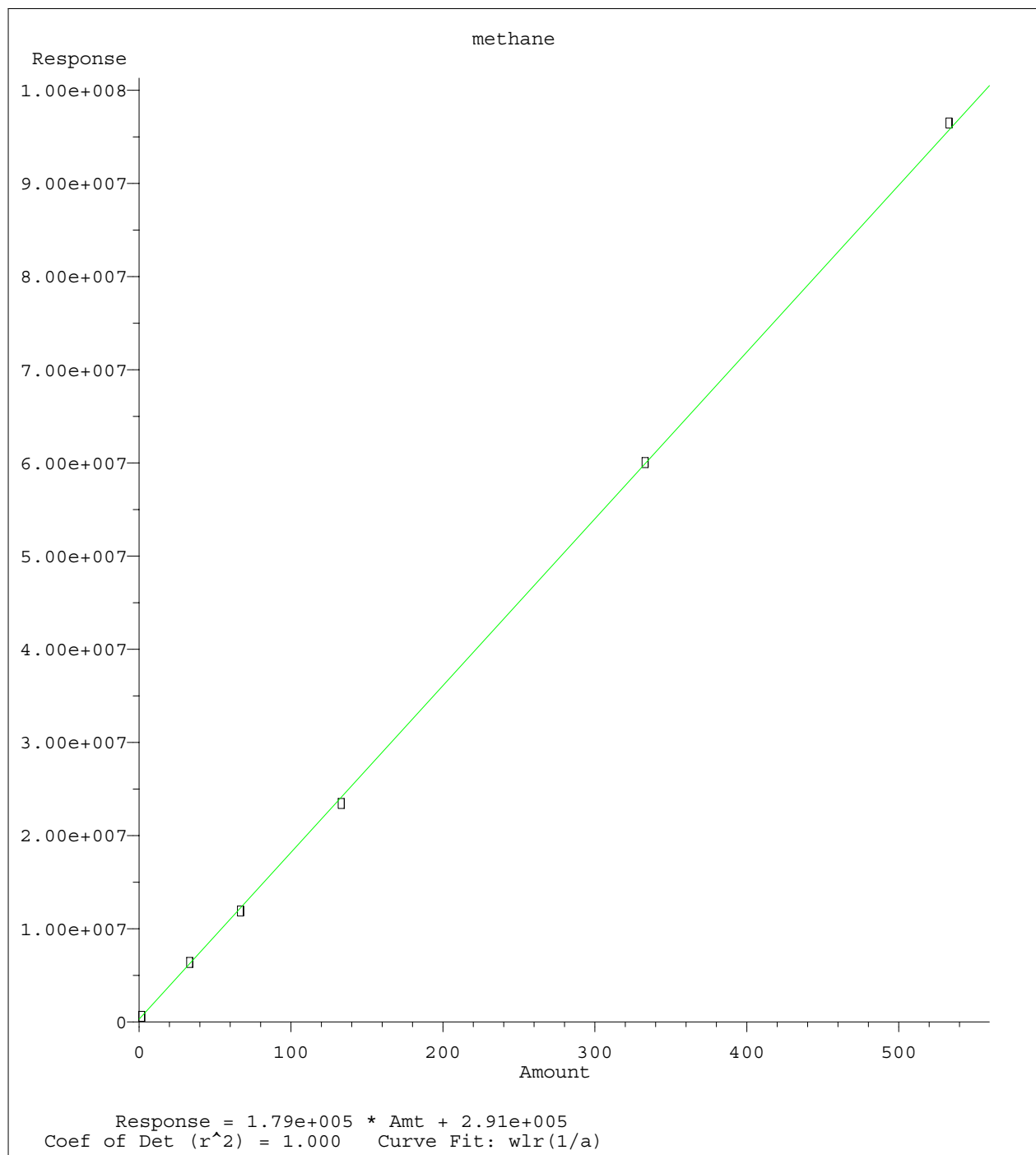
Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49632.D\FID1A.CH Vial: 8
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49632.D\TCD2B.CH
 Acq On : 25 Mar 2016 12:34 Operator: JDS
 Sample : WG562401-07 533umol/mol STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:32:42 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :





Method Name: C:\MSDCHEM\1\METHODS\RSKEXT1.M
Calibration Table Last Updated: Fri Mar 25 13:38:01 2016

Signal #1 : C:\MSDchem\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
 Signal #2 : C:\MSDchem\1\DATA\032516\16G49635.D\TCD2B.CH
 Acq On : 25 Mar 2016 18:26 Operator: JDS
 Sample : WG562401-08 133umol/mol ALT SRC STD RSK1 Inst : HP16
 Misc : 1,1 STD68250 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: Mar 25 18:32:35 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	24881813	137.318 umol/
2) T ethene	1.06	41706426	133.648 umol/
3) T acetylene	1.14	45236671	144.865 umol/
4) T ethane	1.39	43137584	135.258 umol/
5) T propane	3.83	62226584	131.903 umol/
6) T n-butane	5.34	79421956	129.901 umol/
8) T carbon dioxide	0.20	77169864	14619.589 umol/

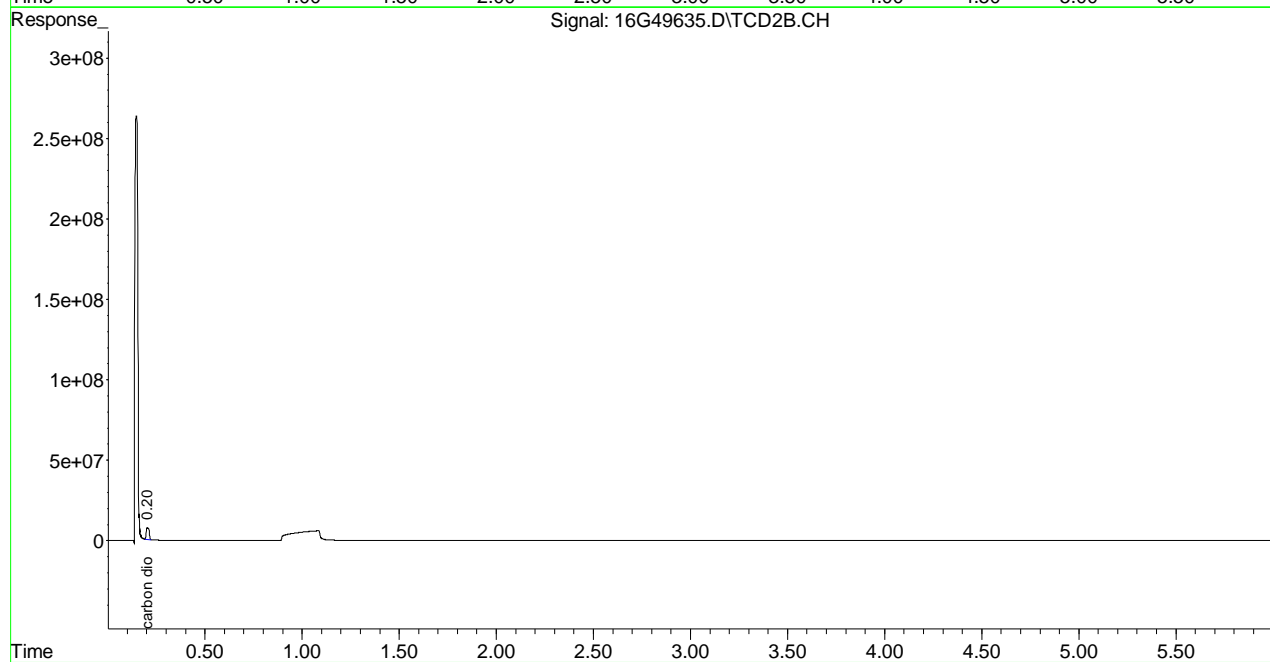
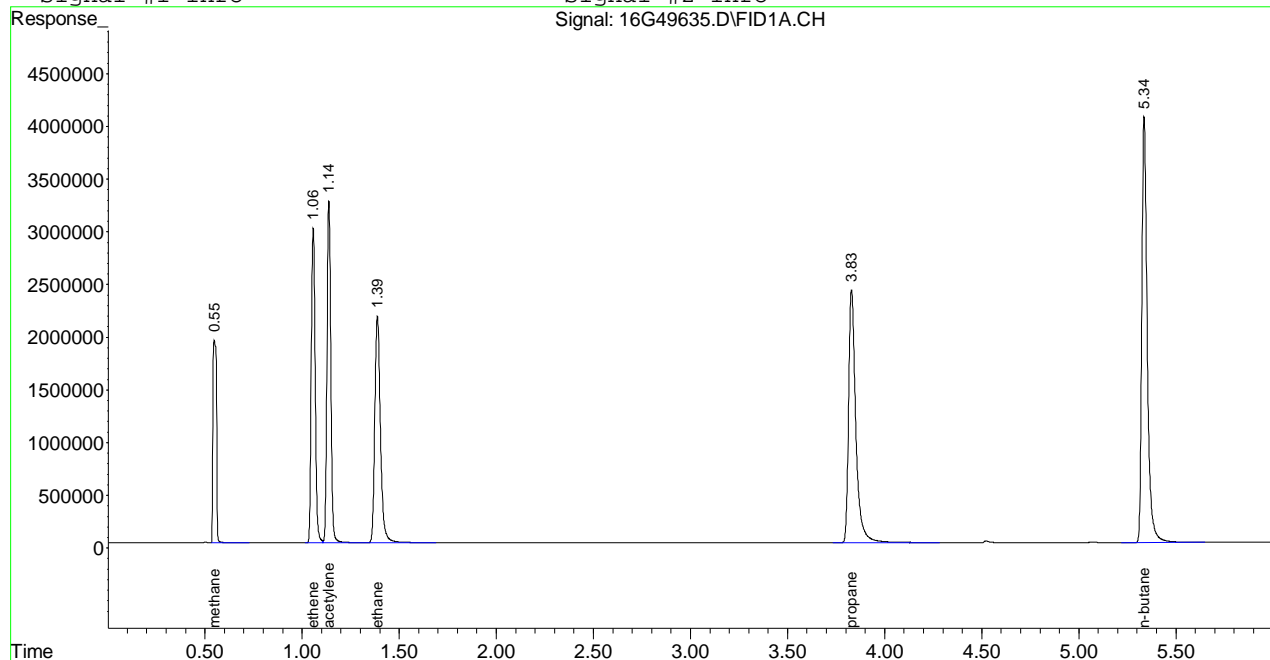
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49635.D RSKEXT1.M Fri Mar 25 18:32:35 2016

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Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49635.D\TCD2B.CH
Acq On : 25 Mar 2016 18:26 Operator: JDS
Sample : WG562401-08 133umol/moL ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 18:32 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
 Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49635.D\TCD2B.CH
 Acq On : 25 Mar 2016 18:26 Operator: JDS
 Sample : WG562401-08 133umol/moL ALT SRC STD RSK1 Inst : HP16
 Misc : 1,1 STD68250 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 T	methane	133.000	137.318	-3.2	106	0.00
2 T	ethene	133.000	133.648	-0.5	104	0.00
3 T	acetylene	133.000	144.865	-8.9	113	0.00
4 T	ethane	133.000	135.258	-1.7	106	0.00
5 T	propane	133.000	131.903	0.8	102	0.00
6 T	n-butane	133.000	129.901	2.3	101	0.00

Signal #2						
8 T	carbon dioxide	13300.000	14619.589	-9.9	108	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 16G49635.D RSKEXT1.M Mon Mar 28 09:35:32 2016

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Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49635.D\TCD2B.CH
Acq On : 25 Mar 2016 18:26 Operator: JDS
Sample : WG562401-08 133umol/moL ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
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Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49635.D RSKEXT1.M Mon Mar 28 09:35:32 2016

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Signal #1 : C:\MSDchem\1\DATA\050516\16G49846.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDchem\1\DATA\050516\16G49846.D\TCD2B.CH
 Acq On : 05 May 2016 11:51 Operator: JDS
 Sample : WG567635-01 133umol/moL CCV STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 05 11:57:15 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	22360153	123.237 umol/
2) T ethene	1.06	38468972	123.273 umol/
3) T acetylene	1.14	41060041	131.490 umol/
4) T ethane	1.39	39250722	123.070 umol/
5) T propane	3.83	58910801	124.874 umol/
6) T n-butane	5.34	76943466	125.847 umol/
8) T carbon dioxide	0.20	73437377	13912.481 umol/

(f)=RT Delta > 1/2 Window

16G49846.D RSKEXT1.M

Thu May 05 11:57:15 2016

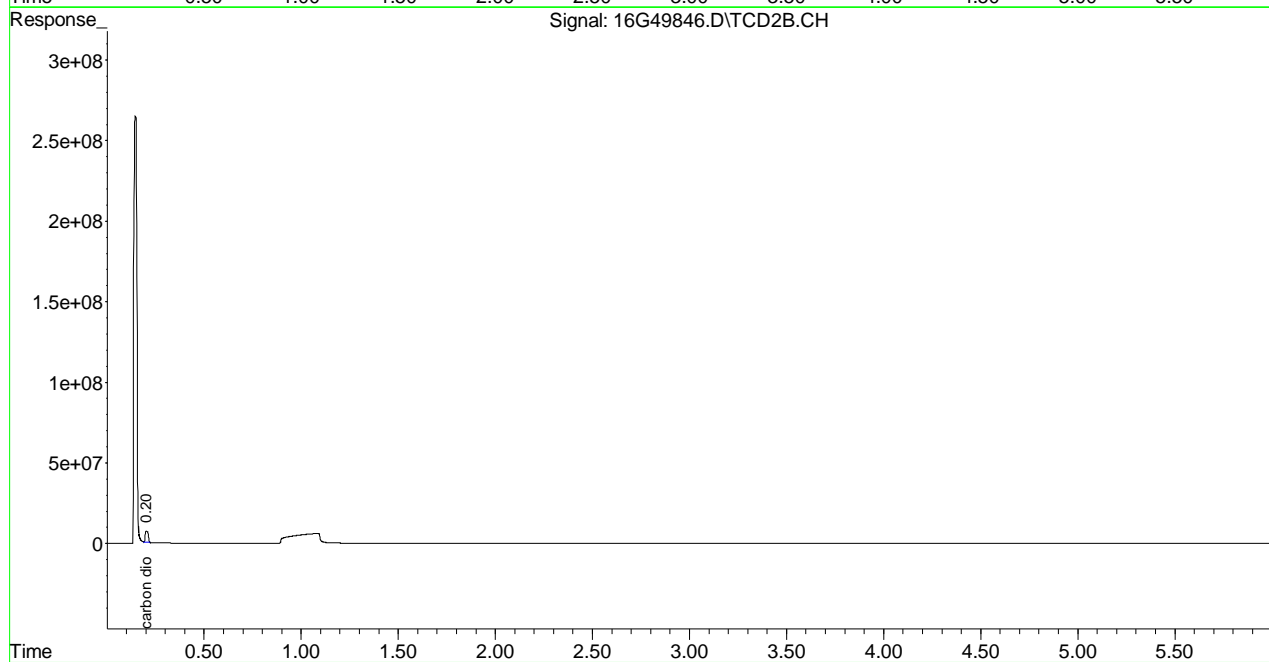
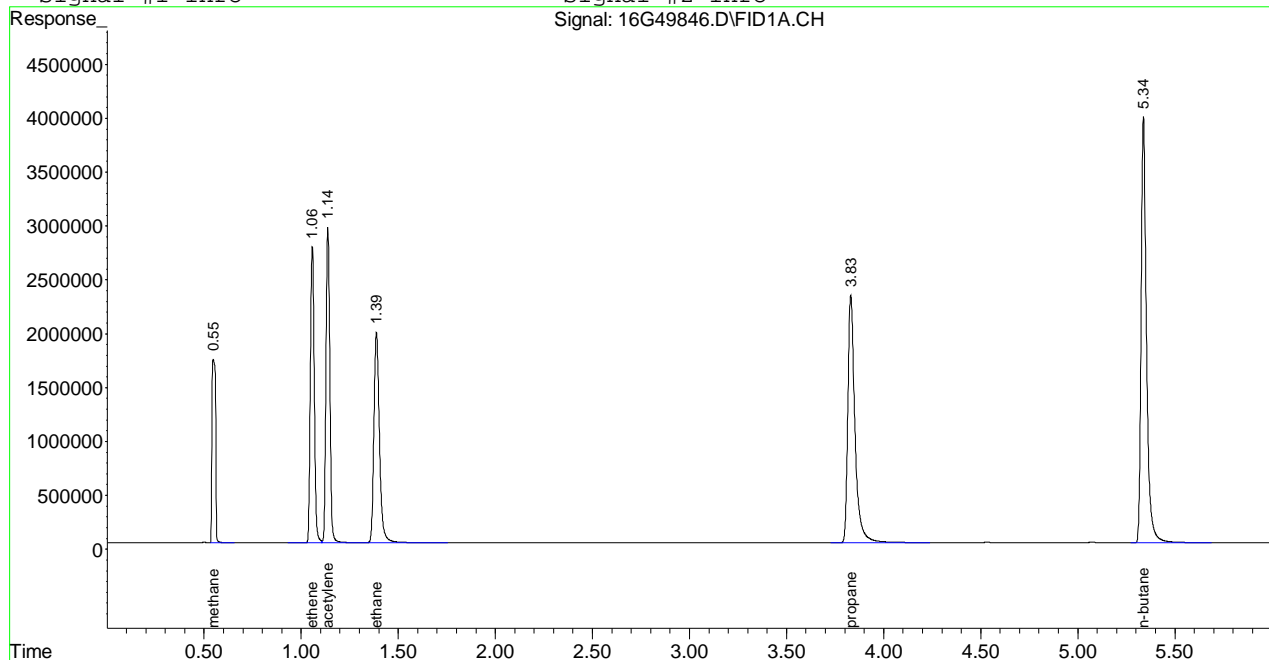
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49846.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49846.D\TCD2B.CH
 Acq On : 05 May 2016 11:51 Operator: JDS
 Sample : WG567635-01 133umol/moL CCV STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 5 11:57 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49846.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49846.D\TCD2B.CH
 Acq On : 05 May 2016 11:51 Operator: JDS
 Sample : WG567635-01 133umol/moL CCV STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 T	methane	133.000	123.237	7.3	95	0.00
2 T	ethene	133.000	123.273	7.3	96	0.00
3 T	acetylene	133.000	131.490	1.1	103	0.00
4 T	ethane	133.000	123.070	7.5	96	0.00
5 T	propane	133.000	124.874	6.1	97	0.00
6 T	n-butane	133.000	125.847	5.4	98	0.00

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
8 T	carbon dioxide	13300.000	13912.481	-4.6	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 16G49846.D RSKEXT1.M Fri May 06 09:12:12 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49846.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49846.D\TCD2B.CH
Acq On : 05 May 2016 11:51 Operator: JDS
Sample : WG567635-01 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
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Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49846.D RSKEXT1.M Fri May 06 09:12:12 2016

Page 2

Signal #1 : C:\MSDchem\1\DATA\050516\16G49855.D\FID1A.CH Vial: 10
 Signal #2 : C:\MSDchem\1\DATA\050516\16G49855.D\TCD2B.CH
 Acq On : 05 May 2016 15:49 Operator: JDS
 Sample : WG567635-02 133umol/mol CCV STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 05 15:55:26 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc	Units

Target Compounds				
1) T methane	0.55	23727475	130.872	umol/
2) T ethene	1.06	40247844	128.974	umol/
3) T acetylene	1.14	38742654	124.069	umol/
4) T ethane	1.39	41268739	129.398	umol/
5) T propane	3.83	61699385	130.785	umol/
6) T n-butane	5.34	79536158	130.088	umol/
8) T carbon dioxide	0.21	68137514	12908.439	umol/

(f)=RT Delta > 1/2 Window

16G49855.D RSKEXT1.M

Thu May 05 15:55:26 2016

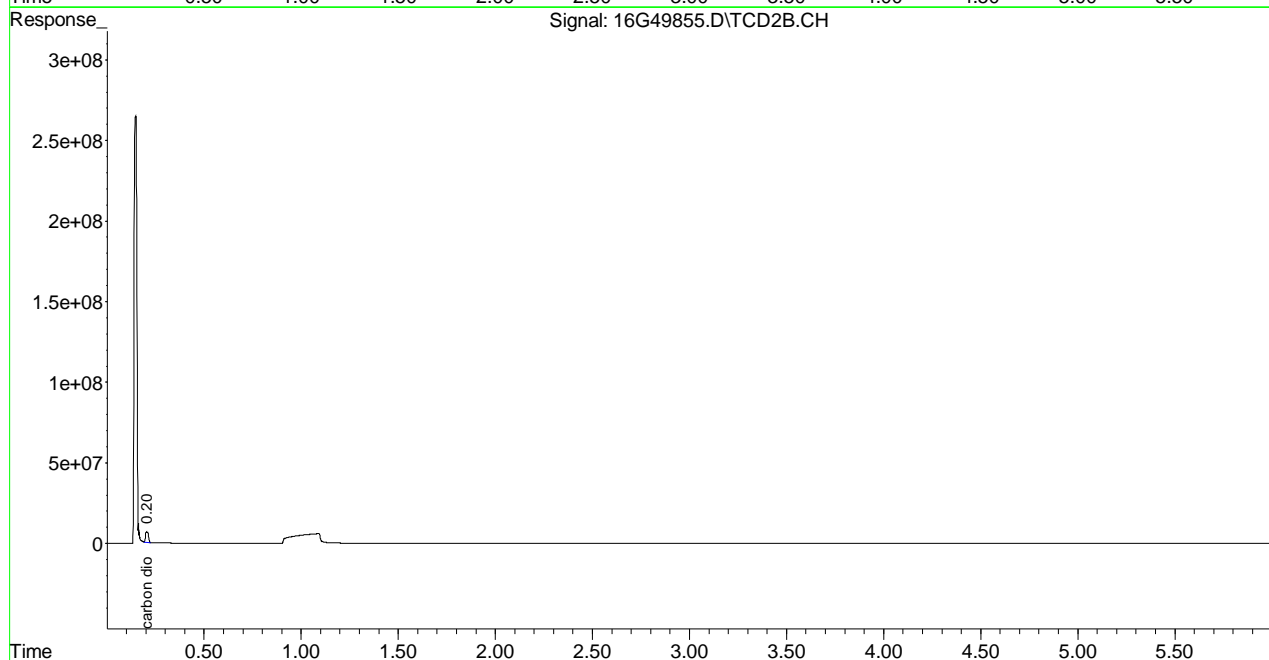
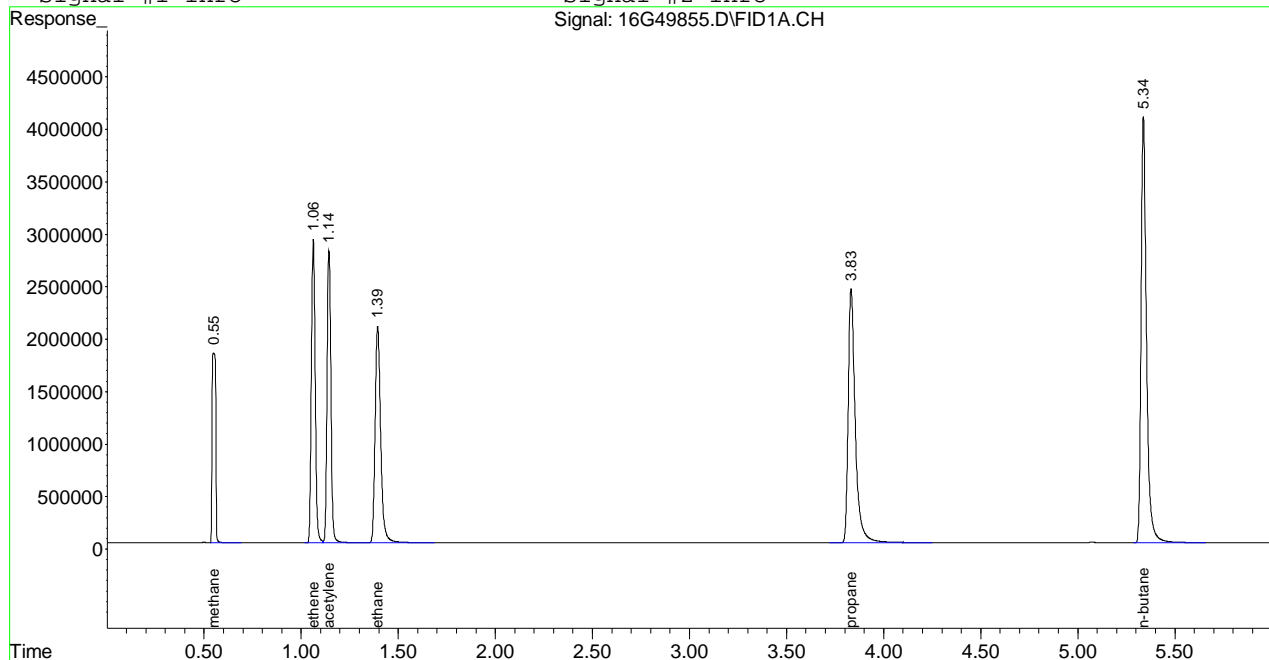
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49855.D\FID1A.CH Vial: 10
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49855.D\TCD2B.CH
 Acq On : 05 May 2016 15:49 Operator: JDS
 Sample : WG567635-02 133umol/mol CCV STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 5 15:55 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49855.D\FID1A.CH Vial: 10
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49855.D\TCD2B.CH
 Acq On : 05 May 2016 15:49 Operator: JDS
 Sample : WG567635-02 133umol/moL CCV STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 T	methane	133.000	130.872	1.6	101	0.00
2 T	ethene	133.000	128.974	3.0	101	0.00
3 T	acetylene	133.000	124.069	6.7	97	0.00
4 T	ethane	133.000	129.398	2.7	101	0.00
5 T	propane	133.000	130.785	1.7	101	0.00
6 T	n-butane	133.000	130.088	2.2	101	0.00

Signal #2						
8 T	carbon dioxide	13300.000	12908.439	2.9	96	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 16G49855.D RSKEXT1.M Fri May 06 09:12:20 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49855.D\FID1A.CH Vial: 10
Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49855.D\TCD2B.CH
Acq On : 05 May 2016 15:49 Operator: JDS
Sample : WG567635-02 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
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Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49855.D RSKEXT1.M Fri May 06 09:12:20 2016

Page 2

Signal #1 : C:\MSDchem\1\DATA\050616\16G49856.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDchem\1\DATA\050616\16G49856.D\TCD2B.CH
 Acq On : 06 May 2016 16:49 Operator: JDS
 Sample : WG567894-01 133umol/mol CCV STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 16:55:17 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	22889678	126.194 umol/
2) T ethene	1.06	39054708	125.150 umol/
3) T acetylene	1.14	41117993	131.675 umol/
4) T ethane	1.39	39804948	124.808 umol/
5) T propane	3.83	59270661	125.637 umol/
6) T n-butane	5.34	76664994	125.392 umol/
8) T carbon dioxide	0.20	73189746	13865.568 umol/

(f)=RT Delta > 1/2 Window
 16G49856.D RSKEXT1.M Fri May 06 16:55:17 2016

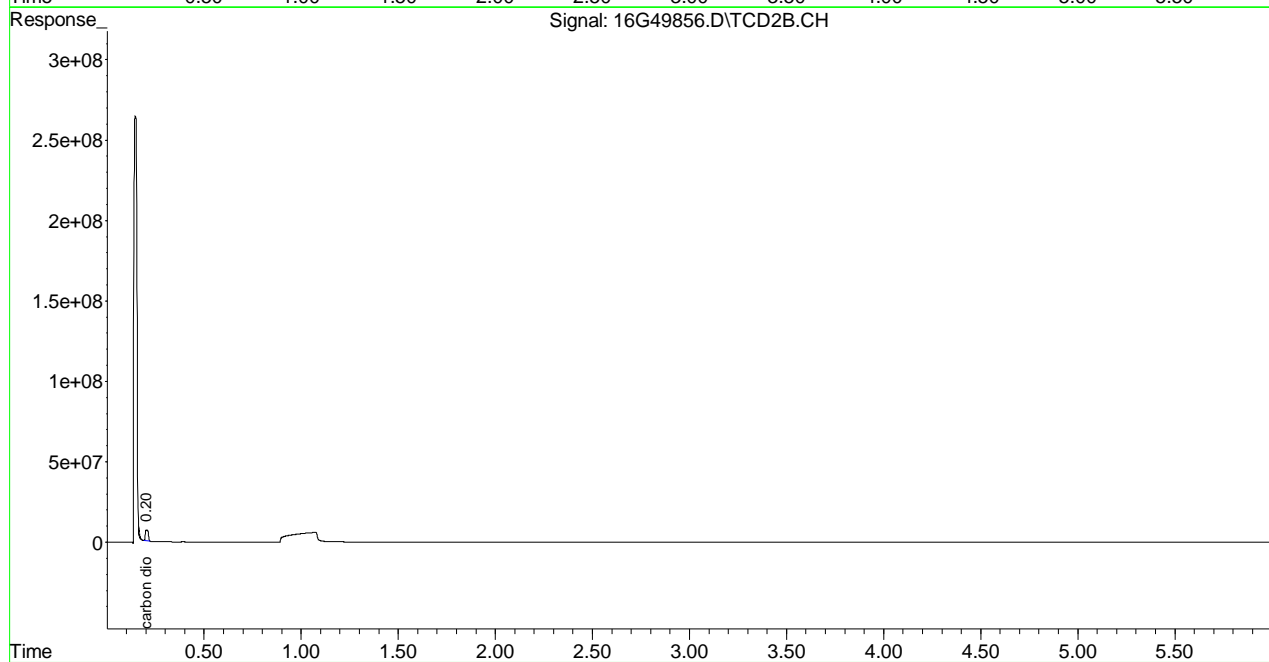
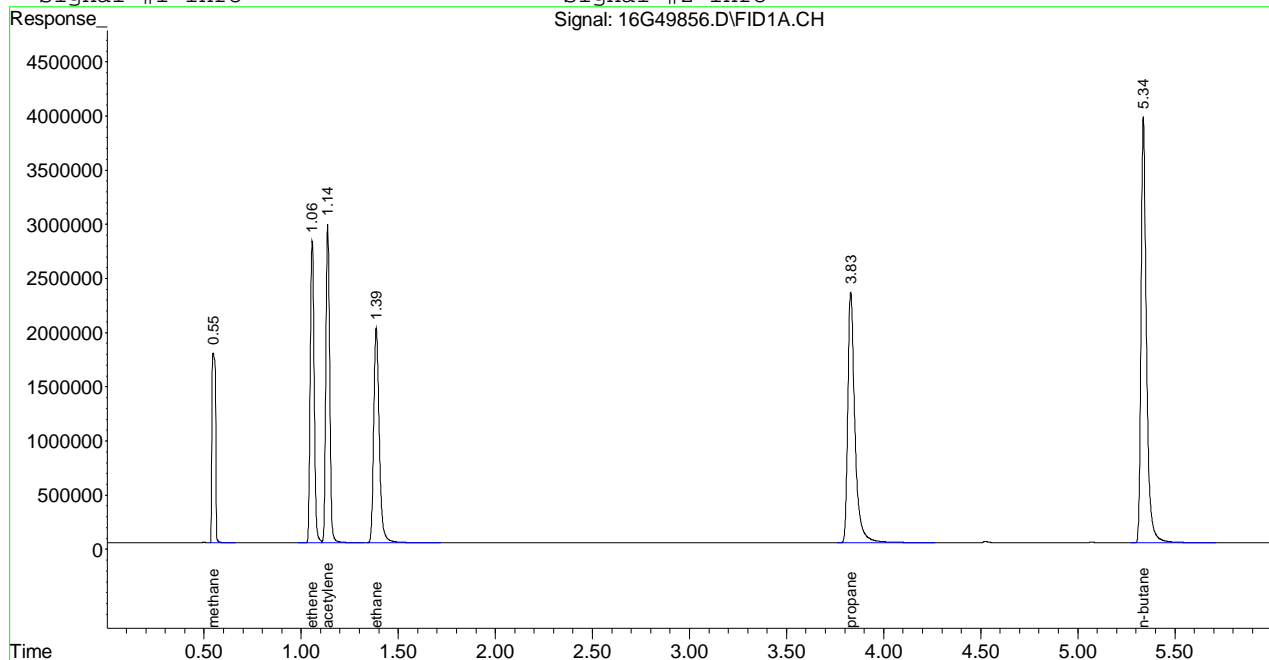
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49856.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49856.D\TCD2B.CH
 Acq On : 06 May 2016 16:49 Operator: JDS
 Sample : WG567894-01 133umol/mol CCV STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 6 16:55 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49856.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49856.D\TCD2B.CH
 Acq On : 06 May 2016 16:49 Operator: JDS
 Sample : WG567894-01 133umol/moL CCV STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 T	methane	133.000	126.194	5.1	98	0.00
2 T	ethene	133.000	125.150	5.9	98	0.00
3 T	acetylene	133.000	131.675	1.0	103	0.00
4 T	ethane	133.000	124.808	6.2	98	0.00
5 T	propane	133.000	125.637	5.5	97	0.00
6 T	n-butane	133.000	125.392	5.7	98	0.00
Signal #2						
8 T	carbon dioxide	13300.000	13865.568	-4.3	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 16G49856.D RSKEXT1.M Mon May 09 09:36:53 2016

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Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49856.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49856.D\TCD2B.CH
Acq On : 06 May 2016 16:49 Operator: JDS
Sample : WG567894-01 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
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Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49856.D RSKEXT1.M Mon May 09 09:36:53 2016

Page 2

Signal #1 : C:\MSDchem\1\DATA\050616\16G49867.D\FID1A.CH Vial: 12
 Signal #2 : C:\MSDchem\1\DATA\050616\16G49867.D\TCD2B.CH
 Acq On : 06 May 2016 19:03 Operator: JDS
 Sample : WG567894-02 133umol/moL CCV STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 19:09:30 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	23429750	129.209 umol/
2) T ethene	1.06	39292842	125.913 umol/
3) T acetylene	1.14	36820559	117.913 umol/
4) T ethane	1.39	40360658	126.551 umol/
5) T propane	3.83	60125177	127.448 umol/
6) T n-butane	5.34	77425530	126.636 umol/
8) T carbon dioxide	0.20	63898571	12105.384 umol/

(f)=RT Delta > 1/2 Window
 16G49867.D RSKEXT1.M Fri May 06 19:09:30 2016

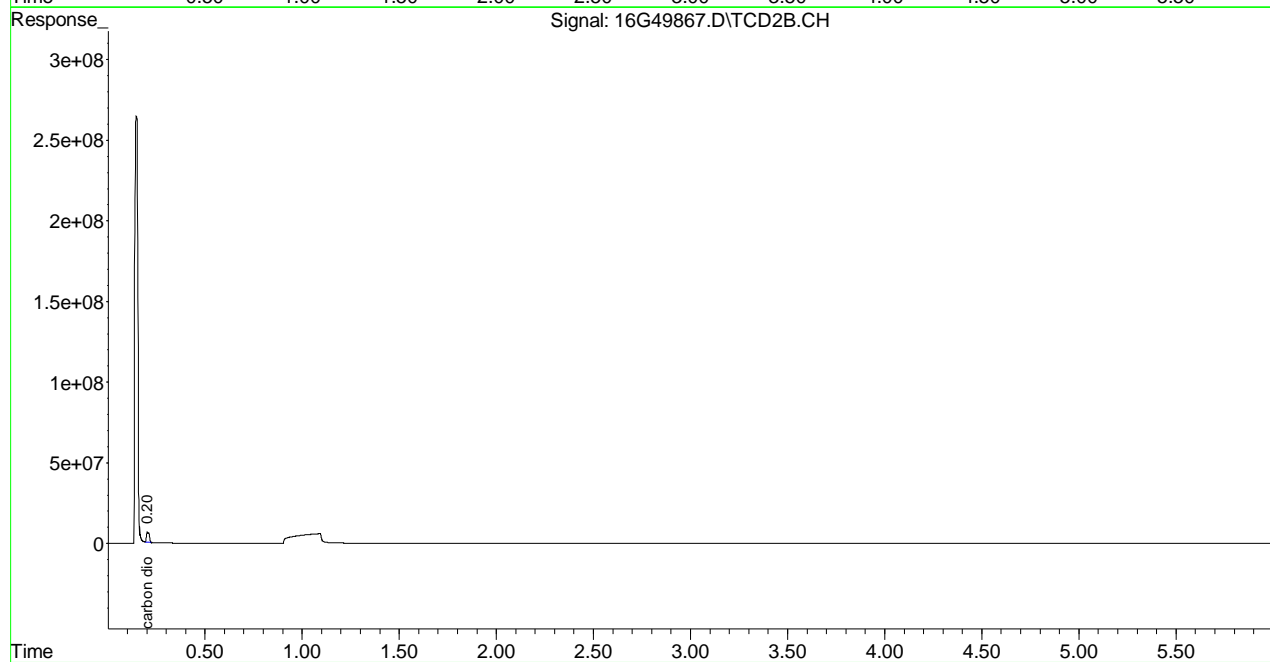
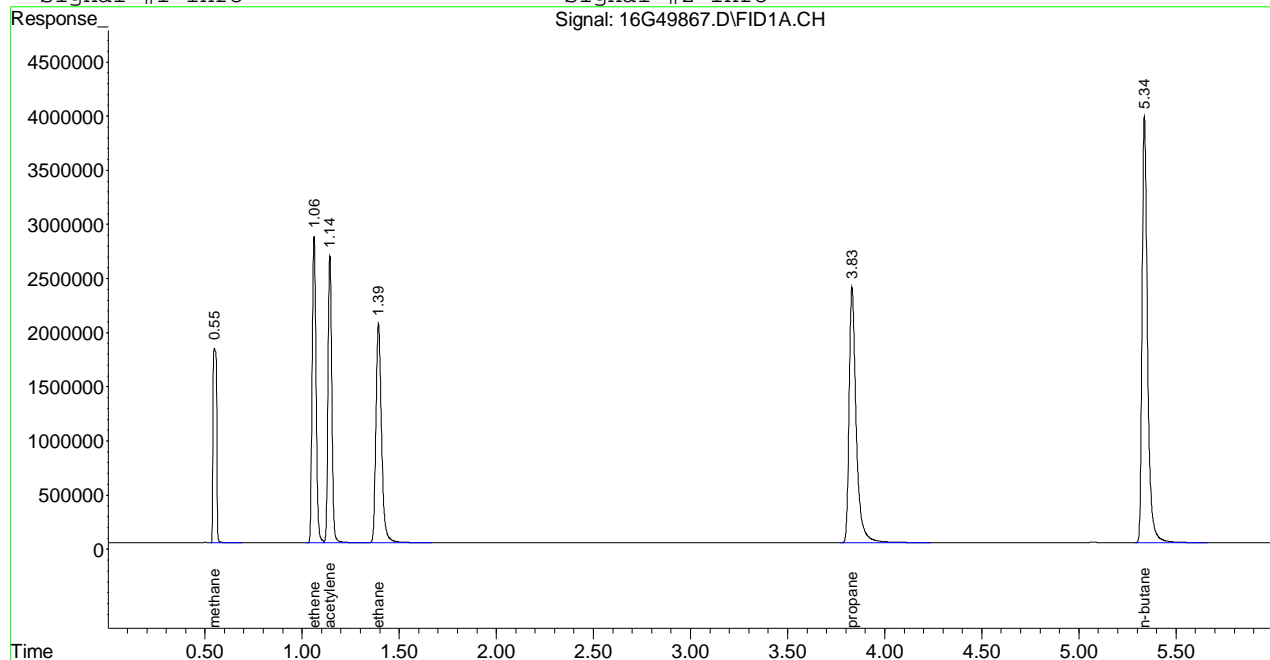
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49867.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49867.D\TCD2B.CH
Acq On : 06 May 2016 19:03 Operator: JDS
Sample : WG567894-02 133umol/mol CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: May 6 19:09 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49867.D\FID1A.CH Vial: 12
 Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49867.D\TCD2B.CH
 Acq On : 06 May 2016 19:03 Operator: JDS
 Sample : WG567894-02 133umol/moL CCV STD RSK175 Inst : HP16
 Misc : 1,1 STD75351 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 T	methane	133.000	129.209	2.9	100	0.00
2 T	ethene	133.000	125.913	5.3	98	0.00
3 T	acetylene	133.000	117.913	11.3	92	0.00
4 T	ethane	133.000	126.551	4.8	99	0.00
5 T	propane	133.000	127.448	4.2	99	0.00
6 T	n-butane	133.000	126.636	4.8	99	0.00
Signal #2						
8 T	carbon dioxide	13300.000	12105.384	9.0	90	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 16G49867.D RSKEXT1.M Mon May 09 09:37:02 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49867.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49867.D\TCD2B.CH
Acq On : 06 May 2016 19:03 Operator: JDS
Sample : WG567894-02 133umol/moL CCV STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
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Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49867.D RSKEXT1.M Mon May 09 09:37:02 2016

Page 2

Login #: L16050151 Run Date: 05/05/2016 Sample ID: WG567635-01
 Instrument: HP16 Run Time: 11:51 Method: RSK175
 Workgroup (AAB#): WG567637 File ID: 16G49846

RT Standard	Analysis Date	File ID	Analyst
WG536037-01	08/21/2015	16G48293	JDS
WG535907-01	08/20/2015	16G48276	JDS
WG535544-01	08/19/2015	16G48247	JDS

Analyte	RT #1	RT #2	RT #3	STD	Lower	Upper
METHANE	.55	.55	.55	.55	0.520	0.580
ETHENE	1.06	1.06	1.06	1.06	1.030	1.090
ETHANE	1.39	1.4	1.4	1.39	1.360	1.420
PROPANE	3.83	3.83	3.83	3.83	3.800	3.860
N-BUTANE	5.34	5.34	5.34	5.34	5.310	5.370
CARBON DIOXIDE	.2	.2	.2	.2	0.170	0.230
ACETYLENE	1.14	1.14	1.15	1.14	1.110	1.170

RT_WIN - Modified 01/06/2010
 PDF File ID: 4753746
 Report generated 05/13/2016 15:56



Login #: L16050151 Run Date: 05/06/2016 Sample ID: WG567894-01
 Instrument: HP16 Run Time: 16:49 Method: RSK175
 Workgroup (AAB#): WG567895 File ID: 16G49856

RT Standard	Analysis Date	File ID	Analyst
WG536037-01	08/21/2015	16G48293	JDS
WG535907-01	08/20/2015	16G48276	JDS
WG535544-01	08/19/2015	16G48247	JDS

Analyte	RT #1	RT #2	RT #3	STD	Lower	Upper
METHANE	.55	.55	.55	.55	0.520	0.580
ETHENE	1.06	1.06	1.06	1.06	1.030	1.090
ETHANE	1.39	1.4	1.4	1.39	1.360	1.420
PROPANE	3.83	3.83	3.83	3.83	3.800	3.860
N-BUTANE	5.34	5.34	5.34	5.34	5.310	5.370
CARBON DIOXIDE	.2	.2	.2	.2	0.170	0.230
ACETYLENE	1.14	1.14	1.15	1.14	1.110	1.170

RT_WIN - Modified 01/06/2010
 PDF File ID: 4753746
 Report generated 05/13/2016 15:56



2.1.2.5 Raw QC Data

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49847.D\FID1A.CH Vial: 2
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49847.D\TCD2B.CH
 Acq On : 05 May 2016 14:15 Operator: JDS
 Sample : WG567637-01 BLANK STD RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 05 14:21:57 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	294375	0.018 umol/
2) T ethene	0.00	0	N.D. umol/
3) T acetylene	0.00	0	N.D. umol/
4) T ethane	0.00	0	N.D. umol/
5) T propane	0.00	0	N.D. umol/
6) T n-butane	0.00	0	N.D. umol/
8) T carbon dioxide	0.00	0	N.D. umol/

(f)=RT Delta > 1/2 Window

16G49847.D RSKEXT1.M

Thu May 05 15:01:19 2016

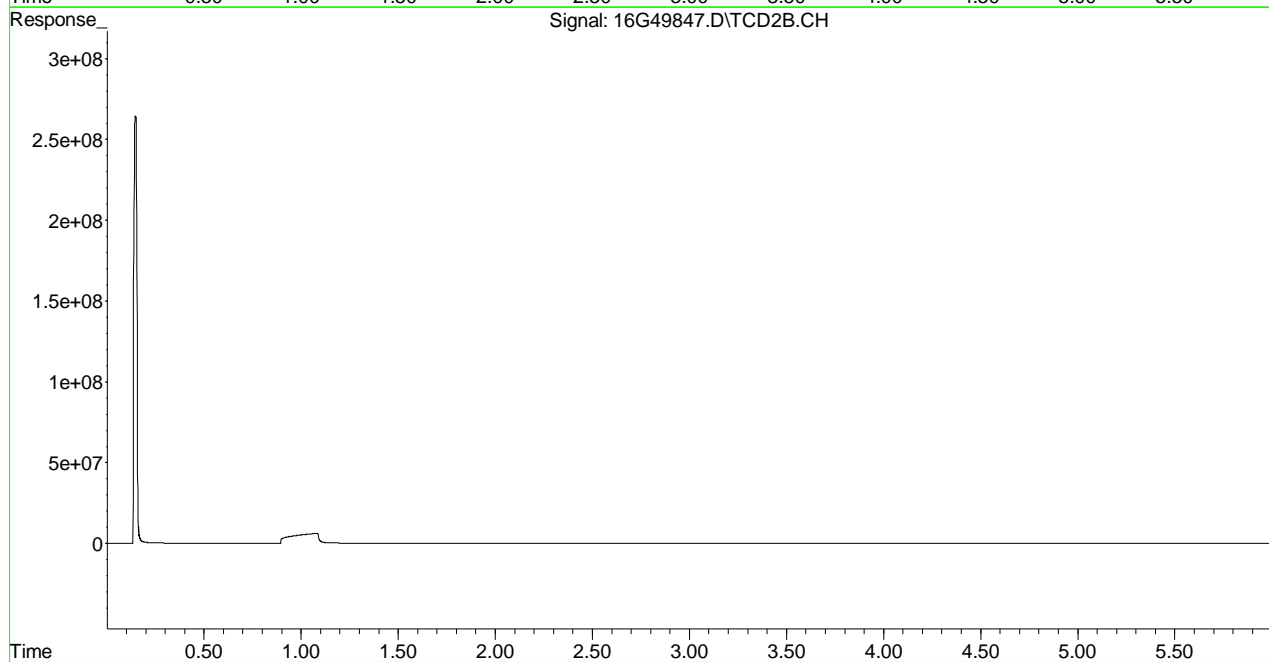
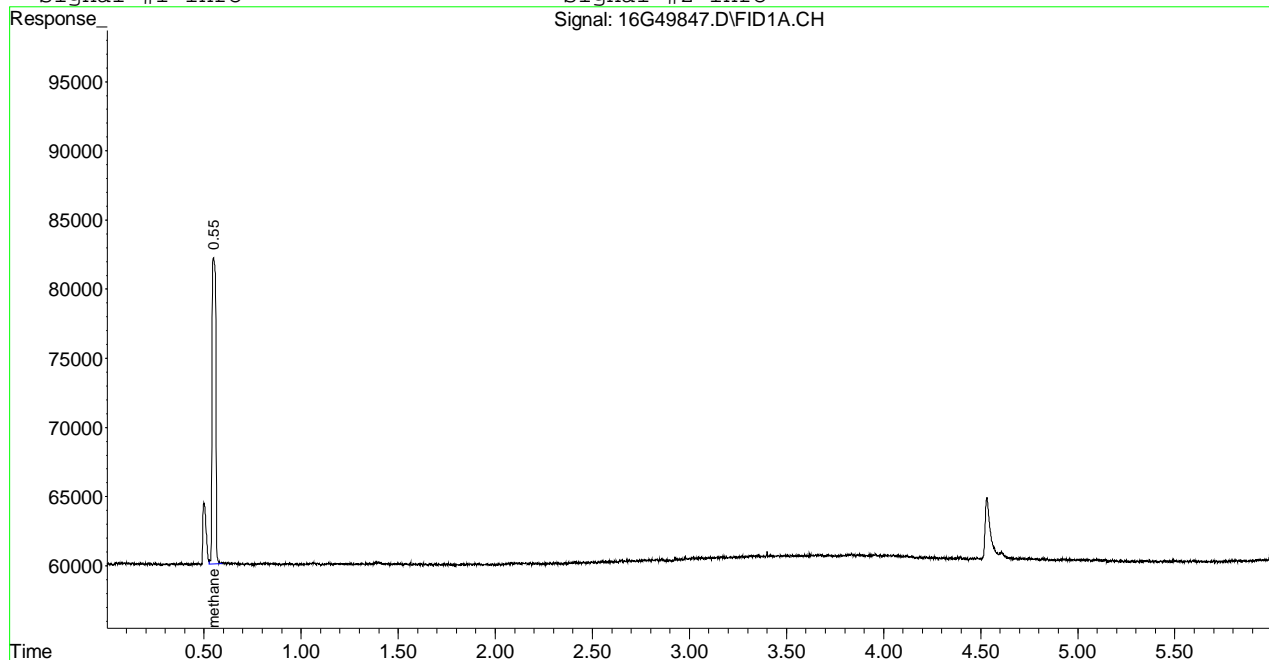
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49847.D\FID1A.CH Vial: 2
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49847.D\TCD2B.CH
 Acq On : 05 May 2016 14:15 Operator: JDS
 Sample : WG567637-01 BLANK STD RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 5 14:21 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49857.D\FID1A.CH Vial: 2
 Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49857.D\TCD2B.CH
 Acq On : 06 May 2016 17:07 Operator: JDS
 Sample : WG567895-01 BLANK STD RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 17:13:14 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc	Units

Target Compounds				
1) T methane	0.55	283107	N.D.	umol/
2) T ethene	0.00	0	N.D.	umol/
3) T acetylene	0.00	0	N.D.	umol/
4) T ethane	0.00	0	N.D.	umol/
5) T propane	0.00	0	N.D.	umol/
6) T n-butane	0.00	0	N.D.	umol/
8) T carbon dioxide	0.00	0	N.D.	umol/

(f)=RT Delta > 1/2 Window

16G49857.D RSKEXT1.M Mon May 09 09:49:14 2016

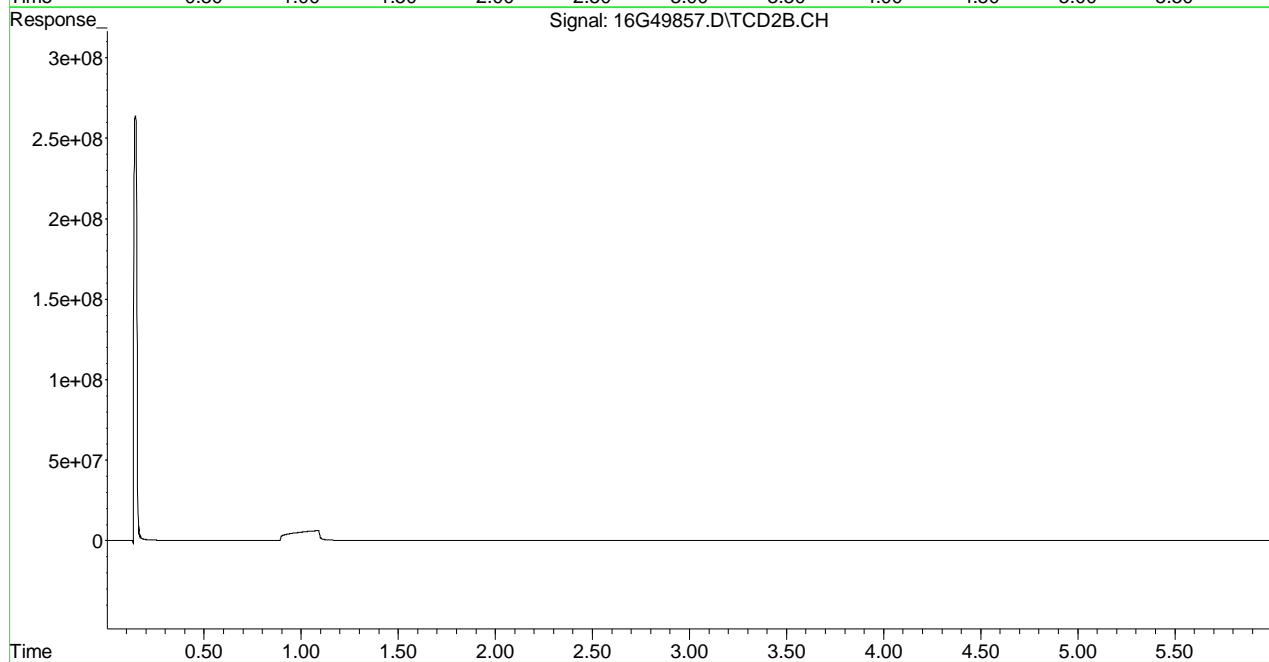
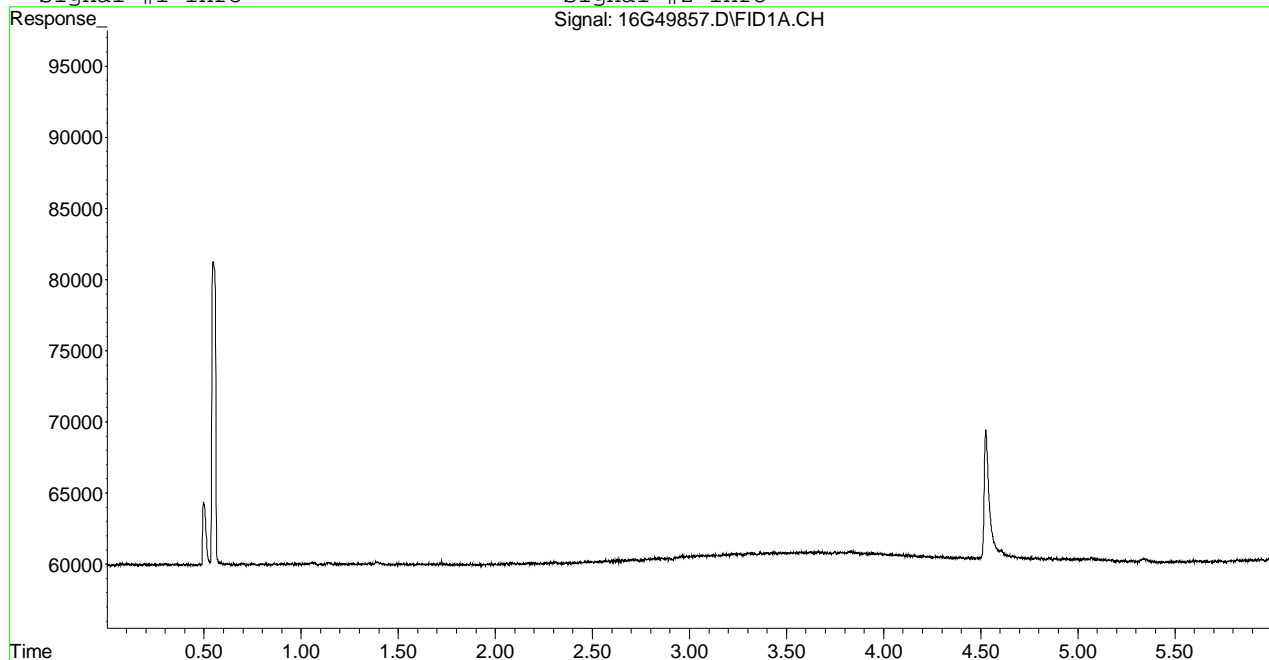
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49857.D\FID1A.CH Vial: 2
 Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49857.D\TCD2B.CH
 Acq On : 06 May 2016 17:07 Operator: JDS
 Sample : WG567895-01 BLANK STD RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 6 17:13 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDchem\1\DATA\050516\16G49848.D\FID1A.CH Vial: 3
 Signal #2 : C:\MSDchem\1\DATA\050516\16G49848.D\TCD2B.CH
 Acq On : 05 May 2016 14:28 Operator: JDS
 Sample : WG567637-02 67umol/mol LCS STD RSK175 Inst : HP16
 Misc : 1,1 STD68250 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 05 14:34:06 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	12637870	68.946 umol/
2) T ethene	1.06	21326831	68.342 umol/
3) T acetylene	1.14	22996572	73.644 umol/
4) T ethane	1.40	22095212	69.279 umol/
5) T propane	3.83	32276059	68.416 umol/
6) T n-butane	5.34	41168159	67.334 umol/
8) T carbon dioxide	0.20	37239929	7054.988 umol/

(f)=RT Delta > 1/2 Window

16G49848.D RSKEXT1.M Thu May 05 14:34:06 2016

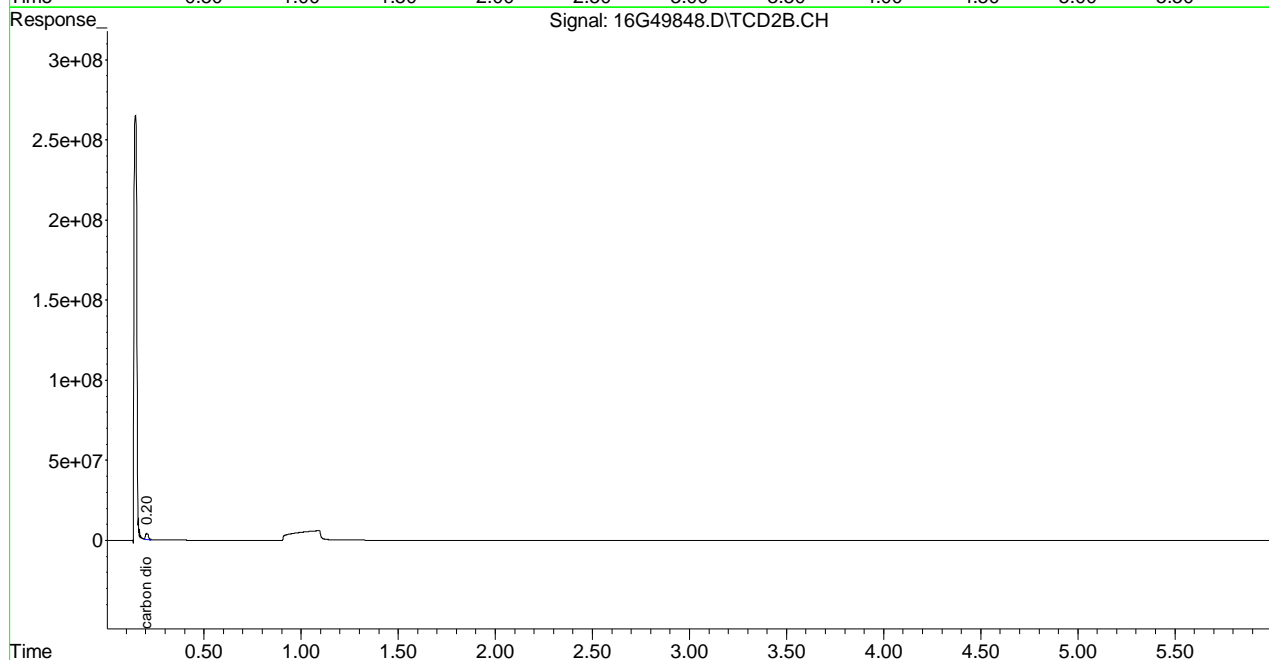
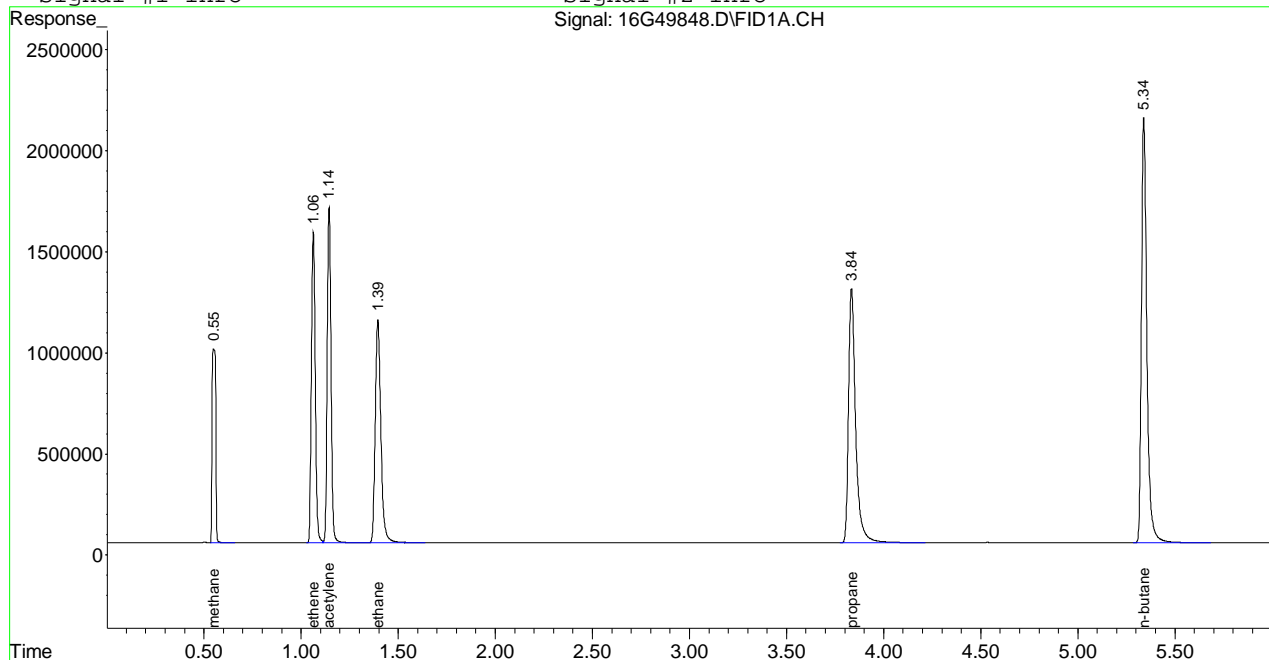
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49848.D\FID1A.CH Vial: 3
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49848.D\TCD2B.CH
 Acq On : 05 May 2016 14:28 Operator: JDS
 Sample : WG567637-02 67umol/mol LCS STD RSK175 Inst : HP16
 Misc : 1,1 STD68250 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 5 14:34 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDchem\1\DATA\050616\16G49858.D\FID1A.CH Vial: 3
 Signal #2 : C:\MSDchem\1\DATA\050616\16G49858.D\TCD2B.CH
 Acq On : 06 May 2016 17:18 Operator: JDS
 Sample : WG567895-02 67umol/mol LCS STD RSK175 Inst : HP16
 Misc : 1,1 STD68250 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 17:24:28 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	12224451	66.637 umol/
2) T ethene	1.06	20221552	64.800 umol/
3) T acetylene	1.14	21047850	67.403 umol/
4) T ethane	1.39	21017539	65.900 umol/
5) T propane	3.83	30311642	64.252 umol/
6) T n-butane	5.34	38430967	62.857 umol/
8) T carbon dioxide	0.20	33403567	6328.201 umol/

(f)=RT Delta > 1/2 Window
 16G49858.D RSKEXT1.M Fri May 06 17:24:28 2016

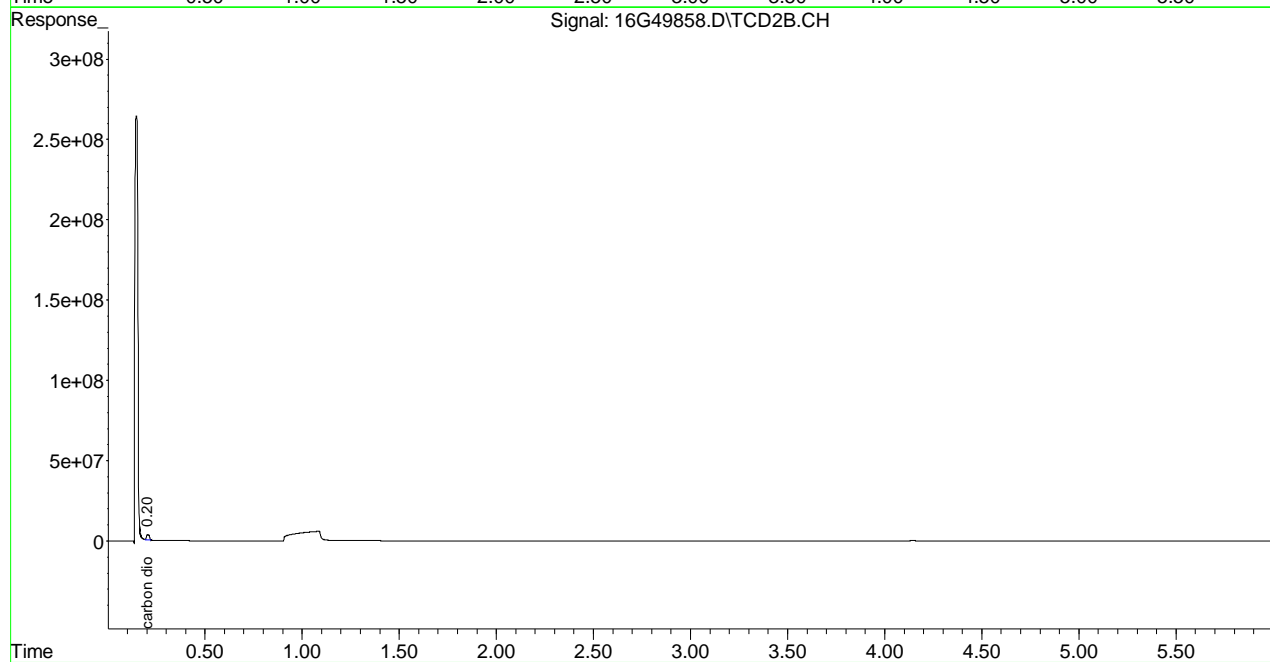
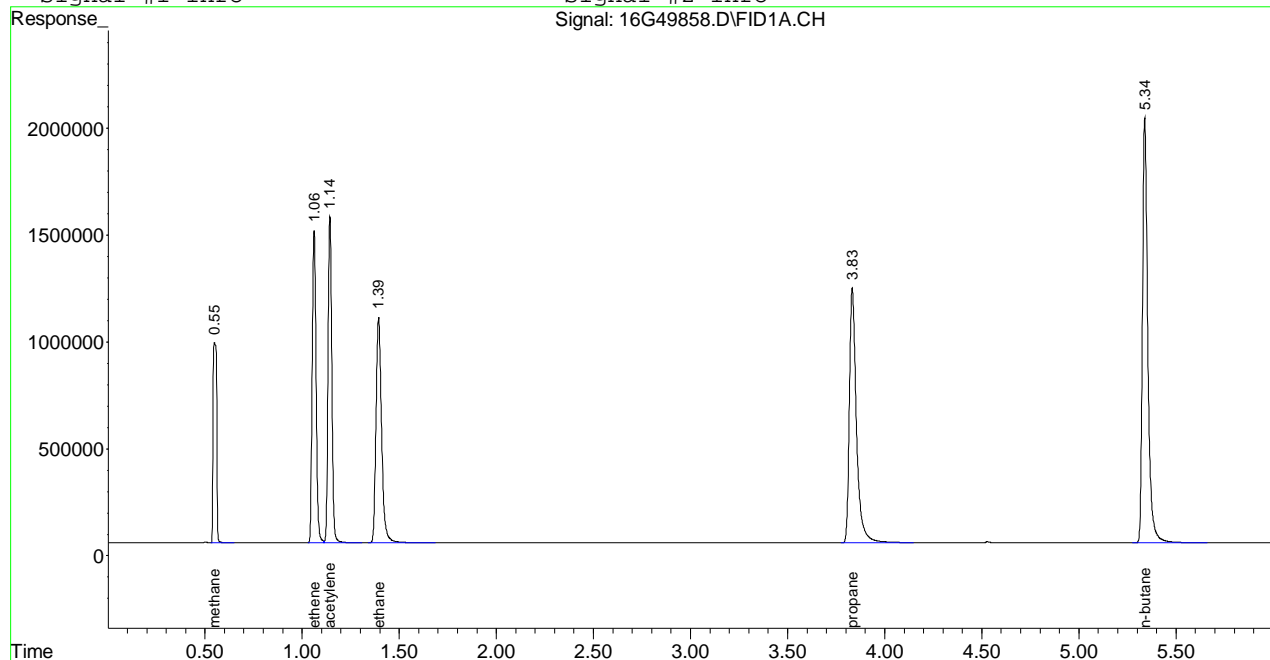
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49858.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49858.D\TCD2B.CH
Acq On : 06 May 2016 17:18 Operator: JDS
Sample : WG567895-02 67umol/mol LCS STD RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: May 6 17:24 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDchem\1\DATA\050516\16G49849.D\FID1A.CH Vial: 4
 Signal #2 : C:\MSDchem\1\DATA\050516\16G49849.D\TCD2B.CH
 Acq On : 05 May 2016 14:39 Operator: JDS
 Sample : WG567637-03 67umol/mol LCS2 STD RSK175 Inst : HP16
 Misc : 1,1 STD68250 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 05 14:45:22 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	12541630	68.409 umol/
2) T ethene	1.06	21074337	67.532 umol/
3) T acetylene	1.14	22167156	70.988 umol/
4) T ethane	1.39	21840415	68.480 umol/
5) T propane	3.83	31897552	67.614 umol/
6) T n-butane	5.34	40816177	66.758 umol/
8) T carbon dioxide	0.20	35347098	6696.397 umol/

(f)=RT Delta > 1/2 Window

16G49849.D RSKEXT1.M

Thu May 05 14:45:23 2016

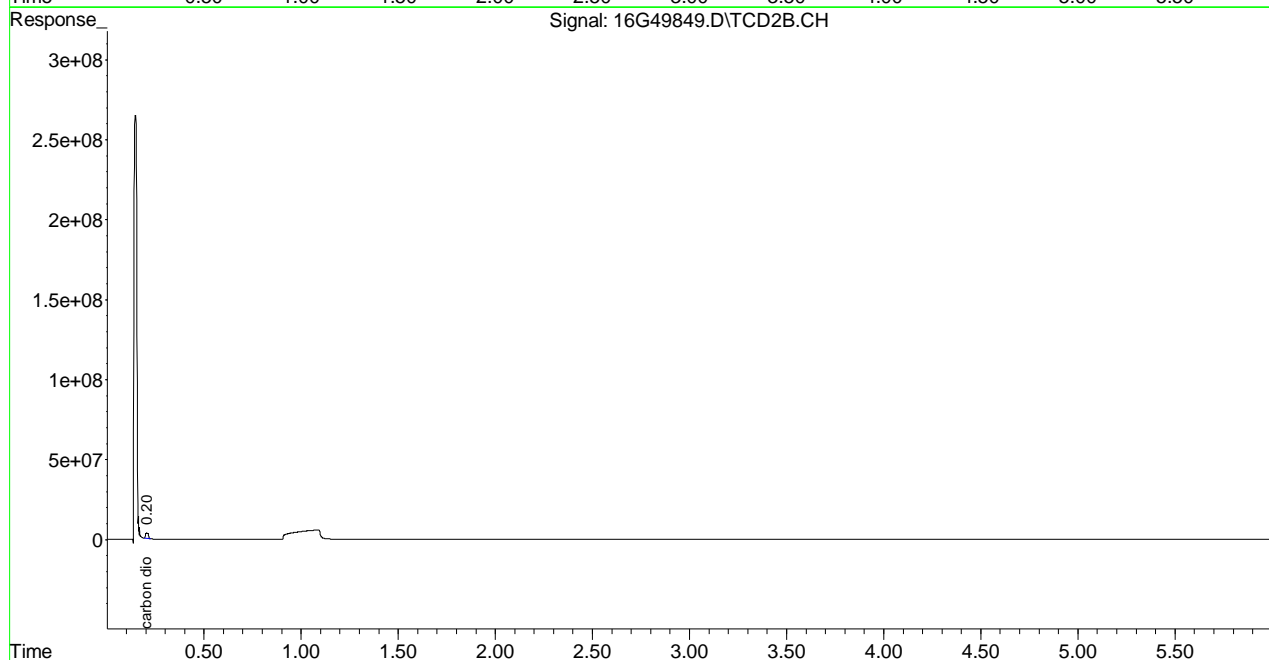
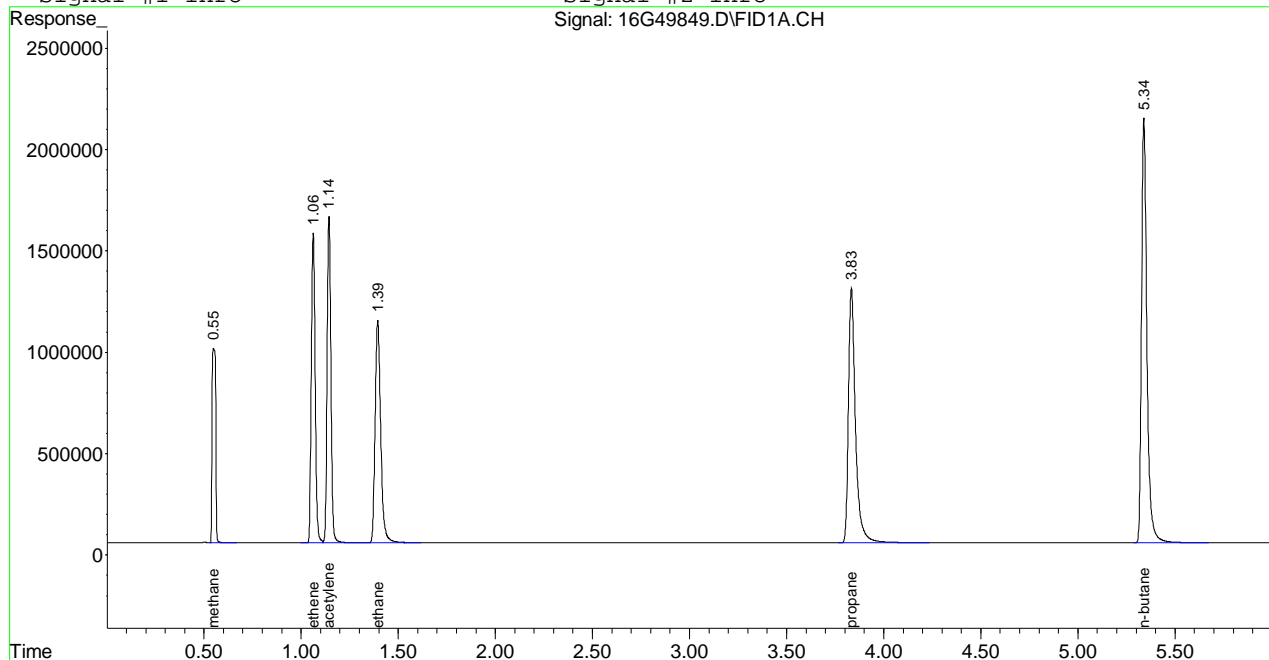
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050516\16G49849.D\FID1A.CH Vial: 4
 Signal #2 : C:\MSDCHEM\1\DATA\050516\16G49849.D\TCD2B.CH
 Acq On : 05 May 2016 14:39 Operator: JDS
 Sample : WG567637-03 67umol/mol LCS2 STD RSK175 Inst : HP16
 Misc : 1,1 STD68250 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 5 14:45 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDchem\1\DATA\050616\16G49859.D\FID1A.CH Vial: 4
 Signal #2 : C:\MSDchem\1\DATA\050616\16G49859.D\TCD2B.CH
 Acq On : 06 May 2016 17:29 Operator: JDS
 Sample : WG567895-03 67umol/mol LCS2 STD RSK175 Inst : HP16
 Misc : 1,1 STD68250 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 06 17:35:47 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Initial Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :

Compound	R.T.	Response	Conc Units

Target Compounds			
1) T methane	0.55	12267152	66.876 umol/
2) T ethene	1.06	20041723	64.223 umol/
3) T acetylene	1.14	20335277	65.121 umol/
4) T ethane	1.39	20794962	65.202 umol/
5) T propane	3.83	29908389	63.397 umol/
6) T n-butane	5.34	37822152	61.861 umol/
8) T carbon dioxide	0.21	32565932	6169.514 umol/

(f)=RT Delta > 1/2 Window
 16G49859.D RSKEXT1.M Fri May 06 17:35:47 2016

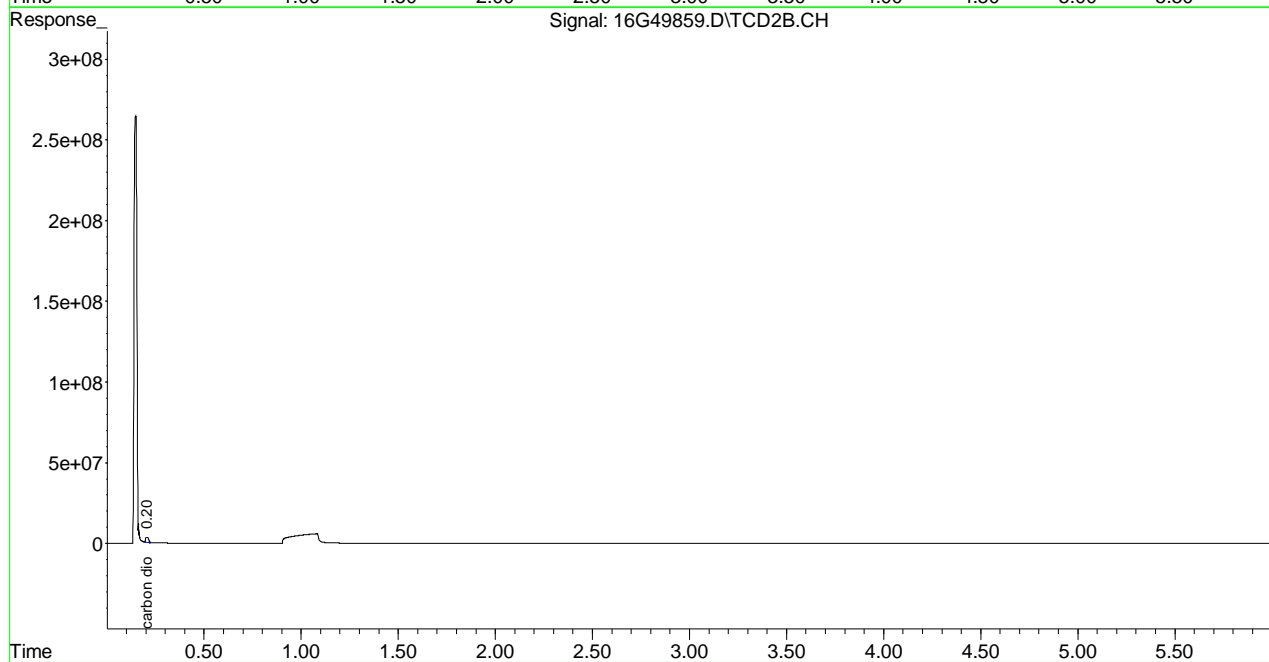
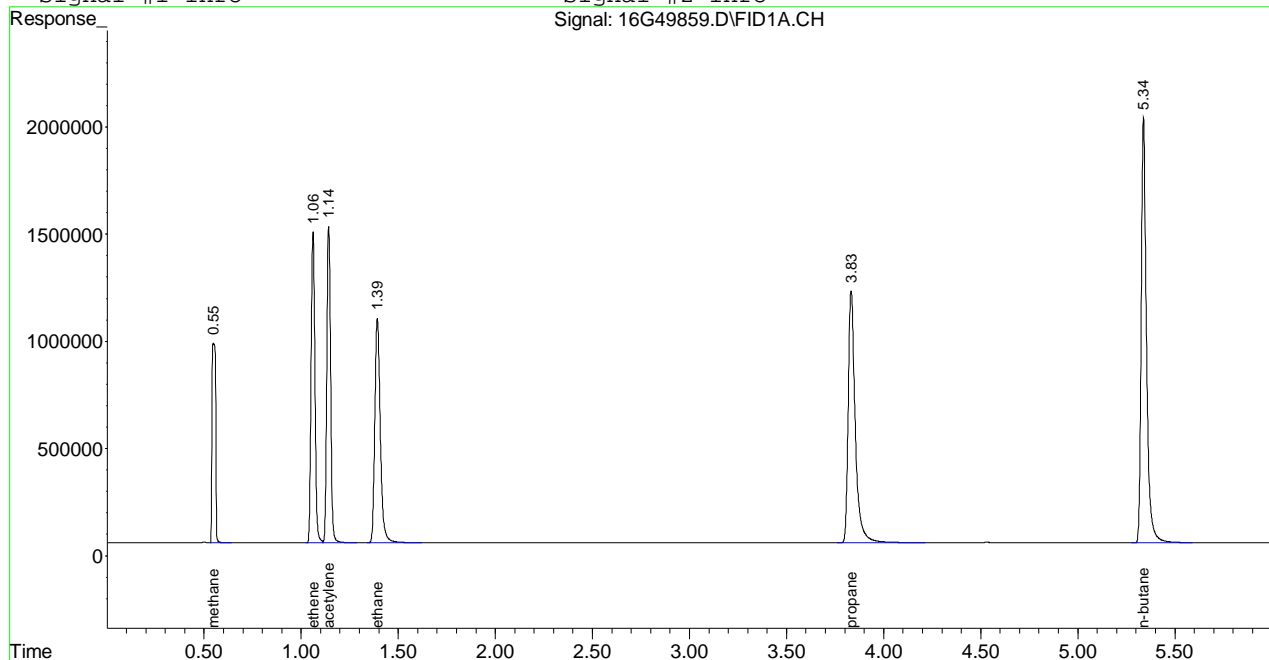
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\050616\16G49859.D\FID1A.CH Vial: 4
 Signal #2 : C:\MSDCHEM\1\DATA\050616\16G49859.D\TCD2B.CH
 Acq On : 06 May 2016 17:29 Operator: JDS
 Sample : WG567895-03 67umol/mol LCS2 STD RSK175 Inst : HP16
 Misc : 1,1 STD68250 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 6 17:35 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
 Title : RSK175 HP16 (SOP: OVL RSK01) 032516
 Last Update : Fri Mar 25 13:38:01 2016
 Response via : Multiple Level Calibration
 DataAcq Meth : RSKEXT1.M

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



2.2 General Chromatography Data

2.2.1 6850 LC/MS Data

2.2.1.1 Summary Data

Certificate of Analysis

Sample #: L16050151-03	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW14-050316	Prep Method: 6850	Prep Date: 05/05/2016 17:00
Matrix: Water	Analytical Method: 6850	Cal Date: 05/03/2016 17:18
Workgroup #: WG567744	Analyst: JWR	Run Date: 05/05/2016 21:33
Collect Date: 05/03/2016 09:25	Dilution: 1	File ID: 1LM.LM34778
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.470		0.400	0.200	0.100

Certificate of Analysis

Sample #: L16050151-05	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW08-050316	Prep Method: 6850	Prep Date: 05/05/2016 17:00
Matrix: Water	Analytical Method: 6850	Cal Date: 05/03/2016 17:18
Workgroup #: WG567744	Analyst: JWR	Run Date: 05/05/2016 22:48
Collect Date: 05/03/2016 10:45	Dilution: 50	File ID: 1LM.LM34782
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	146		20.0	10.0	5.00

Certificate of Analysis

Sample #: L16050151-07	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW18-050316	Prep Method: 6850	Prep Date: 05/05/2016 17:00
Matrix: Water	Analytical Method: 6850	Cal Date: 05/03/2016 17:18
Workgroup #: WG567744	Analyst: JWR	Run Date: 05/05/2016 23:07
Collect Date: 05/03/2016 13:10	Dilution: 1	File ID: 1LM.LM34783
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.200	U	0.400	0.200	0.100

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

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-09

PrePrep Method: N/A

Instrument: LCMS1

Client ID: 50WW25-050316

Prep Method: 6850

Prep Date: 05/05/2016 17:00

Matrix: Water

Analytical Method: 6850

Cal Date: 05/03/2016 17:18

Workgroup #: WG567744

Analyst: JWR

Run Date: 05/05/2016 23:26

Collect Date: 05/03/2016 14:40

Dilution: 10

File ID: 1LM.LM34784

Sample Tag: DL01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	96.6		4.00	2.00	1.00

2.2.1.2 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

$C_x = (C_{is})(x) = (5 \text{ ug/L})(0.0040119) = 0.200594 \text{ ug/L}$

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

Perchlorate Conductivity Check (perchlorate1)

Conductivity Probe

Working MCT Level: 10,000 $\mu\text{s}/\text{cm}$

Calibration Check: 1408 /1410 $\mu\text{s}/\text{cm}$

Sample	Conductivity ($\mu\text{s}/\text{cm}$)	Pretreatment or Dilution Needed
<u>WG567744-01 MCT</u>	<u>9,990.</u>	
<u>-02 Blank</u>	<u>0.33</u>	
<u>-03 LCS</u>	<u>0.51</u>	
<u>-04 LCS2</u>	<u>0.50</u>	
<u>L16041580-14</u>	<u>5.34</u>	
<u>L16050151-01</u>	<u>2,510.</u>	
<u>-03</u>	<u>2,490.</u>	
<u>-05</u>	<u>2,640.</u>	
<u>-07</u>	<u>3,390.</u>	
<u>-09</u>	<u>944.</u>	
<u>L16050221-01</u>	<u>1,933.</u>	
<u>L16050223-01</u>	<u>1,917.</u>	
<u>-02</u>	<u>2,370.</u>	

Analyst: John Richards

Date/Time: 05/06/16 11:30

DCN#118316



Microbac Laboratories Inc.
Instrument Run Log

Instrument: LCMS1 Dataset: 050316_JWR.TXT
 Analyst1: JWR Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 8

Maintenance Log ID: _____ Syringe Filter Lot#: 151125254
 Eluent ID#: _____

Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA
 Analytical WG567013 (soils)
 Internal STD: COA18071 Surrogate STD: NA Calibration STD STD75510 (05/03/2016)
 CCV STD: STD75510 LCS STD: STD75512 MS/MSD STD: STD75512

Comments: ICAL WG567320 : Alternate Source STD75512
 Analytical Column : RPPX 5um (250x4.6mm)
 K'Prime S/N RPPX250-02115
 Samples L16041363(-05 and -10) were analyzed at dilutions based on their pre-run screen results.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM34686	WG567320-01 CCB	1	1		05/03/16 15:06
2	1LM.LM34687	WG567320-02 STD (0.1 ug/L)	1	1	STD75510	05/03/16 15:25
3	1LM.LM34688	WG567320-03 STD (0.2 ug/L)	1	1	STD75510	05/03/16 15:43
4	1LM.LM34689	WG567320-04 STD (0.5 ug/L)	1	1	STD75510	05/03/16 16:02
5	1LM.LM34690	WG567320-05 STD (1.0 ug/L)	1	1	STD75510	05/03/16 16:21
6	1LM.LM34691	WG567320-06 STD (2.0 ug/L)	1	1	STD75510	05/03/16 16:40
7	1LM.LM34692	WG567320-07 STD (5.0 ug/L)	1	1	STD75510	05/03/16 16:59
8	1LM.LM34693	WG567320-08 STD (10 ug/L)	1	1	STD75510	05/03/16 17:18
9	1LM.LM34694	WG567320-09 SSCV (1.0 ug/L)	1	1	STD75512	05/03/16 17:37
10	1LM.LM34695	WG567321-01 CCB	1	1		05/03/16 17:56
11	1LM.LM34696	WG567321-02 CCV (1.0ug/L)	1	1	STD75510	05/03/16 18:15
12	1LM.LM34697	WG567013-07 MRL (2.0ug/kg)	7	1	STD75510	05/03/16 18:34
13	1LM.LM34698	WG567013-01 MCT (2.0ug/kg)	7	1	STD75512	05/03/16 18:53
14	1LM.LM34699	WG567013-02 BLANK	7	1		05/03/16 19:12
15	1LM.LM34700	WG567013-03 LCS (2.0ug/kg)	7	1	STD75512	05/03/16 19:31
16	1LM.LM34701	L16041363-07 RS	7	1		05/03/16 19:50
17	1LM.LM34702	L16041363-08 MS	7	1	STD75512	05/03/16 20:09
18	1LM.LM34703	L16041363-09 MSD	7	1	STD75512	05/03/16 20:28
19	1LM.LM34704	L16041363-01	7	1		05/03/16 20:46
20	1LM.LM34705	L16041363-02	7	1		05/03/16 21:05
21	1LM.LM34706	L16041363-03	7	1		05/03/16 21:24
22	1LM.LM34707	L16041363-04	7	1		05/03/16 21:43
23	1LM.LM34708	WG567321-03 CCV (1.0ug/L)	1	1	STD75510	05/03/16 22:02
24	1LM.LM34709	WG567013-08 MRL (2.0ug/kg)	7	1	STD75510	05/03/16 22:21
25	1LM.LM34710	WG567321-04 CCB	1	1		05/03/16 22:40
26	1LM.LM34711	L16041363-05 (5x)	7	5		05/03/16 22:59
27	1LM.LM34712	L16041363-06	7	1		05/03/16 23:18
28	1LM.LM34713	L16041363-10 (5x)	7	5		05/03/16 23:37
29	1LM.LM34714	WG567321-05 CCV (1.0ug/L)	1	1	STD75510	05/03/16 23:56
30	1LM.LM34715	WG567013-09 MRL (2.0ug/kg)	7	1	STD75510	05/04/16 00:15
31	1LM.LM34716	WG567321-06 CCB	1	1		05/04/16 00:34

Comments

Page: 1

Approved: 05-MAY-16



Wade D. S.

Microbac Laboratories Inc.
Instrument Run Log

Instrument: LCMS1 Dataset: 050316_JWR.TXT
 Analyst1: JWR Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 8

Maintenance Log ID: _____ Syringe Filter Lot#: 151125254
 Eluent ID#: _____

Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA
 Analytical WG567013 (soils)
 Internal STD: COA18071 Surrogate STD: NA STD75510 (05/03/2016)
 CCV STD: STD75510 LCS STD: STD75512 STD75512

Comments

Seq.	Rerun	Dil.	Reason	Analytes
17				
			L16041363-08 MS : The MS %Rec is 129%. This is above the advisory limit of 120%. The parent sample to this MS had responses that passed the ion-ratio criteria, but had a quantified value below the method's detection limit, resulting in an assigned value of zero. If the quantified value for the parent sample were used in the %Rec calculation, the MS %Rec would be 93.9%.	
18				
			L16041363-09 MSD : The MSD %Rec is 131%. This is above the advisory limit of 120%. The parent sample to this MSD had responses that passed the ion-ratio criteria, but had a quantified value below the method's detection limit, resulting in an assigned value of zero. If the quantified value for the parent sample were used in the %Rec calculation, the MSD %Rec would be 95.4%.	

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Approved: 05-MAY-16



Microbac Laboratories Inc.
Instrument Run Log

Instrument: LCMS1 Dataset: 050516_JWR.TXT
 Analyst1: JWR Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 8

Maintenance Log ID: _____ Syringe Filter Lot#: 151125254
 Eluent ID#: _____

Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA
 Analytical WG567744 (waters)
 Internal STD: COA18071 Surrogate STD: NA Calibration STD STD75510 (05/03/2016)
 CCV STD: STD75510 LCS STD: STD75512 MS/MSD STD: NA

Comments: Samples L16050151(-05,-09) were analyzed at dilutions based on their historical results.
 Samples L16050151-01, L16050221-01, and L16050223(-01,-02) were analyzed at dilutions based on their pre-run screen results.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM34766	WG567745-01 CCB	1	1		05/05/16 17:45
2	1LM.LM34767	WG567745-02 CCV (1.0ug/L)	1	1	STD75510	05/05/16 18:04
3	1LM.LM34768	WG567744-05 MRL (0.2ug/L)	1	1	STD75510	05/05/16 18:23
4	1LM.LM34769	WG567744-01 MCT (0.2ug/L)	1	1	STD75512	05/05/16 18:42
5	1LM.LM34770	WG567744-02 BLANK	1	1		05/05/16 19:01
6	1LM.LM34771	WG567744-03 LCS (0.2ug/L)	1	1	STD75512	05/05/16 19:20
7	1LM.LM34772	WG567744-04 LCS2 (0.2ug/L)	1	1	STD75512	05/05/16 19:39
8	1LM.LM34773	L16050221-01 (100x)	1	100		05/05/16 19:58
9	1LM.LM34774	L16050223-01 (100x)	1	100		05/05/16 20:17
10	1LM.LM34775	L16050223-02 (100x)	1	100		05/05/16 20:36
11	1LM.LM34776	L16041580-14 EB	1	1		05/05/16 20:55
12	1LM.LM34777	L16050151-01 (100x)	1	100		05/05/16 21:14
13	1LM.LM34778	L16050151-03	1	1		05/05/16 21:33
14	1LM.LM34779	WG567745-03 CCV (1.0ug/L)	1	1	STD75510	05/05/16 21:52
15	1LM.LM34780	WG567744-06 MRL (0.2ug/L)	1	1	STD75510	05/05/16 22:10
16	1LM.LM34781	WG567745-04 CCB	1	1		05/05/16 22:29
17	1LM.LM34782	L16050151-05 (50x)	1	50		05/05/16 22:48
18	1LM.LM34783	L16050151-07	1	1		05/05/16 23:07
19	1LM.LM34784	L16050151-09 (10x)	1	10		05/05/16 23:26
20	1LM.LM34785	WG567745-05 CCV (1.0ug/L)	1	1	STD75510	05/05/16 23:45
21	1LM.LM34786	WG567744-07 MRL (0.2ug/L)	1	1	STD75510	05/06/16 00:04
22	1LM.LM34787	WG567745-06 CCB	1	1		05/06/16 00:23

Comments

Seq.	Rerun	Dil.	Reason	Analytes
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Page: 1

Approved: 06-MAY-16



Wade D. S.

Microbac Laboratories Inc.

Data Checklist

Date: 03-MAY-2016
 Analyst: JWR
 Analyst: NA
 Method: 6850
 Instrument: LCMS1
 Curve Workgroup: WG567320
 Runlog ID: 74891
 Analytical Workgroups: L16041363 (SOILS)

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	ND
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	WTD

Primary Reviewer:
04-MAY-2016

John Richards

Secondary Reviewer:
05-MAY-2016

Wade D. [Signature]



Microbac Laboratories Inc.

Data Checklist

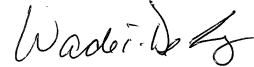
Date: 05-MAY-2016
 Analyst: JWR
 Analyst: NA
 Method: 6850
 Instrument: LCMS1
 Curve Workgroup: NA
 Runlog ID: 74938
 Analytical Workgroups: L16041580-14 L16050151, 0221, 0223 (WATERS)

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	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	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
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	MCT-ONLY
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	WTD

Primary Reviewer:
06-MAY-2016



Secondary Reviewer:
06-MAY-2016




Analytical Method:6850
Login Number:L16050151

AAB#:WG567744

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
50WW13-050316	01	05/03/16					05/05/2016	2.4	28		05/05/16	.2	28	
50WW14-050316	03	05/03/16					05/05/2016	2.3	28		05/05/16	.2	28	
50WW08-050316	05	05/03/16					05/05/2016	2.3	28		05/05/16	.2	28	
50WW18-050316	07	05/03/16					05/05/2016	2.2	28		05/05/16	.3	28	
50WW25-050316	09	05/03/16					05/05/2016	2.1	28		05/05/16	.3	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4750675
Report generated 05/10/2016 13:08



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG567744
 Blank File ID: 1LM.LM34770 Blank Sample ID: WG567744-02
 Prep Date: 05/05/16 17:00 Instrument ID: LCMS1
 Analyzed Date: 05/05/16 19:01 Method: 6850
 Analyst: JWR

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG567744-05	1LM.LM34768	05/05/16 18:23	01
MCT	WG567744-01	1LM.LM34769	05/05/16 18:42	01
LCS	WG567744-03	1LM.LM34771	05/05/16 19:20	01
LCS2	WG567744-04	1LM.LM34772	05/05/16 19:39	01
50WW13-050316	L16050151-01	1LM.LM34777	05/05/16 21:14	DL01
50WW14-050316	L16050151-03	1LM.LM34778	05/05/16 21:33	01
QCMRL	WG567744-06	1LM.LM34780	05/05/16 22:10	01
50WW08-050316	L16050151-05	1LM.LM34782	05/05/16 22:48	DL01
50WW18-050316	L16050151-07	1LM.LM34783	05/05/16 23:07	01
50WW25-050316	L16050151-09	1LM.LM34784	05/05/16 23:26	DL01
QCMRL	WG567744-07	1LM.LM34786	05/06/16 00:04	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4750676
 Report generated 05/10/2016 13:08



Login Number: L16050151 Prep Date: 05/05/16 17:00 Sample ID: WG567744-02
Instrument ID: LCMS1 Run Date: 05/05/16 19:01 Prep Method: 6850
File ID: 1LM.LM34770 Analyst: JWR Method: 6850
Workgroup (AAB#): WG567744 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-03-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Perchlorate	0.100	0.400	0.100	1	U

DL 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: 4750677
10-MAY-2016 13:08



Login Number: L16050151 Analyst: JWR Prep Method: 6850
 Instrument ID: LCMS1 Matrix: Water Method: 6850
 Workgroup (AAB#): WG567744 Units: ug/L
 QC Key: DOD4 Lot #: STD75512
 Sample ID: WG567744-03 LCS File ID: 1LM.LM34771 Run Date: 05/05/2016 19:20
 Sample ID: WG567744-04 LCS2 File ID: 1LM.LM34772 Run Date: 05/05/2016 19:39

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	0.200	0.204	102	0.200	0.203	102	0.491	80 - 120	15	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4750678
 Report generated: 05/10/2016 13:08



Login Number: L16050151
Analytical Method: 6850
ICAL Workgroup: WG567320

Instrument ID: LCMS1
Initial Calibration Date: 03-MAY-16 17:18
Column ID: F

Analyte	AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate	1.699	4.81	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 4750907
Report generated 05/10/2016 13:08



Login Number: L16050151
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 03-MAY-16 17:18
Column ID: F

Analyte	WG567320-02			WG567320-03			WG567320-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	17900.0000	1.792	0.200	34100.0000	1.718	0.500	82200.0000	1.637

INT_CAL - Modified 03/06/2008
PDF File ID: 4750907
Report generated 05/10/2016 13:08



Login Number: L16050151
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 03-MAY-16 17:18
Column ID: F

Analyte	WG567320-05			WG567320-06			WG567320-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	168000.000	1.697	2.00	330000.000	1.672	5.00	810000.000	1.695

INT_CAL - Modified 03/06/2008
PDF File ID: 4750907
Report generated 05/10/2016 13:08



Login Number: L16050151
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 03-MAY-16 17:18
Column ID: F

Analyte	WG567320-08		
	CONC	RESP	RF
Perchlorate	10.0	1530000.00	1.680

INT_CAL - Modified 03/06/2008
PDF File ID: 4750907
Report generated 05/10/2016 13:08



Login Number: L16050151 Run Date: 05/03/2016 Sample ID: WG567320-09
 Instrument ID: LCMS1 Run Time: 17:37 Method: 6850
 File ID: 1LM.LM34694 Analyst: JWR QC Key: DOD4
 ICal Workgroup: WG567320 Cal ID: LCMS1 - 03-MAY-16

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Perchlorate	1.00	0.985	ug/L	1.66	1.50	15	

* Exceeds %D Limit



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567745-01
Instrument ID: LCMS1 Run Time: 17:45 Method: 6850
File ID: LLM.LM34766 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG567744 Cal ID: LCMS1 - 03-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567745-04
Instrument ID: LCMS1 Run Time: 22:29 Method: 6850
File ID: LLM.LM34781 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG567744 Cal ID: LCMS1 - 03-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	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: 4750681
Report generated 05/10/2016 13:08



Login Number: L16050151 Run Date: 05/06/2016 Sample ID: WG567745-06
Instrument ID: LCMS1 Run Time: 00:23 Method: 6850
File ID: LLM.LM34787 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG567744 Cal ID: LCMS1 - 03-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567745-02
 Instrument ID: LCMS1 Run Time: 18:04 Method: 6850
 File ID: 1LM.LM34767 Analyst: JWR QC Key: DOD4
 Workgroup (AAB#): WG567744 Cal ID: LCMS1 - 03-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.01	ug/L	1.70	1.00	15	

* Exceeds %D Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567745-03
 Instrument ID: LCMS1 Run Time: 21:52 Method: 6850
 File ID: 1LM.LM34779 Analyst: JWR QC Key: DOD4
 Workgroup (AAB#): WG567744 Cal ID: LCMS1 - 03-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.01	ug/L	1.70	1.00	15	

* Exceeds %D Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567745-05
 Instrument ID: LCMS1 Run Time: 23:45 Method: 6850
 File ID: 1LM.LM34785 Analyst: JWR QC Key: DOD4
 Workgroup (AAB#): WG567744 Cal ID: LCMS1 - 03-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.02	ug/L	1.71	2.00	15	

* Exceeds %D Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567744-05
 Instrument ID: LCMS1 Run Time: 18:23 Prep Method: 6850
 File ID: 1LM.LM34768 Analyst: JWR Method: 6850
 Workgroup (AAB#): WG567744 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: LCMS1-03-MAY-16

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.209	105	70 - 130	



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567744-06
 Instrument ID: LCMS1 Run Time: 22:10 Prep Method: 6850
 File ID: 1LM.LM34780 Analyst: JWR Method: 6850
 Workgroup (AAB#): WG567744 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: LCMS1-03-MAY-16

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.206	103	70 - 130	



Login Number: L16050151 Run Date: 05/06/2016 Sample ID: WG567744-07
Instrument ID: LCMS1 Run Time: 00:04 Prep Method: 6850
File ID: 1LM.LM34786 Analyst: JWR Method: 6850
Workgroup (AAB#): WG567744 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-03-MAY-16

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.205	103	70 - 130	



Login Number: L16050151
Instrument ID: LCMS1
Workgroup (AAB#): WG567744

ICAL CCV Number: WG567320-05
CAL ID: LCMS1-03-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG567320	NA	NA	489000
Upper Limit	NA	NA	733500
Lower Limit	NA	NA	244500
<u>L16050151-01</u>	100	DL01	534000
L16050151-03	1.00	01	445000
L16050151-05	50.0	DL01	552000
L16050151-07	1.00	01	443000
L16050151-09	10.0	DL01	525000
WG567744-02	1.00	01	528000
WG567744-03	1.00	01	531000
WG567744-04	1.00	01	534000

IS-1 - O18LP

Underline = Response outside limits



Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151
Instrument: LCMS1
Analyst: JWR
Worknum: WG567744

Prep Method: 6850
Prep Date: 05/05/2016 17:00
Anal Method: 6850
Analysis Date: 05/05/2016 21:14

Samplenum: L16050151-01
File ID: 1LM.LM34777
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	633000	212000	2.99	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151
Instrument: LCMS1
Analyst: JWR
Worknum: WG567744

Prep Method: 6850
Prep Date: 05/05/2016 17:00
Anal Method: 6850
Analysis Date: 05/05/2016 21:33

Samplenum: L16050151-03
File ID: 1LM.LM34778
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	71000	23300	3.05	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: 6850	Samplenum: L16050151-05
Instrument: LCMS1	Prep Date: 05/05/2016 17:00	File ID: 1LM.LM34782
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 22:48	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	544000	178000	3.06	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: 6850	Samplenum: L16050151-07
Instrument: LCMS1	Prep Date: 05/05/2016 17:00	File ID: 1LM.LM34783
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 23:07	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	14900	5410	2.75	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: 6850	Samplenum: L16050151-09
Instrument: LCMS1	Prep Date: 05/05/2016 17:00	File ID: 1LM.LM34784
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 23:26	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	1710000	556000	3.08	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567320-02
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34687
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/03/2016 15:25	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	17900	6950	2.58	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567320-03
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34688
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/03/2016 15:43	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	34100	11900	2.87	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567320-04
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34689
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/03/2016 16:02	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	82200	29400	2.80	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567320-05
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34690
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/03/2016 16:21	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	168000	56600	2.97	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567320-06
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34691
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/03/2016 16:40	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	330000	108000	3.06	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567320-07
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34692
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/03/2016 16:59	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	810000	269000	3.01	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567320-08
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34693
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/03/2016 17:18	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	1530000	512000	2.99	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567320-09
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34694
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/03/2016 17:37	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	169000	56300	3.00	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: 6850	Samplenum: WG567744-01
Instrument: LCMS1	Prep Date: 05/05/2016 17:00	File ID: 1LM.LM34769
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 18:42	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	32500	11700	2.78	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: 6850	Samplenum: WG567744-02
Instrument: LCMS1	Prep Date: 05/05/2016 17:00	File ID: 1LM.LM34770
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 19:01	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: 6850	Samplenum: WG567744-03
Instrument: LCMS1	Prep Date: 05/05/2016 17:00	File ID: 1LM.LM34771
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 19:20	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	37100	12000	3.09	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: 6850	Samplenum: WG567744-04
Instrument: LCMS1	Prep Date: 05/05/2016 17:00	File ID: 1LM.LM34772
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 19:39	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	37100	12200	3.04	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: 6850	Samplenum: WG567744-05
Instrument: LCMS1	Prep Date: 05/05/2016 17:00	File ID: 1LM.LM34768
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 18:23	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	36800	12600	2.92	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: 6850	Samplenum: WG567744-06
Instrument: LCMS1	Prep Date: 05/05/2016 17:00	File ID: 1LM.LM34780
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 22:10	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	40600	13500	3.01	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: 6850	Samplenum: WG567744-07
Instrument: LCMS1	Prep Date: 05/05/2016 17:00	File ID: 1LM.LM34786
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/06/2016 00:04	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	42200	14800	2.85	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567745-01
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34766
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 17:45	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	258	0.000	2.3	3.8	*

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567745-02
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34767
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 18:04	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	172000	57700	2.98	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567745-03
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34779
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 21:52	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	190000	63700	2.98	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567745-04
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34781
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 22:29	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567745-05
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34785
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/05/2016 23:45	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	198000	63700	3.11	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050151	Prep Method: _____	Samplenum: WG567745-06
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34787
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG567744	Analysis Date: 05/06/2016 00:23	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

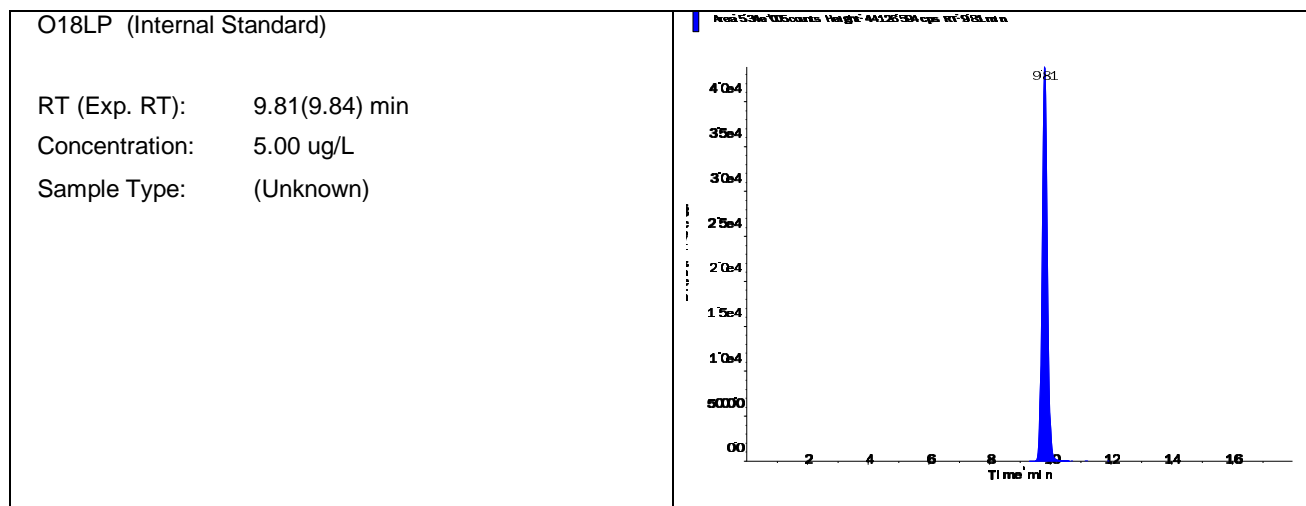
2.2.1.3 Sample Data

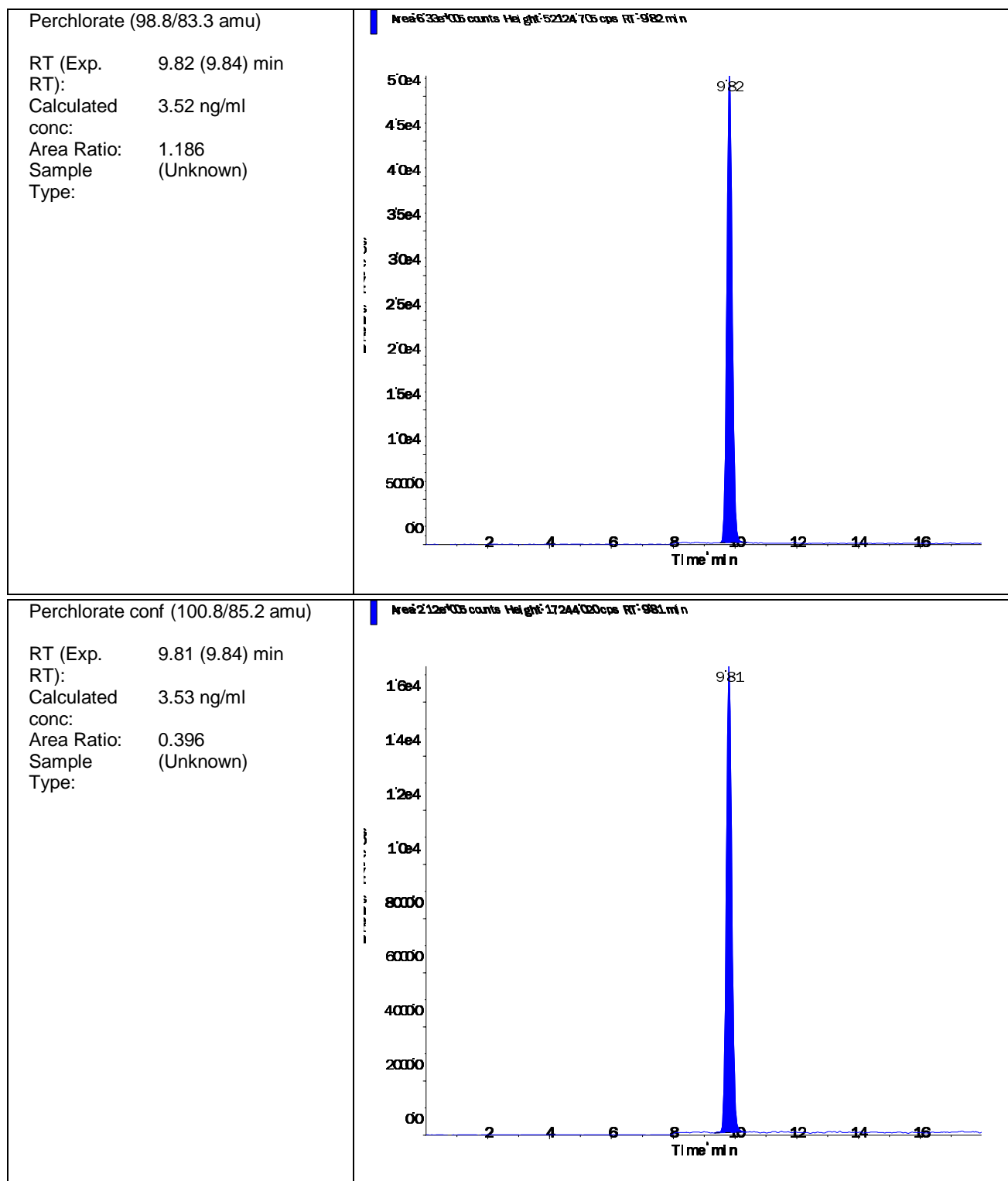
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L16050151-01 (100x)	Injection Vial	12.00
Data File	LM34777.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 9:14:12 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	L16050151-01	Dilution Factor	1.00
Sample Comment	1,100 (screened)	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.340e+05	9.81	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	6.330e+05	9.82	N/A	3.52
Perchlorate conf	2.120e+05	9.81	N/A	3.53



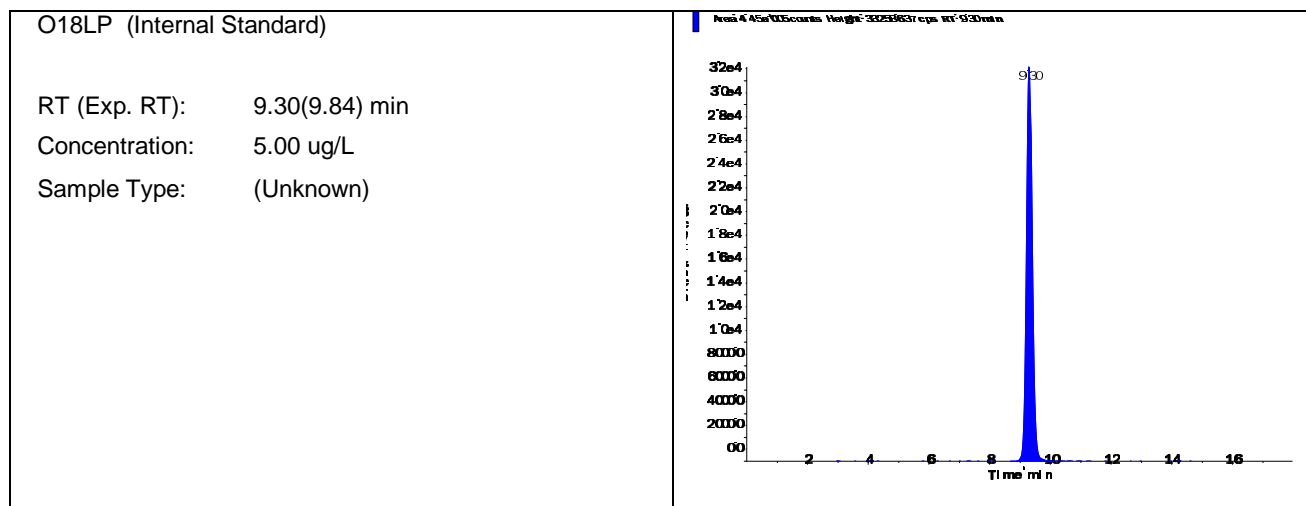


Data File	LM34778.wiff	Result Table	050516_JWR.rdb
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

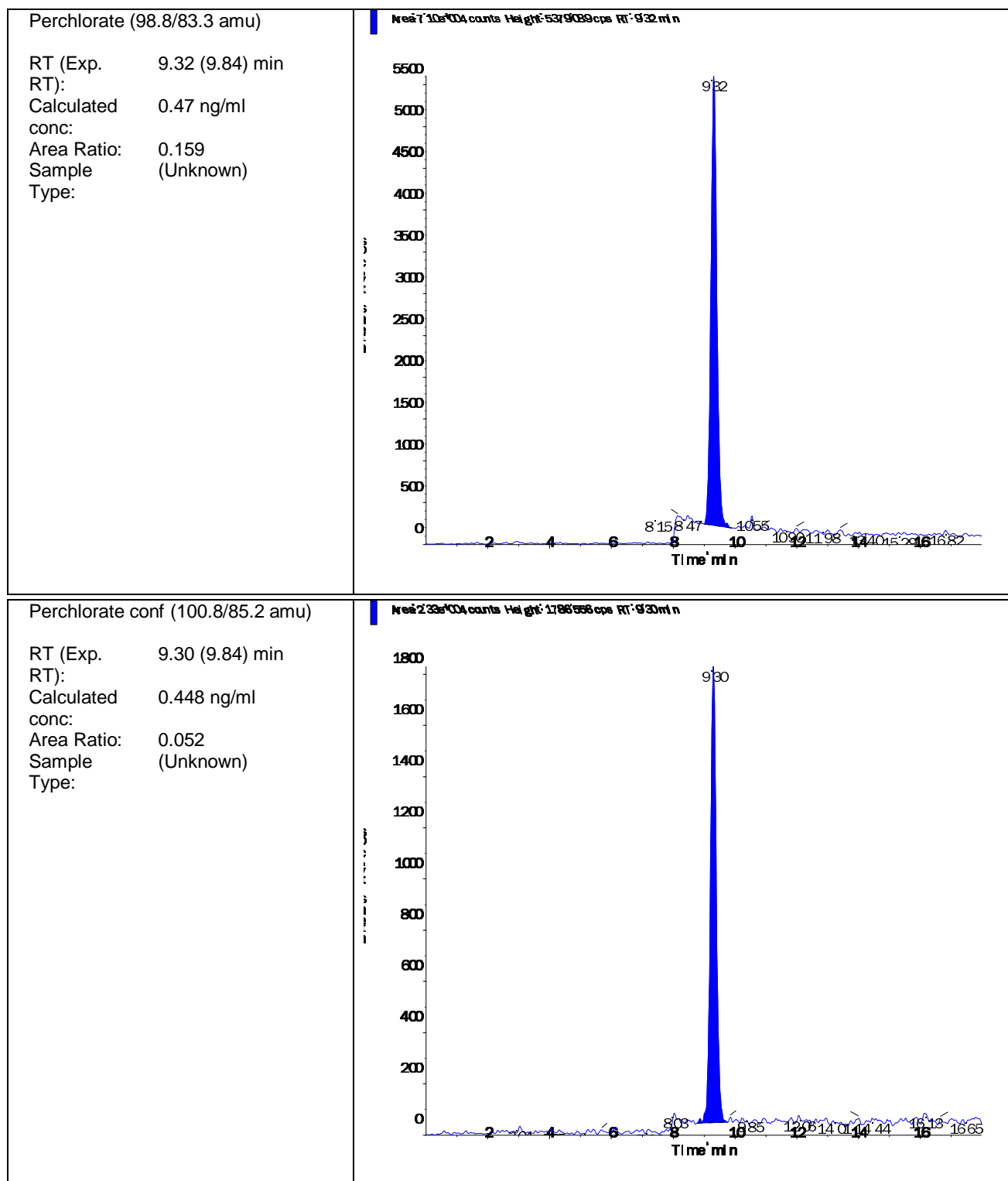
Sample Name	L16050151-03	Injection Vial	13.00
Data File	LM34778.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 9:33:07 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	L16050151-03	Dilution Factor	1.00
Sample Comment	1,1 (Hist)	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.450e+05	9.30	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	7.100e+04	9.32	N/A	0.47
Perchlorate conf	2.330e+04	9.30	N/A	0.448



s.dataFile Page 1 of 2



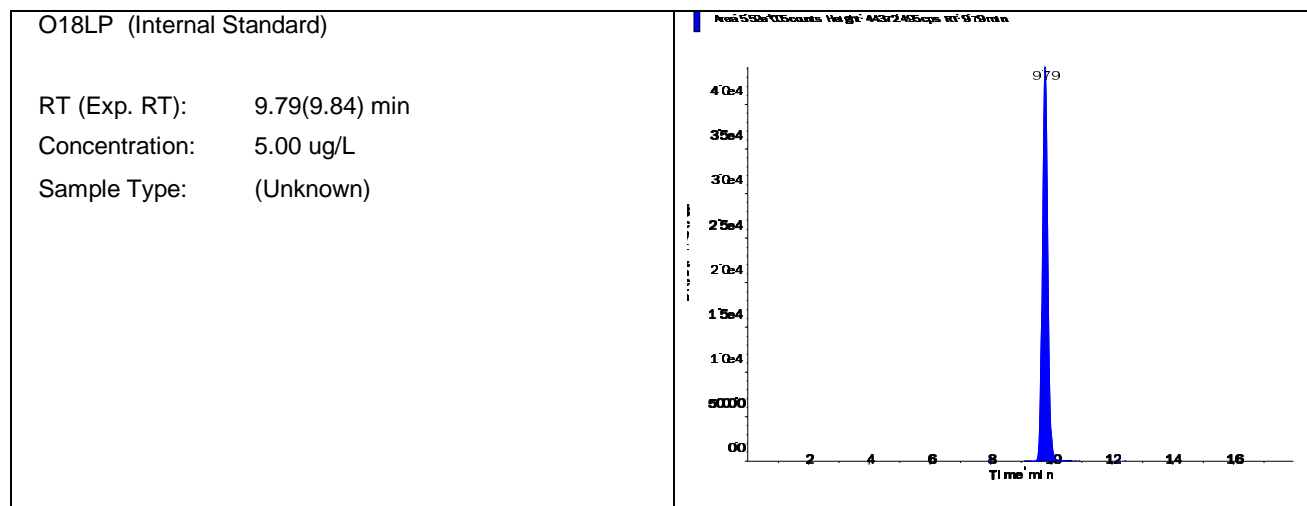
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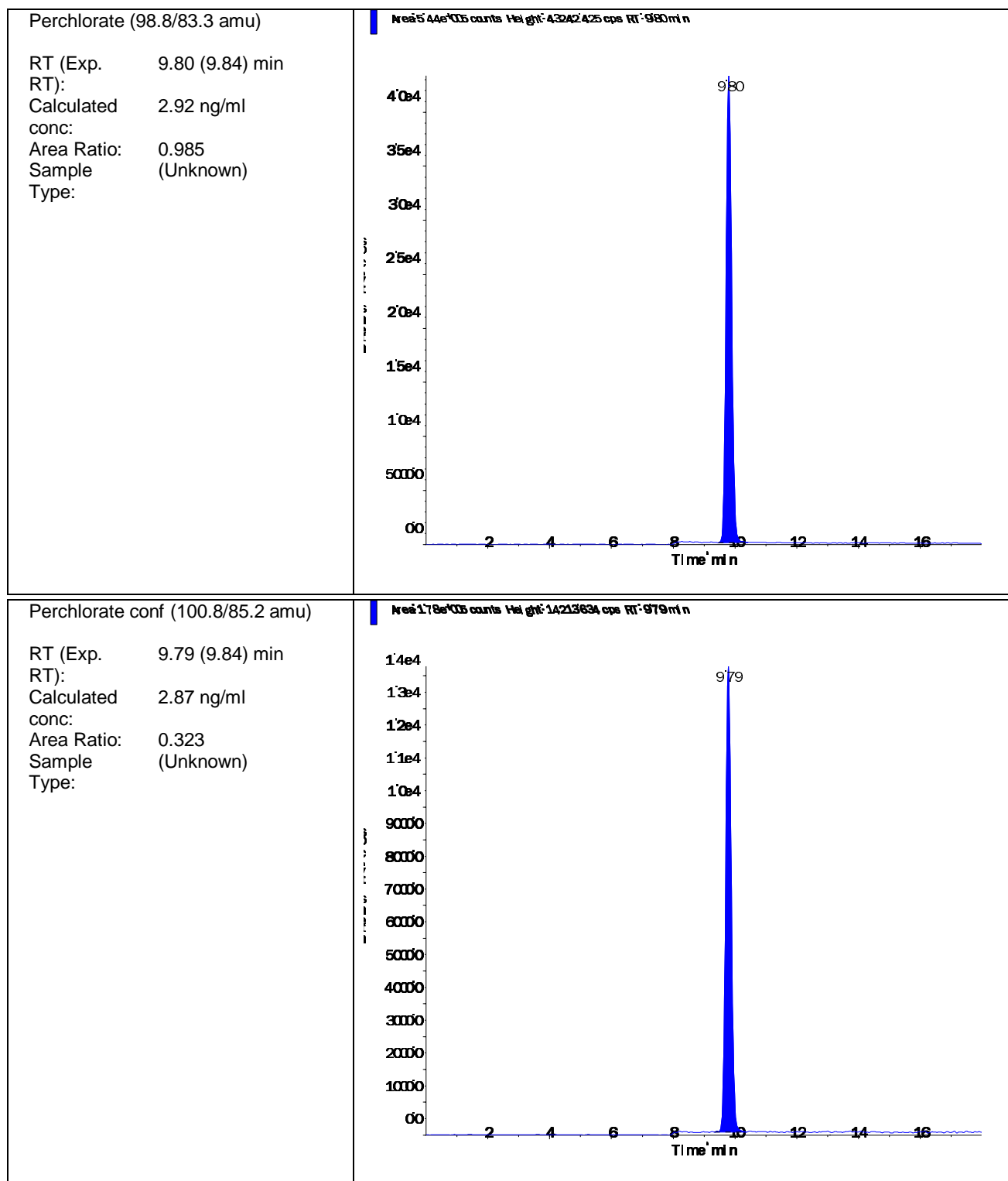
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L16050151-05 (50x)	Injection Vial	14.00
Data File	LM34782.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 10:48:50 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	L16050151-05	Dilution Factor	1.00
Sample Comment	1,50 (Hist)	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.520e+05	9.79	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.440e+05	9.80	N/A	2.92
Perchlorate conf	1.780e+05	9.79	N/A	2.87



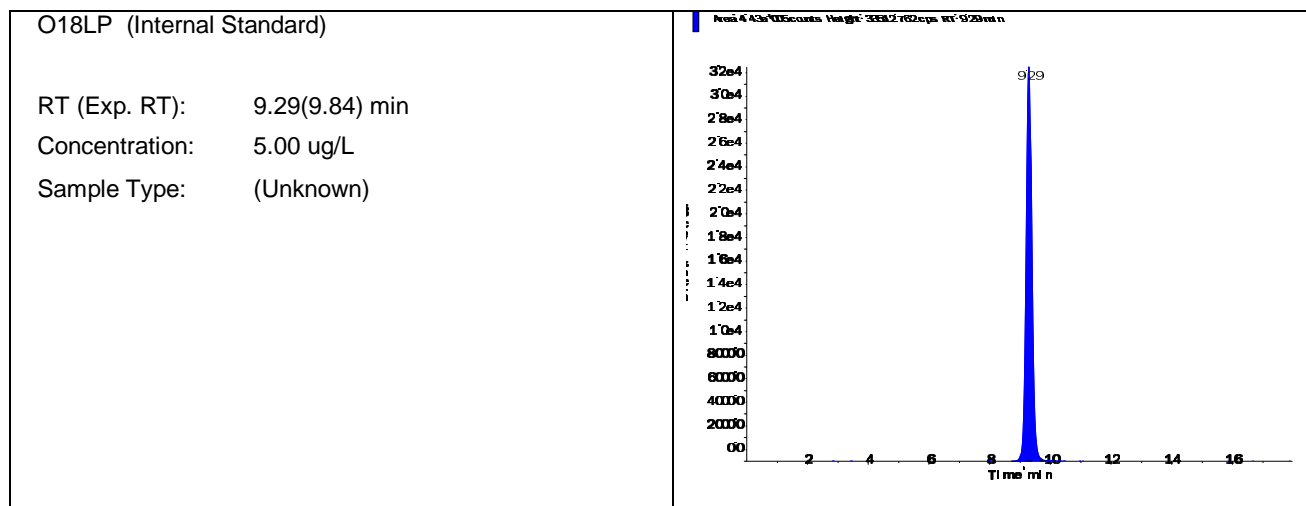


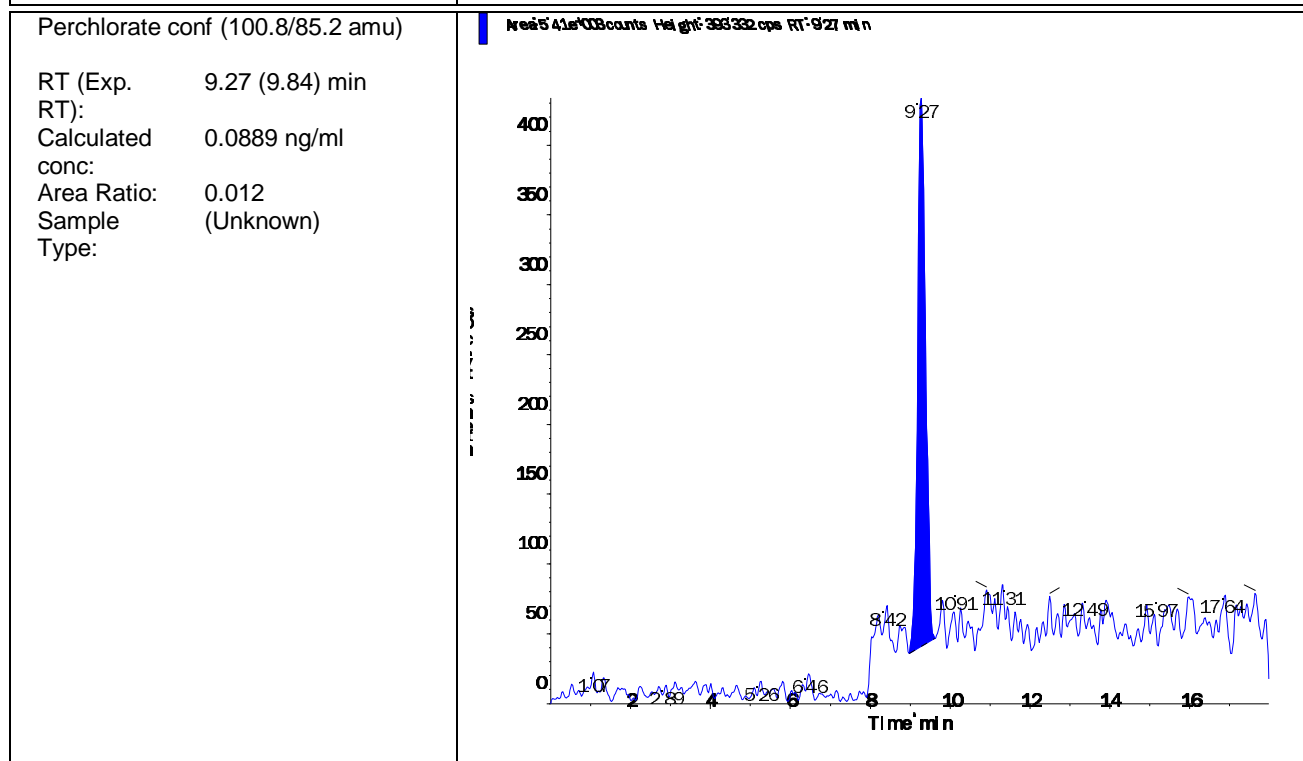
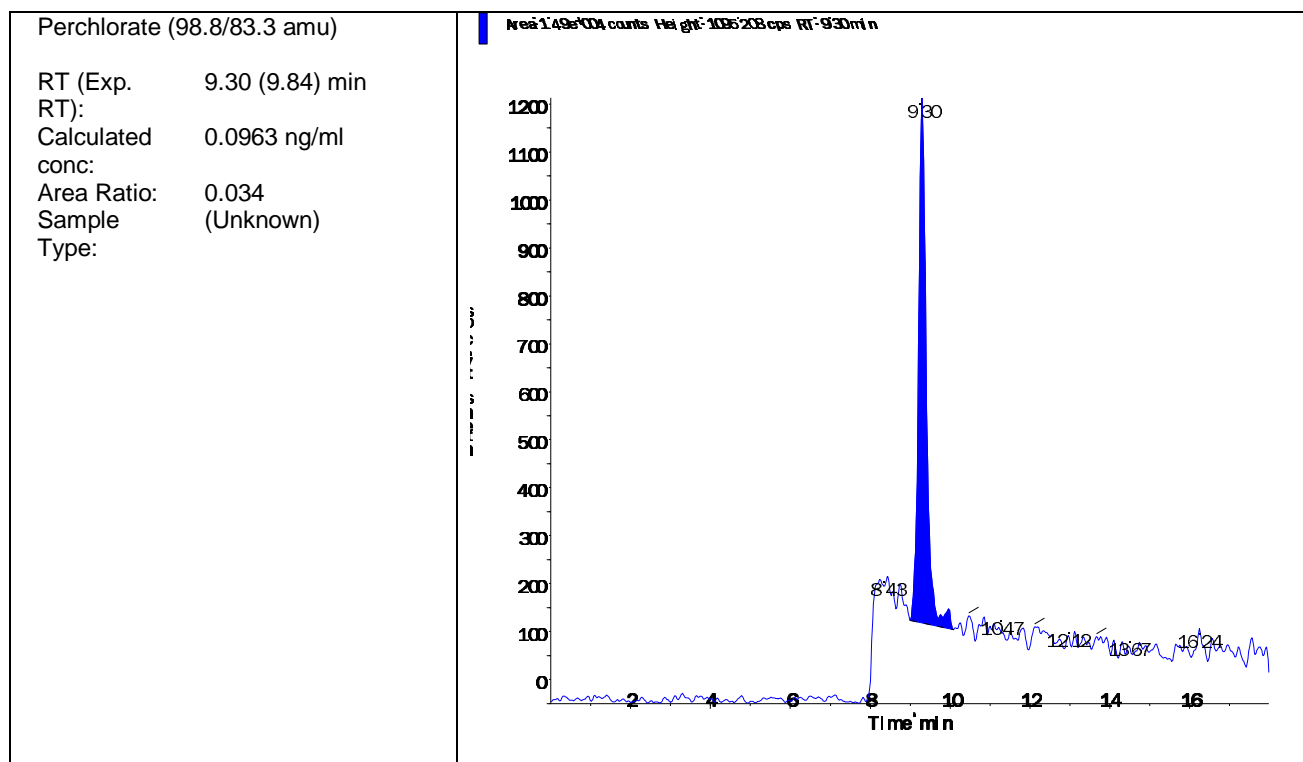
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L16050151-07	Injection Vial	15.00
Data File	LM34783.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 11:07:47 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	L16050151-07	Dilution Factor	1.00
Sample Comment	1,1 (Hist)	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.430e+05	9.29	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.490e+04	9.30	N/A	0.0963
Perchlorate conf	5.410e+03	9.27	N/A	0.0889



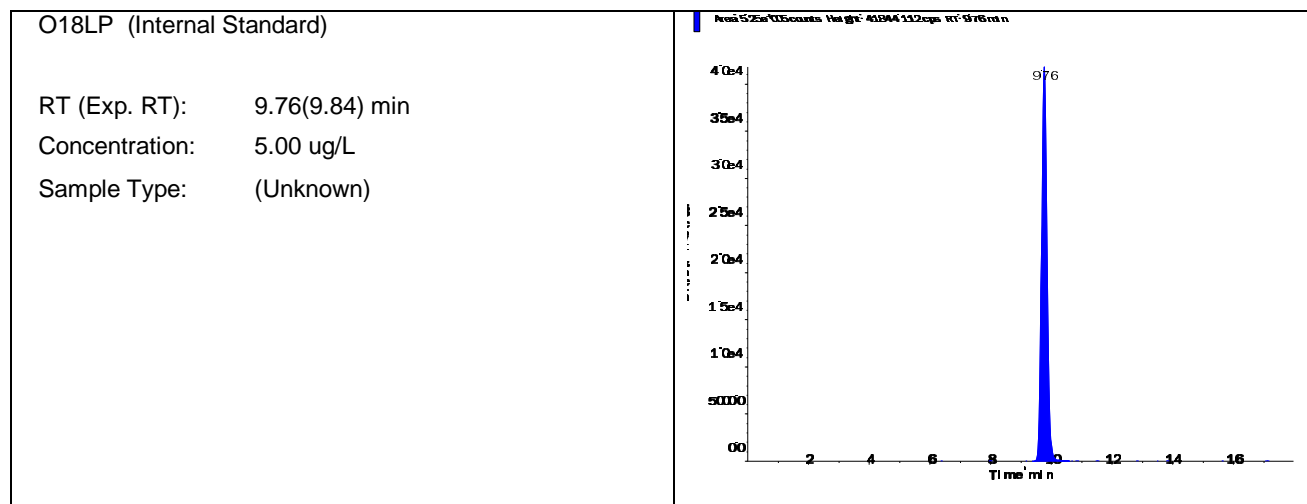


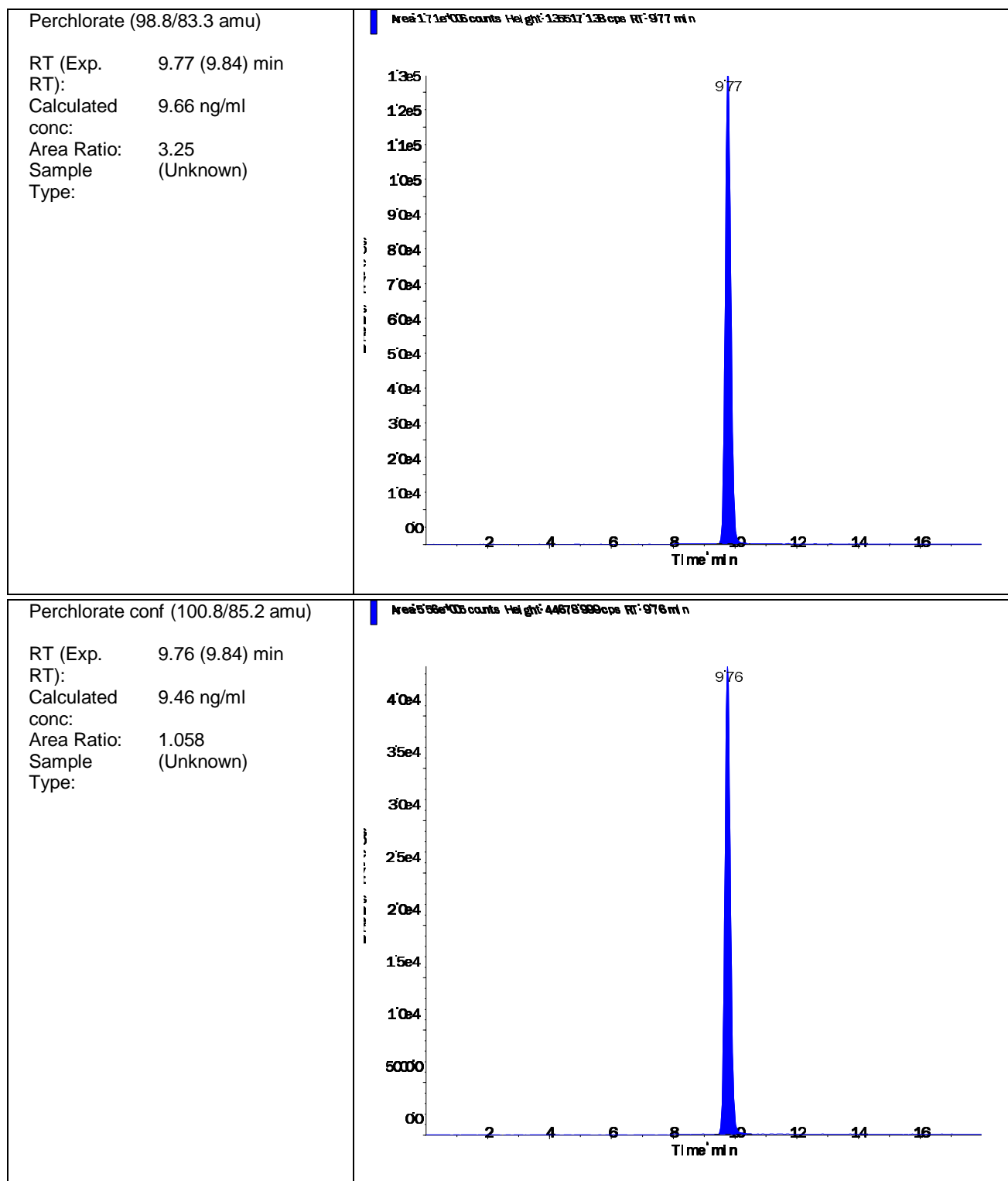
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Acquisition Date	5/5/2016 11:26:42 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L16050151-09 (10x)	Injection Vial	16.00
Data File	LM34784.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 11:26:42 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	L16050151-09	Dilution Factor	1.00
Sample Comment	1,10 (Hist)	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.250e+05	9.76	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.710e+06	9.77	N/A	9.66
Perchlorate conf	5.560e+05	9.76	N/A	9.46





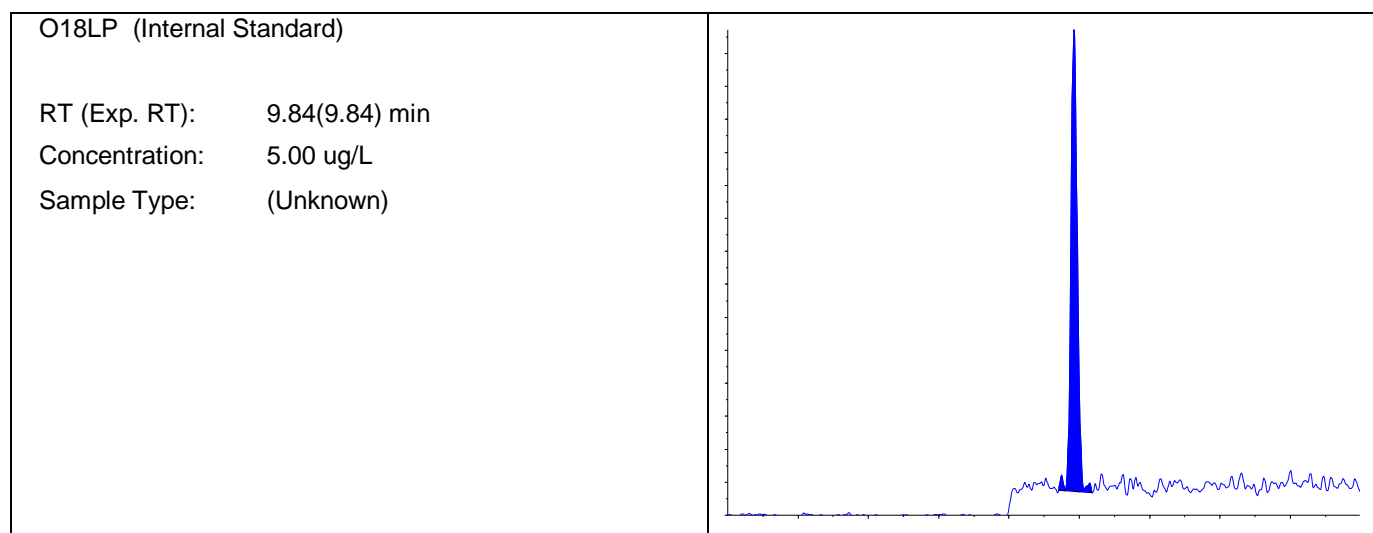
2.2.1.4 Standards Data

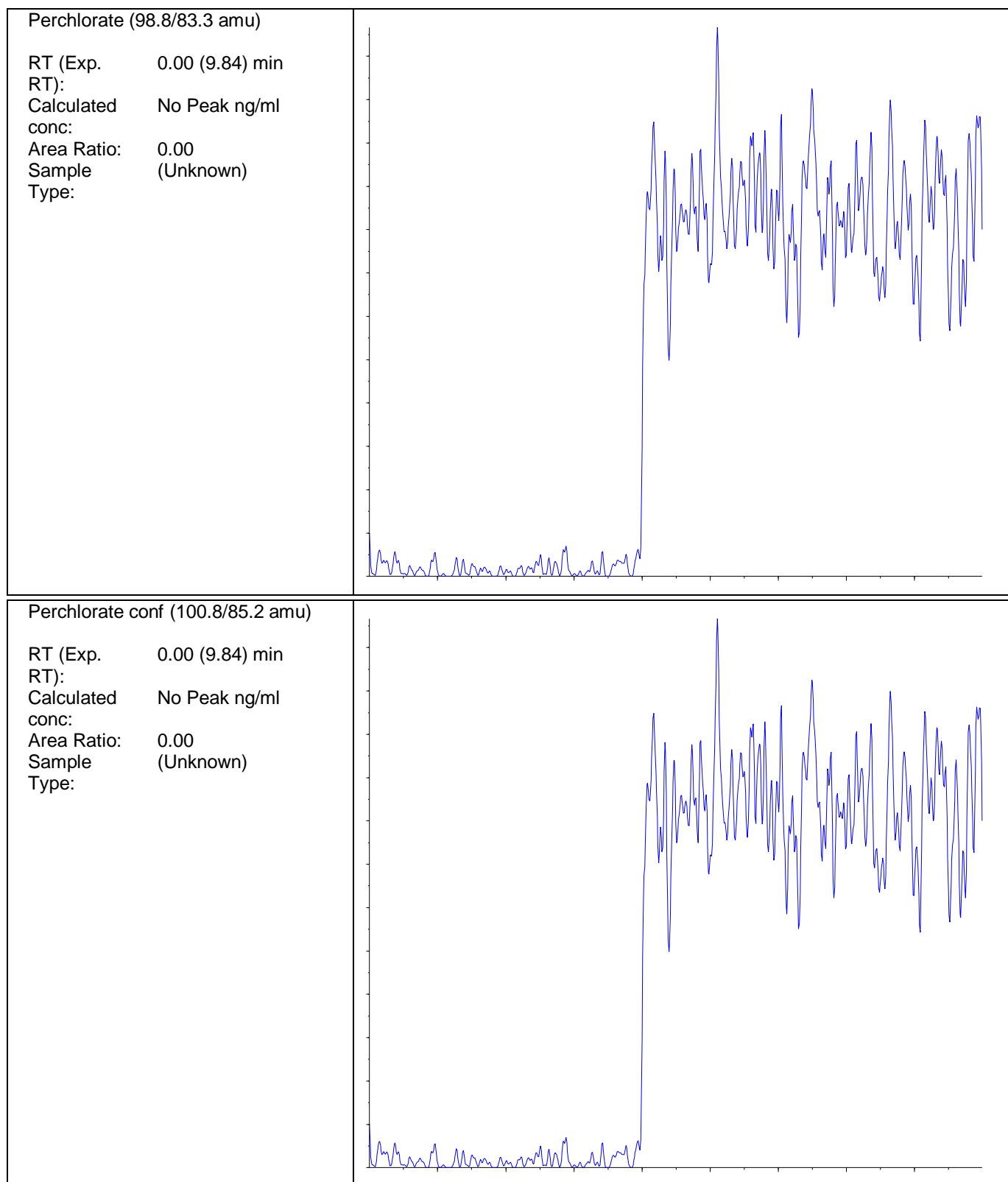
Data File	LM34686.wiff	Result Table	050616_JWR.rdb
Acquisition Date	5/3/2016 3:06:05 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567320-01 CCB	Injection Vial	1.00
Data File	LM34686.wiff	Injection Volume	10.00
Acquisition Date	5/3/2016 3:06:05 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050616_JWR.rdb
Sample ID	WG567320-01	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	5.020e+05	9.84	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





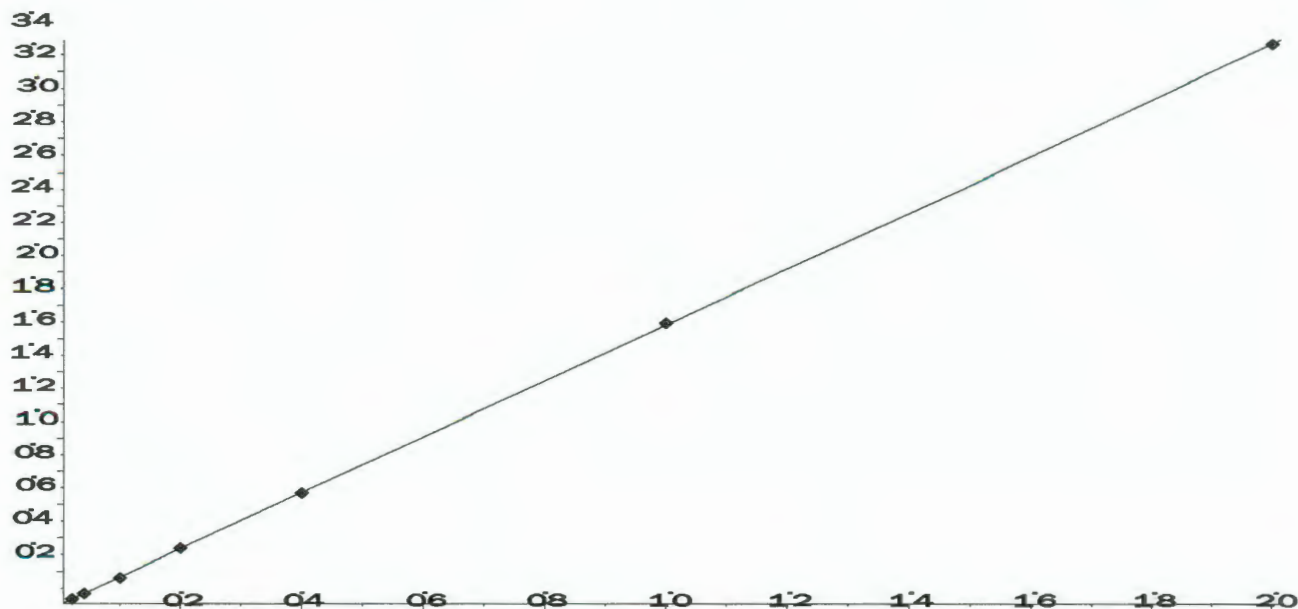
Analyte Name: **Perchlorate**
Internal Standard: **O18LP**

Data File	LM34686.wiff	Result Table	050316_JWR.rdb
Acquisition Date	5/3/2016 3:06:05 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: $y = 1.68x + 0.00128$ ($r = 1.0000$)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.10	102.8	N/A	N/A
0.20	1	0.20	100.3	N/A	N/A
0.50	1	0.48	96.6	N/A	N/A
1.00	1	1.01	100.5	N/A	N/A
2.00	1	1.99	99.3	N/A	N/A
5.00	1	5.04	100.7	N/A	N/A
10.00	1	9.99	99.9	N/A	N/A

$$y = 1.68x + 0.00128 \quad (r = 1.0000)$$



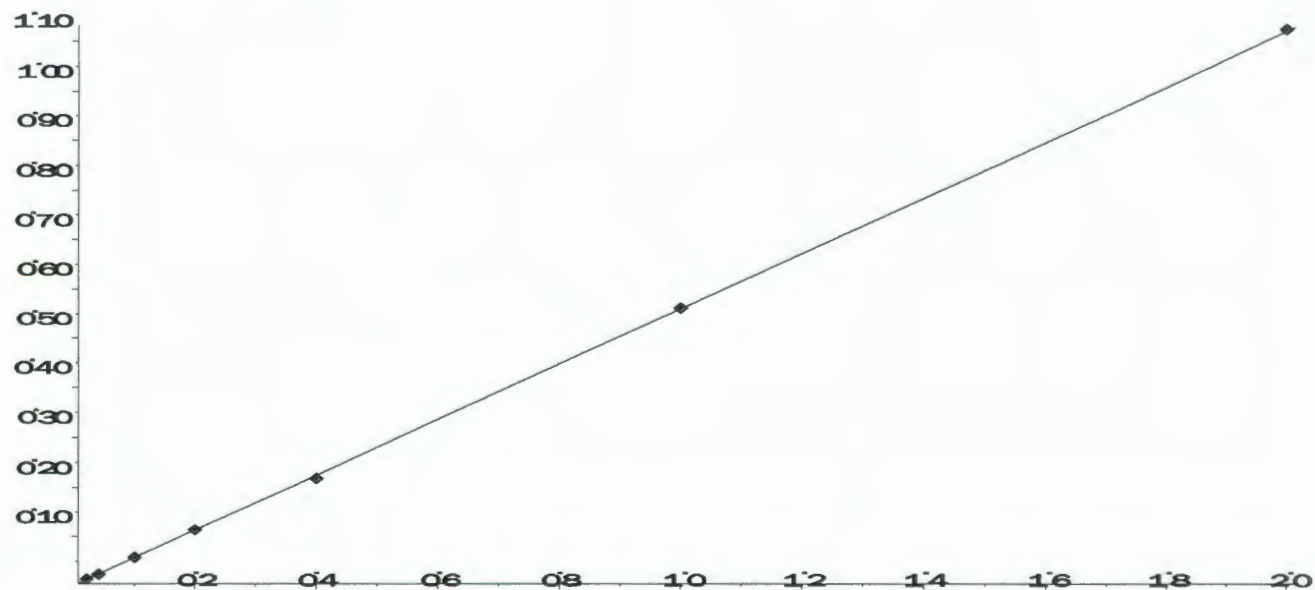
Analyte Name: Perchlorate conf
Internal Standard: O18LP

Data File	LM34686.wiff	Result Table	050316_JWR.rdb
Acquisition Date	5/3/2016 3:06:05 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: $y = 0.558x + 0.00228$ ($r = 0.9999$)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.10	104.3	N/A	N/A
0.20	1	0.19	96.8	N/A	N/A
0.50	1	0.50	100.6	N/A	N/A
1.00	1	1.00	100.5	N/A	N/A
2.00	1	1.94	97.2	N/A	N/A
5.00	1	5.02	100.4	N/A	N/A
10.00	1	10.03	100.3	N/A	N/A

$$y = 0.558x + 0.00228 \quad (r = 0.9999)$$

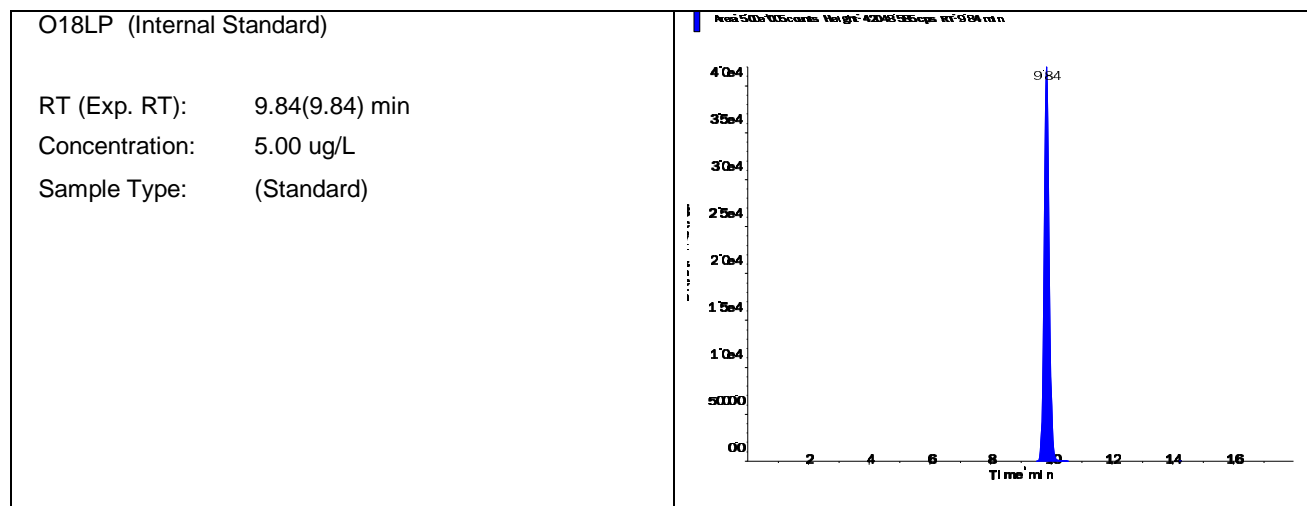


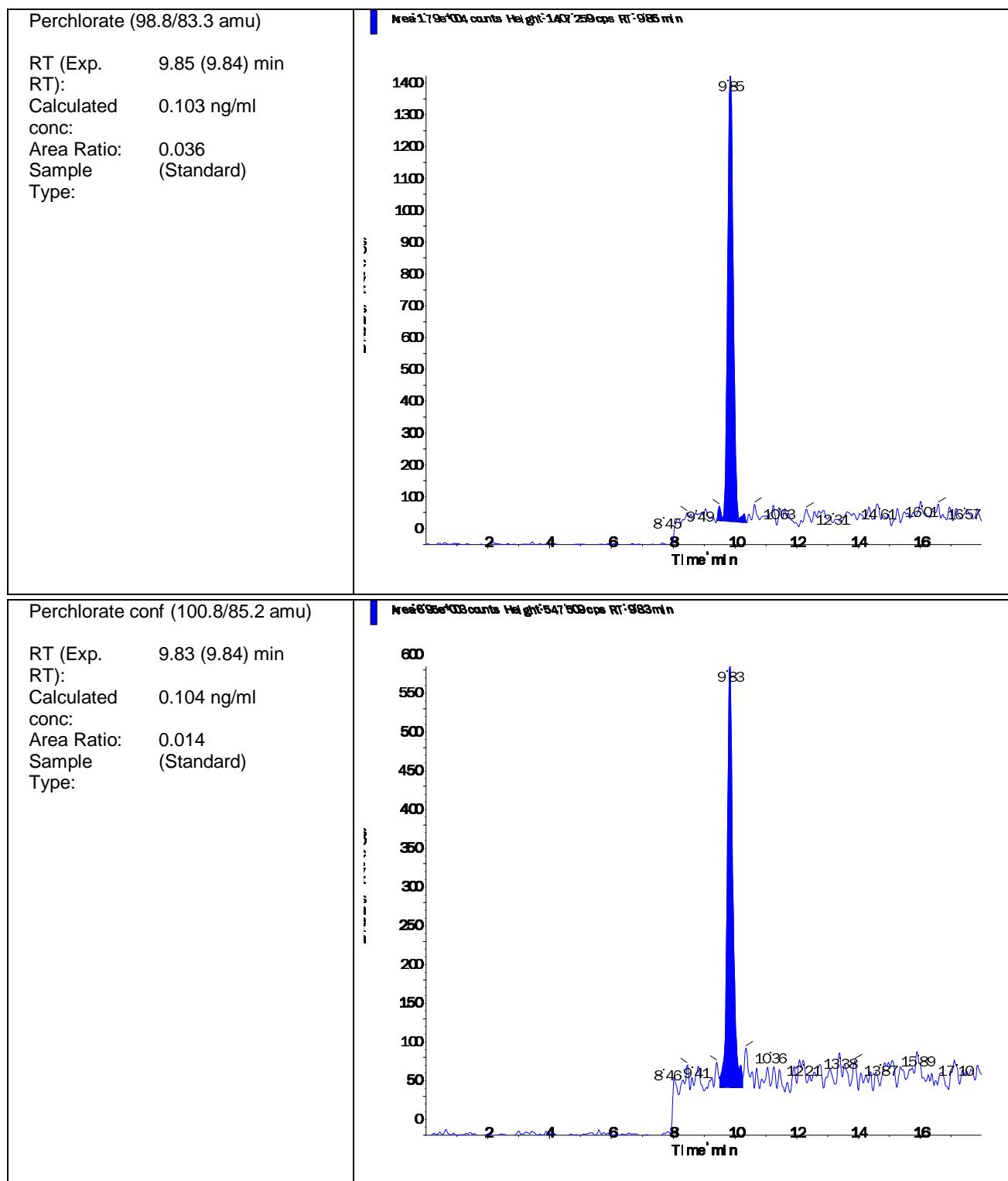
Data File	LM34687.wiff	Result Table	050616_JWR.rdb
Acquisition Date	5/3/2016 3:25:04 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567320-02 STD (0.1 ug/L)	Injection Vial	2.00
Data File	LM34687.wiff	Injection Volume	10.00
Acquisition Date	5/3/2016 3:25:04 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	050616_JWR.rdb
Sample ID	WG567320-02	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.000e+05	9.84	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.790e+04	9.85	0.10	0.103
Perchlorate conf	6.950e+03	9.83	0.10	0.104





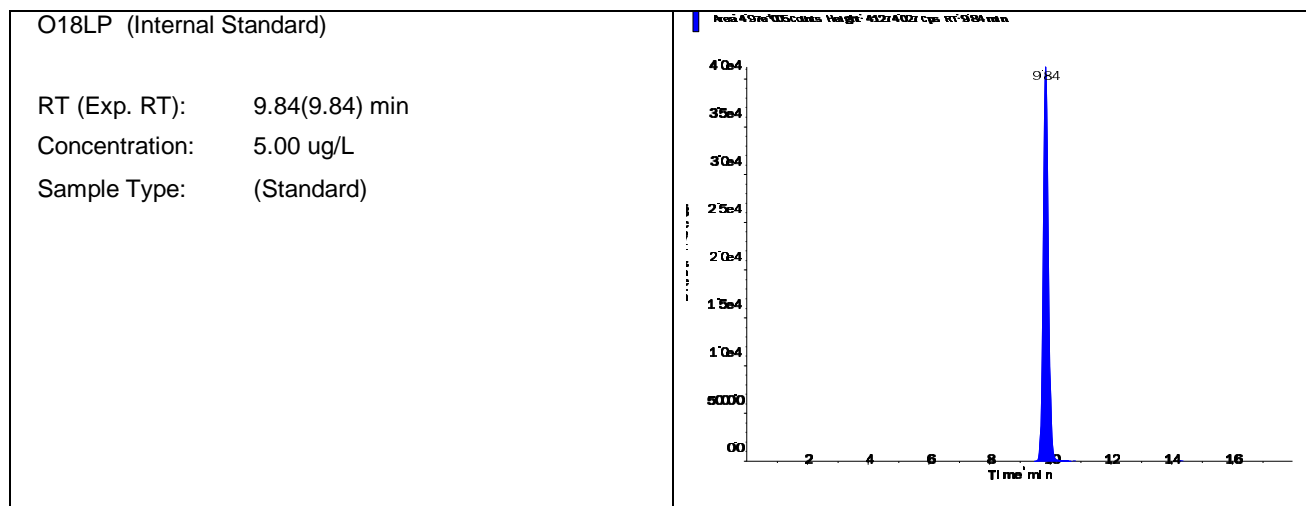
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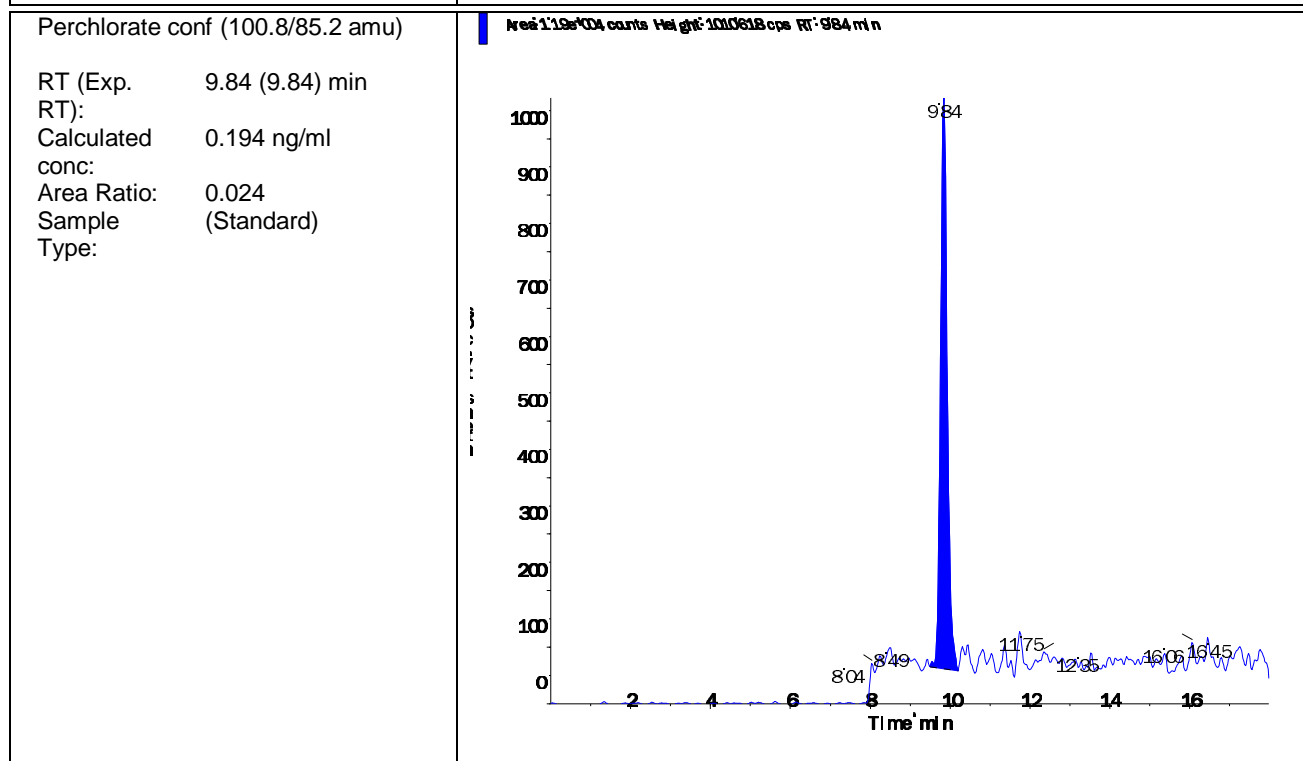
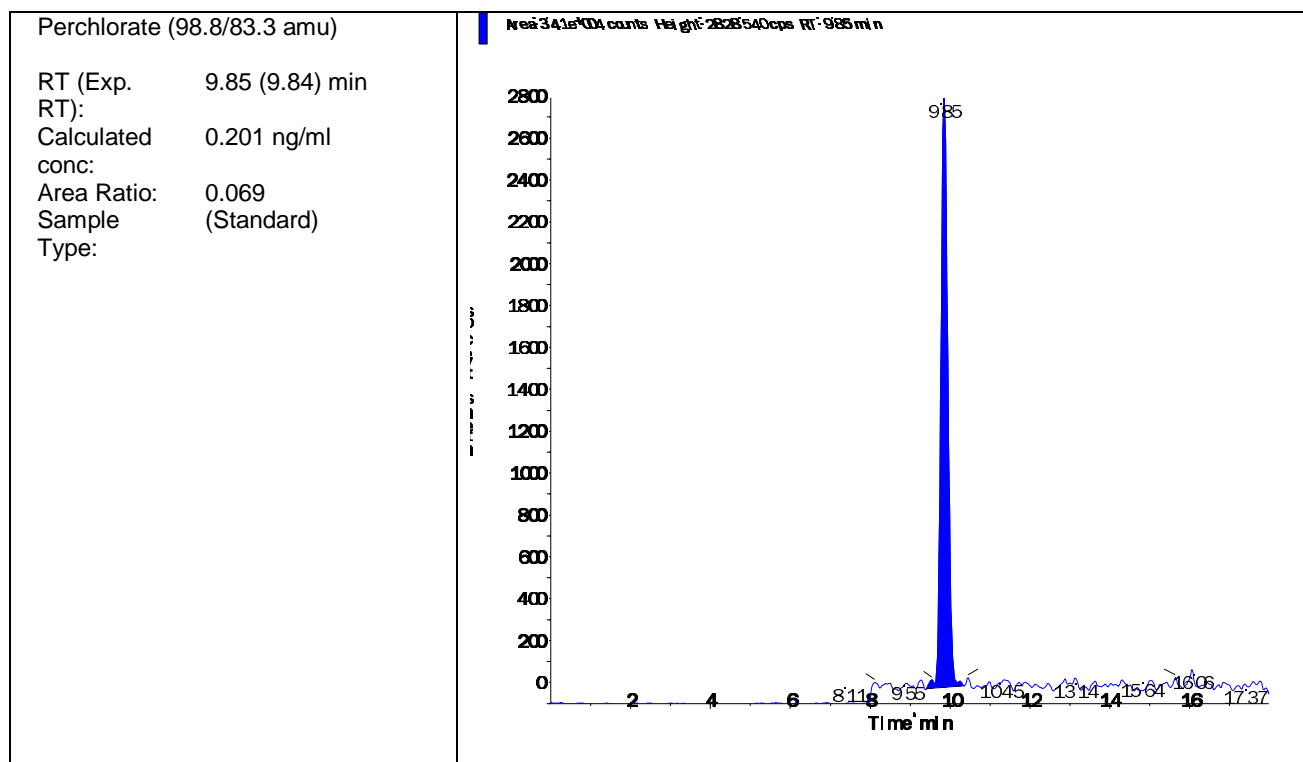
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567320-03 STD (0.2 ug/L)	Injection Vial	3.00
Data File	LM34688.wiff	Injection Volume	10.00
Acquisition Date	5/3/2016 3:43:59 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	050616_JWR.rdb
Sample ID	WG567320-03	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.970e+05	9.84	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.410e+04	9.85	0.20	0.201
Perchlorate conf	1.190e+04	9.84	0.20	0.194



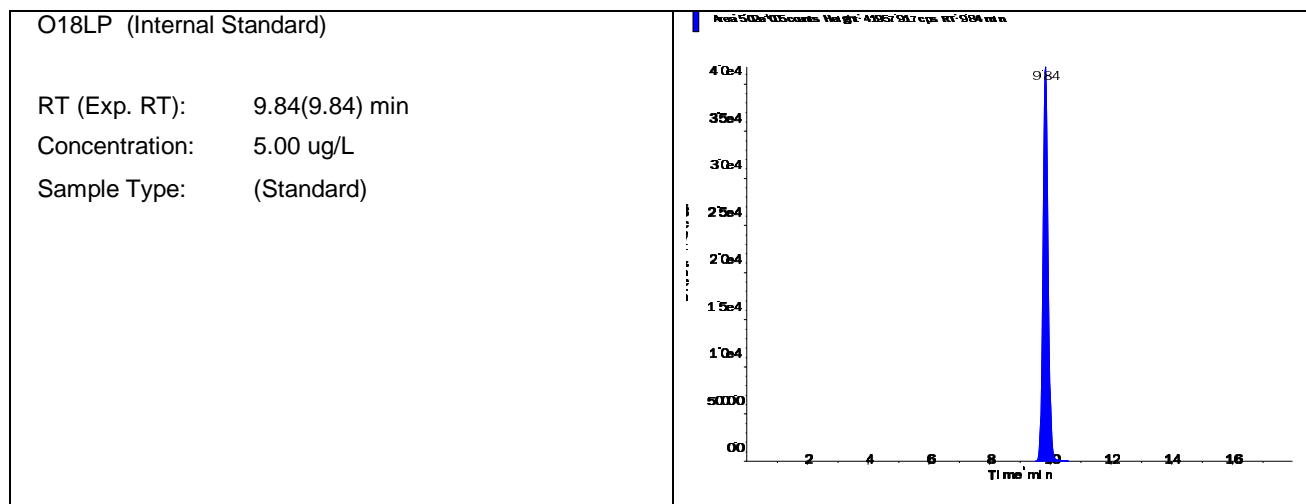


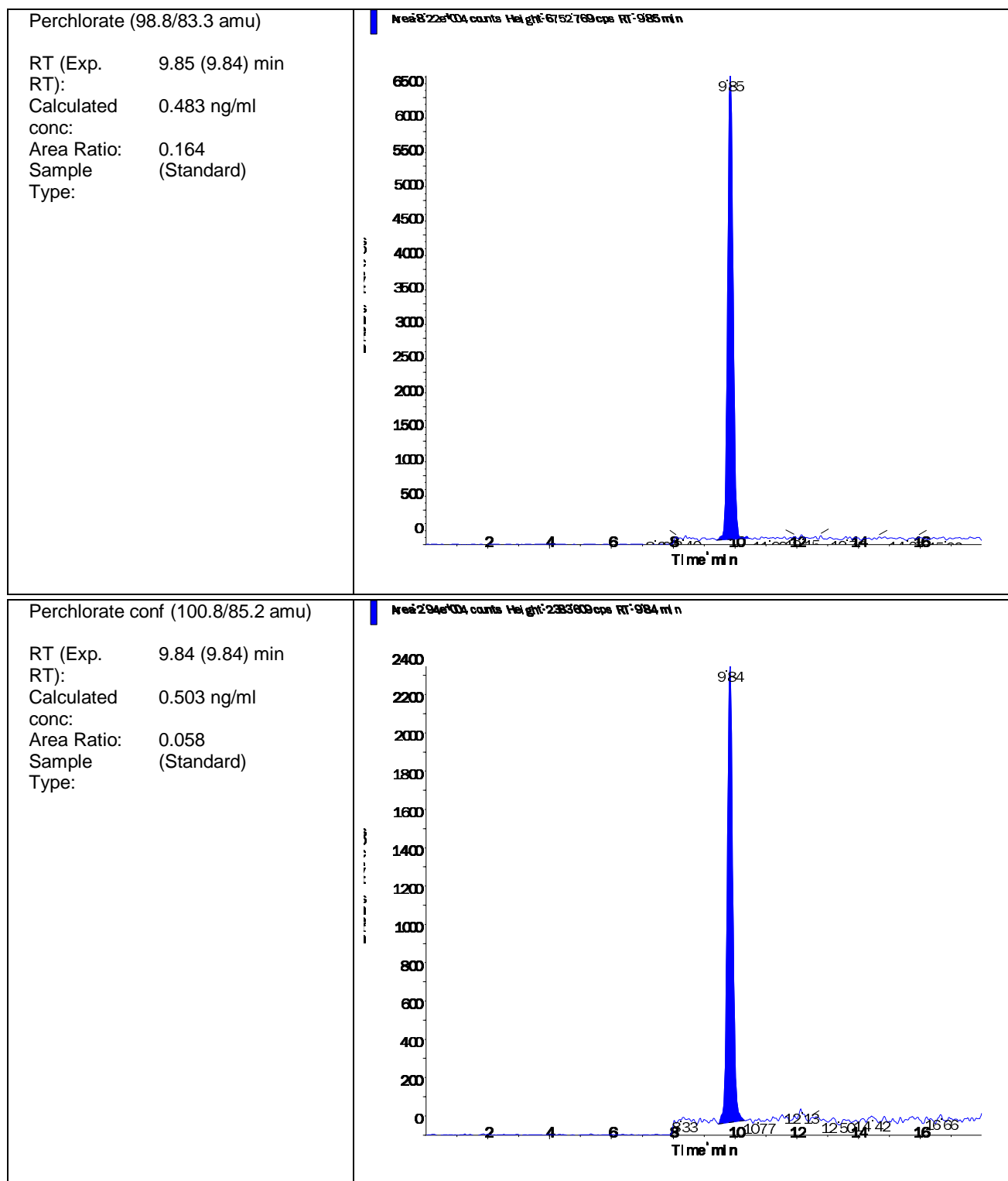
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567320-04 STD (0.5 ug/L)	Injection Vial	4.00
Data File	LM34689.wiff	Injection Volume	10.00
Acquisition Date	5/3/2016 4:02:52 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	050616_JWR.rdb
Sample ID	WG567320-04	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.020e+05	9.84	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	8.220e+04	9.85	0.50	0.483
Perchlorate conf	2.940e+04	9.84	0.50	0.503



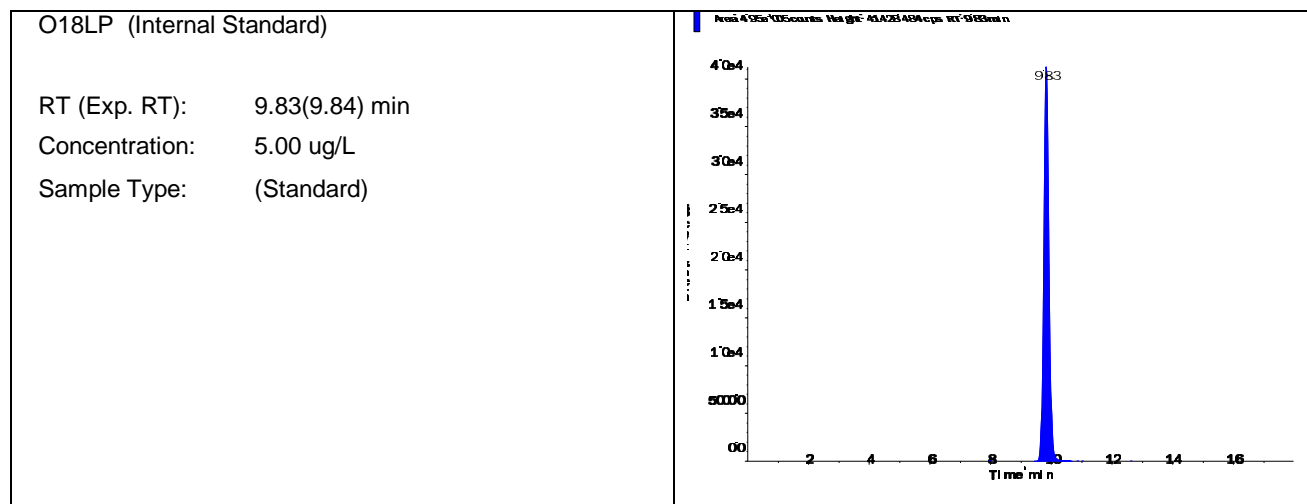


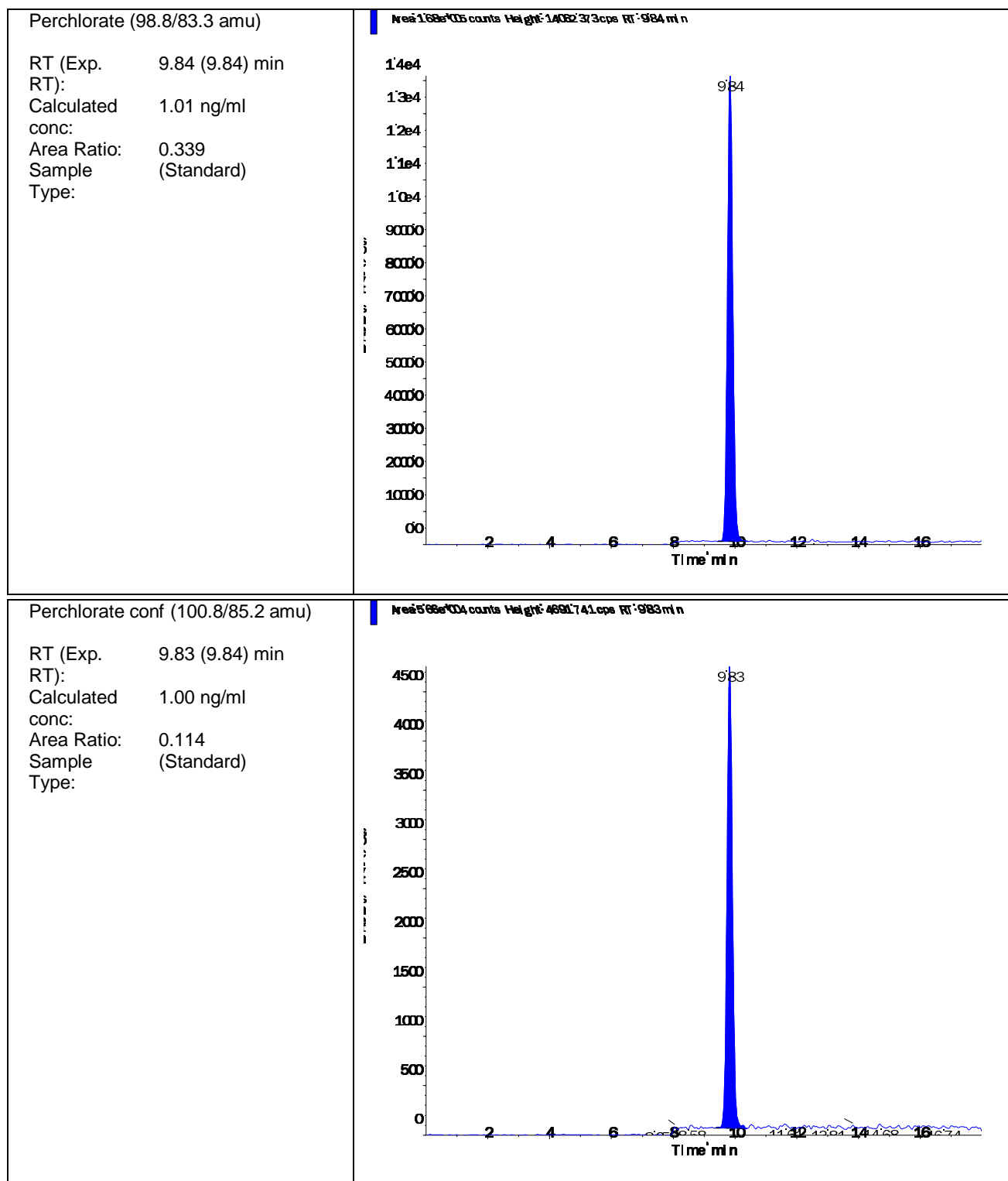
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567320-05 STD (1.0 ug/L)	Injection Vial	5.00
Data File	LM34690.wiff	Injection Volume	10.00
Acquisition Date	5/3/2016 4:21:49 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	050616_JWR.rdb
Sample ID	WG567320-05	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.950e+05	9.83	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.680e+05	9.84	1.00	1.01
Perchlorate conf	5.660e+04	9.83	1.00	1.00



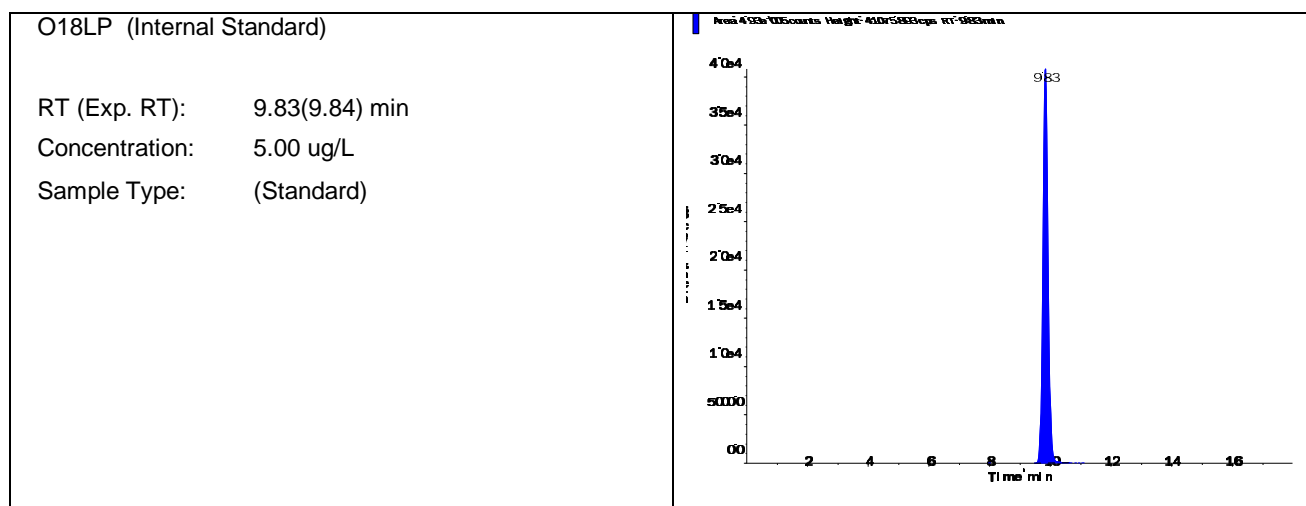


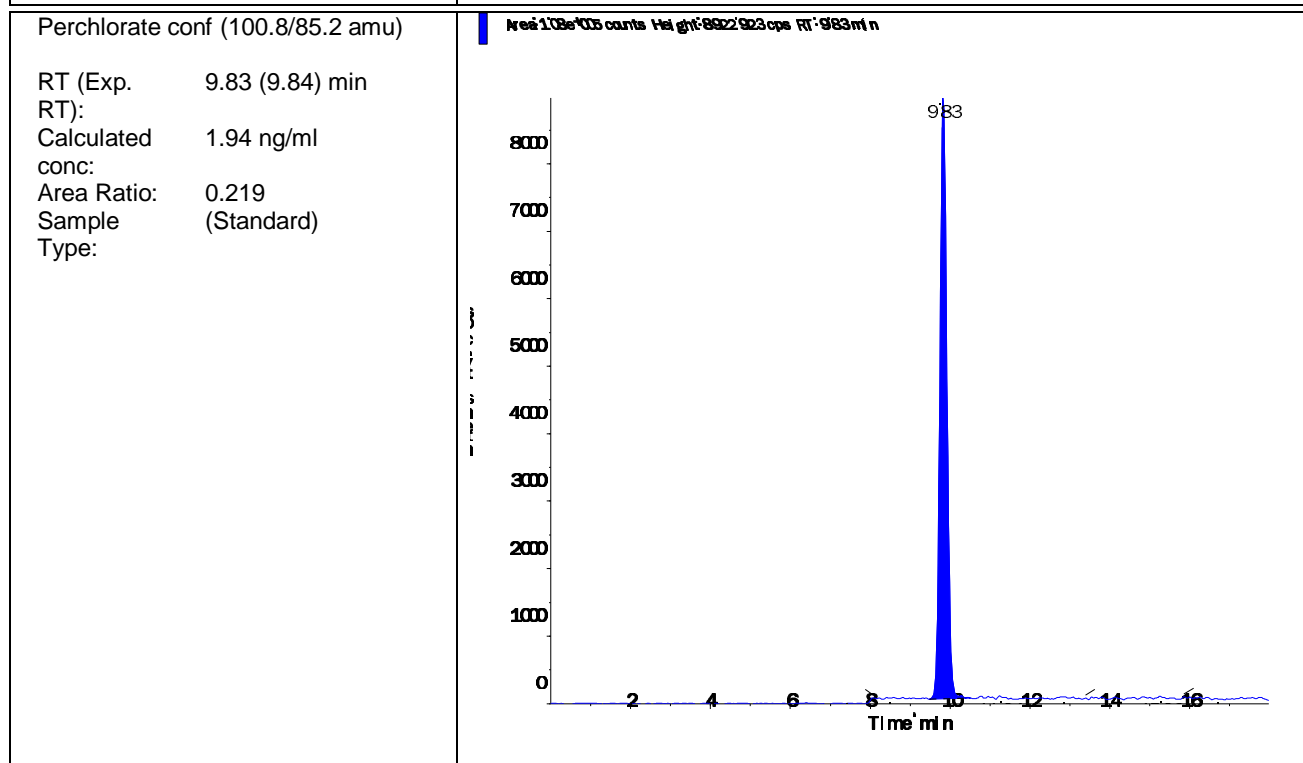
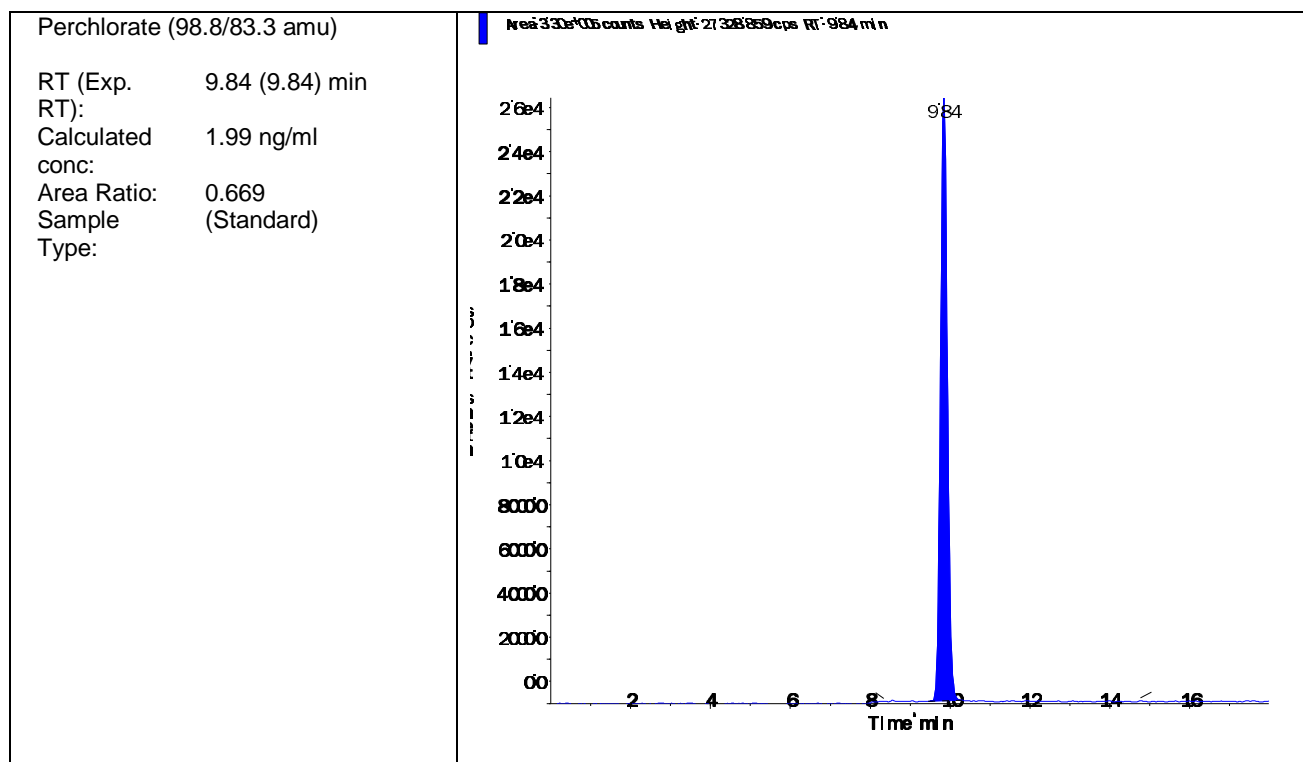
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567320-06 STD (2.0 ug/L)	Injection Vial	6.00
Data File	LM34691.wiff	Injection Volume	10.00
Acquisition Date	5/3/2016 4:40:45 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	050616_JWR.rdb
Sample ID	WG567320-06	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.930e+05	9.83	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.300e+05	9.84	2.00	1.99
Perchlorate conf	1.080e+05	9.83	2.00	1.94



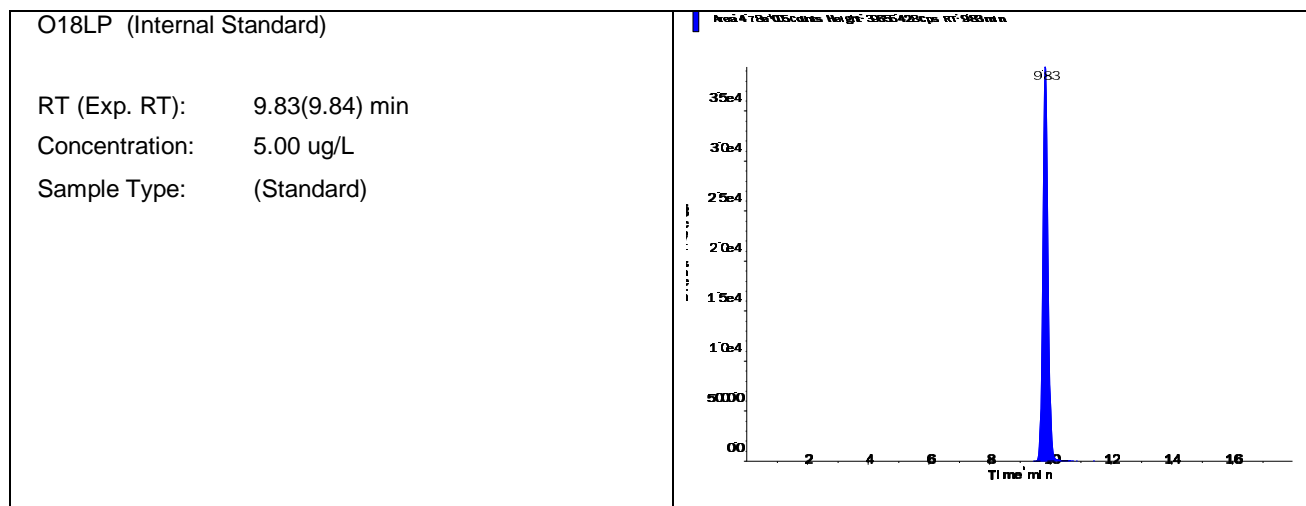


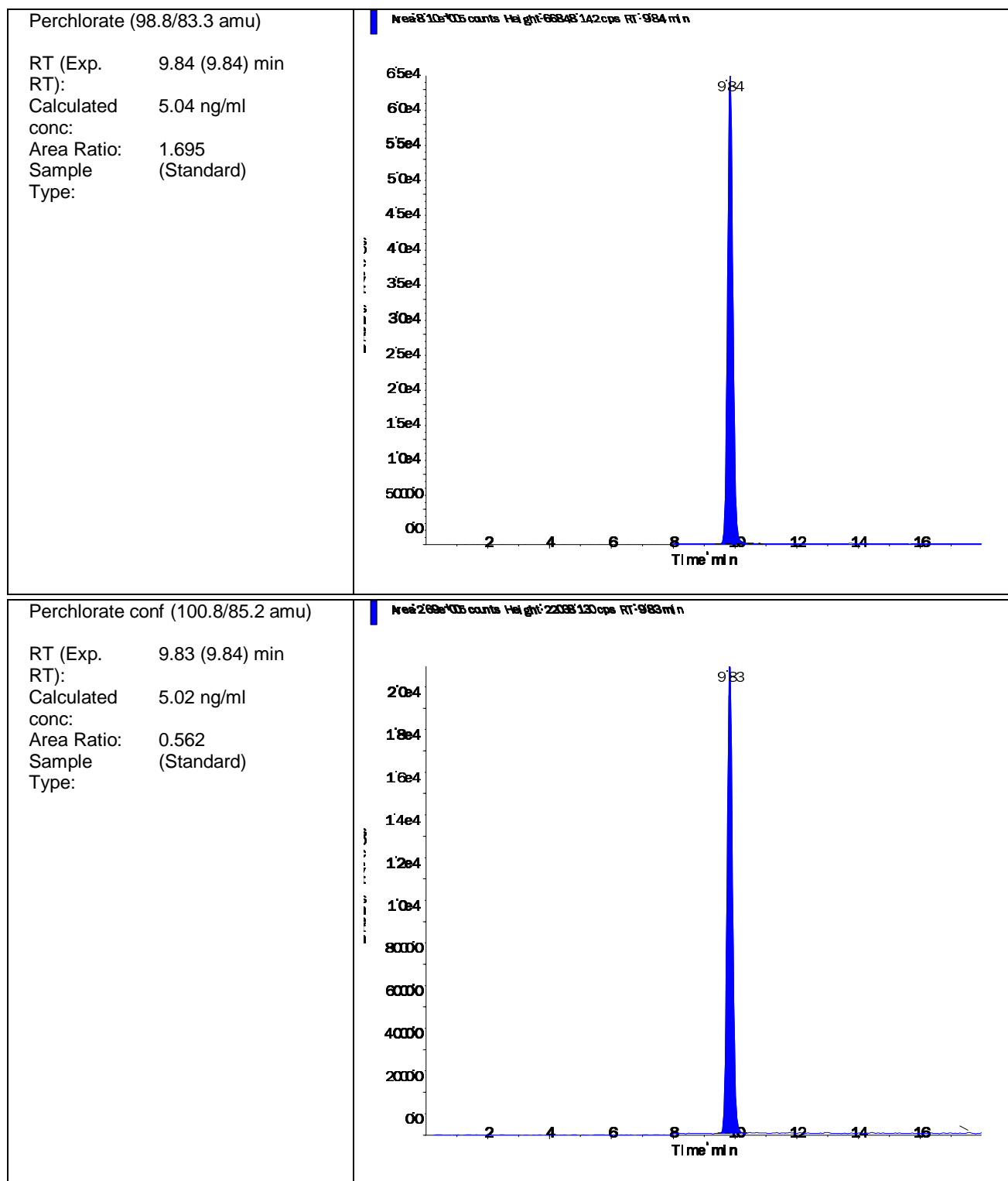
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567320-07 STD (5.0 ug/L)	Injection Vial	7.00
Data File	LM34692.wiff	Injection Volume	10.00
Acquisition Date	5/3/2016 4:59:42 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	050616_JWR.rdb
Sample ID	WG567320-07	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.780e+05	9.83	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	8.100e+05	9.84	5.00	5.04
Perchlorate conf	2.690e+05	9.83	5.00	5.02



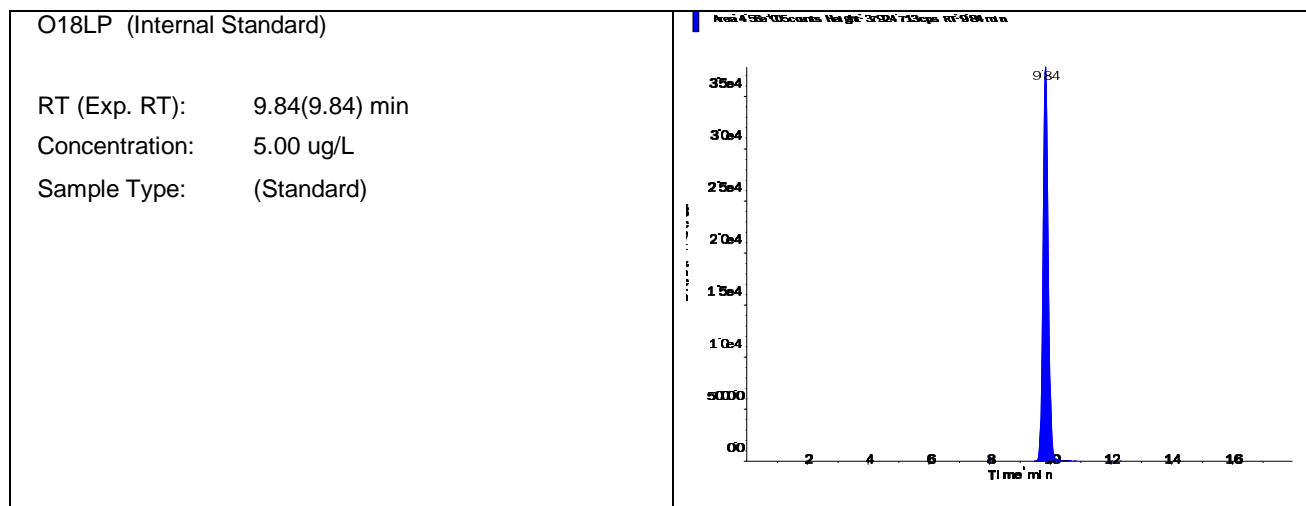


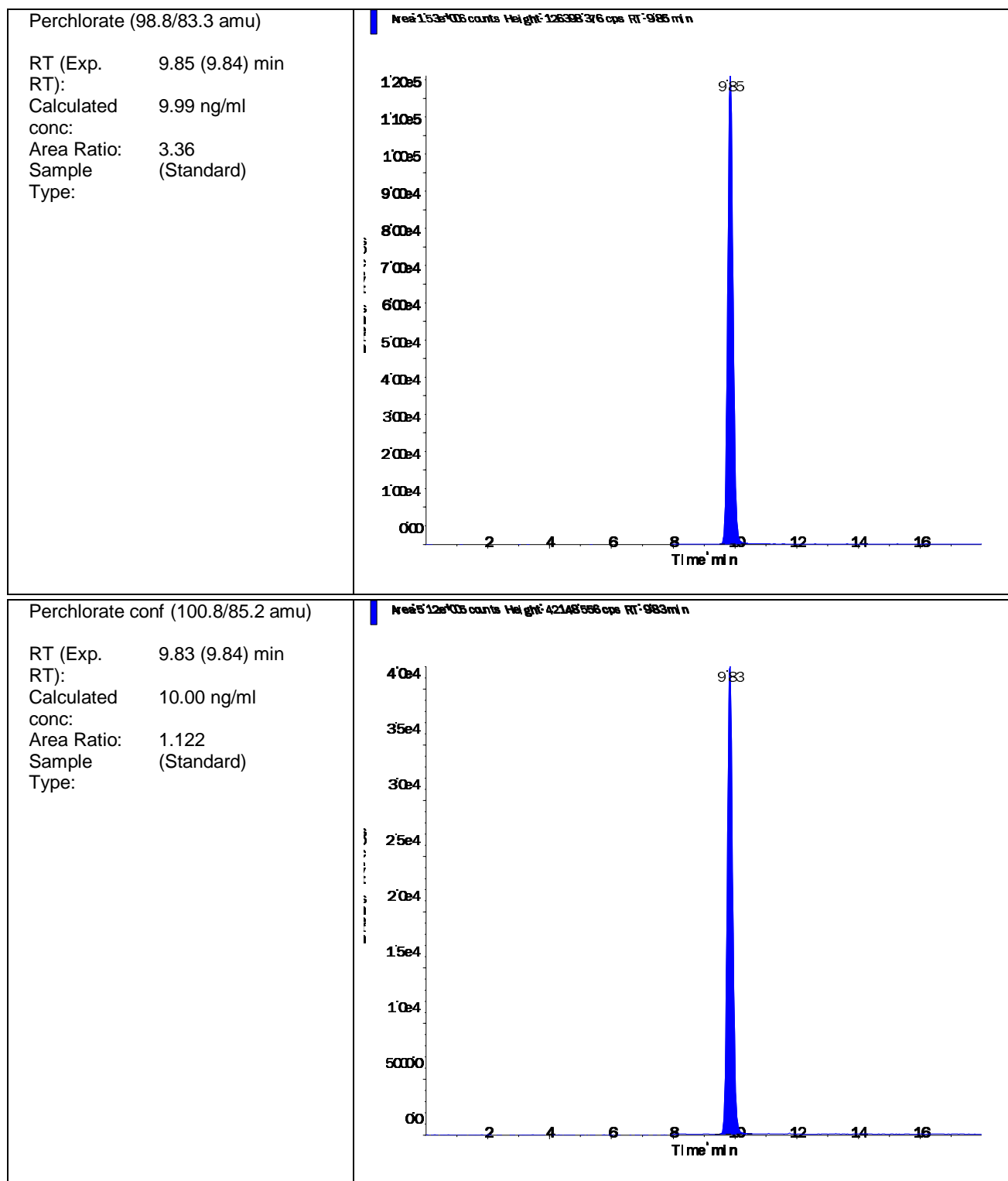
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567320-08 STD (10 ug/L)	Injection Vial	8.00
Data File	LM34693.wiff	Injection Volume	10.00
Acquisition Date	5/3/2016 5:18:37 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Standard
Instrument Name	API 4000	Result Table	050616_JWR.rdb
Sample ID	WG567320-08	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.560e+05	9.84	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.530e+06	9.85	10.00	9.99
Perchlorate conf	5.120e+05	9.83	10.00	10.00



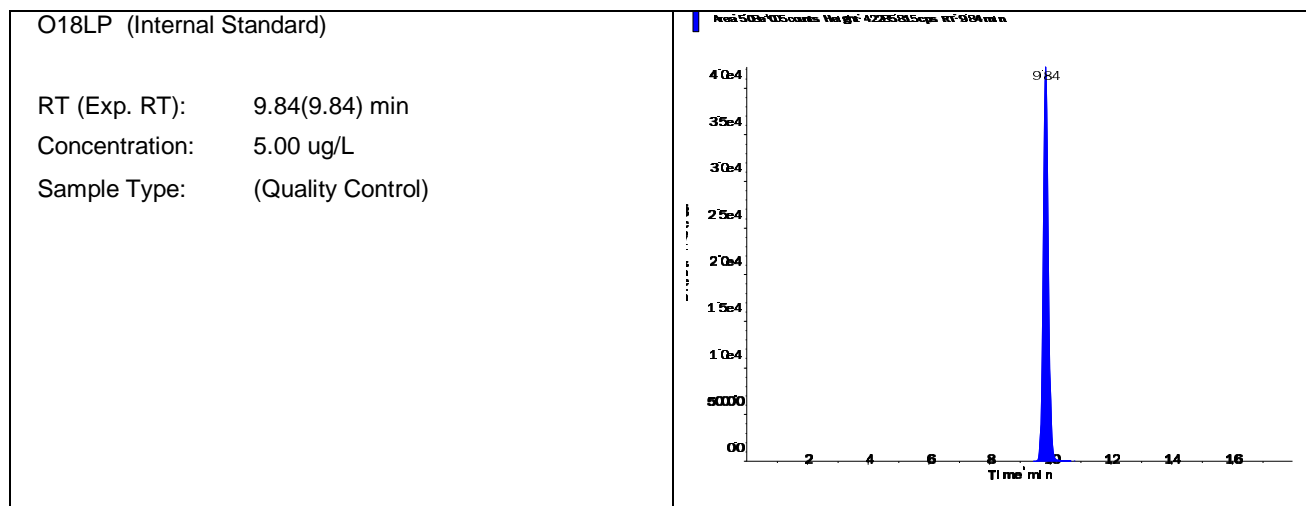


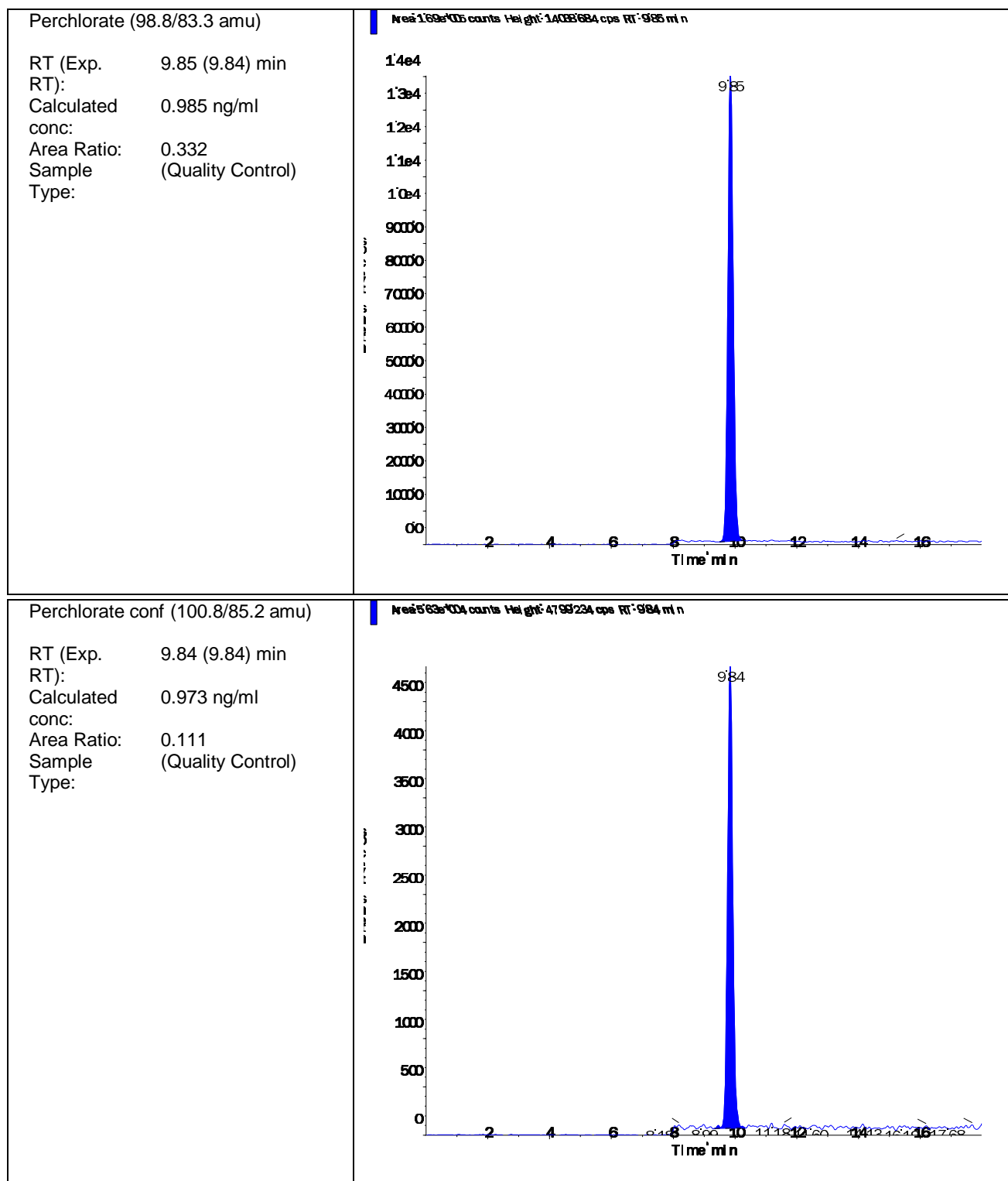
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567320-09 SSCV (1.0 ug/L)	Injection Vial	9.00
Data File	LM34694.wiff	Injection Volume	10.00
Acquisition Date	5/3/2016 5:37:34 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Quality Control
Instrument Name	API 4000	Result Table	050316_JWR.rdb
Sample ID	WG567320-09	Dilution Factor	1.00
Sample Comment	1,1 STD75512	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.080e+05	9.84	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.690e+05	9.85	1.00	0.985
Perchlorate conf	5.630e+04	9.84	1.00	0.973



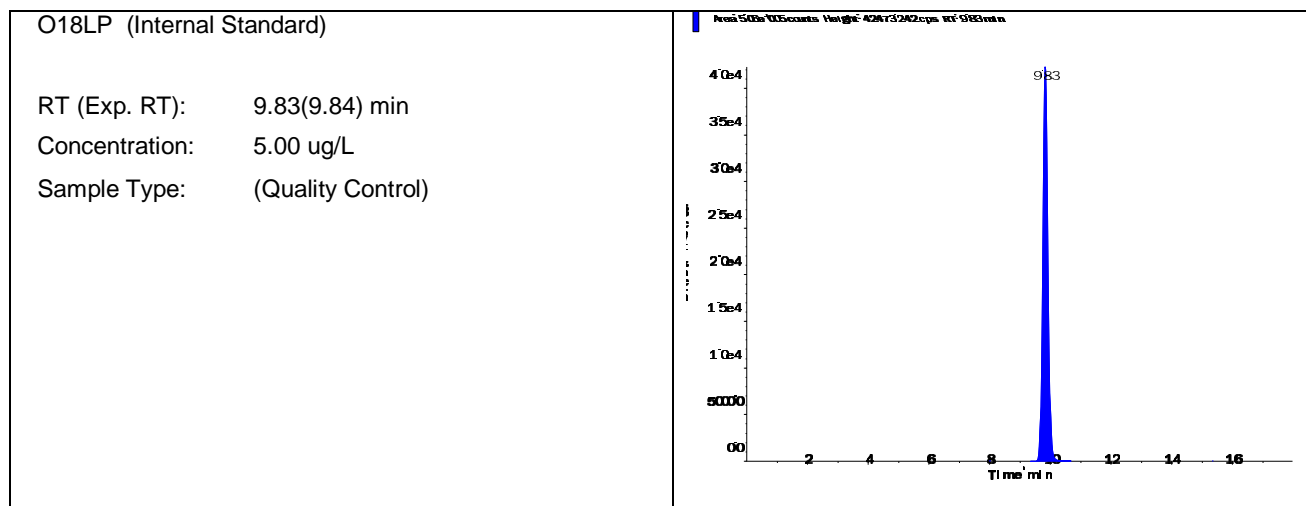


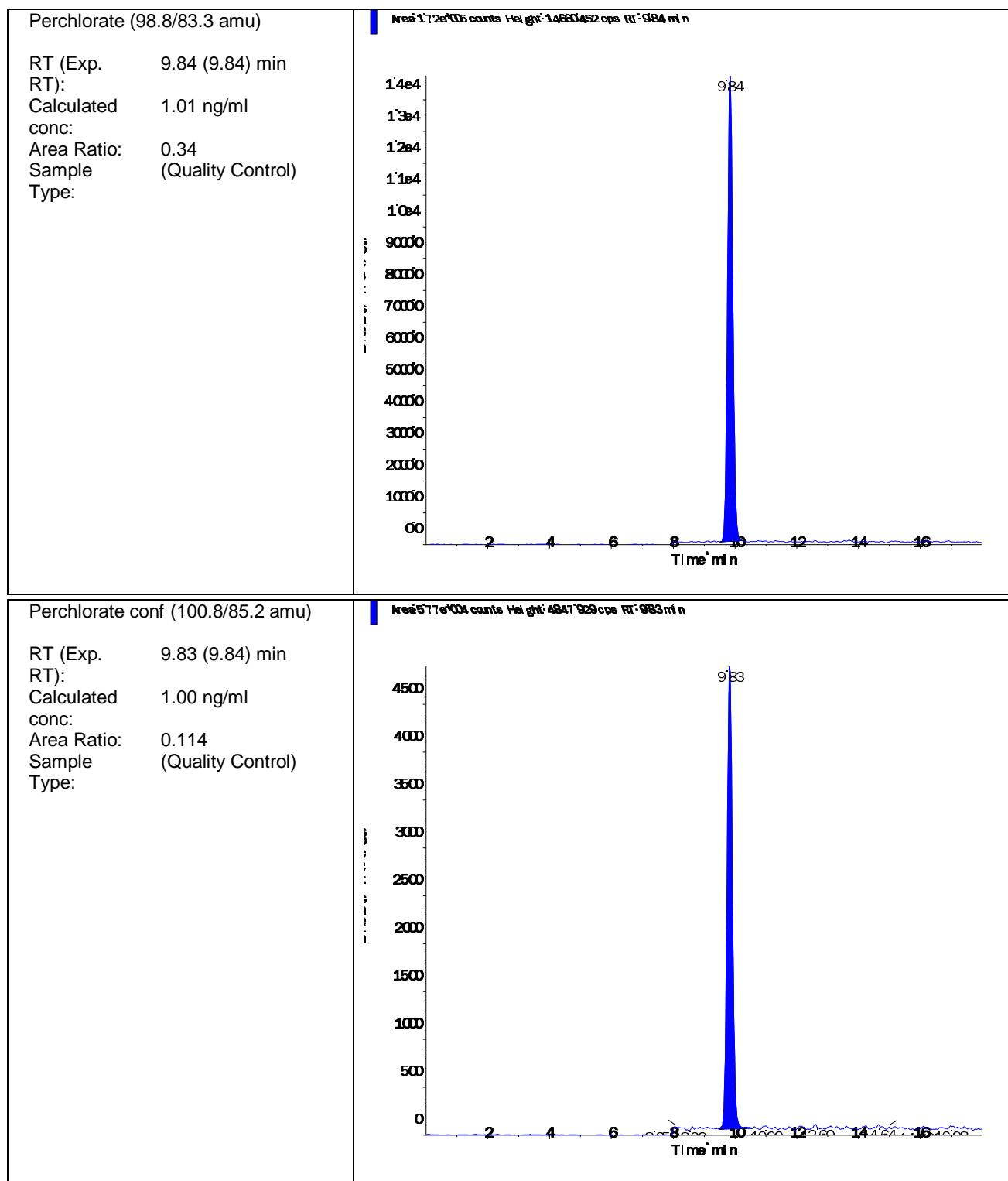
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Acquisition Date	5/5/2016 6:04:45 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567745-02 CCV (1.0ug/L)	Injection Vial	3.00
Data File	LM34767.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 6:04:45 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Quality Control
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567745-02	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.060e+05	9.83	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.720e+05	9.84	1.00	1.01
Perchlorate conf	5.770e+04	9.83	1.00	1.00



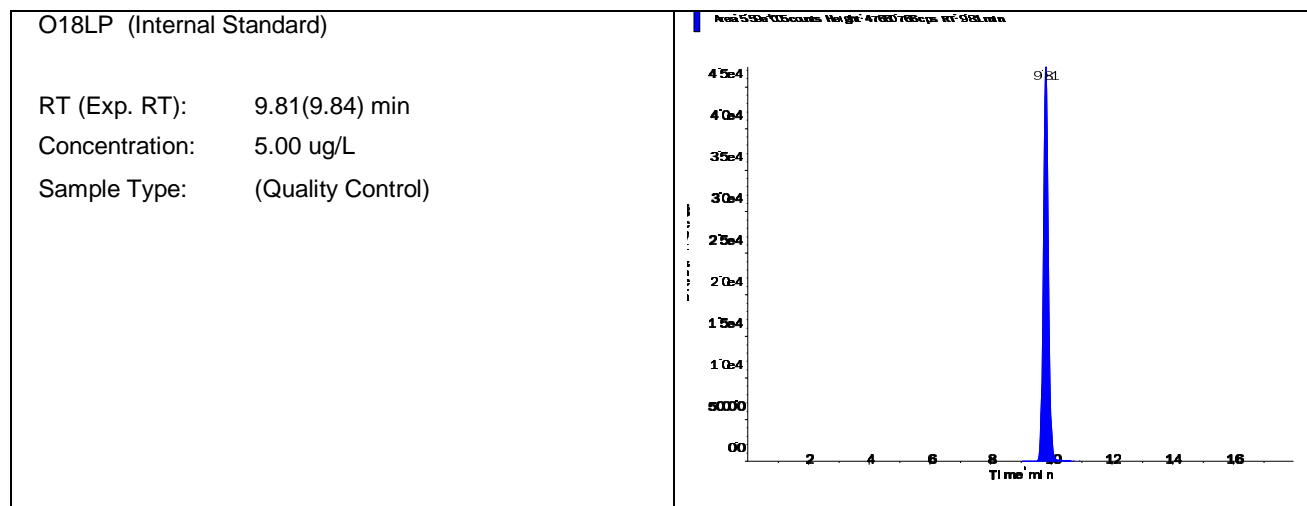


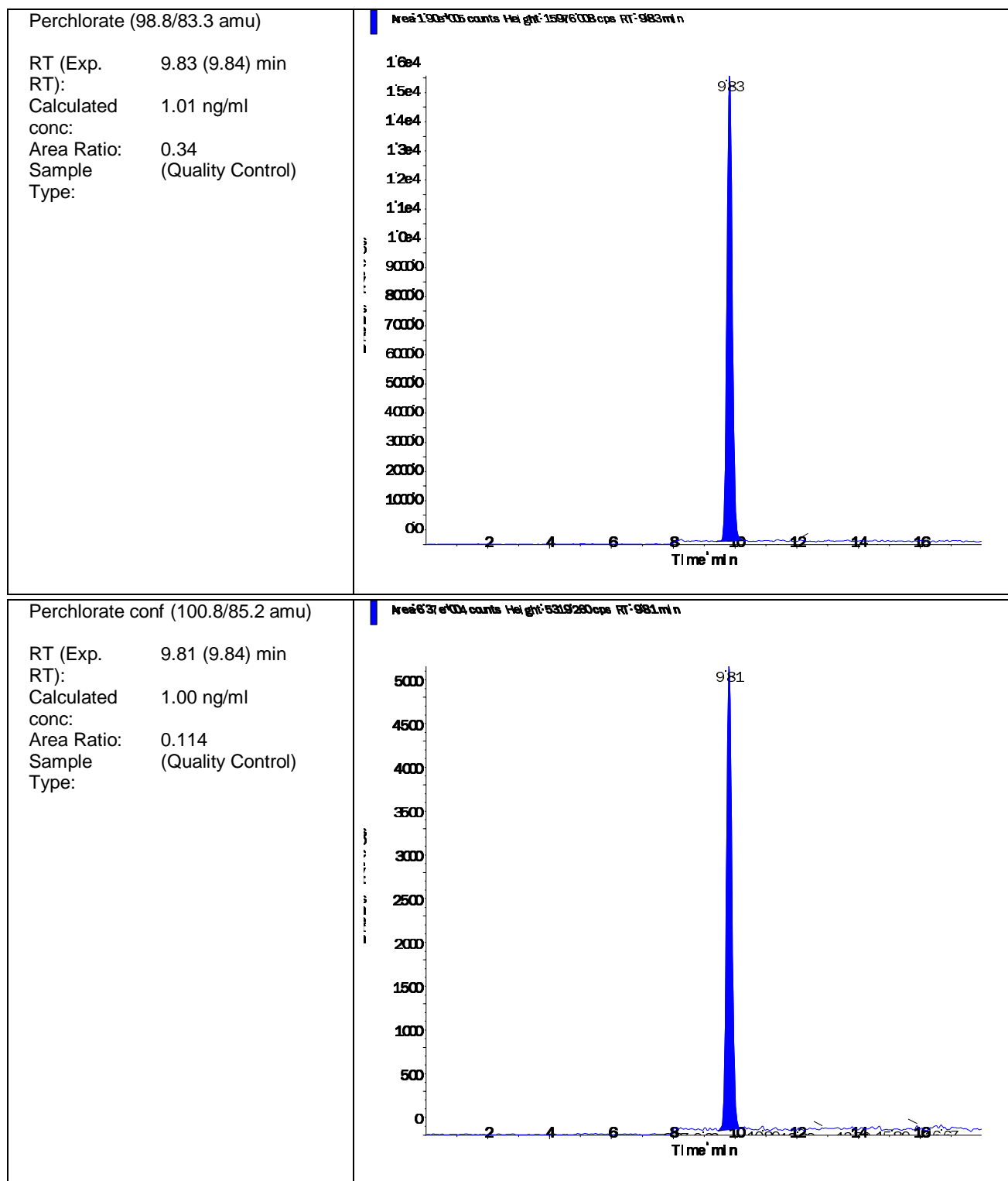
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567745-03 CCV (1.0ug/L)	Injection Vial	3.00
Data File	LM34779.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 9:52:03 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Quality Control
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567745-03	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.590e+05	9.81	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.900e+05	9.83	1.00	1.01
Perchlorate conf	6.370e+04	9.81	1.00	1.00





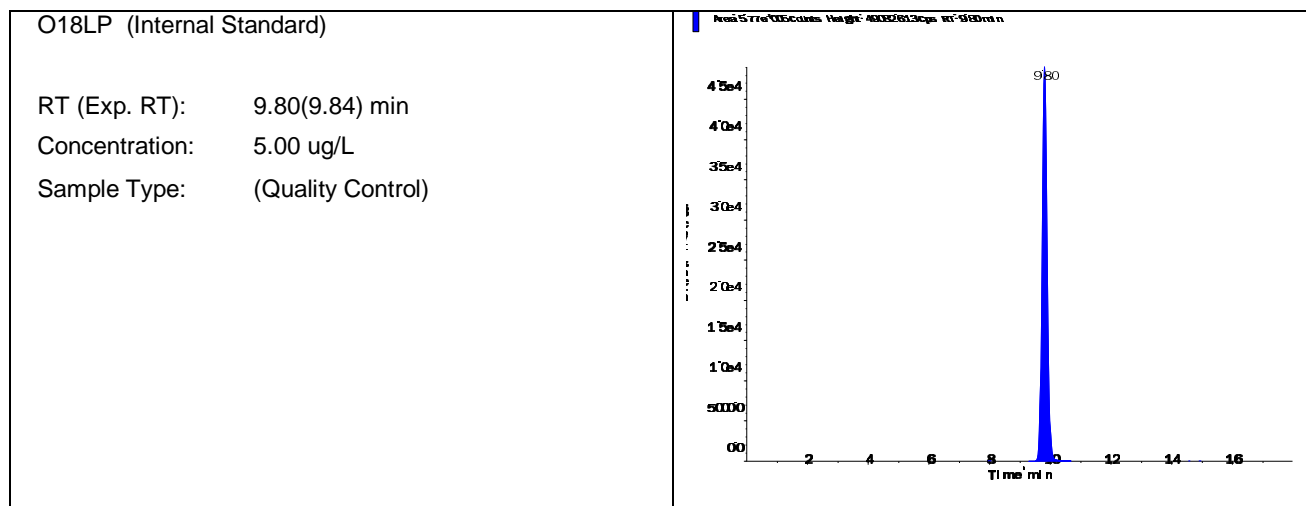
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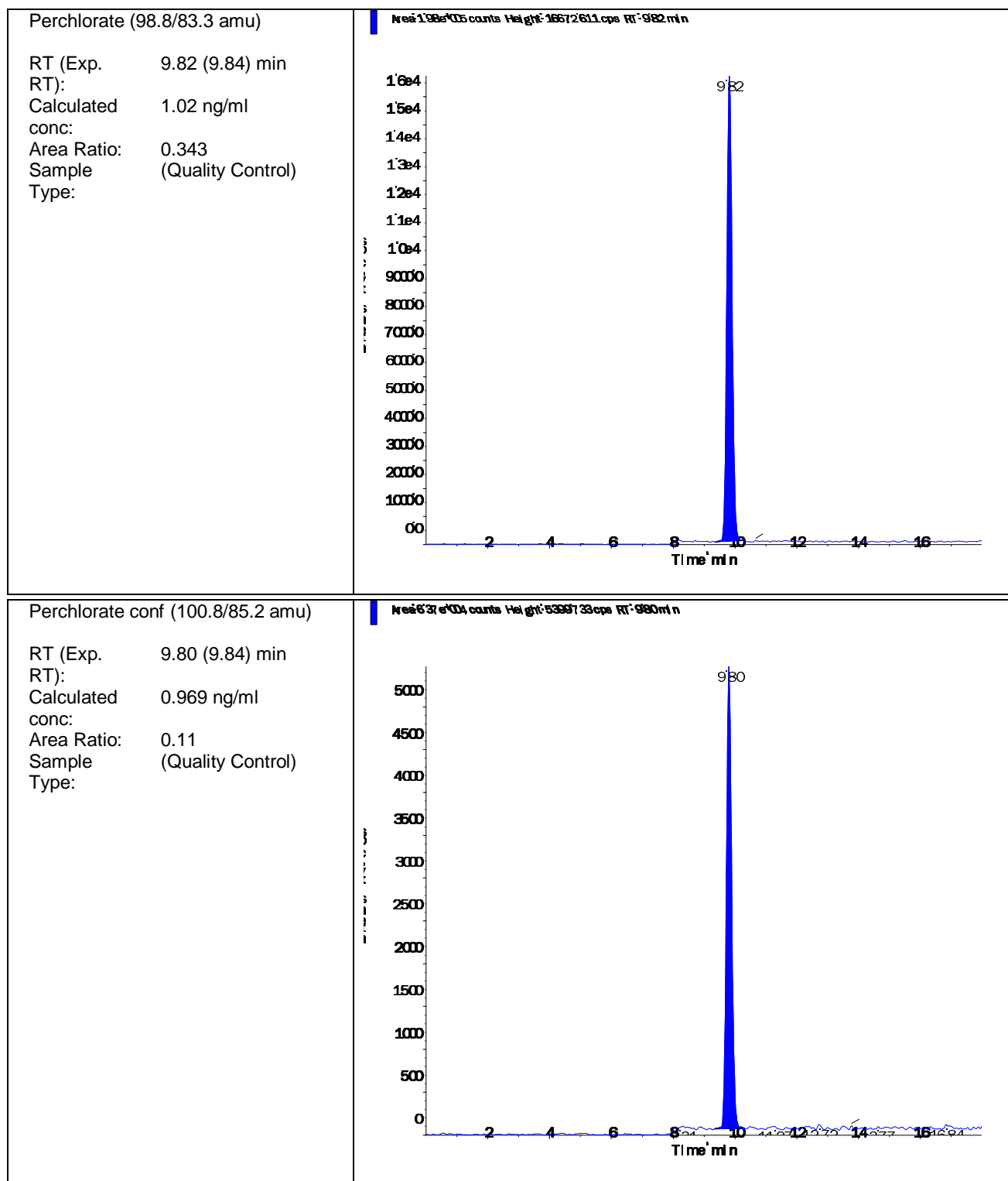
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567745-05 CCV (1.0ug/L)	Injection Vial	3.00
Data File	LM34785.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 11:45:38 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Quality Control
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567745-05	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.770e+05	9.80	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.980e+05	9.82	1.00	1.02
Perchlorate conf	6.370e+04	9.80	1.00	0.969



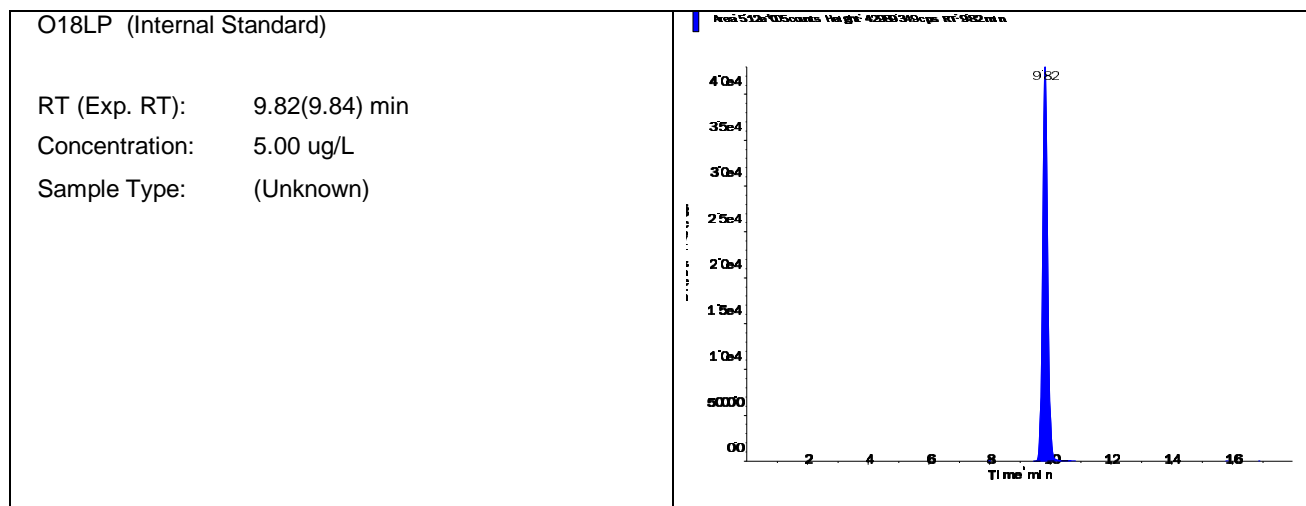


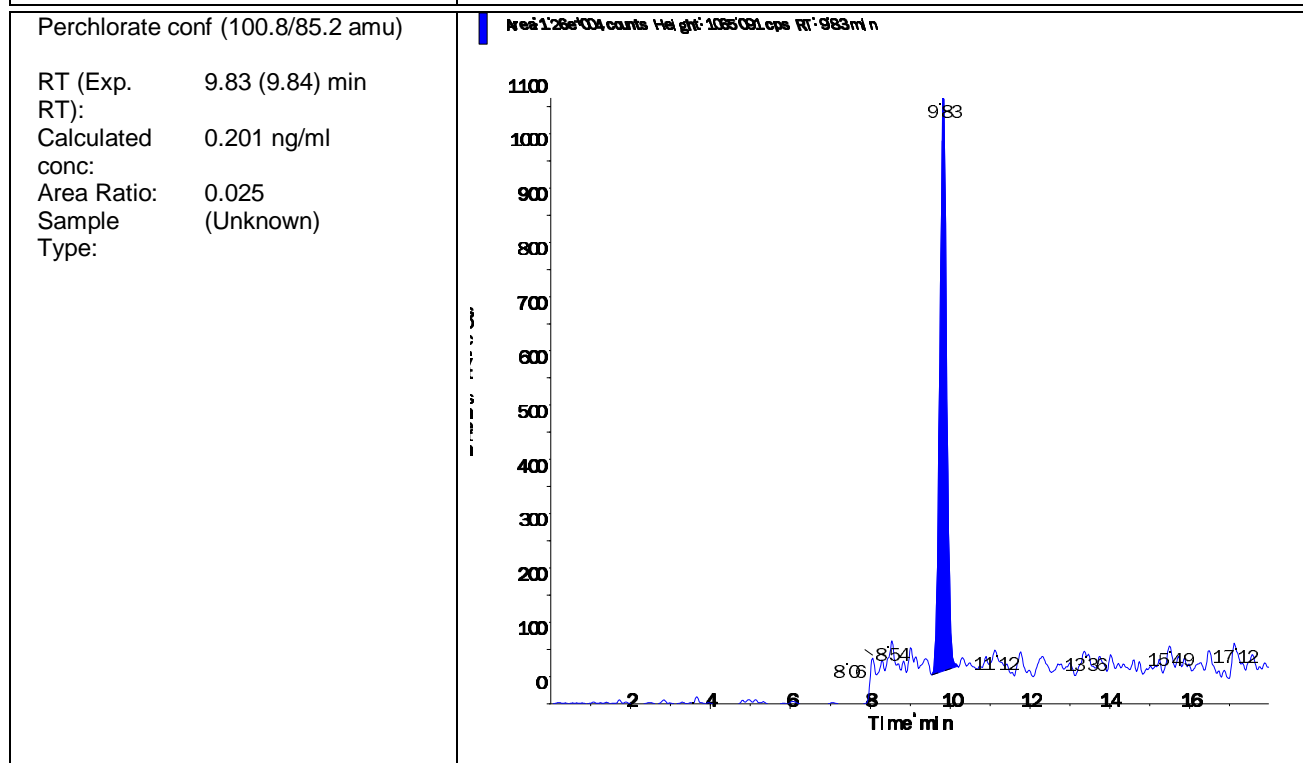
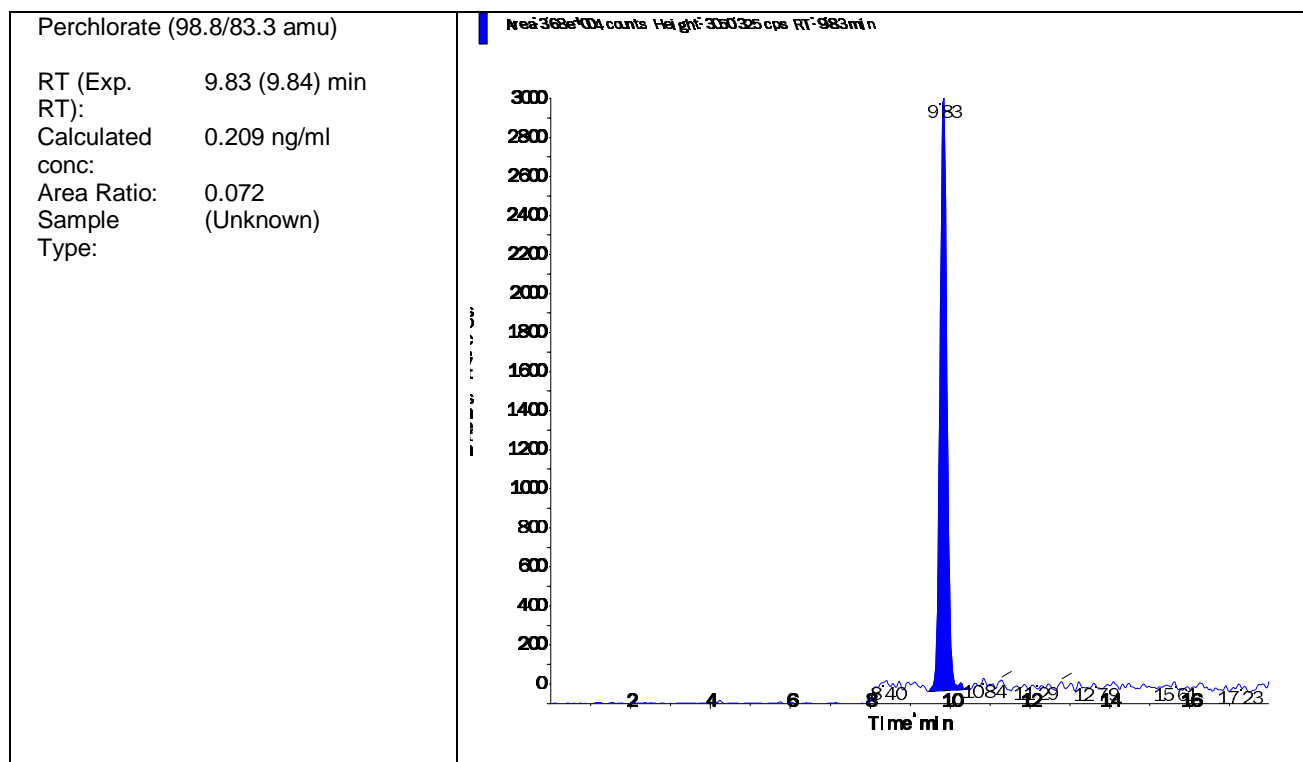
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567744-05 MRL (0.2ug/L)	Injection Vial	2.00
Data File	LM34768.wiff	Injection Volume	10.00
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Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567744-05	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.120e+05	9.82	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.680e+04	9.83	N/A	0.209
Perchlorate conf	1.260e+04	9.83	N/A	0.201



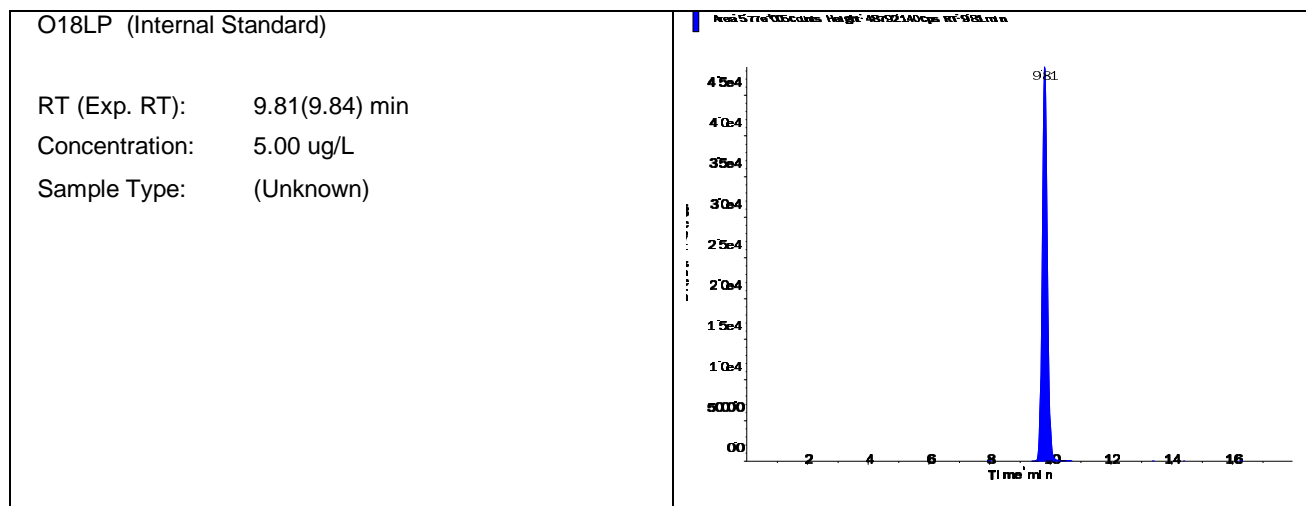


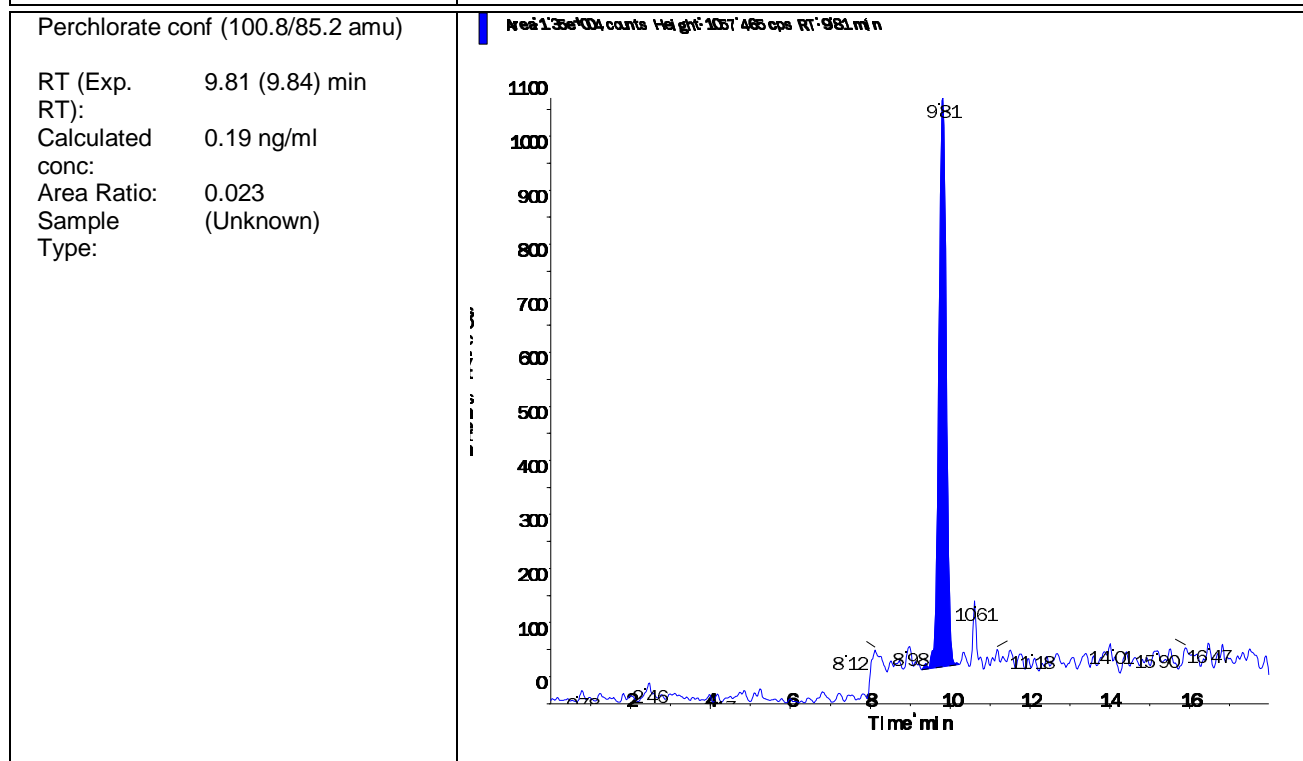
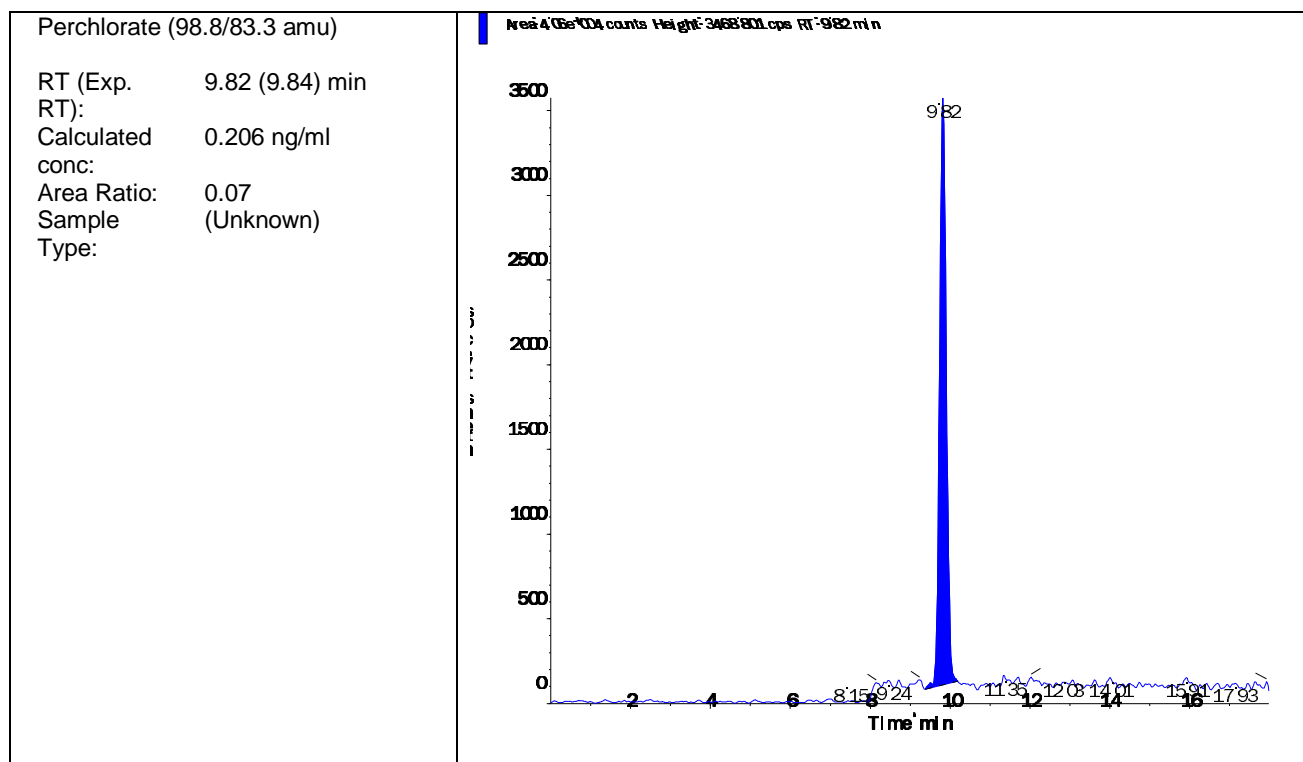
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567744-06 MRL (0.2ug/L)	Injection Vial	2.00
Data File	LM34780.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 10:10:58 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567744-06	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.770e+05	9.81	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.060e+04	9.82	N/A	0.206
Perchlorate conf	1.350e+04	9.81	N/A	0.19



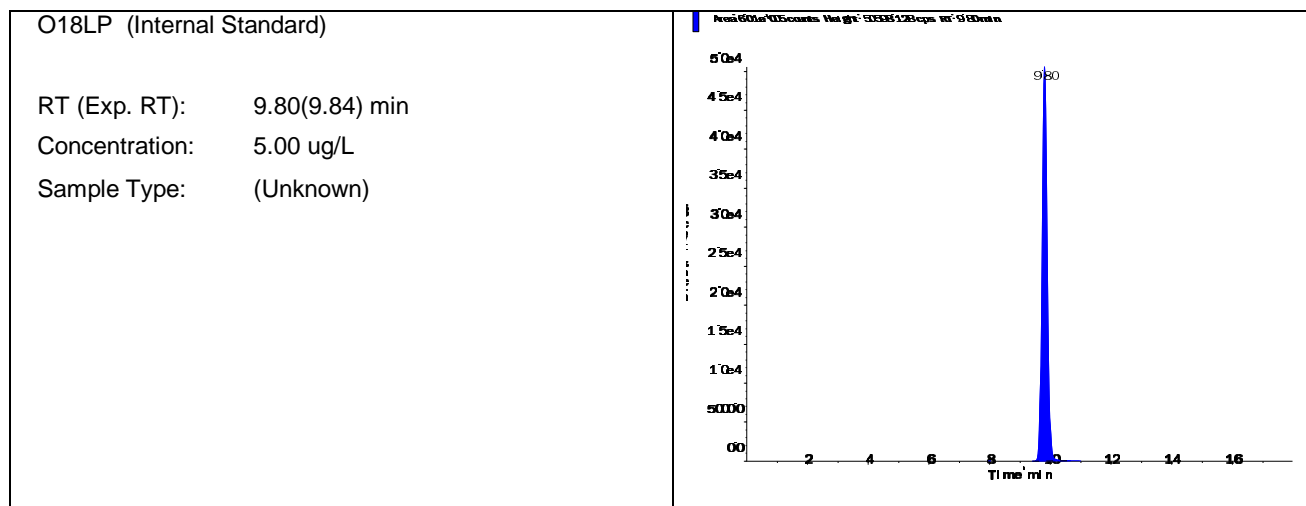


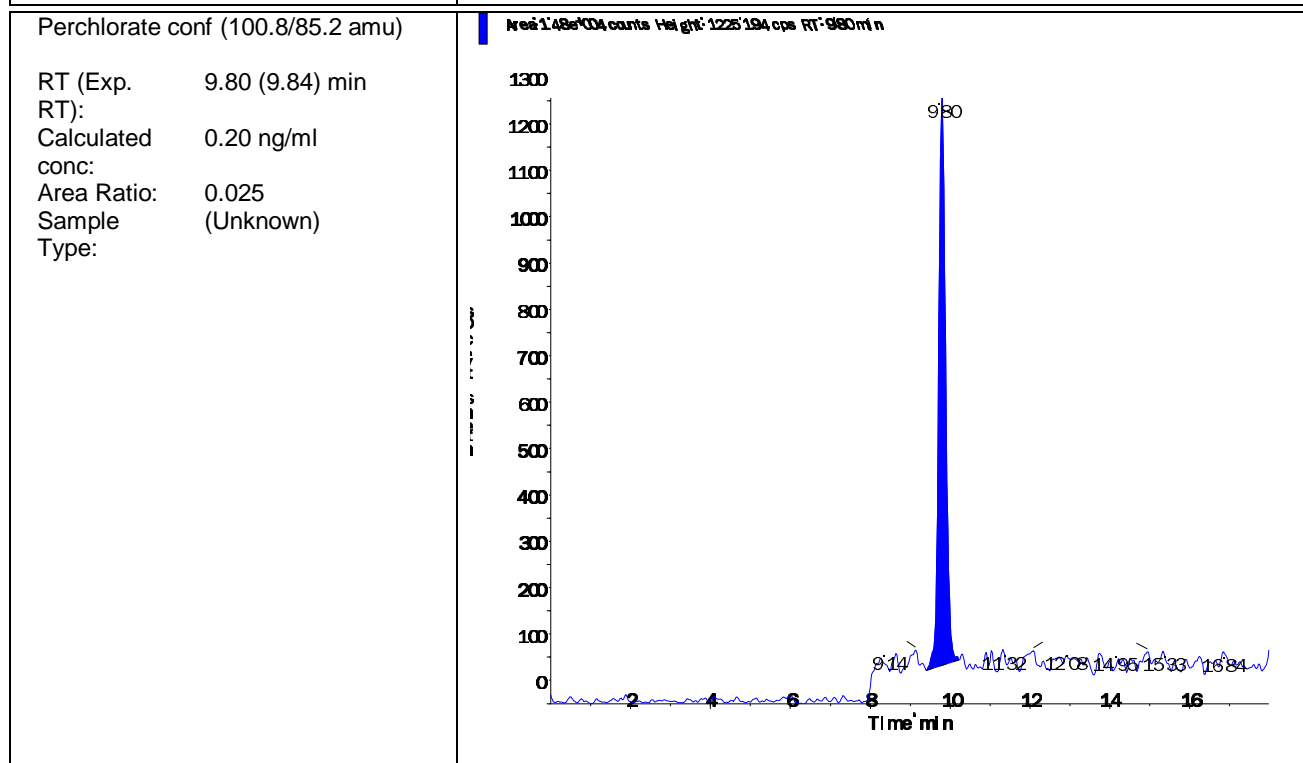
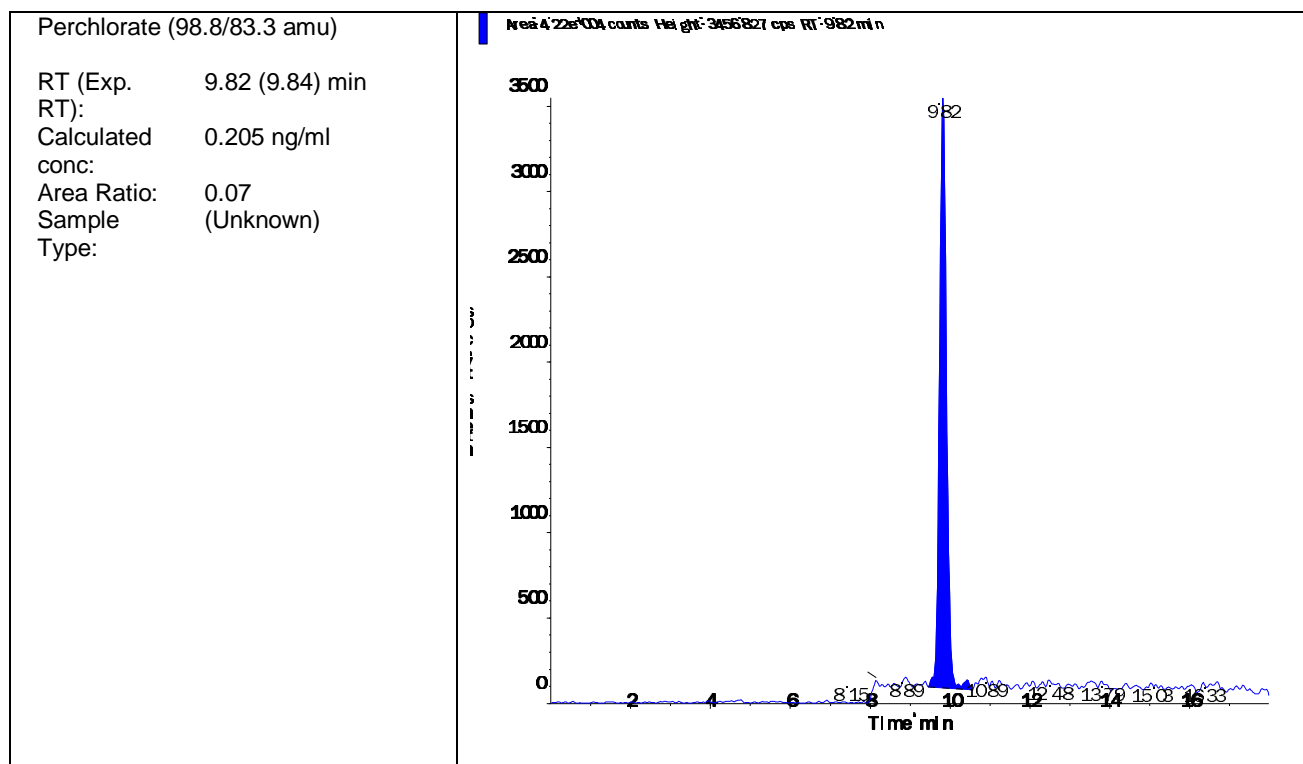
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567744-07 MRL (0.2ug/L)	Injection Vial	2.00
Data File	LM34786.wiff	Injection Volume	10.00
Acquisition Date	5/6/2016 12:04:35 AM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567744-07	Dilution Factor	1.00
Sample Comment	1,1 STD75510	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	6.010e+05	9.80	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.220e+04	9.82	N/A	0.205
Perchlorate conf	1.480e+04	9.80	N/A	0.20



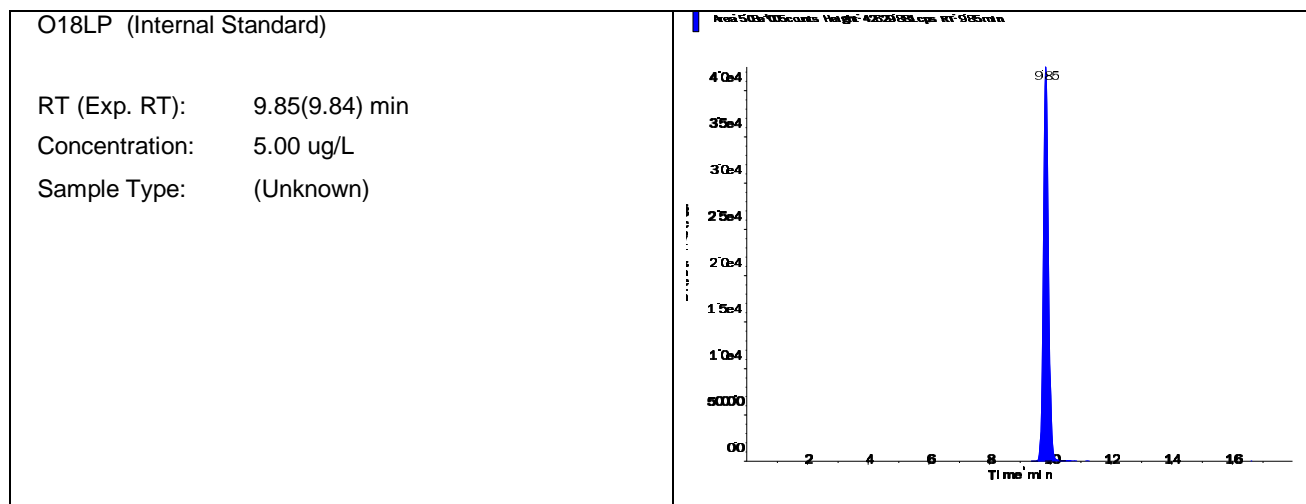


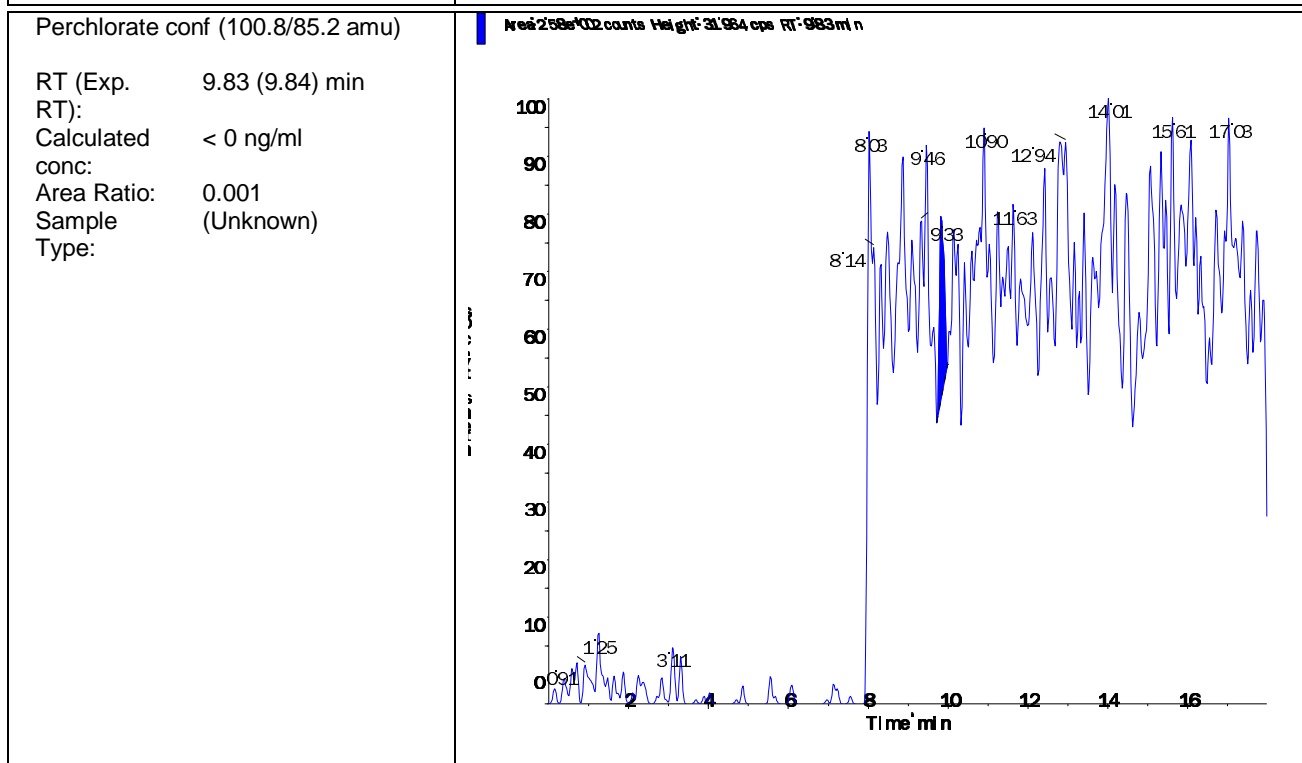
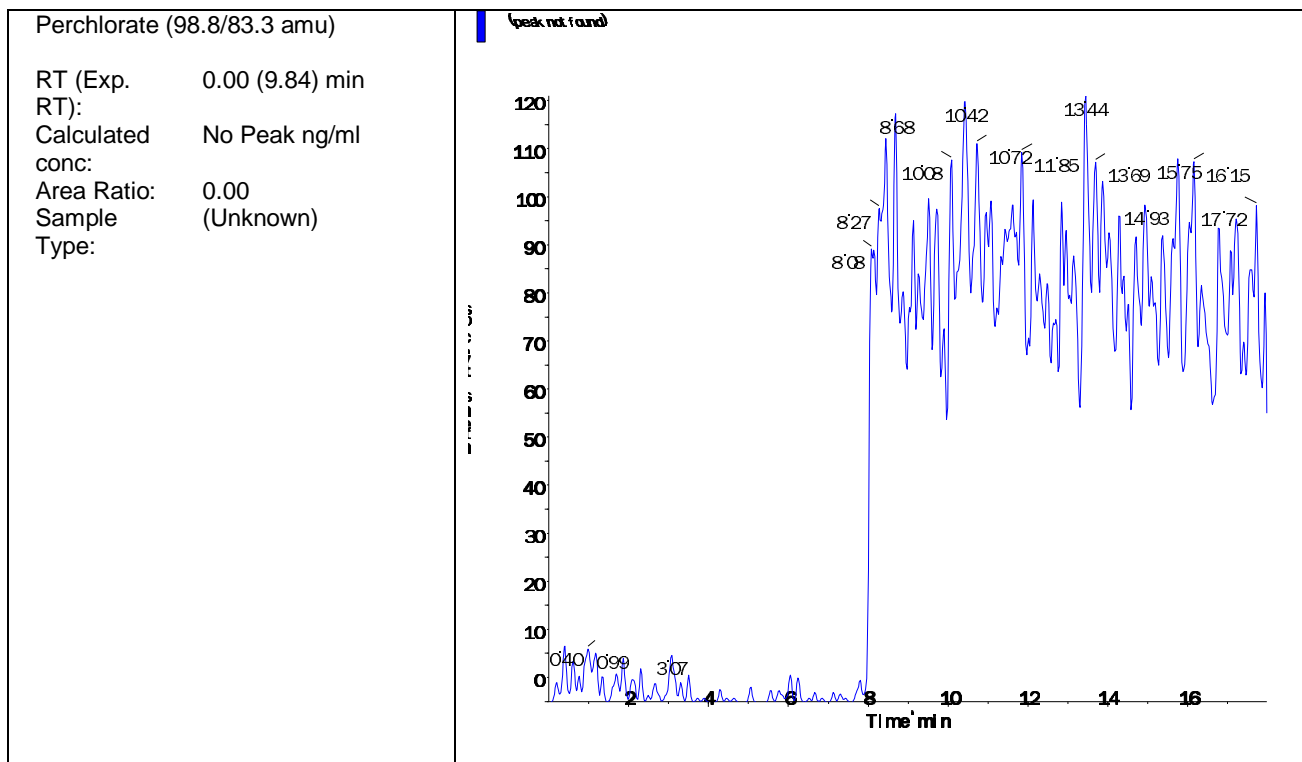
Data File	LM34766.wiff	Result Table	050516_JWR.rdb
Acquisition Date	5/5/2016 5:45:53 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567745-01 CCB	Injection Vial	1.00
Data File	LM34766.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 5:45:53 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567745-01	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	5.030e+05	9.85	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	2.580e+02	9.83	N/A	< 0



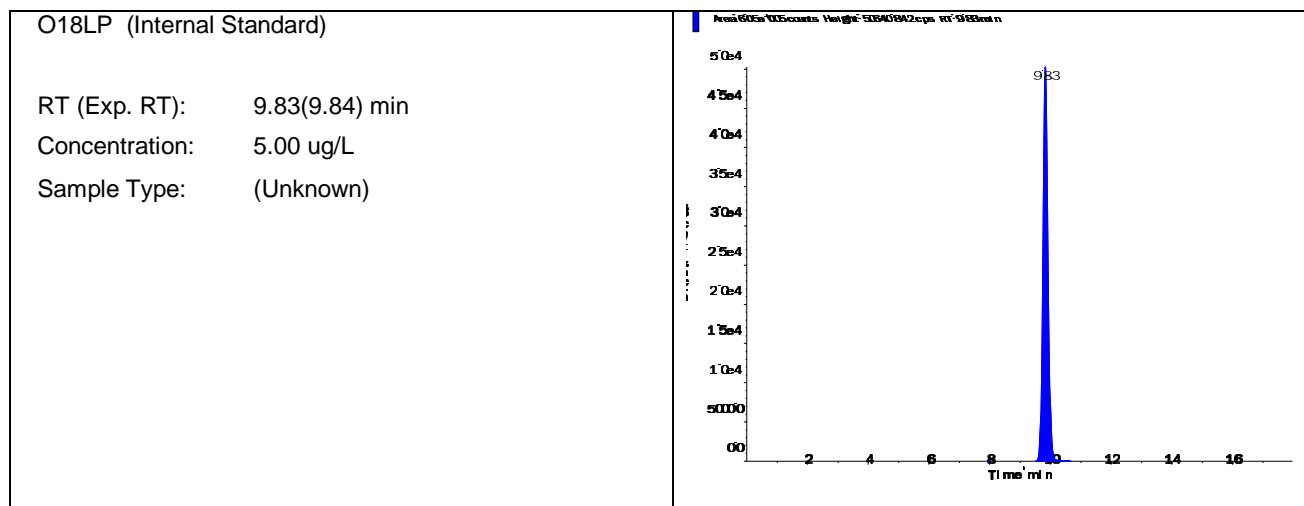


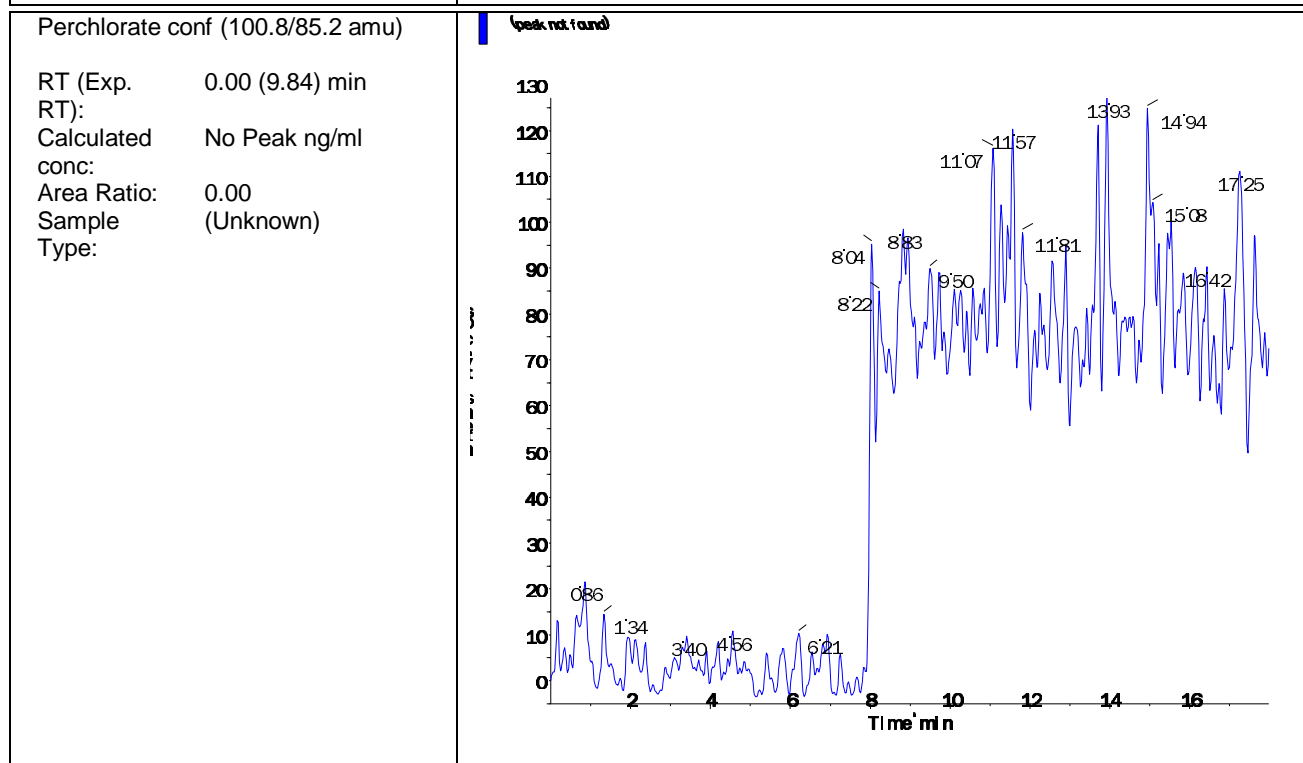
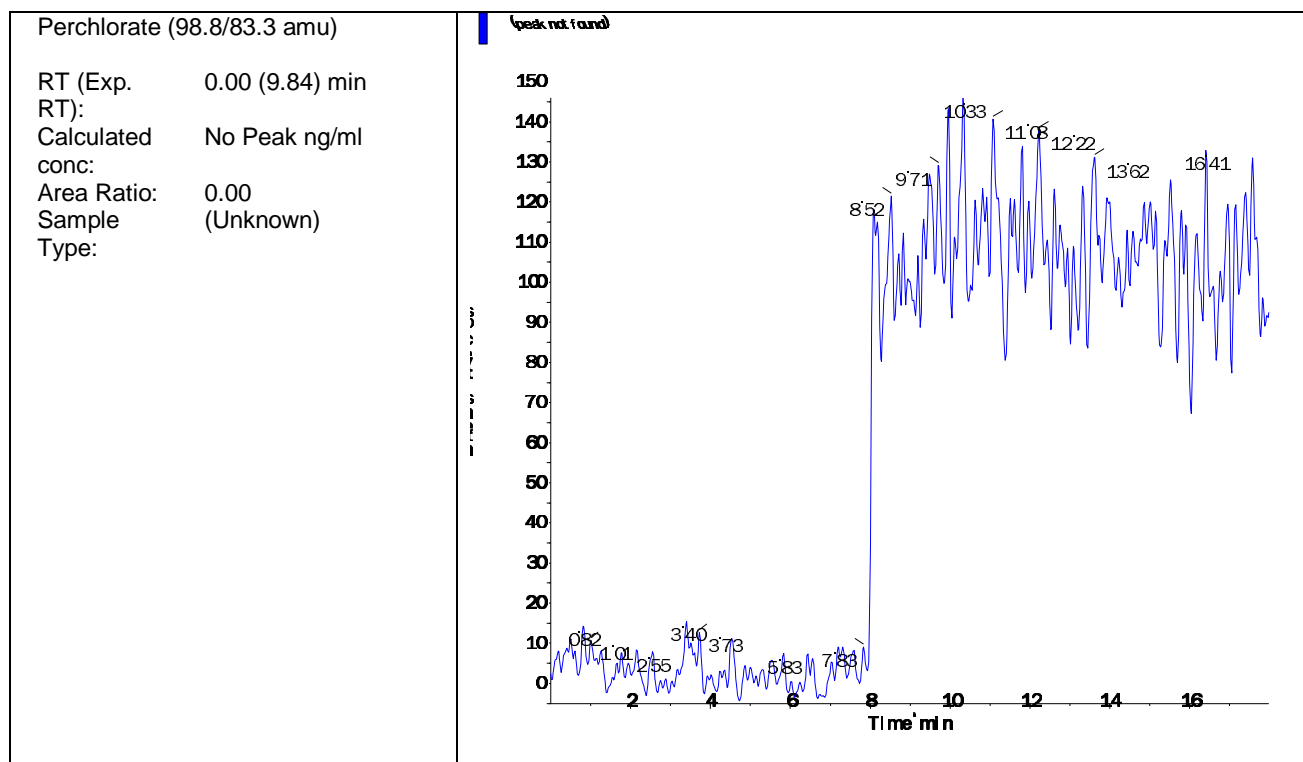
Data File	LM34781.wiff	Result Table	050516_JWR.rdb
Acquisition Date	5/5/2016 10:29:55 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567745-04 CCB	Injection Vial	1.00
Data File	LM34781.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 10:29:55 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567745-04	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	6.050e+05	9.83	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



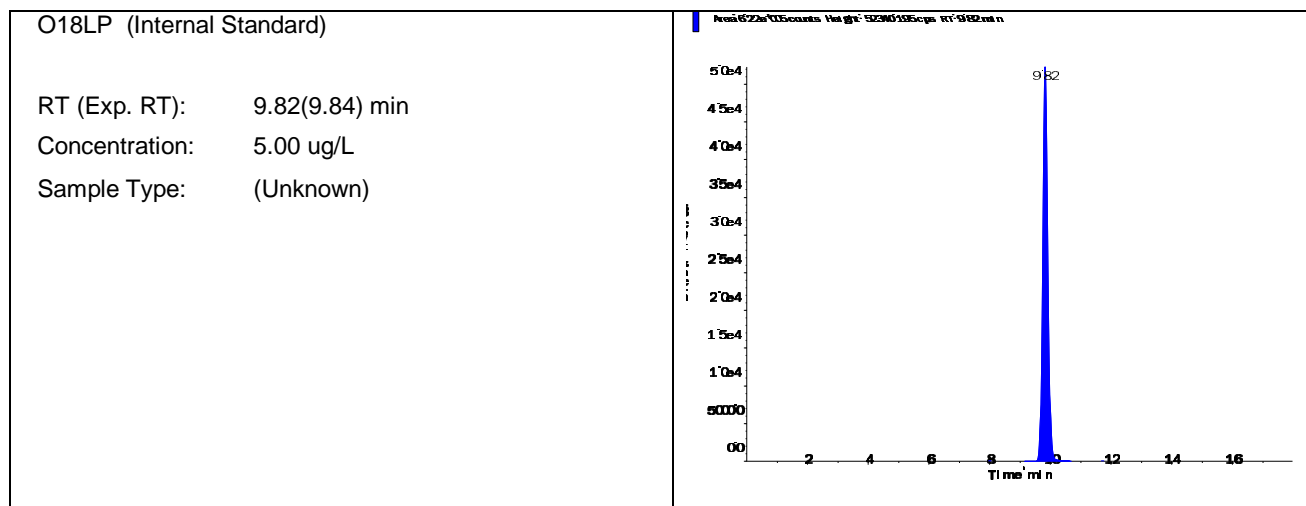


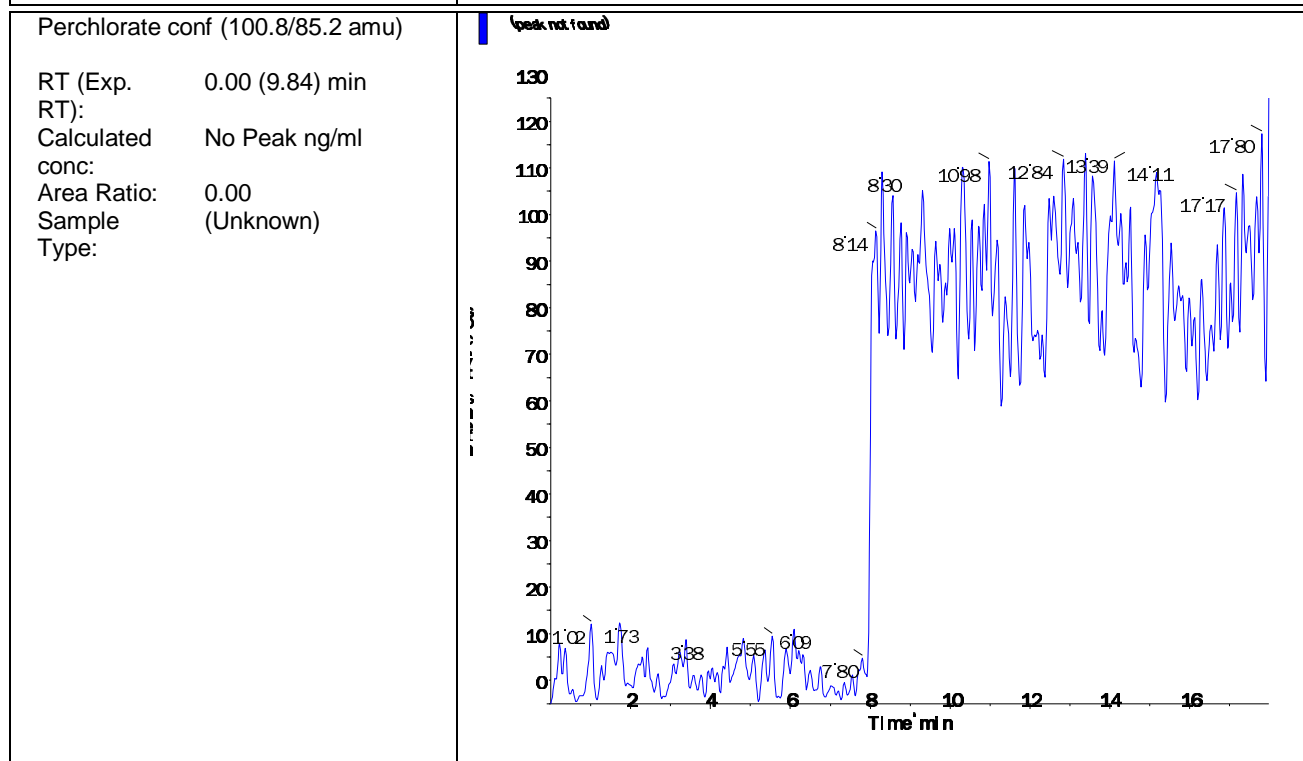
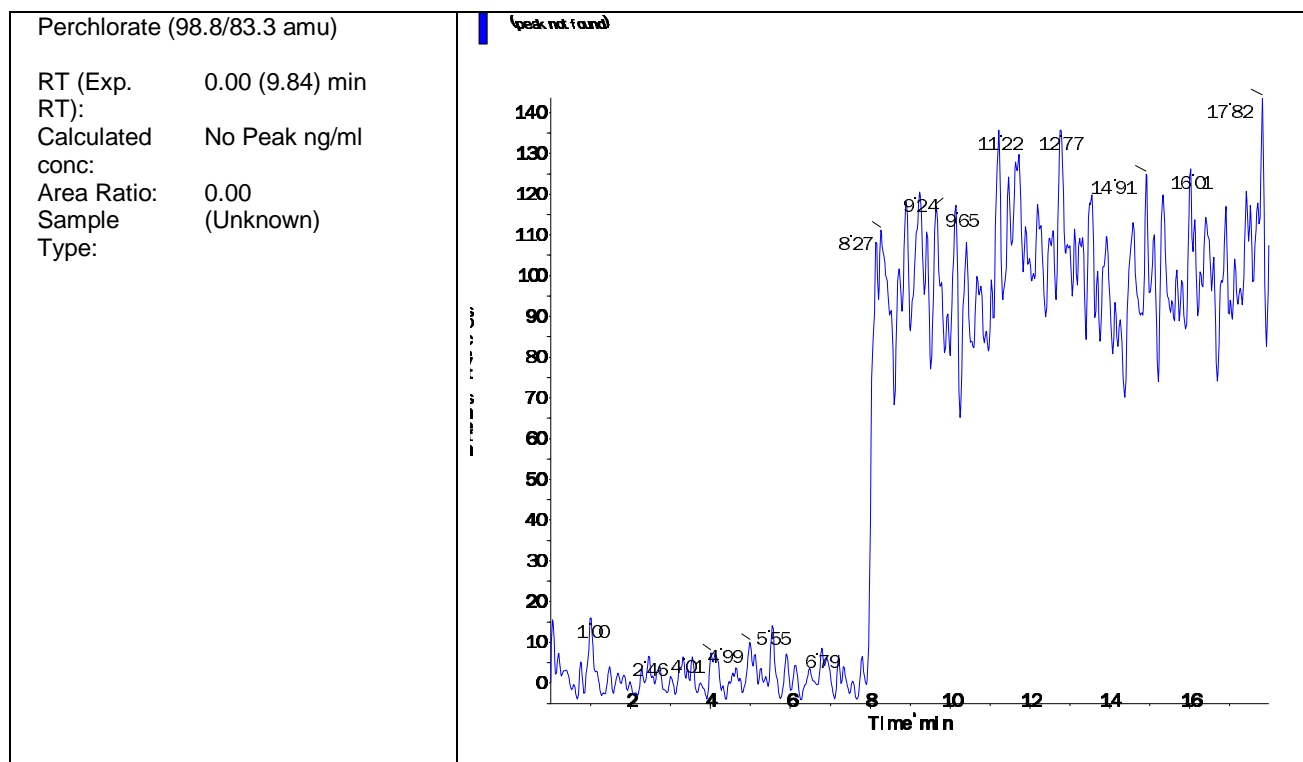
Data File	LM34787.wiff	Result Table	050516_JWR.rdb
Acquisition Date	5/6/2016 12:23:31 AM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567745-06 CCB	Injection Vial	1.00
Data File	LM34787.wiff	Injection Volume	10.00
Acquisition Date	5/6/2016 12:23:31 AM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567745-06	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	6.220e+05	9.82	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



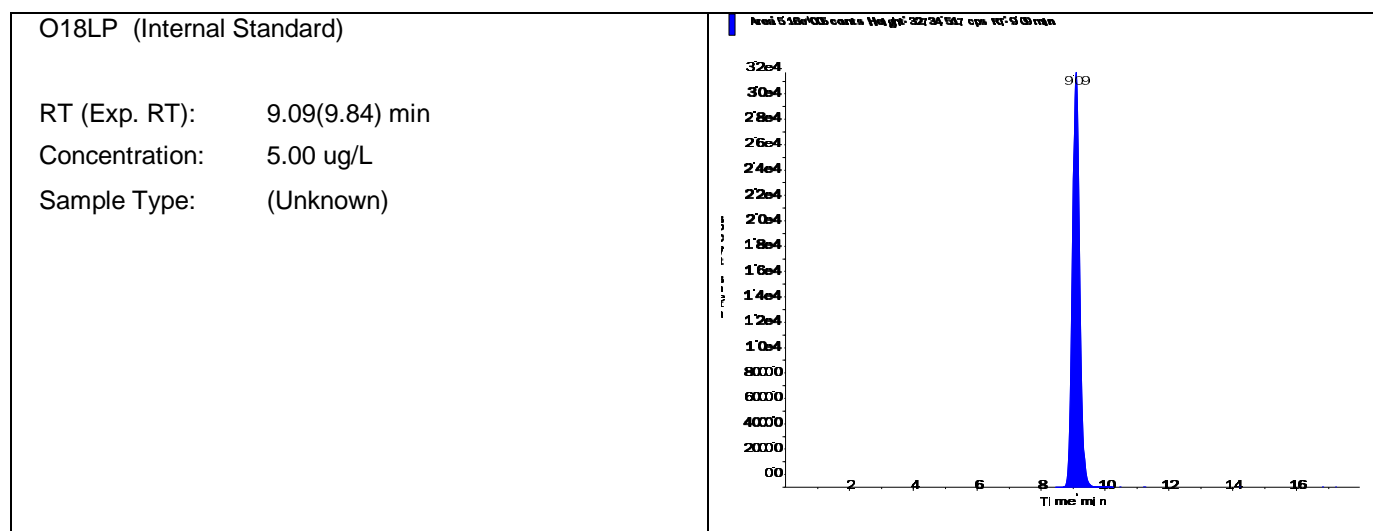


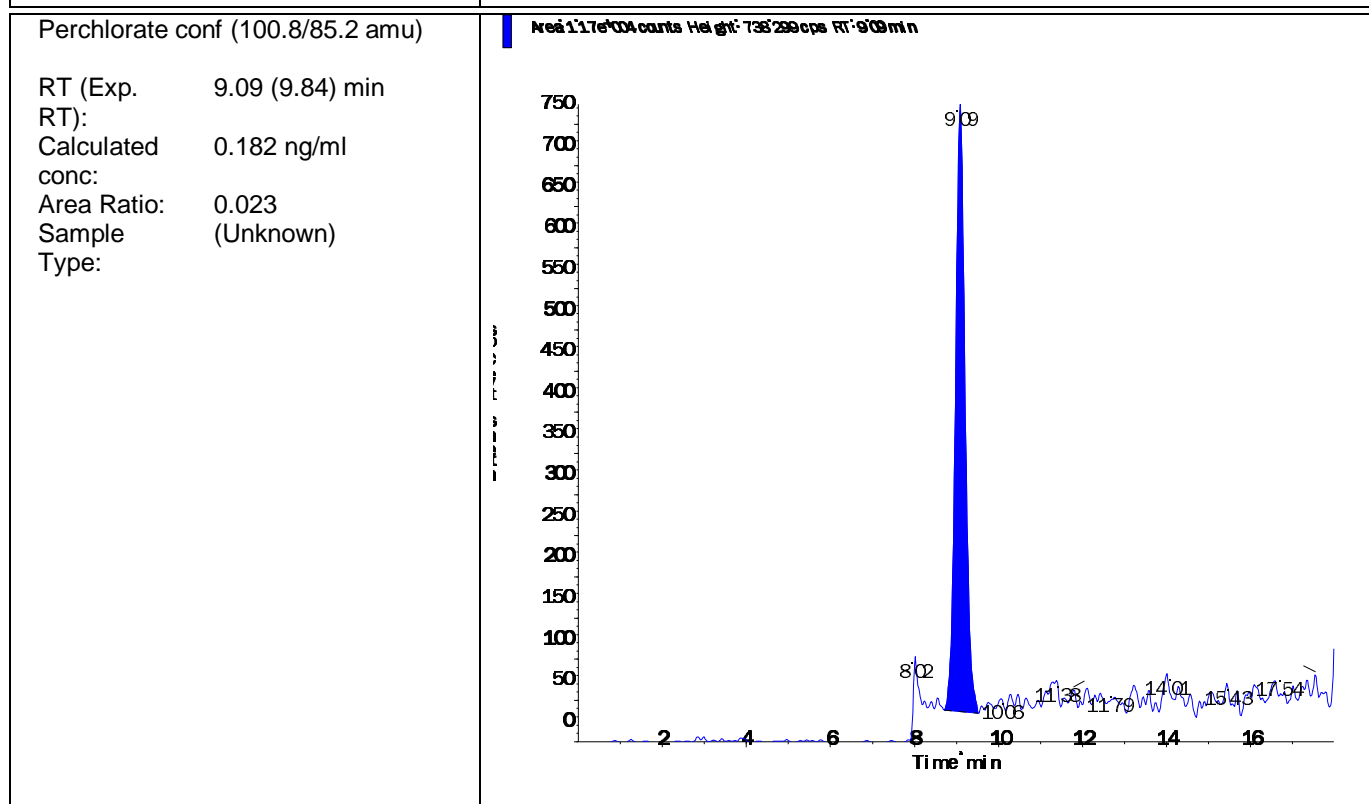
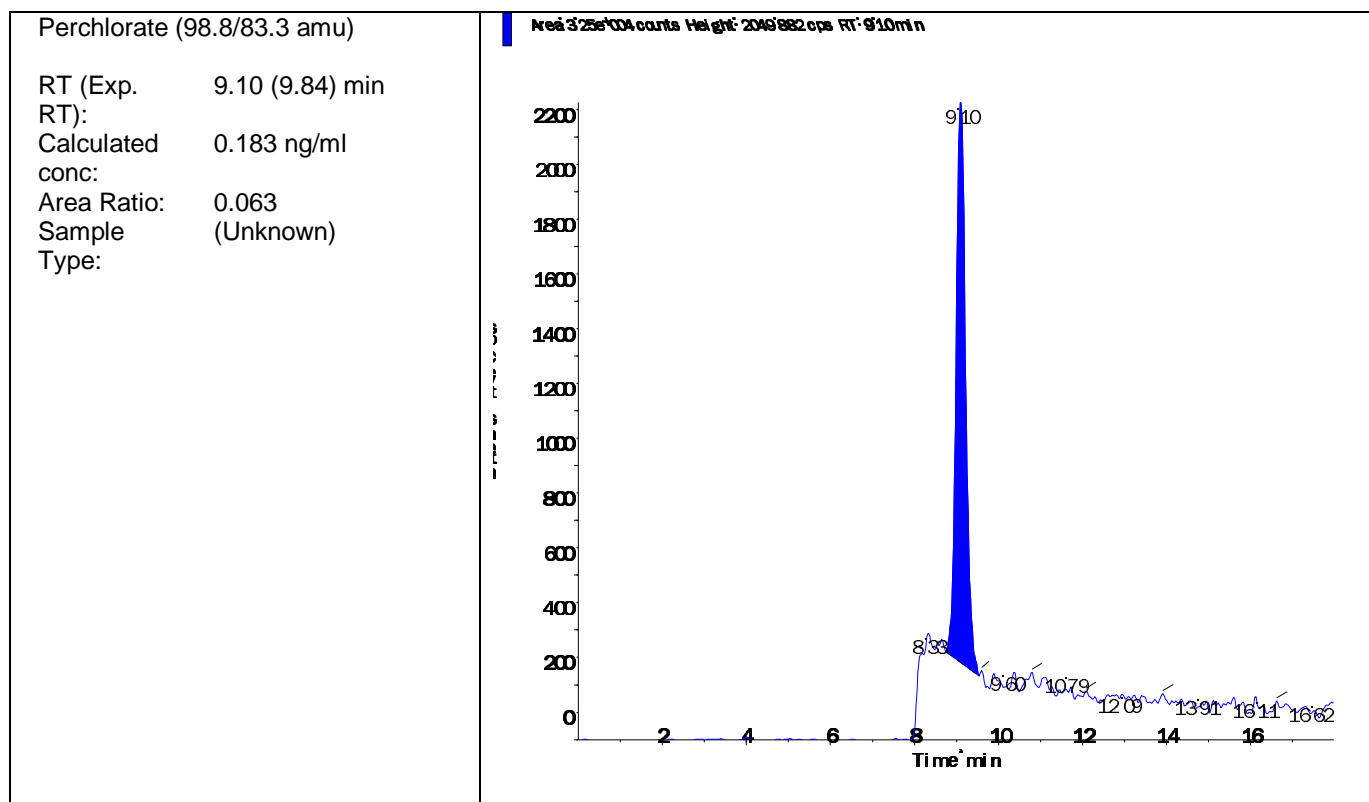
Data File	LM34769.wiff	Result Table	050516_JWR.rdb
Acquisition Date	5/5/2016 6:42:37 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

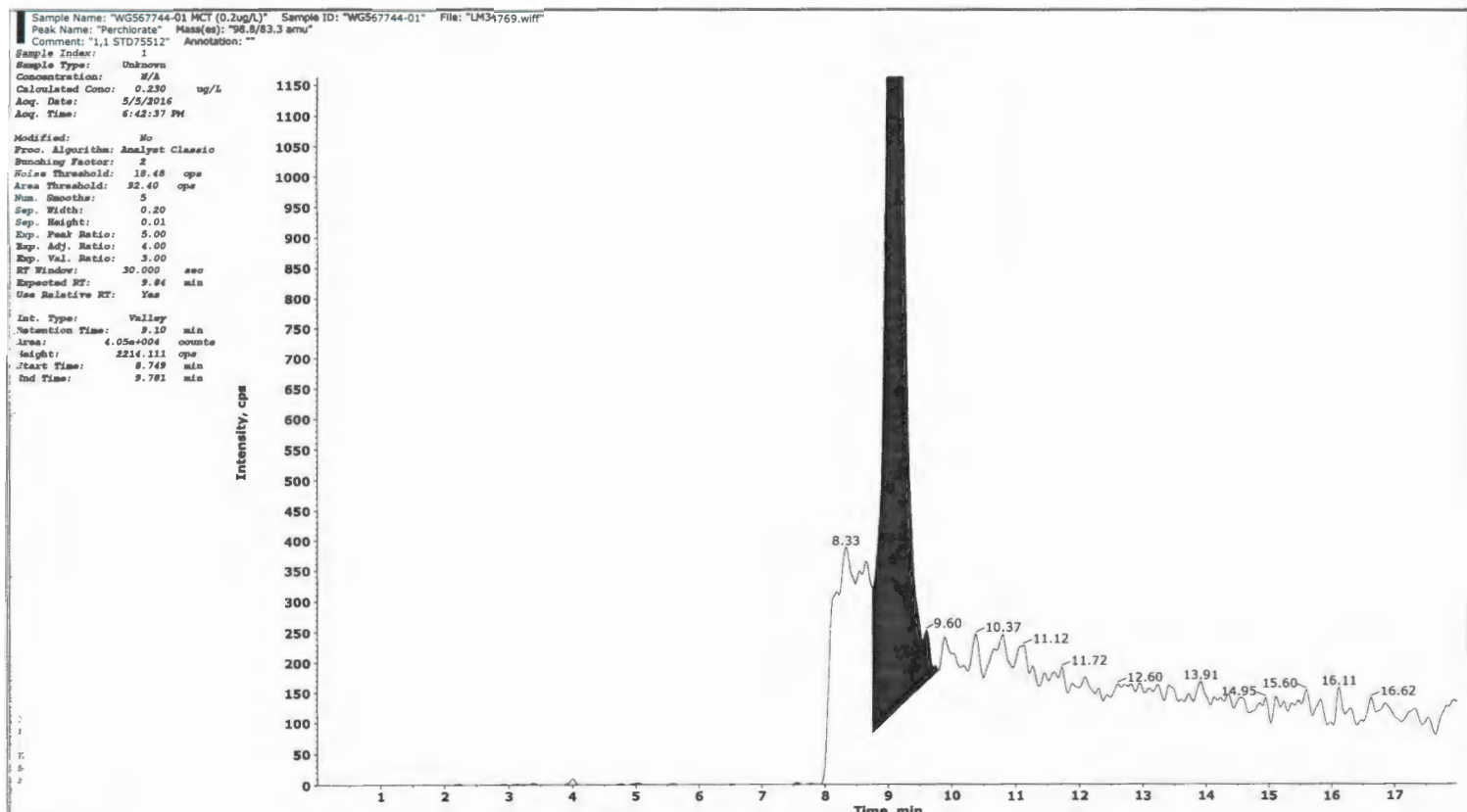
Sample Name	WG567744-01 MCT (0.2ug/L)	Injection Vial	4.00
Data File	LM34769.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 6:42:37 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567744-01	Dilution Factor	1.00
Sample Comment	1,1 STD75512	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.160e+05	9.09	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.250e+04	9.10	N/A	0.183
Perchlorate conf	1.170e+04	9.09	N/A	0.182

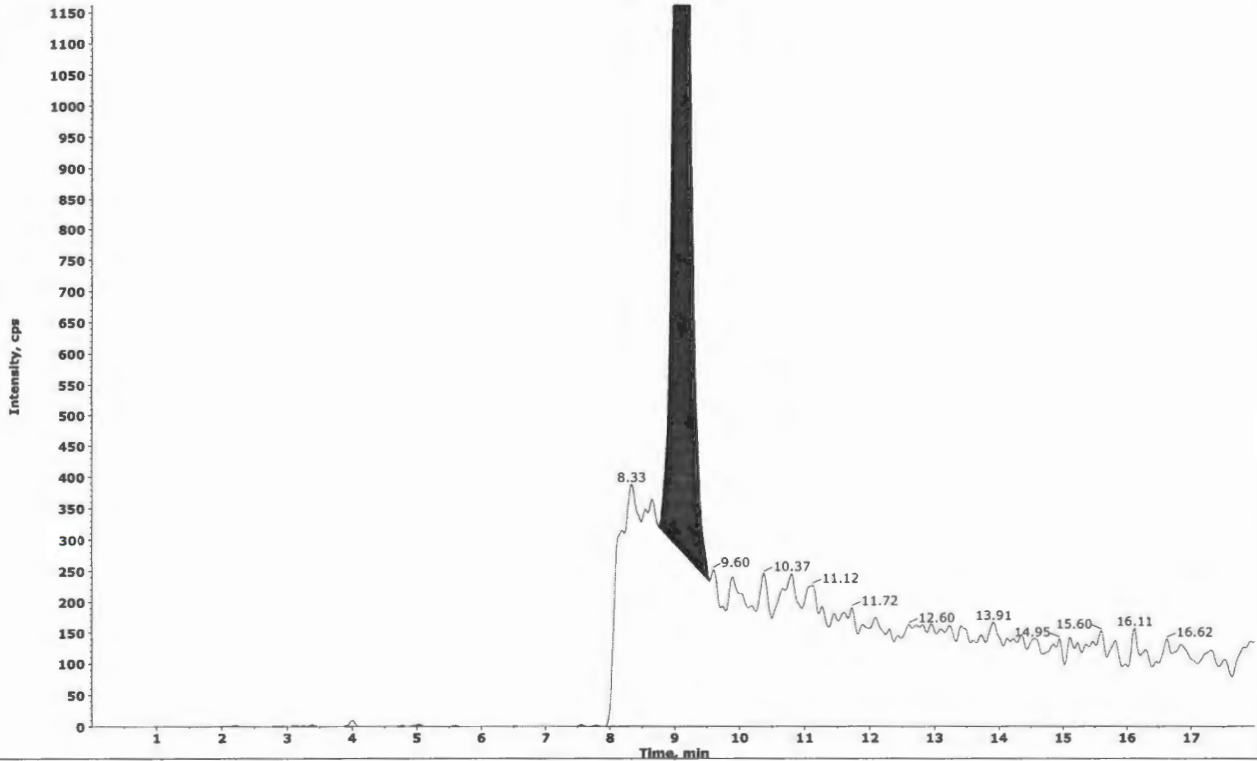






Collected by: N/A
 Electronic Signature: no
 Operator: lcms1

Sample Name: "WGS67744-01 MCT (0.2ug/L)" Sample ID: "WGS67744-01" File: "LM34769.wiff"
 Peak Name: "Perchlorate" Mass(es): "98.8/83.3 amu"
 Comment: "1.1 STD75512" Annotation: ""
 Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.183 ug/L
 Acq. Date: 5/5/2016
 Acq. Time: 6:42:37 PM
 Modified: Yes
 Proc. Algorithm: Analyt Classic
 Smoothing Factor: 2
 Noise Threshold: 10.48 cps
 Area Threshold: 92.40 cps
 Num. Smoother: 5
 Sep. Width: 0.20
 Sep. Height: 0.01
 Sep. Peak Ratio: 5.00
 Sep. Adj. Ratio: 4.00
 Sep. Val. Ratio: 3.00
 RT Window: 30.000 sec
 Expected RT: 9.84 min
 Use Relative RT: Yes
 Int. Type: Manual
 Retention Time: 9.10 min
 Area: 3.25e+004 counts
 Height: 2049.882 cps
 Start Time: 8.749 min
 End Time: 9.539 min



#4
 JWR/05/06/16
 WJD
 05-06-16

Collected by: N/A
 Electronic Signature: no
 Operator: lcms1

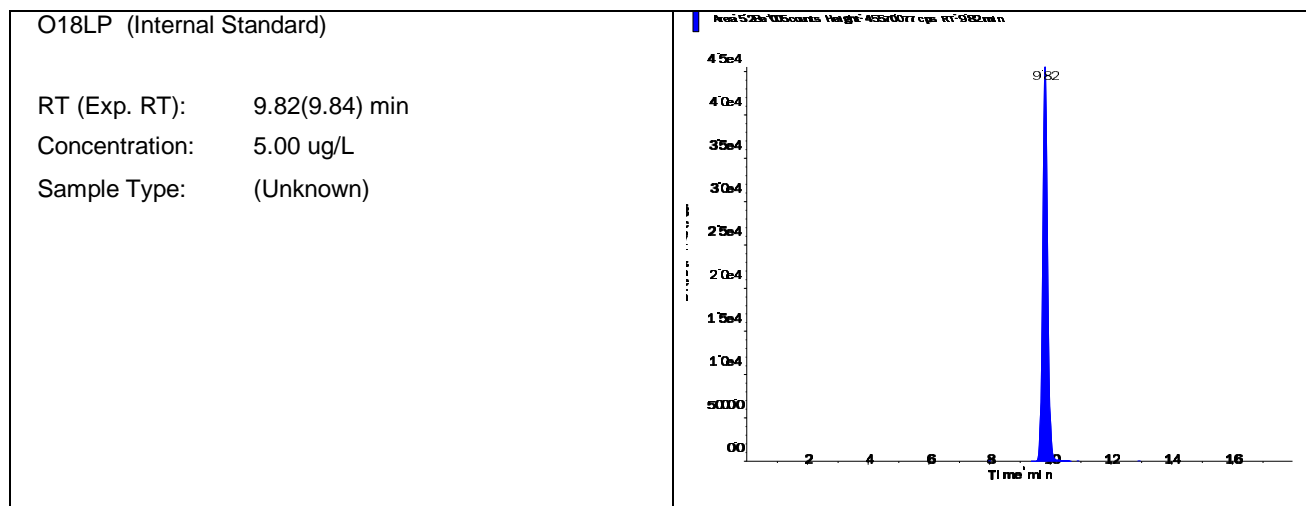
2.2.1.5 Raw QC Data

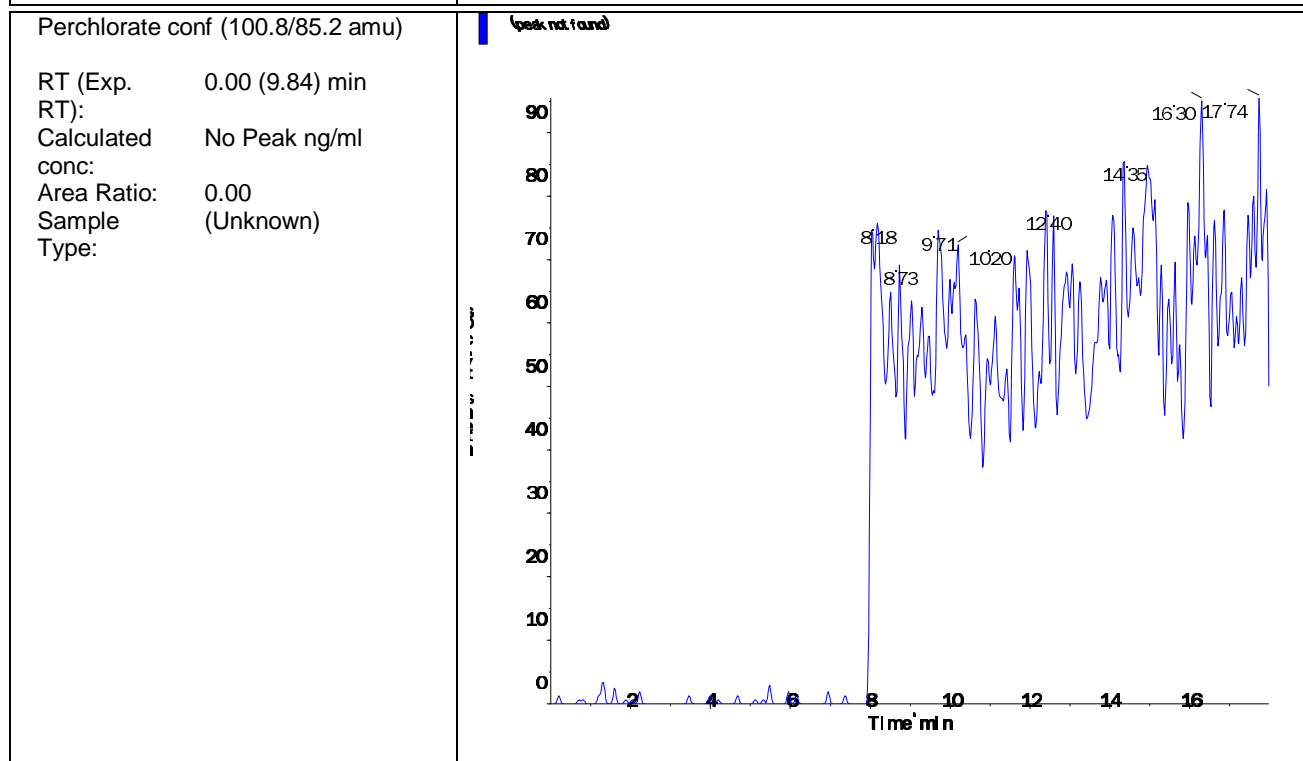
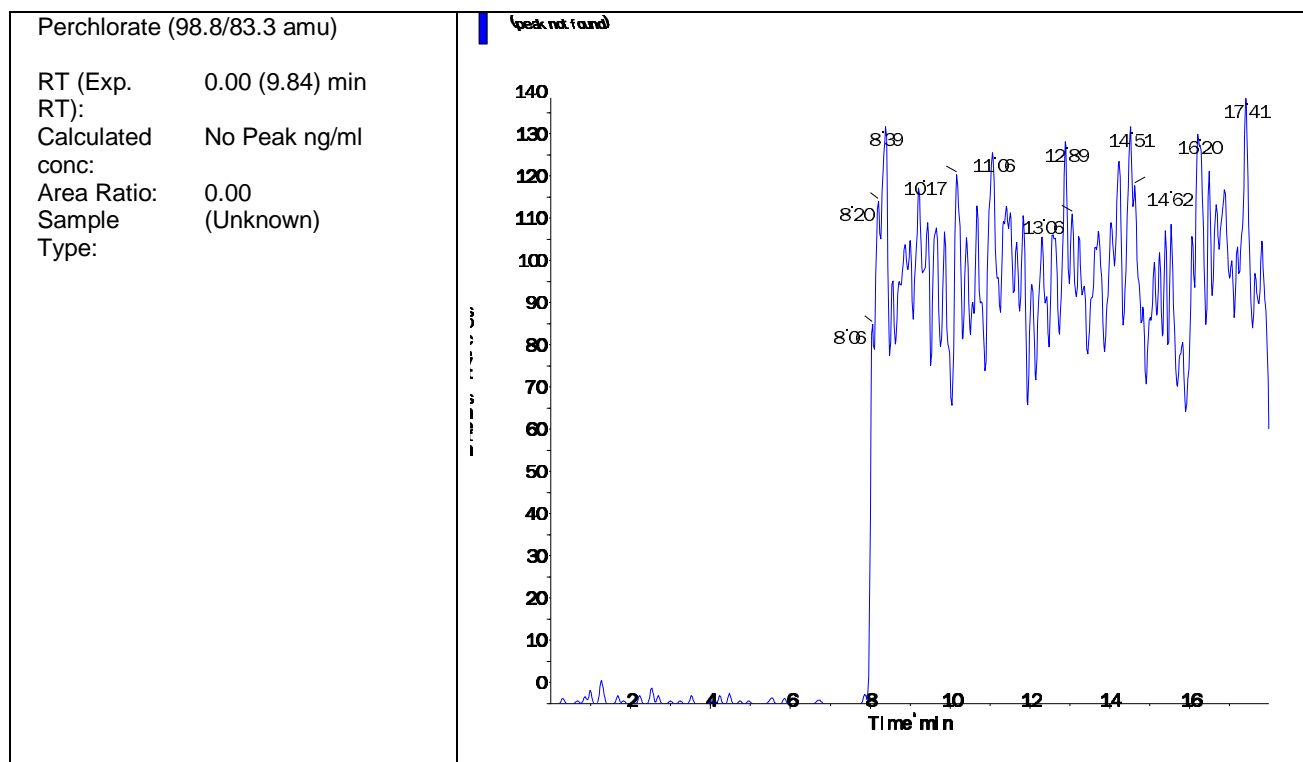
Data File	LM34770.wiff	Result Table	050516_JWR.rdb
Acquisition Date	5/5/2016 7:01:32 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567744-02 BLANK	Injection Vial	5.00
Data File	LM34770.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 7:01:32 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567744-02	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	5.280e+05	9.82	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



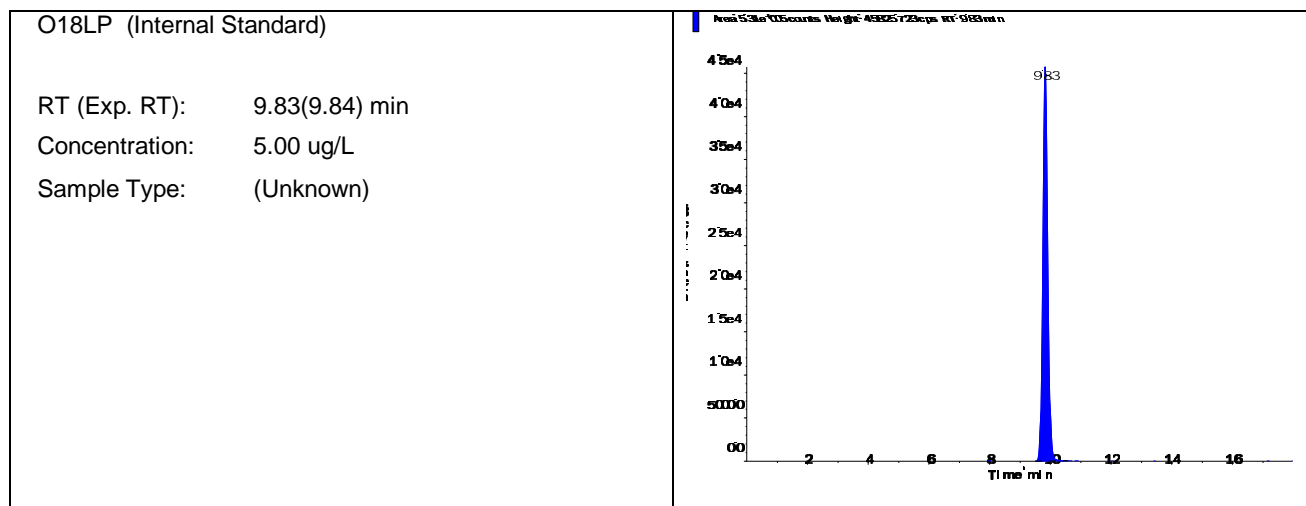


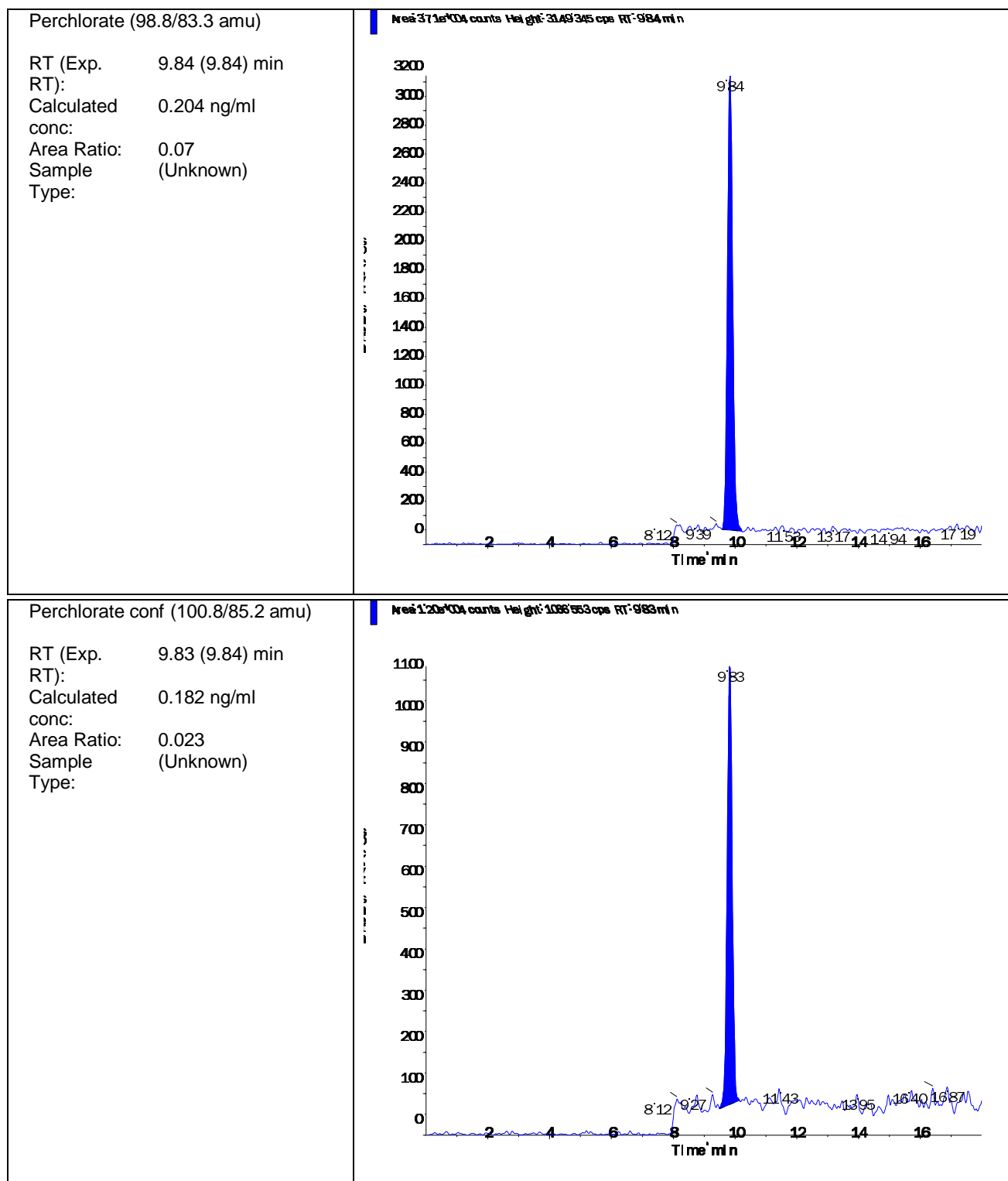
Data File	LM34771.wiff	Result Table	050516_JWR.rdb
Acquisition Date	5/5/2016 7:20:28 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567744-03 LCS (0.2ug/L)	Injection Vial	6.00
Data File	LM34771.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 7:20:28 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567744-03	Dilution Factor	1.00
Sample Comment	1,1 STD75512	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.310e+05	9.83	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.710e+04	9.84	N/A	0.204
Perchlorate conf	1.200e+04	9.83	N/A	0.182



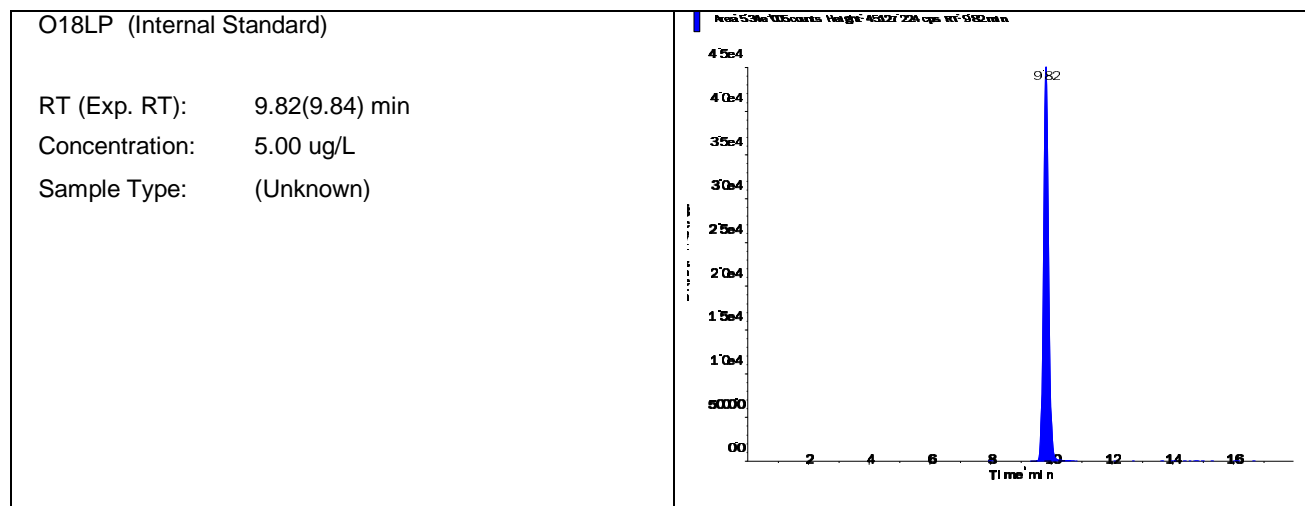


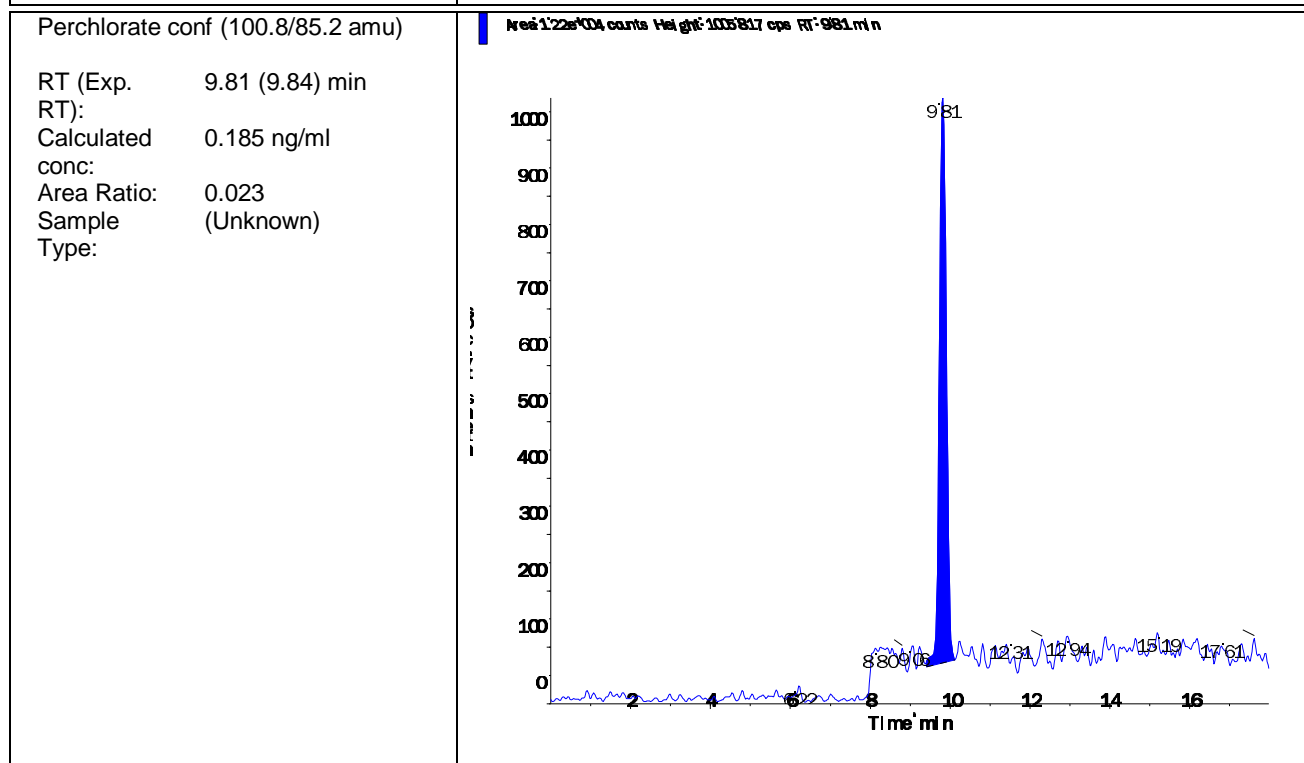
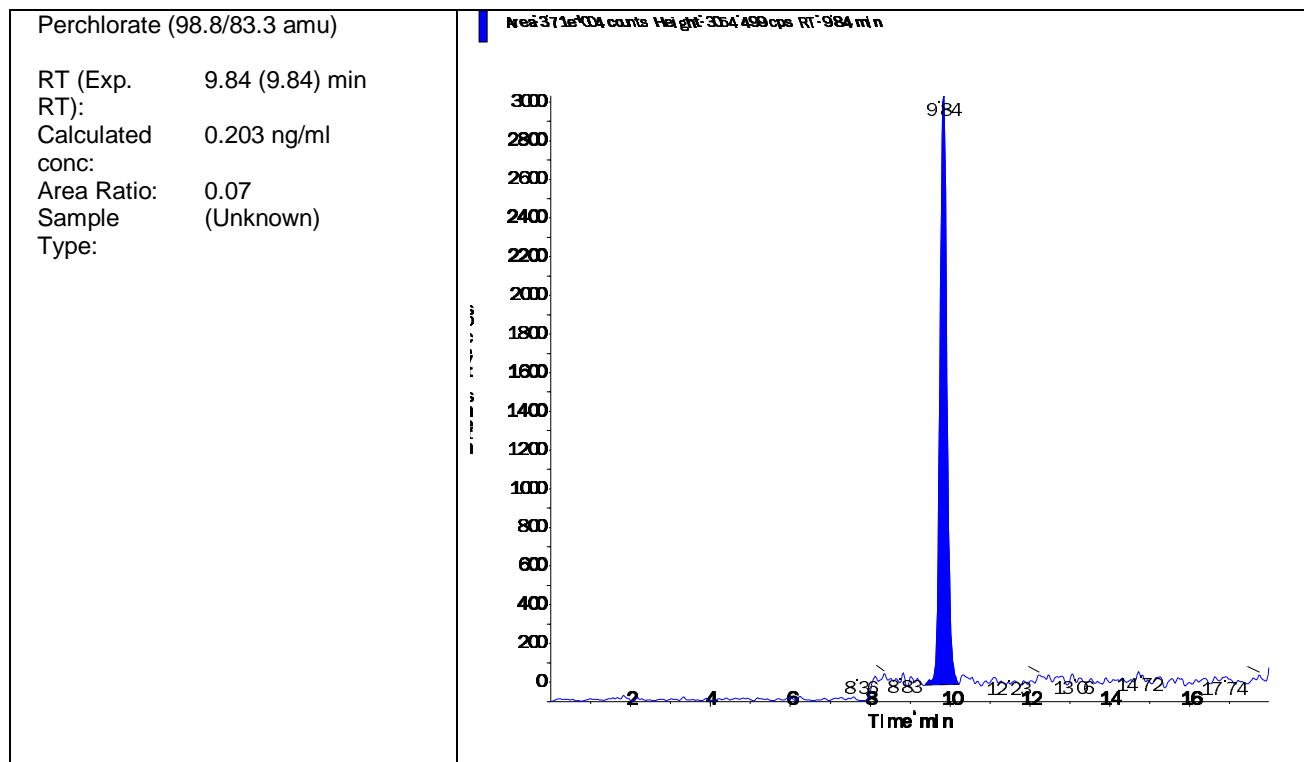
Data File	LM34772.wiff	Result Table	050516_JWR.rdb
Acquisition Date	5/5/2016 7:39:24 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG567744-04 LCS2 (0.2ug/L)	Injection Vial	7.00
Data File	LM34772.wiff	Injection Volume	10.00
Acquisition Date	5/5/2016 7:39:24 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	050516_JWR.rdb
Sample ID	WG567744-04	Dilution Factor	1.00
Sample Comment	1,1 STD75512	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.340e+05	9.82	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.710e+04	9.84	N/A	0.203
Perchlorate conf	1.220e+04	9.81	N/A	0.185





2.3 Metals Data

2.3.1 Metals I C P Data

2.3.1.1 Summary Data

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-04	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW14FF-050316	Prep Method: 3015	Prep Date: 05/05/2016 10:26
Matrix: Water	Analytical Method: 6010C	Cal Date: 05/05/2016 10:51
Workgroup #: WG567684	Analyst: KKB	Run Date: 05/05/2016 19:19
Collect Date: 05/03/2016 09:25	Dilution: 1	File ID: T3.050516.191912
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	9.56		0.200	0.100	0.0500

Certificate of Analysis

Sample #: L16050151-06	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW08FF-050316	Prep Method: 3015	Prep Date: 05/05/2016 10:26
Matrix: Water	Analytical Method: 6010C	Cal Date: 05/05/2016 10:51
Workgroup #: WG567684	Analyst: KKB	Run Date: 05/05/2016 19:23
Collect Date: 05/03/2016 10:45	Dilution: 1	File ID: T3.050516.192306
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	0.100	U	0.200	0.100	0.0500

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

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-08	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW18FF-050316	Prep Method: 3015	Prep Date: 05/05/2016 10:26
Matrix: Water	Analytical Method: 6010C	Cal Date: 05/05/2016 10:51
Workgroup #: WG567684	Analyst: KKB	Run Date: 05/05/2016 19:27
Collect Date: 05/03/2016 13:10	Dilution: 1	File ID: T3.050516.192700
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	0.100	U	0.200	0.100	0.0500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-10

PrePrep Method: N/A

Instrument: ICP-THERMO3

Client ID: 50WW25FF-050316

Prep Method: 3015

Prep Date: 05/05/2016 10:26

Matrix: Water

Analytical Method: 6010C

Cal Date: 05/05/2016 10:51

Workgroup #: WG567684

Analyst: KKB

Run Date: 05/05/2016 19:30

Collect Date: 05/03/2016 14:40

Dilution: 1

File ID: T3.050516.193053

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	0.539		0.200	0.100	0.0500

2.3.1.2 QC Summary Data

Example 6010 Calculations
Thermo Scientific iCAP

1.0 Initial Calibration (ICAL) Parameters

For a multi-point calibration, the system performs linear regression from data consisting of a blank and four 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

Workgroup: WG567644
 Analyst: ERP
 Spike Analyst: ERP
 Run Date: 05/05/2016 10:26
 Method: 3015
 Balance: BAL019
 Instrument: MW-4
 Instrument Start: 05/05/2016 10:26

SOP: ME407 Revision 19
 Spike Solution: STD75837
 Spike Witness: VC
 HNO3 Lot #: COA18838
 HCL Lot #: COA18769
 40 & 50 ML. DIGESTION TU COA18772
 ICP Filters- fisher-Lot# RGT35619

SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG567644-02	BLANK	1	40 mL	50 mL	205.483 g	205.484 g	
2	WG567499-01	FBLK1	17	5 mL	50 mL	205.151 g	205.141 g	
3	WG567499-02	FBLK2	17	5 mL	50 mL	205.788 g	205.776 g	
4	WG567644-03	LCS	1	40 mL	50 mL	212.104 g	212.111 g	5 mL
5	L16050061-01	SAMP	17	5 mL	50 mL	205.503 g	205.5 g	05/10/16
6	L16050062-01	SAMP	17	5 mL	50 mL	206.098 g	206.089 g	05/10/16
7	L16050085-01	SAMP	17	5 mL	50 mL	204.901 g	204.893 g	05/10/16
8	L16050150-01	SAMP	17	5 mL	50 mL	205.38 g	205.375 g	05/09/16
9	L16050151-02	SAMP	1	40 mL	50 mL	207.584 g	207.579 g	05/13/16
10	L16050151-04	SAMP	1	40 mL	50 mL	205.656 g	205.65 g	05/13/16
11	L16050151-06	SAMP	1	40 mL	50 mL	204.498 g	204.493 g	05/13/16
12	L16050151-08	SAMP	1	40 mL	50 mL	204.431 g	204.422 g	05/13/16
13	L16050151-10	SAMP	1	40 mL	50 mL	208.105 g	208.093 g	05/13/16
14	WG567644-01	REF	1	40 mL	50 mL	204.619 g	204.604 g	
15	L16050153-01	RS01	1	40 mL	50 mL	204.619 g	204.604 g	05/13/16
16	WG567644-04	MS	1	40 mL	50 mL	211.41 g	211.404 g	5 mL
17	L16050153-02	MS01	1	40 mL	50 mL	211.41 g	211.404 g	5 mL
18	WG567644-05	MSD	1	40 mL	50 mL	211.715 g	211.708 g	5 mL
19	L16050153-03	SD01	1	40 mL	50 mL	211.715 g	211.708 g	5 mL
20	L16050161-02	SAMP	1	1 mL	50 mL	208.071 g	208.06 g	05/11/16
21	L16050161-04	SAMP	1	1 mL	50 mL	206.704 g	206.693 g	05/11/16
22	L16050161-06	SAMP	1	1 mL	50 mL	206.463 g	206.439 g	05/11/16
23	L16050202-02	SAMP	1	40 mL	50 mL	206.096 g	206.086 g	05/13/16
24	L16050202-03	SAMP	1	40 mL	50 mL	204.815 g	204.81 g	05/13/16
25	L16050202-04	SAMP	1	40 mL	50 mL	208.943 g	208.939 g	05/13/16
26	L16050202-05	SAMP	1	40 mL	50 mL	208.828 g	208.819 g	05/13/16
27	L16050202-06	SAMP	1	40 mL	50 mL	208.294 g	208.283 g	05/13/16

Analyst: Evan Potten

Reviewer: Verke Collier



TCLP Non-Volatile

Analyst(s): CPD
 Date: 5-4-16
 Filter Lot #: 9486030
 Microbac SOP: TCLP 01 Rev #: 12

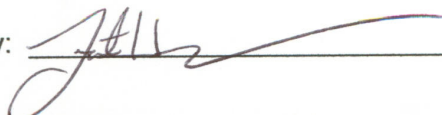
Analyst / Date		Analyst / Date	
CPD	5/4/16	CPD	5/5/16
Time On	Temp On °C	Time Off	Temp Off °C
1454	22.4	0812	22.2

Agitator Speed 30 ± 2 rpm

Jug #	Sample #	Tests	Method	Fluid #	Matrix *	% Solid	Pretest pH		Int. Wt. (g)	Fluid Vol. (mL)	Final extract pH
							Initial	Final			
NA	05-0079-01	ME	1311	F1L	W	20.5	NA	NA	100	100	6.00
D	05-0061-01	|	|	F2-377	S	100	12.63	12.47	25.10	502	12.44
|	05-0062-01	|	|	L	|	|	12.54	12.45	25.08	502	12.37
|	05-0085-01	|	|	F1-175	|	|	9.74	1.71	100.45	2009	5.01
D	05-0150-01	ME	pH2 1311	F2-377	S	100	8.84	5.87	100.26	2005	4.75
L	-02	L	L 1312	SPLP F2-325	L	L	NA	NA	100.10	2002	9.48
NA	FB1K1	MF	1311	F1-175	NA	NA	NA	NA	100	100	4.88
|	FB1K2	|	pH2 L	F2-377	|	|	|	|	|	|	2.93
|	SPLP FB1K2	|	L 1312	SPLP F2-325	|	|	|	|	|	|	5.00

*Matrix Code: (S = solid, sand, soil or sludge) (P = paint) (O = organic) (W = water or aqueous waste)
 D = Disposable plastic jug
 TCLP Pretest weight will be 5.0 g (± 0.1) unless otherwise noted.
 Temperature shall be maintained at 23° ± 2 for 18 ± 2 hours unless otherwise noted.

Comments: SX 05-0061-01 and 05-0062-01 reduce volume due to matrix.

Peer Review By: 

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO3 Dataset: 050516T3.1
 Analyst1: KKB Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____
 Calibration Std: STD75484 ICV Std: STD75519 Post Spike: STD75473
 ICSA: STD75925 ICSAB: STD75702 Int. Std: RGT35157
 CCV: STD75738 LLCCV: COA18880 Tuning Sol : _____
 Stannous : _____ Hydroxylamine : _____

Workgroups: 567184,567535,567684,567689

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	T3.050516.103636	WG567692-01	Calibration Point		1		05/05/16 10:36
2	T3.050516.104026	WG567692-02	Calibration Point		1		05/05/16 10:40
3	T3.050516.104420	WG567692-03	Calibration Point		1		05/05/16 10:44
4	T3.050516.104817	WG567692-04	Calibration Point		1		05/05/16 10:48
5	T3.050516.105158	WG567692-05	Calibration Point		1		05/05/16 10:51
6	T3.050516.105534	WG567692-06	Initial Calibration Verification		1		05/05/16 10:55
7	T3.050516.110454	WG567692-07	Initial Calib Blank		1		05/05/16 11:04
8	T3.050516.110838	WG567692-08	Low Level Initial Calibration V		1		05/05/16 11:08
9	T3.050516.111330	WG567692-09	Interference Check		1		05/05/16 11:13
10	T3.050516.111722	WG567692-10	Interference Check		1		05/05/16 11:17
11	T3.050516.112104	WG567692-11	CCV		1		05/05/16 11:21
12	T3.050516.112440	WG567692-12	CCB		1		05/05/16 11:24
13	T3.050516.115816	WG567158-02	Method/Prep Blank	40/50	1		05/05/16 11:58
14	T3.050516.120214	WG567158-03	Laboratory Control S	40/50	1		05/05/16 12:02
15	T3.050516.120557	L16041507-01	INS-FDS-042716	5/50	1		05/05/16 12:05
16	T3.050516.120951	L16041551-10	8004	40/50	1		05/05/16 12:09
17	T3.050516.121346	WG567184-01	Post Digestion Spike		1	L16041551-10	05/05/16 12:13
18	T3.050516.121715	WG567184-02	Serial Dilution		5	L16041551-10	05/05/16 12:17
19	T3.050516.122110	L16050027-01	S6D0710-01	1/50	1		05/05/16 12:21
20	T3.050516.122505	L16050027-02	S6D0710-02	1/50	1		05/05/16 12:25
21	T3.050516.122900	WG567692-13	CCV		1		05/05/16 12:29
22	T3.050516.123236	WG567692-14	CCB		1		05/05/16 12:32
23	T3.050516.123632	WG567158-01	Reference Sample		1	L16041551-20	05/05/16 12:36
24	T3.050516.124026	WG567158-04	Matrix Spike	40/50	1	L16041551-20	05/05/16 12:40
25	T3.050516.124353	WG567158-05	Matrix Spike Duplica	40/50	1	L16041551-20	05/05/16 12:43
26	T3.050516.124733	WG567692-15	CCV		1		05/05/16 12:47
27	T3.050516.125108	WG567692-16	CCB		1		05/05/16 12:51
28	T3.050516.125505	WG567692-17	Low Level Continuing Calibra		1		05/05/16 12:55
29	T3.050516.125903	L16041551-02	8913 PR-R	40/50	1		05/05/16 12:59
30	T3.050516.130255	L16041551-04	8910 P-R	40/50	1		05/05/16 13:02
31	T3.050516.130648	L16041551-06	8906 L	40/50	1		05/05/16 13:06
32	T3.050516.131042	L16041551-08	8002	40/50	1		05/05/16 13:10
33	T3.050516.131436	L16041551-12	8907 U	40/50	1		05/05/16 13:14
34	T3.050516.131832	L16041551-14	8716 P	40/50	1		05/05/16 13:18

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Sam H. Rhodes

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO3 Dataset: 050516T3.1
 Analyst1: KKB Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____
 Calibration Std: STD75484 ICV Std: STD75519 Post Spike: STD75473
 ICSA: STD75925 ICSAB: STD75702 Int. Std: RGT35157
 CCV: STD75738 LLCCV: COA18880 Tuning Sol: _____
 Stannous: _____ Hydroxylamine: _____

Workgroups: 567184,567535,567684,567689

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	T3.050516.132225	L16041551-16	8908 L	40/50	1		05/05/16 13:22
36	T3.050516.132605	L16041551-18	8908 L DUP	40/50	1		05/05/16 13:26
37	T3.050516.132957	L16041551-26	8905 L	40/50	1		05/05/16 13:29
38	T3.050516.133350	L16041551-28	8912 L	40/50	1		05/05/16 13:33
39	T3.050516.133743	WG567692-18	CCV		1		05/05/16 13:37
40	T3.050516.134118	WG567692-19	CCB		1		05/05/16 13:41
41	T3.050516.134516	L16041551-30	8912 U	40/50	1		05/05/16 13:45
42	T3.050516.134910	L16041551-32	8714 P	40/50	1		05/05/16 13:49
43	T3.050516.135303	L16041551-34	8911 U	40/50	1		05/05/16 13:53
44	T3.050516.135658	L16041551-36	8902 L	40/50	1		05/05/16 13:56
45	T3.050516.140053	L16041551-38	8902 U	40/50	1		05/05/16 14:00
46	T3.050516.140446	L16041551-02	8913 PR-R	40/50	2		05/05/16 14:04
47	T3.050516.140840	WG567692-20	CCV		1		05/05/16 14:08
48	T3.050516.141216	WG567692-21	CCB		1		05/05/16 14:12
49	T3.050516.144602	WG567465-02	Method/Prep Blank	40/50	1		05/05/16 14:46
50	T3.050516.144959	WG567465-03	Laboratory Control S	40/50	1		05/05/16 14:49
51	T3.050516.145339	L16050057-01	27-3-1.02 W1	40/50	1		05/05/16 14:53
52	T3.050516.145733	L16050057-02	59-11-13.04 W1	40/50	1		05/05/16 14:57
53	T3.050516.150128	L16050057-03	59-11-12 W1	40/50	1		05/05/16 15:01
54	T3.050516.150521	L16050057-04	59-9-1.07 W1	40/50	1		05/05/16 15:05
55	T3.050516.150915	L16050057-05	59-9-1.07 S1	40/50	1		05/05/16 15:09
56	T3.050516.151307	L16050057-06	6-10-24.08 S1	40/50	1		05/05/16 15:13
57	T3.050516.151702	WG567535-01	Post Digestion Spike		1	L16050057-06	05/05/16 15:17
58	T3.050516.152042	WG567535-02	Serial Dilution		5	L16050057-06	05/05/16 15:20
59	T3.050516.152437	WG567692-22	CCV		1		05/05/16 15:24
60	T3.050516.152812	WG567692-23	CCB		1		05/05/16 15:28
61	T3.050516.153209	L16050057-07	6-10-24.10 P1	40/50	1		05/05/16 15:32
62	T3.050516.153604	L16050057-08	6-10-24.10 W1	40/50	1		05/05/16 15:36
63	T3.050516.153958	L16050057-09	6-11-6.02 W1	40/50	1		05/05/16 15:39
64	T3.050516.154351	L16050057-10	6-11-6.02 S1	40/50	1		05/05/16 15:43
65	T3.050516.154745	WG567465-01	Reference Sample		1	L16050064-02	05/05/16 15:47
66	T3.050516.155139	L16050064-03	DUP-5216	40/50	1		05/05/16 15:51
67	T3.050516.155533	WG567465-04	Matrix Spike	40/50	1	L16050064-02	05/05/16 15:55
68	T3.050516.155913	WG567465-05	Matrix Spike Duplica	40/50	1	L16050064-02	05/05/16 15:59

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Sam H. Rhodes

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Instrument Run Log

Instrument: ICP-THERMO3 Dataset: 050516T3.1
 Analyst1: KKB Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____
 Calibration Std: STD75484 ICV Std: STD75519 Post Spike: STD75473
 ICSA: STD75925 ICSAB: STD75702 Int. Std: RGT35157
 CCV: STD75738 LLCCV: COA18880 Tuning Sol: _____
 Stannous: _____ Hydroxylamine: _____

Workgroups: 567184,567535,567684,567689

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	T3.050516.160252	L16050064-06	BW-5-5216	40/50	1		05/05/16 16:02
70	T3.050516.160645	L16050064-07	MW-39S-5216	40/50	1		05/05/16 16:06
71	T3.050516.161036	WG567692-24	CCV		1		05/05/16 16:10
72	T3.050516.161414	WG567692-25	CCB		1		05/05/16 16:14
73	T3.050516.161811	L16050078-01	WV OIL-EUREKA	40/50	5		05/05/16 16:18
74	T3.050516.162227	L16050079-01	IDW WATER (20160502)	5/50	1		05/05/16 16:22
75	T3.050516.162619	L16050079-02	IDW WATER (20160502)	40/50	1		05/05/16 16:26
76	T3.050516.163010	L16050123-01	GAUT 4I	40/50	5		05/05/16 16:30
77	T3.050516.163446	L16050125-01	45-5-7- RPW1	40/50	1		05/05/16 16:34
78	T3.050516.164038	L16050125-02	45-5-7- RPW2	40/50	1		05/05/16 16:40
79	T3.050516.164432	L16050078-01	WV OIL-EUREKA	40/50	100		05/05/16 16:44
80	T3.050516.164829	L16050123-01	GAUT 4I	40/50	250		05/05/16 16:48
81	T3.050516.165224	WG567692-26	CCV		1		05/05/16 16:52
82	T3.050516.165549	WG567692-27	CCB		1		05/05/16 16:55
83	T3.050516.165945	WG567692-28	LLCCV		1		05/05/16 16:59
84	T3.050516.170341	L16041551-02	8913 PR-R	40/50	100		05/05/16 17:03
85	T3.050516.170739	L16041551-04	8910 P-R	40/50	100		05/05/16 17:07
86	T3.050516.171135	L16041551-06	8906 L	40/50	1		05/05/16 17:11
87	T3.050516.171530	L16041551-08	8002	40/50	100		05/05/16 17:15
88	T3.050516.171927	L16041551-12	8907 U	40/50	1		05/05/16 17:19
89	T3.050516.172323	L16041551-14	8716 P	40/50	100		05/05/16 17:23
90	T3.050516.172720	L16041551-16	8908 L	40/50	100		05/05/16 17:27
91	T3.050516.173106	L16041551-18	8908 L DUP	40/50	100		05/05/16 17:31
92	T3.050516.173503	L16041551-26	8905 L	40/50	100		05/05/16 17:35
93	T3.050516.173900	L16041551-28	8912 L	40/50	5		05/05/16 17:39
94	T3.050516.174254	WG567692-29	CCV		1		05/05/16 17:42
95	T3.050516.174630	WG567692-30	CCB		1		05/05/16 17:46
96	T3.050516.175028	L16041551-30	8912 U	40/50	5		05/05/16 17:50
97	T3.050516.175422	L16041551-32	8714 P	40/50	100		05/05/16 17:54
98	T3.050516.175819	L16041551-34	8911 U	40/50	5		05/05/16 17:58
99	T3.050516.180215	L16041551-36	8902 L	40/50	1		05/05/16 18:02
100	T3.050516.180608	L16041551-38	8902 U	40/50	5		05/05/16 18:06
101	T3.050516.181002	L16050078-01	WV OIL-EUREKA	40/50	1000		05/05/16 18:10
102	T3.050516.181357	L16050123-01	GAUT 4I	40/50	1000		05/05/16 18:13

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Sam H. Rhodes

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO3 Dataset: 050516T3.1
 Analyst1: KKB Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____
 Calibration Std: STD75484 ICV Std: STD75519 Post Spike: STD75473
 ICSA: STD75925 ICSAB: STD75702 Int. Std: RGT35157
 CCV: STD75738 LLCCV: COA18880 Tuning Sol : _____
 Stannous : _____ Hydroxylamine : _____

Workgroups: 567184,567535,567684,567689

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	T3.050516.181751	WG567692-31	CCV		1		05/05/16 18:17
104	T3.050516.182128	WG567692-32	CCB		1		05/05/16 18:21
105	T3.050516.182525	WG567692-33	Low Level Continuing Calibra		1		05/05/16 18:25
106	T3.050516.182922	WG567644-02	Method/Prep Blank	40/50	1		05/05/16 18:29
107	T3.050516.183318	WG567644-03	Laboratory Control S	40/50	1		05/05/16 18:33
108	T3.050516.183659	WG567499-01	Fluid Blank 1		1		05/05/16 18:36
109	T3.050516.184056	WG567499-02	Fluid Blank 2		1		05/05/16 18:40
110	T3.050516.184453	L16050061-01	SAPA 10 BAGS	5/50	1		05/05/16 18:44
111	T3.050516.184847	L16050062-01	ALAN 26 BAGS	5/50	1		05/05/16 18:48
112	T3.050516.185229	L16050085-01	J6E0270-01	5/50	1		05/05/16 18:52
113	T3.050516.185620	L16050150-01	60500-SSP0036-SSP0036	5/50	1		05/05/16 18:56
114	T3.050516.190011	WG567684-01	Post Digestion Spike		1	L16050150-01	05/05/16 19:00
115	T3.050516.190351	WG567684-02	Serial Dilution		5	L16050150-01	05/05/16 19:03
116	T3.050516.190746	WG567692-34	CCV		1		05/05/16 19:07
117	T3.050516.191121	WG567692-35	CCB		1		05/05/16 19:11
118	T3.050516.191519	L16050151-02	50WW13FF-050316	40/50	1		05/05/16 19:15
119	T3.050516.191912	L16050151-04	50WW14FF-050316	40/50	1		05/05/16 19:19
120	T3.050516.192306	L16050151-06	50WW08FF-050316	40/50	1		05/05/16 19:23
121	T3.050516.192700	L16050151-08	50WW18FF-050316	40/50	1		05/05/16 19:27
122	T3.050516.193053	L16050151-10	50WW25FF-050316	40/50	1		05/05/16 19:30
123	T3.050516.193448	WG567644-01	Reference Sample		1	L16050153-01	05/05/16 19:34
124	T3.050516.193841	WG567644-04	Matrix Spike	40/50	1	L16050153-01	05/05/16 19:38
125	T3.050516.194222	WG567644-05	Matrix Spike Duplica	40/50	1	L16050153-01	05/05/16 19:42
126	T3.050516.194602	L16050161-02	PERMEATE(T-3100)	1/50	1		05/05/16 19:46
127	T3.050516.194959	L16050161-04	BLEED(T-3100)	1/50	1		05/05/16 19:49
128	T3.050516.195352	WG567692-36	CCV		1		05/05/16 19:53
129	T3.050516.195729	WG567692-37	CCB		1		05/05/16 19:57
130	T3.050516.200126	L16050161-06	N. DOCK FLUME(BLD. 72)	1/50	1		05/05/16 20:01
131	T3.050516.200511	L16050202-02	MW-41S-5416	40/50	1		05/05/16 20:05
132	T3.050516.200904	L16050202-03	MW-7D-5416	40/50	1		05/05/16 20:09
133	T3.050516.201259	L16050202-04	MW-18D-5416	40/50	1		05/05/16 20:12
134	T3.050516.201652	L16050202-05	MW-31D-5416	40/50	1		05/05/16 20:16
135	T3.050516.202044	L16050202-06	ER-5416	40/50	1		05/05/16 20:20
136	T3.050516.202440	WG567692-38	CCV		1		05/05/16 20:24

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Sam H. Rhodes

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Instrument Run Log

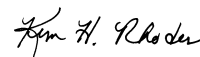
Instrument: ICP-THERMO3 Dataset: 050516T3.1
 Analyst1: KKB Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____
 Calibration Std: STD75484 ICV Std: STD75519 Post Spike: STD75473
 ICSA: STD75925 ICSAB: STD75702 Int. Std: RGT35157
 CCV: STD75738 LLCCV: COA18880 Tuning Sol : _____
 Stannous : _____ Hydroxylamine : _____

Workgroups: 567184,567535,567684,567689

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
137	T3.050516.202816	WG567692-39	CCB		1		05/05/16 20:28
138	T3.050516.203212	WG567692-40	Low Level Continuing Calibra		1		05/05/16 20:32
139	T3.050516.203608	WG567600-02	Method/Prep Blank	40/50	1		05/05/16 20:36
140	T3.050516.204005	WG567600-03	Laboratory Control S	40/50	1		05/05/16 20:40
141	T3.050516.204347	L16050058-01	59-11-12 W1	40/50	1		05/05/16 20:43
142	T3.050516.204740	L16050120-02	OUTFALL 003	40/50	1		05/05/16 20:47
143	T3.050516.205143	WG567689-01	Post Digestion Spike		1	L16050120-02	05/05/16 20:51
144	T3.050516.205531	WG567689-02	Serial Dilution		5	L16050120-02	05/05/16 20:55
145	T3.050516.205928	L16050124-01	MAMONT SOUTH 1C	20/50	5		05/05/16 20:59
146	T3.050516.210344	L16050124-02	MAMONT SOUTH 1E	20/50	5		05/05/16 21:03
147	T3.050516.210800	L16050124-03	DEARMITT 11	20/50	5		05/05/16 21:08
148	T3.050516.211214	L16050124-04	GAUT 4F	20/50	5		05/05/16 21:12
149	T3.050516.211630	WG567692-41	CCV		1		05/05/16 21:16
150	T3.050516.212006	WG567692-42	CCB		1		05/05/16 21:20
151	T3.050516.212403	L16050124-05	AIKENS 5A	20/50	5		05/05/16 21:24
152	T3.050516.212819	L16050124-06	KUHNS 3C	20/50	5		05/05/16 21:28
153	T3.050516.213235	L16050124-07	SHAW 1A	20/50	5		05/05/16 21:32
154	T3.050516.213654	L16050124-08	HUTCHINSON 4J	20/50	5		05/05/16 21:36
155	T3.050516.214112	L16050124-09	CRAWFORD 5D	20/50	5		05/05/16 21:41
156	T3.050516.214527	L16050124-10	BOWERS 1D	20/50	5		05/05/16 21:45
157	T3.050516.214937	L16050124-11	NARDELL 1B	20/50	5		05/05/16 21:49
158	T3.050516.215335	L16050124-12	MARCHAND 3I	20/50	5		05/05/16 21:53
159	T3.050516.215751	WG567692-43	CCV		1		05/05/16 21:57
160	T3.050516.220126	WG567692-44	CCB		1		05/05/16 22:01
161	T3.050516.220512	L16050138-02	MW-38D-5316		1	WG567600-01	05/05/16 22:05
162	T3.050516.220904	L16050138-03	DUP-5316	40/50	1		05/05/16 22:09
163	T3.050516.221257	L16050138-04	MW-38D-MS-5316	40/50	1	WG567600-04	05/05/16 22:12
164	T3.050516.221637	L16050138-05	MW-38D-MSD-5316	40/50	1	WG567600-05	05/05/16 22:16
165	T3.050516.222005	L16050138-06	MW-37-5316	40/50	1		05/05/16 22:20
166	T3.050516.222359	L16050138-07	MW-35S-5316	40/50	1		05/05/16 22:23
167	T3.050516.222752	L16050138-08	MW-30D-5316	40/50	1		05/05/16 22:27
168	T3.050516.223146	L16050138-09	MW-27D-5316	40/50	1		05/05/16 22:31
169	T3.050516.223539	WG567692-45	CCV		1		05/05/16 22:35
170	T3.050516.223914	WG567692-46	CCB		1		05/05/16 22:39

Page: 5 Approved: May 06, 2016




Microbac Laboratories Inc.

Data Checklist

Date: 05-MAY-2016
 Analyst: KKB
 Analyst: NA
 Method: 6010B/6010C/200.7
 Instrument: ICP-THERMO3
 Curve Workgroup: 567692
 Runlog ID: 74919
 Analytical Workgroups: 567184,567535,567684,567689

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	X
Case Narrative	X
Client Forms	X
Level X	
Level 3	0153
Level 4	0064,0079,150,151,202,138
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	KKB
Secondary Reviewer	KHR
Comments	

Primary Reviewer:
06-MAY-2016

Secondary Reviewer:
06-MAY-2016

Ki K Beck

Kym H. Rhodes



Analytical Method:6010C
Login Number:L16050151

AAB#:WG567684

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
50WW13FF-050316	02	05/03/16					05/05/2016	2.1	180		05/05/16	2.5	180	
50WW14FF-050316	04	05/03/16					05/05/2016	2	180		05/05/16	2.4	180	
50WW08FF-050316	06	05/03/16					05/05/2016	2	180		05/05/16	2.4	180	
50WW18FF-050316	08	05/03/16					05/05/2016	1.9	180		05/05/16	2.3	180	
50WW25FF-050316	10	05/03/16					05/05/2016	1.8	180		05/05/16	2.2	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4750603
Report generated 05/06/2016 12:31



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG567684
 Blank File ID: T3.050516.182922 Blank Sample ID: WG567644-02
 Prep Date: 05/05/16 10:26 Instrument ID: ICP-THERMO3
 Analyzed Date: 05/05/16 18:29 Method: 6010C
 Analyst: KKB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG567644-03	T3.050516.183318	05/05/16 18:33	01
50WW13FF-050316	L16050151-02	T3.050516.191519	05/05/16 19:15	01
50WW14FF-050316	L16050151-04	T3.050516.191912	05/05/16 19:19	01
50WW08FF-050316	L16050151-06	T3.050516.192306	05/05/16 19:23	01
50WW18FF-050316	L16050151-08	T3.050516.192700	05/05/16 19:27	01
50WW25FF-050316	L16050151-10	T3.050516.193053	05/05/16 19:30	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4750604
 Report generated 05/06/2016 12:51



Login Number: L16050151 Prep Date: 05/05/16 10:26 Sample ID: WG567644-02
Instrument ID: ICP-THERMO3 Run Date: 05/05/16 18:29 Prep Method: 3015
File ID: T3.050516.182922 Analyst: KKB Method: 6010C
Workgroup (AAB#): WG567684 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: ICP-TH-05-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Iron, Dissolved	0.0500	0.200	0.0500	1	U

DL 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: 4750605
06-MAY-2016 12:34



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567644-03
Instrument ID: ICP-THERMO3 Run Time: 18:33 Prep Method: 3015
File ID: T3.050516.183318 Analyst: KKB Method: 6010C
Workgroup (AAB#): WG567684 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD75837 Cal ID: ICP-TH-05-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Iron, Dissolved	2.50	2.48	99.0	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 4750607
Report generated: 05/06/2016 12:34



Loginnum: L16050151 Cal ID: ICP-THERMO3- Worknum: WG567684
 Instrument ID: ICP-THERMO3 Contract #: _____ Method: 6010C
 Parent ID: WG567644-01 File ID: T3.050516.193448 Dil: 1 Matrix: WATER
 Sample ID: WG567644-04 MS File ID: T3.050516.193841 Dil: 1 Units: mg/L
 Sample ID: WG567644-05 MSD File ID: T3.050516.194222 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Iron	0.221	2.50	2.74	101	2.50	2.73	100	0.439	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

Login: L16050151 **Worknum:** WG567684
Instrument: ICP-THERMO3 **Method:** 6010C
Serial Dil: WG567684-02 **File ID:** T3.050516.190351 **Dil:** 5 **Units:** ug/L
Sample: L16050150-01 **File ID:** T3.050516.185620 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Iron	25.7		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 25 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 25 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 4750601

05/06/2016 12:34



Sample Login ID: L16050151 Worknum: WG567684
 Instrument ID: ICP-THERMO3 Method: 6010C
 Post Spike ID: WG567684-01 File ID: T3.050516.190011 Dil: 1 Units: ug/L
 Sample ID: L16050150-01 File ID: T3.050516.185620 Dil: 1 Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
IRON	1970		0	U	2000	98.3	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



Login: L16050151 Workgroup (AAB#): WG567684
 Analytical Method: 6010C Instrument ID: ICP-THERMO3
 ICAL Worknum: WG567692 Initial Calibration Date: 05-MAY-2016 10:51

	WG567692-01		WG567692-02		WG567692-03		WG567692-04		WG567692-05		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
IRON	0	-0.000380	.04	0.000450	.08	0.000950	4	0.0867	8	0.174	.999946	

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-07
Instrument ID: ICP-THERMO3 Run Time: 11:04 Method: 6010C
File ID: T3.050516.110454 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG567684 Cal ID: ICP-THERI - 05-MAY-16
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
IRON	.04	.16	.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



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-12
Instrument ID: ICP-THERMO3 Run Time: 11:24 Method: 6010C
File ID: T3.050516.112440 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.160	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: 4750616
Report generated 05/06/2016 12:35



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-32
 Instrument ID: ICP-THERMO3 Run Time: 18:21 Method: 6010C
 File ID: T3.050516.182128 Analyst: KKB Units: mg/L
 Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
 Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.160	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: 4750616
 Report generated 05/06/2016 12:35



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-35
Instrument ID: ICP-THERMO3 Run Time: 19:11 Method: 6010C
File ID: T3.050516.191121 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.160	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: 4750616
Report generated 05/06/2016 12:35



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-37
Instrument ID: ICP-THERMO3 Run Time: 19:57 Method: 6010C
File ID: T3.050516.195729 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.160	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: 4750616
Report generated 05/06/2016 12:35



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-06
Instrument ID: ICP-THERMO3 Run Time: 10:55 Method: 6010C
File ID: T3.050516.105534 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Iron	4	4.04	101	90 - 110	

* Exceeds LIMITS Limit



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-11
 Instrument ID: ICP-THERMO3 Run Time: 11:21 Method: 6010C
 File ID: T3.050516.112104 Analyst: KKB QC Key: DOD4
 Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	4.00	4.02	mg/L	100	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-31
Instrument ID: ICP-THERMO3 Run Time: 18:17 Method: 6010C
File ID: T3.050516.181751 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	4.00	3.95	mg/L	98.7	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-34
 Instrument ID: ICP-THERMO3 Run Time: 19:07 Method: 6010C
 File ID: T3.050516.190746 Analyst: KKB QC Key: DOD4
 Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	4.00	3.99	mg/L	99.8	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-36
Instrument ID: ICP-THERMO3 Run Time: 19:53 Method: 6010C
File ID: T3.050516.195352 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	4.00	4.00	mg/L	100	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-08
 Instrument ID: ICP-THERMO3 Run Time: 11:08 Method: 6010C
 File ID: T3.050516.110838 Analyst: KKB QC Key: DOD4
 Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	0.0800	0.0905	mg/L	113	70 - 130	

* Exceeds LIMITS Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-33
 Instrument ID: ICP-THERMO3 Run Time: 18:25 Method: 6010C
 File ID: T3.050516.182525 Analyst: KKB QC Key: DOD4
 Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	0.0800	0.0833	mg/L	104	70 - 130	

* Exceeds LIMITS Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567692-40
 Instrument ID: ICP-THERMO3 Run Time: 20:32 Method: 6010C
 File ID: T3.050516.203212 Analyst: KKB QC Key: DOD4
 Workgroup (AAB#): WG567684 Cal ID: ICP-TH - 05-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	0.0800	0.0845	mg/L	106	70 - 130	

* Exceeds LIMITS Criteria



Login number: L16050151
 Instrument ID: ICP-THERMO3
 Sol. A : WG567692-09
 Sol. AB : WG567692-10

File ID: T3.050516.111330
 File ID: T3.050516.111722

Workgroup (AAB#): WG567684
 Method: 6010C
 Units: mg/L
 Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Iron	100	97.7	97.7	100	95.0	95.0	

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.



Login Number: L16050151
 Instrument ID: ICP-THERMO3

Date: 01/04/2016
 Method: 6010C

Analyte	Wave Length	AG	AL	AS	B	BA
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0.0000410	0	0	0
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0.0115	0	-0.0000800
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0.000260	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.00	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	-0.000289	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.00	0	-0.0000490	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	407.70	0	0	0	0	0
THALLIUM	190.80	0	-0.0000120	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	0
ZINC	206.20	0	0.0000300	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
 PDF File ID: 4750610
 Report generated: 05/06/2016 12:31



Login Number: L16050151
 Instrument ID: ICP-THERMO3

Date: 01/04/2016
 Method: 6010C

Analyte	Wave Length	BE	CA	CD	CO	CR
ALUMINUM	308.20	0	0	0	-0.000820	0
ANTIMONY	206.80	0	0	0	0	0.0200
ARSENIC	189.00	0	0	0	0	-0.00190
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0.00343	0
CADMIUM	228.80	0	0	0	-0.00390	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	-0.000200
COPPER	224.70	0	0	0	0.0000770	-0.00100
IRON	261.10	0	0	0	0	-0.00100
LEAD	220.30	0	0	0	-0.0000130	-0.000132
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.00	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0.0000500
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	-0.000860	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
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0.00000500	0	0	0
THALLIUM	190.80	0	0	0	0.00240	0.000276
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	-0.00480
ZINC	206.20	0	0	0	0	-0.00180
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
 PDF File ID: 4750610
 Report generated: 05/06/2016 12:31



Login Number: L16050151
 Instrument ID: ICP-THERMO3

Date: 01/04/2016
 Method: 6010C

Analyte	Wave Length	CU	FE	K	LI	MG
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0.0000560	0	0	0
ARSENIC	189.00	0	-0.0000500	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0.000300	0	0	0
CADMIUM	228.80	0	-0.0000190	0	0	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0.0000500	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0.00160	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0.000609	0	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.00	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0.00000300
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0.0000420	0	0	0
PHOSPHORUS	214.90	-0.323	0.000900	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	-0.000270	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	-0.000400	0	0	0
VANADIUM	292.40	0	0.00000700	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	-0.0000300	0	0	0

CORR_FACTORS - Modified 03/05/2008
 PDF File ID: 4750610
 Report generated: 05/06/2016 12:31



Login Number: L16050151
 Instrument ID: ICP-THERMO3

Date: 01/04/2016
 Method: 6010C

Analyte	Wave Length	MN	MO	NA	NI	P
ALUMINUM	308.20	0	0.0163	0	0	0
ANTIMONY	206.80	0	-0.00310	0	-0.00350	0
ARSENIC	189.00	0	0.00120	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	-0.00190	0	0	0
CADMIUM	228.80	0	0.0000320	0	-0.000770	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0.000360	0	0	0	0
COBALT	228.60	0	-0.00200	0	0.000100	0
COPPER	224.70	0	0.00160	0	-0.0123	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	-0.00210	0	0.000110	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.00	-0.00290	-0.0230	0	0	0
MANGANESE	257.60	0	0.0000300	0	0	0
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0.00710	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.00	0.000600	0.000580	0	0	0
SILICON	212.40	0	0.0187	0	0	0
SILVER	328.00	0	-0.0000430	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0.00100	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	-0.000153	0	0	0
VANADIUM	292.40	-0.000200	-0.00830	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
 PDF File ID: 4750610
 Report generated: 05/06/2016 12:31



Login Number: L16050151
 Instrument ID: ICP-THERMO3

Date: 01/04/2016
 Method: 6010C

Analyte	Wave Length	PB	SB	SE	SI	SN
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0	0	0	-0.0220
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0.00440	0	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.00	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	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
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
 PDF File ID: 4750610
 Report generated: 05/06/2016 12:31



Login Number: L16050151
 Instrument ID: ICP-THERMO3

Date: 01/04/2016
 Method: 6010C

Analyte	Wave Length	SR	TI	TL	V	ZN
ALUMINUM	308.20	0	0	0	0.0950	0
ANTIMONY	206.80	0	0.00110	0	-0.00360	0
ARSENIC	189.00	0	0	0	0.000107	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	-0.00000700	0	0.000990	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0	0.000102	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0.0000550	0	0	0
COBALT	228.60	0	0.00210	0	0.0000200	0
COPPER	224.70	0	0.000269	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0	0	-0.000126	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.00	0	-0.00290	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0	0	-0.000110	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0	0	-0.00100	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	-0.000720	0	-0.000260	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	-0.000800	0	-0.00490	0
TIN	189.90	0	-0.00190	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0.000820	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
 PDF File ID: 4750610
 Report generated: 05/06/2016 12:31



Login Number: L16050151
 Instrument ID: ICP-THERMO3

Date: 01/04/2016
 Method: 6010C

Analyte	Wave Length	ZR
ALUMINUM	308.20	0
ANTIMONY	206.80	0
ARSENIC	189.00	0
BARIUM	455.40	0
BERYLLIUM	313.10	0
BORON	249.60	0
CADMIUM	228.80	0
CALCIUM	422.60	0
CHROMIUM	267.70	0
COBALT	228.60	0
COPPER	224.70	0
IRON	261.10	0
LEAD	220.30	0
LITHIUM	670.70	0
MAGNESIUM	279.00	0
MANGANESE	257.60	0
MOLYBDENUM	202.00	0
NICKEL	231.60	0
PHOSPHORUS	214.90	0
POTASSIUM	766.40	0
SELENIUM	196.00	0
SILICON	212.40	0
SILVER	328.00	0
SODIUM	589.50	0
STRONTIUM	407.70	0
THALLIUM	190.80	0
TIN	189.90	0
TITANIUM	337.20	0
VANADIUM	292.40	0
ZINC	206.20	0
ZIRCONIUM	339.10	0

CORR_FACTORS - Modified 03/05/2008
 PDF File ID: 4750610
 Report generated: 05/06/2016 12:31



Login Number: L16050151 Date: 04/29/2016
 Instrument ID: ICP-THERMO3 Method: 6010C

Analyte	Integration Time (Sec.)	Concentration (mg/L)
Aluminum	10.00	900.0
Antimony	20.00	45.0
Arsenic	10.00	45.0
Barium	10.00	45.0
Beryllium	10.00	1.8
Boron	20.00	45.0
Cadmium	20.00	4.5
Calcium	5.00	270.0
Chromium	20.00	36.0
Cobalt	20.00	45.0
Copper	20.00	180.0
Iron	5.00	720.0
Lead	20.00	225.0
Lithium	5.00	36.0
Magnesium	5.00	900.0
Manganese	10.00	36.0
Molybdenum	20.00	27.0
Nickel	20.00	90.0
Phosphorus	20.00	180.0
Potassium	5.00	450.0
Selenium	20.00	90.0
Silicon	20.00	36.0
Silver	10.00	9.0
Sodium	5.00	270.0
Strontium	5.00	9.0
Thallium	20.00	18.0
Tin	20.00	45.0
Titanium	5.00	36.0
Vanadium	20.00	27.0
Zinc	20.00	45.0
Zirconium	10.00	45.0

Comments:

All analytes passed acceptance criteria at the specified concentration.



2.3.1.3 Raw Data

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000249	0.046856	0.000000	1.000000
Al 308.215 {109}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.001304	0.007551	0.000000	1.000000
As 189.042 {478}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000029	0.021604	0.000000	1.000000
B 249.678 {135}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.000108	0.020325	0.000000	1.000000
Ba 455.403 {74}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.020275	2.38832	0.000000	1.000000
Be 313.107 {108}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.000351	0.844550	0.000000	1.000000
Ca 422.673 {80}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.001446	0.050242	0.000000	1.000000
Cd 228.802 {447}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000031	0.467417	0.000000	1.000000
Co 228.616 {447}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000194	0.357906	0.000000	1.000000
Cr 267.716 {126}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.000244	0.050058	0.000000	1.000000
Cu 224.700 {450}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000090	0.121648	0.000000	1.000000
Fe 261.187 {129}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000382	0.021759	0.000000	1.000000
K 766.490 {44}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.011454	0.062224	0.000000	1.000000
Li 670.784 {50}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.016107	1.272629	0.000000	1.000000
Mg 279.079 {121}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000896	0.005276	0.000000	1.000000
Mn 257.610 {131}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.001033	0.267091	0.000000	1.000000
Mo 202.030 {467}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000031	0.174778	0.000000	1.000000
Na 589.592 {57}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.038328	0.183095	0.000000	1.000000
Ni 231.604 {446}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000521	0.135764	0.000000	1.000000
P 214.914 {457}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000131	0.011961	0.000000	1.000000
Pb 220.353 {453}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000369	0.060619	0.000000	1.000000
Sb 206.833 {463}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.000056	0.030561	0.000000	1.000000
Se 196.090 {472}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000186	0.013782	0.000000	1.000000
Si 212.412 {459}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.000412	0.039148	0.000000	1.000000
Sn 189.989 {477}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.000024	0.062502	0.000000	1.000000
Sr 407.771 {83}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.001870	3.988435	0.000000	1.000000
Ti 337.280 {100}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.001879	0.128020	0.000000	1.000000
Tl 190.856 {477}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.000282	0.025498	0.000000	1.000000
V 292.402 {115}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.000072	0.046340	0.000000	1.000000
Y 224.306 {450}	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 360.073 {94}	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 377.433 {89}	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Zn 206.200 {463}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	0.000220	0.367020	0.000000	1.000000
Zr 339.198 {99}	5/5/2016 10:55:33	5/5/2016 10:55:33	Linear	1/Conc	-0.007854	0.014775	0.000000	1.000000

Approved: May 06, 2016

K: K Buck

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.999990	0.000001	0.002141	0.007136	OK	1.000000	0.000000	1	0
Al 308.215 {109}	0.999957	0.000004	0.008915	0.029718	OK	1.000000	0.000000	1	0
As 189.042 {478}	0.999859	0.000001	0.003704	0.012346	OK	1.000000	0.000000	1	0
B 249.678 {135}	0.999991	0.000000	0.002846	0.009486	OK	1.000000	0.000000	1	0
Ba 455.403 {74}	0.999996	0.000044	0.000926	0.003086	OK	1.000000	0.000000	1	0
Be 313.107 {108}	0.999994	0.000001	0.000080	0.000267	OK	1.000000	0.000000	1	0
Ca 422.673 {80}	0.999810	0.000062	0.033069	0.110231	OK	1.000000	0.000000	1	0
Cd 228.802 {447}	0.999973	0.000001	0.000291	0.000972	OK	1.000000	0.000000	1	0
Co 228.616 {447}	0.999969	0.000004	0.000436	0.001454	OK	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999967	0.000001	0.001220	0.004067	OK	1.000000	0.000000	1	0
Cu 224.700 {450}	0.999969	0.000003	0.001491	0.004969	OK	1.000000	0.000000	1	0
Fe 261.187 {129}	0.999946	0.000006	0.024544	0.081815	OK	1.000000	0.000000	1	0
K 766.490 {44}	0.999935	0.000225	0.099559	0.331864	OK	1.000000	0.000000	1	0
Li 670.784 {50}	0.999913	0.000165	0.004723	0.015742	OK	1.000000	0.000000	1	0
Mg 279.079 {121}	0.997839	0.000034	0.110751	0.369171	OK	1.000000	0.000000	1	0
Mn 257.610 {131}	0.999171	0.000035	0.002768	0.009228	OK	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999992	0.000004	0.000466	0.001553	OK	1.000000	0.000000	1	0
Na 589.592 {57}	0.999976	0.000403	0.030405	0.101351	OK	1.000000	0.000000	1	0
Ni 231.604 {446}	0.999984	0.000002	0.001223	0.004077	OK	1.000000	0.000000	1	0
P 214.914 {457}	0.999971	0.000006	0.008538	0.028459	OK	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999955	0.000002	0.003916	0.013053	OK	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999788	0.000005	0.004597	0.015325	OK	1.000000	0.000000	1	0
Se 196.090 {472}	0.999522	0.000002	0.008238	0.027461	OK	1.000000	0.000000	1	0
Si 212.412 {459}	0.999983	0.000007	0.002478	0.008259	OK	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999995	0.000001	0.001050	0.003498	OK	1.000000	0.000000	1	0
Sr 407.771 {83}	0.999996	0.000072	0.000416	0.001385	OK	1.000000	0.000000	1	0
Ti 337.280 {100}	0.998909	0.000038	0.006977	0.023258	OK	1.000000	0.000000	1	0
Tl 190.856 {477}	0.999944	0.000001	0.003690	0.012301	OK	1.000000	0.000000	1	0
V 292.402 {115}	0.999950	0.000003	0.001208	0.004028	OK	1.000000	0.000000	1	0
Y 224.306 {450}* Y 360.073 {94}* Y 377.433 {89}* Zn 206.200 {463} Zr 339.198 {99}	0.000000 0.000000 0.000000 0.999995 0.193847	0.000000 0.000000 0.000000 0.000007 0.000474	-1.000000 -1.000000 -1.000000 0.000240 0.102640	-1.000000 -1.000000 -1.000000 0.000801 0.342133	Warnin Warnin Warnin OK OK	1.000000 1.000000 1.000000 1.000000 1.000000	0.000000 0.000000 0.000000 0.000000 0.000000	1 1 1 1 1	0 0 0 0 0

Approved: May 06, 2016

K: K Buck

Sample Name: S0 Acquired: 5/5/2016 10:36:36 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-0.0025	.00130	-0.0003	.00011	.02027	.00035	.00144
Stddev	.00014	.00003	.00008	.00006	.00148	.00001	.00195
%RSD	55.492	2.0458	269.68	58.787	7.3033	2.7398	135.20

#1	-0.0013	.00130	.00005	.00011	.01883	.00034	.00185
#2	-0.0040	.00133	-0.0003	.00004	.02179	.00035	-0.0068
#3	-0.0022	.00128	-0.0010	.00017	.02021	.00036	.00317

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-0.0003	-0.0019	.00024	-0.0009	-0.0038	.01145	.01611
Stddev	.00005	.00004	.00004	.00010	.00044	.00475	.00640
%RSD	148.24	22.446	14.483	115.91	115.83	41.530	39.755

#1	-0.0004	-0.0019	.00021	.00003	-0.0084	.00979	.01359
#2	.00002	-0.0015	.00025	-0.0012	.00005	.01681	.02339
#3	-0.0007	-0.0024	.00028	-0.0018	-0.0036	.00774	.01135

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-0.0090	.00103	-0.0003	-0.03834	-0.0052	-0.0013	-0.00037
Stddev	.00035	.00014	.00006	.00442	.00016	.00004	.00013
%RSD	38.802	13.121	200.06	11.531	31.503	33.003	35.608

#1	-0.0106	.00116	.00002	-0.04337	-0.0068	-0.0011	-0.0029
#2	-0.0050	.00106	-0.0010	-0.03508	-0.0053	-0.0010	-0.0052
#3	-0.0114	.00089	-0.0001	-0.03657	-0.0035	-0.0018	-0.0030

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00006	-0.0019	.00041	.00002	.00187	-0.00188	-0.0028
Stddev	.00013	.00006	.00009	.00003	.00155	.00038	.00009
%RSD	236.65	32.652	21.811	131.03	83.056	20.491	30.594

#1	.00019	-0.0021	.00052	-0.0001	.00102	-0.00218	-0.0035
#2	.00006	-0.0023	.00036	.00005	.00092	-0.00144	-0.0019
#3	-0.0008	-0.0012	.00036	.00003	.00366	-0.00201	-0.0031

Approved: May 06, 2016

K: K Buck

Sample Name: S0 Acquired: 5/5/2016 10:36:36 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.00007	.00022	-.00786
Stddev	.00002	.00004	.00052
%RSD	25.221	17.505	6.5894
#1	.00009	.00026	-.00825
#2	.00008	.00022	-.00807
#3	.00005	.00018	-.00727
Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8051.8	56659.	2599.5
Stddev	19.7	281.	16.9
%RSD	.24423	.49584	.64842
#1	8029.5	56385.	2591.9
#2	8066.5	56946.	2618.8
#3	8059.5	56647.	2587.8

Approved: May 06, 2016

K: K Buck

Sample Name: S1 Acquired: 5/5/2016 10:40:26 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	Ba4554	Be3131	Ca4226	Cd2288	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-0.0011	.00190	.03884	.00072	.00698	.00017	.00045
Stddev	.00005	.00007	.00097	.00006	.00189	.00014	.00014
%RSD	50.180	3.5248	2.4989	8.9641	27.140	84.224	30.320

#1	-0.0015	.00184	.03819	.00072	.00718	.00001	.00043
#2	-0.0005	.00197	.03995	.00065	.00499	.00029	.00060
#3	-0.0013	.00189	.03837	.00078	.00876	.00022	.00033

Elem	Cr2677	Cu2247	Fe2611	K_7664	Mn2576	Mo2020	Na5895
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00043	.00044	.00045	.04140	.00129	.00139	.04264
Stddev	.00006	.00010	.00016	.00229	.00039	.00007	.00497
%RSD	13.368	22.619	36.646	5.5302	30.024	4.7521	11.665

#1	.00039	.00035	.00044	.03880	.00103	.00142	.04036
#2	.00041	.00054	.00029	.04313	.00173	.00131	.03921
#3	.00050	.00042	.00062	.04225	.00109	.00143	.04834

Elem	Ni2316	P_2149	Pb2203	Sb2068	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00005	.00076	-0.0013	.00023	.00213	.00053	.03465
Stddev	.00015	.00010	.00013	.00018	.00003	.00002	.00081
%RSD	323.92	12.953	101.75	78.873	1.4019	3.5189	2.3377

#1	-0.0006	.00078	-0.0025	.00044	.00216	.00053	.03542
#2	-0.0002	.00084	.00000	.00016	.00213	.00050	.03381
#3	.00022	.00065	-0.0013	.00010	.00210	.00054	.03472

Elem	Ti3372	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-0.00177	.00039	.00317	-0.00593
Stddev	.00048	.00001	.00006	.00099
%RSD	27.120	1.6079	1.9288	16.732

#1	-0.00122	.00039	.00311	-0.00653
#2	-0.00208	.00040	.00323	-0.00479
#3	-0.00201	.00039	.00316	-0.00648

Approved: May 06, 2016

K: K Buck

Sample Name: S1 Acquired: 5/5/2016 10:40:26 Type: Cal
Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7991.8	57277.	2568.3
Stddev	44.8	434.	9.9
%RSD	.56012	.75750	.38517
#1	7940.2	56828.	2579.7
#2	8019.6	57694.	2563.0
#3	8015.7	57310.	2562.2

Approved: May 06, 2016

K: K Buck

Sample Name: S2 Acquired: 5/5/2016 10:44:20 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00005	.00267	.00014	.00028	.05957	.00103	.00955
Stddev	.00009	.00001	.00007	.00006	.00226	.00004	.00029
%RSD	189.09	.39568	53.420	22.601	3.7962	3.4813	3.0338
#1	-.00005	.00266	.00007	.00034	.06213	.00101	.00944
#2	.00012	.00267	.00012	.00027	.05783	.00100	.00988
#3	.00007	.00268	.00022	.00021	.05876	.00107	.00933
Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00041	.00096	.00066	.00093	.00095	.06387	.03550
Stddev	.00012	.00022	.00002	.00014	.00020	.00176	.00376
%RSD	29.674	22.703	3.0453	15.368	20.985	2.7603	10.602
#1	.00043	.00072	.00064	.00108	.00081	.06416	.03200
#2	.00027	.00100	.00066	.00092	.00087	.06198	.03948
#3	.00051	.00115	.00068	.00079	.00118	.06547	.03502
Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00070	.00291	.00284	.11672	.00059	.00163	.00015
Stddev	.00048	.00004	.00008	.00118	.00011	.00005	.00008
%RSD	68.478	1.3460	2.6466	1.0095	18.606	3.3332	56.924
#1	.00126	.00295	.00283	.11807	.00069	.00159	.00024
#2	.00048	.00289	.00292	.11591	.00059	.00162	.00008
#3	.00037	.00288	.00277	.11617	.00048	.00169	.00012
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00065	-.00006	.00364	.00098	.06753	.00036	-.00008
Stddev	.00005	.00013	.00002	.00004	.00079	.00041	.00003
%RSD	7.4401	218.73	.63230	3.7474	1.1733	114.26	42.584
#1	.00063	-.00021	.00364	.00094	.06714	.00014	-.00004
#2	.00071	-.00002	.00361	.00099	.06844	.00011	-.00011
#3	.00062	.00004	.00366	.00101	.06700	.00084	-.00009

Approved: May 06, 2016

K: K Buck

Sample Name: S2 Acquired: 5/5/2016 10:44:20 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.00078	.00615	.00848
Stddev	.00001	.00012	.00118
%RSD	1.6635	1.9772	13.880

#1	.00079	.00629	.00876
#2	.00077	.00610	.00950
#3	.00078	.00606	.00719

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7969.9	57302.	2573.7
Stddev	28.7	171.	37.9
%RSD	.36064	.29775	1.4738

#1	7947.1	57219.	2598.6
#2	8002.2	57498.	2530.1
#3	7960.4	57189.	2592.5

Approved: May 06, 2016

K: K Buck

Sample Name: S3 Acquired: 5/5/2016 10:48:17 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01852	.07775	.00850	.01019	2.4052	.04337	.50205	.02552
Stddev	.00010	.00019	.00007	.00016	.0089	.00028	.00115	.00005
%RSD	.53249	.24105	.77810	1.5403	.36834	.65161	.22928	.19537

#1	.01859	.07787	.00855	.01016	2.4008	.04333	.50245	.02557
#2	.01841	.07753	.00842	.01005	2.4154	.04310	.50295	.02553
#3	.01856	.07784	.00852	.01036	2.3993	.04367	.50076	.02547

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.07166	.02554	.06143	.08672	3.1104	1.3121	.05164	.13399
Stddev	.00012	.00019	.00031	.00086	.0142	.0018	.00038	.00179
%RSD	.17322	.74045	.50510	.98865	.45775	.13669	.73816	1.3327

#1	.07180	.02560	.06161	.08580	3.0951	1.3107	.05133	.13421
#2	.07162	.02533	.06162	.08750	3.1232	1.3114	.05207	.13566
#3	.07157	.02569	.06108	.08687	3.1129	1.3141	.05152	.13211

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.17556	9.1137	.06781	.11683	.03043	.03606	.00530	.19755
Stddev	.00063	.0287	.00020	.00026	.00022	.00015	.00007	.00025
%RSD	.36132	.31493	.29022	.22585	.72848	.40833	1.2738	.12585

#1	.17619	9.1005	.06786	.11705	.03066	.03619	.00536	.19780
#2	.17555	9.1466	.06760	.11690	.03043	.03590	.00530	.19755
#3	.17492	9.0939	.06798	.11654	.03021	.03608	.00523	.19730

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.06239	3.9824	.12540	.01154	.04677	.36842	.01185
Stddev	.00013	.0116	.00050	.00008	.00018	.00044	.00398
%RSD	.21538	.29133	.40203	.70812	.38764	.11821	33.589

#1	.06235	3.9705	.12586	.01164	.04693	.36859	.00883
#2	.06254	3.9937	.12549	.01150	.04657	.36873	.01036
#3	.06228	3.9829	.12486	.01149	.04680	.36792	.01636

Approved: May 06, 2016

K: K Buck

Sample Name: S3 Acquired: 5/5/2016 10:48:17 Type: Cal
Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7921.9	55737.	2600.9
Stddev	42.0	386.	18.5
%RSD	.53032	.69208	.71236
#1	7896.8	56020.	2587.6
#2	7898.5	55298.	2622.1
#3	7970.4	55894.	2593.0

Approved: May 06, 2016

K: K Buck

Sample Name: S4 Acquired: 5/5/2016 10:51:58 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.03706	.15326	.01718	.02043	4.8044	.08650	1.0065
Stddev	.00006	.00024	.00005	.00005	.0123	.00030	.0036
%RSD	.16974	.15479	.31349	.24044	.25591	.34477	.35264

#1	.03706	.15353	.01714	.02046	4.8000	.08684	1.0046
#2	.03699	.15313	.01724	.02045	4.8182	.08629	1.0106
#3	.03712	.15311	.01715	.02037	4.7948	.08636	1.0044

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.05096	.14226	.05010	.12139	.17351	6.2384	2.5390
Stddev	.00018	.00018	.00005	.00018	.00122	.0281	.0078
%RSD	.34760	.12673	.10064	.14961	.70450	.44984	.30721

#1	.05088	.14208	.05007	.12120	.17484	6.2331	2.5345
#2	.05117	.14225	.05015	.12140	.17326	6.2688	2.5480
#3	.05084	.14244	.05007	.12156	.17243	6.2134	2.5345

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.10366	.26985	.34857	18.258	.13474	.23636	.06014
Stddev	.00071	.00077	.00057	.076	.00059	.00027	.00017
%RSD	.68612	.28714	.16481	.41495	.43426	.11287	.28826

#1	.10362	.27048	.34923	18.271	.13413	.23605	.05994
#2	.10440	.26899	.34823	18.326	.13481	.23651	.06027
#3	.10298	.27009	.34824	18.176	.13529	.23652	.06019

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.07220	.01085	.39246	.12485	7.9845	.25494	.02291
Stddev	.00029	.00012	.00012	.00018	.0288	.00101	.00008
%RSD	.39670	1.1096	.02986	.14185	.36073	.39543	.36021

#1	.07205	.01097	.39239	.12465	7.9812	.25562	.02287
#2	.07202	.01083	.39240	.12494	8.0149	.25543	.02301
#3	.07253	.01073	.39260	.12497	7.9576	.25379	.02286

Approved: May 06, 2016

K: K Buck

Sample Name: S4 Acquired: 5/5/2016 10:51:58 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.09215	.73198	-.00114
Stddev	.00013	.00139	.00155
%RSD	.14504	.19005	135.26

#1	.09228	.73053	-.00134
#2	.09201	.73212	-.00258
#3	.09217	.73330	.00049

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7820.1	55364.	2623.8
Stddev	26.9	227.	41.7
%RSD	.34400	.40949	1.5889

#1	7842.2	55179.	2595.6
#2	7828.0	55617.	2604.1
#3	7790.2	55296.	2671.7

Approved: May 06, 2016

<i>K: K Buck</i>

Sample Name: ICV Acquired: 5/5/2016 10:55:34 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41209	10.261	.40765	.50347	1.0296	.05062	10.090
Stddev	.00020	.019	.00208	.00169	.0038	.00012	.049
%RSD	.04822	.18648	.50971	.33490	.36821	.22877	.48677

#1	.41193	10.249	.40526	.50509	1.0281	.05073	10.059
#2	.41232	10.252	.40902	.50362	1.0268	.05050	10.063
#3	.41203	10.283	.40867	.50172	1.0339	.05063	10.146

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05051	.20196	.50467	.51125	4.0403	50.324	1.0262
Stddev	.00035	.00015	.00209	.00367	.0097	.137	.0075
%RSD	.68314	.07640	.41366	.71713	.23917	.27229	.72726

#1	.05027	.20202	.50412	.50878	4.0355	50.341	1.0187
#2	.05037	.20178	.50698	.51546	4.0339	50.179	1.0264
#3	.05091	.20207	.50291	.50951	4.0514	50.452	1.0336

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.185	.51062	.96208	50.434	.50905	10.147	.50668
Stddev	.082	.00487	.00163	.123	.00146	.006	.00083
%RSD	.80862	.95472	.16909	.24445	.28612	.05947	.16315

#1	10.143	.50744	.96392	50.351	.50820	10.145	.50595
#2	10.132	.50818	.96081	50.375	.50821	10.143	.50758
#3	10.280	.51623	.96153	50.576	.51073	10.154	.50651

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: ICV Acquired: 5/5/2016 10:55:34 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2156	.40272	5.0995	1.0297	.99927	1.0068	.51472
Stddev	.0008	.00408	.0093	.0022	.00537	.0124	.00245
%RSD	.06985	1.0135	.18184	.21870	.53764	1.2340	.47667

#1	1.2166	.40726	5.0889	1.0272	.99573	1.0036	.51708
#2	1.2150	.39936	5.1043	1.0314	.99663	.99635	.51218
#3	1.2153	.40154	5.1055	1.0306	1.0055	1.0206	.51489

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	1.0054	1.0161	F 253.00
Stddev	.0009	.0015	3.26
%RSD	.09188	.14735	1.2889

#1	1.0056	1.0157	253.81
#2	1.0043	1.0148	255.79
#3	1.0061	1.0177	249.41

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			5.0000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8005.9	56492.	2602.6
Stddev	10.5	196.	28.6
%RSD	.13156	.34647	1.0995

#1	8009.4	56297.	2590.0
#2	8014.2	56689.	2582.4
#3	7994.0	56490.	2635.3

Approved: May 06, 2016

K: K Buck

Sample Name: ICB Acquired: 5/5/2016 11:04:54 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0088	-0.1296	-0.0107	.00097	.00119	.00005	.02605
Stddev	.00107	.00427	.00317	.00232	.00025	.00006	.01407
%RSD	120.51	32.901	295.53	239.05	21.493	108.57	54.017

#1	-0.0102	-0.1507	-0.0473	.00229	.00131	.00003	.02575
#2	-0.0188	-0.0806	.00051	.00233	.00089	.00001	.01213
#3	.00024	-0.1577	.00100	-0.0171	.00135	.00012	.04026

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00009	.00035	-0.0012	.00050	.00911	.09126	-0.00317
Stddev	.00022	.00046	.00031	.00042	.02727	.06409	.00221
%RSD	251.67	130.57	254.87	83.748	299.18	70.224	69.639

#1	-0.00009	.00034	-0.00042	.00011	-0.00480	.06127	-0.00408
#2	.00001	-0.00010	-0.00015	.00045	-0.00839	.04766	-0.00065
#3	.00034	.00081	.00020	.00094	.04053	.16484	-0.00479

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04251	-0.00220	.00135	.01848	-0.00018	.00393	-0.00145
Stddev	.03722	.00285	.00048	.01282	.00041	.00294	.00140
%RSD	87.566	129.83	35.585	69.360	231.74	74.683	96.735

#1	.08546	-0.00503	.00081	.02696	-0.00028	.00731	-0.00050
#2	.02229	.00067	.00173	.02474	-0.00053	.00202	-0.00078
#3	.01976	-0.00224	.00152	.00373	.00028	.00247	-0.00305

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: ICB Acquired: 5/5/2016 11:04:54 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0096	.0069	.0053	-0.0082	.0017	-0.0191	-0.0282
Stddev	.00107	.00325	.00098	.00110	.00018	.00660	.00197
%RSD	111.66	469.93	185.18	133.84	105.15	346.09	70.108

#1	-0.0211	.00398	.00055	-0.0102	-0.0001	.00567	-0.0213
#2	.00002	-0.0253	.00150	-0.0182	.00016	-0.0640	-0.0128
#3	-0.0080	.00063	-0.0046	.00036	.00035	-0.0499	-0.0504

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.0028	.00027	F .19858
Stddev	.00070	.00024	.03435
%RSD	252.15	86.115	17.299

#1	-0.0088	.00051	.16476
#2	-0.0043	.00027	.23344
#3	.00048	.00004	.19755

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7961.3	56659.	2580.7
Stddev	37.1	276.	23.4
%RSD	.46598	.48751	.90765

#1	7974.7	56567.	2588.4
#2	7919.4	56440.	2554.4
#3	7989.8	56969.	2599.3

Approved: May 06, 2016

K: K Buck

Sample Name: LLICV Acquired: 5/5/2016 11:08:38 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00837	.15663	.00964	.07855	.00851	.00161	.41404	.00080
Stddev	.00091	.00267	.00303	.00151	.00059	.00007	.01481	.00001
%RSD	10.891	1.7017	31.439	1.9232	6.8931	4.3260	3.5773	.81707

#1	.00734	.15561	.00964	.07761	.00883	.00159	.43109	.00080
#2	.00906	.15965	.01268	.08030	.00783	.00168	.40674	.00080
#3	.00872	.15462	.00661	.07776	.00886	.00155	.40430	.00081

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00423	.00366	.00460	.09048	.83734	.07641	.49584	.00786
Stddev	.00022	.00084	.00092	.01809	.06970	.00095	.08039	.00097
%RSD	5.0892	22.983	19.894	19.987	8.3237	1.2448	16.212	12.313

#1	.00400	.00335	.00372	.10521	.91775	.07705	.43784	.00766
#2	.00442	.00301	.00453	.07030	.79434	.07532	.58760	.00891
#3	.00426	.00461	.00555	.09594	.79992	.07687	.46207	.00701

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00798	.42925	.01529	.77209	.00731	.08530	.00884	.79356
Stddev	.00011	.02134	.00018	.00589	.00170	.00254	.00381	.00202
%RSD	1.4357	4.9724	1.2076	.76226	23.239	2.9782	43.098	.25495

#1	.00787	.44738	.01509	.76856	.00825	.08462	.01146	.79501
#2	.00810	.43463	.01533	.77888	.00535	.08811	.01058	.79442
#3	.00797	.40573	.01545	.76882	.00833	.08317	.00447	.79124

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: LLICV Acquired: 5/5/2016 11:08:38 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40563	.04049	.02388	.15756	.00733	.01687	10.476
Stddev	.00312	.00035	.00524	.00147	.00114	.00008	.083
%RSD	.76842	.86580	21.944	.93013	15.515	.47080	.79463
#1	.40618	.04074	.02014	.15588	.00840	.01682	10.392
#2	.40843	.04064	.02162	.15827	.00747	.01682	10.478
#3	.40227	.04009	.02986	.15854	.00613	.01696	10.559

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7980.5	57296.	2613.5
Stddev	41.6	153.	14.4
%RSD	.52066	.26758	.55139
#1	8013.8	57154.	2630.1
#2	7993.6	57276.	2606.5
#3	7933.9	57458.	2603.9

Approved: May 06, 2016

K: K Buck

Sample Name: ICSA Acquired: 5/5/2016 11:13:30 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00046	267.56	.00379	.00377	.00063	.00003	247.32
Stddev	.00106	.28	.00308	.00115	.00024	.00010	.49
%RSD	232.09	.10539	81.329	30.603	37.175	372.67	.19823

#1	-0.00149	267.83	.00034	.00340	.00057	-0.00006	247.31
#2	-0.00050	267.58	.00628	.00284	.00090	.00001	246.83
#3	.00062	267.26	.00476	.00506	.00044	.00014	247.81

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00004	-0.00120	-0.00257	-0.00174	97.743	.09502	.01255
Stddev	.00023	.00031	.00101	.00110	.062	.15298	.00301
%RSD	541.23	26.055	39.500	63.373	.06369	160.99	24.001

#1	-0.00021	-0.00104	-0.00214	-0.00163	97.774	.25147	.01289
#2	.00022	-0.00100	-0.00373	-0.00289	97.784	.08785	.01537
#3	-0.00014	-0.00155	-0.00184	-0.00070	97.672	-.05424	.00938

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	248.84	-0.00243	-0.00074	.04011	-0.00228	.03926	-0.00383
Stddev	.80	.00200	.00130	.01489	.00037	.00820	.00532
%RSD	.32214	82.035	174.64	37.125	16.059	20.882	139.07

#1	248.47	-0.00155	-0.00176	.05271	-0.00270	.04827	.00040
#2	248.30	-0.00103	.00072	.02368	-0.00212	.03224	-.00980
#3	249.76	-0.00472	-0.00120	.04395	-0.00202	.03727	-.00208

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: ICSA Acquired: 5/5/2016 11:13:30 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00690	.00060	.07720	-.00006	.00036	.00406	-.00413
Stddev	.00493	.00838	.00277	.00074	.00010	.00747	.00260
%RSD	71.412	1403.5	3.5868	1162.6	29.171	184.14	62.921

#1	-0.00256	.00043	.08002	-.00048	.00024	-.00226	-.00220
#2	-.01226	.00906	.07448	-.00050	.00043	.01231	-.00709
#3	-.00588	-.00769	.07709	.00079	.00041	.00212	-.00311

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00613	.00312	F -1.0605
Stddev	.00043	.00041	.0871
%RSD	6.9936	13.227	8.2096

#1	-0.00598	.00355	-1.1169
#2	-.00579	.00273	-1.1044
#3	-.00661	.00307	-.96023

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.02000
Low Limit			-.02000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7495.1	52714.	2507.4
Stddev	11.7	31.	9.7
%RSD	.15644	.05954	.38860

#1	7502.8	52679.	2517.8
#2	7500.9	52738.	2505.9
#3	7481.6	52726.	2498.5

Approved: May 06, 2016

K: K Buck

Sample Name: ICSAB Acquired: 5/5/2016 11:17:22 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51790	263.93	.24908	-.00258	.24648	.24782	242.77
Stddev	.00305	.23	.00368	.00180	.00104	.00014	.30
%RSD	.58942	.08846	1.4782	69.841	.42182	.05452	.12368

#1	.51906	264.12	.24605	-.00225	.24629	.24795	242.78
#2	.51443	263.67	.24802	-.00097	.24760	.24768	243.06
#3	.52019	264.01	.25318	-.00453	.24555	.24783	242.46

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.47040	.23385	.24412	.24469	95.024	5.1839	.00950
Stddev	.00259	.00042	.00076	.00057	.135	.1000	.00371
%RSD	.55150	.18148	.31151	.23263	.14201	1.9298	39.029

#1	.47336	.23434	.24426	.24438	94.934	5.1771	.00700
#2	.46929	.23360	.24479	.24433	95.180	5.2872	.01375
#3	.46854	.23361	.24329	.24534	94.959	5.0874	.00773

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	242.83	.24185	-.00104	5.1901	.46906	.07603	.48235
Stddev	.12	.00235	.00002	.0486	.00028	.00920	.00219
%RSD	.04951	.97073	1.7224	.93576	.05867	12.103	.45469

#1	242.83	.23919	-.00106	5.1346	.46915	.06816	.48383
#2	242.96	.24364	-.00103	5.2106	.46927	.07379	.47983
#3	242.72	.24271	-.00103	5.2251	.46875	.08615	.48339

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: ICSAB Acquired: 5/5/2016 11:17:22 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48817	.24877	.00580	-.00088	.00017	.00472	.44972
Stddev	.00131	.01189	.00197	.00028	.00036	.00276	.00171
%RSD	.26842	4.7787	34.027	31.873	208.33	58.475	.37967

#1	.48896	.23505	.00782	-.00103	-.00018	.00401	.45168
#2	.48666	.25581	.00388	-.00105	.00055	.00777	.44891
#3	.48890	.25546	.00570	-.00056	.00015	.00239	.44857

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.24479	.47611	F -.98565
Stddev	.00192	.00055	.09694
%RSD	.78491	.11540	9.8356

#1	.24303	.47591	-1.0946
#2	.24449	.47569	-.90890
#3	.24684	.47673	-.95346

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.02500
Low Limit			-.02500

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7560.6	53230.	2547.8
Stddev	21.2	83.	12.4
%RSD	.28023	.15525	.48659

#1	7539.3	53278.	2562.1
#2	7560.8	53135.	2541.7
#3	7581.7	53277.	2539.7

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 11:21:04 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39799	9.9367	.39865	.49584	.99605	.05007	9.9622
Stddev	.00179	.0216	.00170	.00041	.00985	.00018	.0773
%RSD	.44884	.21784	.42529	.08218	.98870	.36509	.77618

#1	.39693	9.9525	.39702	.49629	.98491	.05003	9.8758
#2	.40005	9.9455	.40040	.49550	.99965	.04992	10.025
#3	.39699	9.9120	.39852	.49572	1.0036	.05028	9.9862

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05032	.20132	.49742	.50126	4.0168	50.253	1.0129
Stddev	.00016	.00022	.00076	.00266	.0457	.468	.0119
%RSD	.31539	.10859	.15236	.53040	1.1371	.93161	1.1764

#1	.05014	.20109	.49654	.50018	3.9641	49.739	1.0014
#2	.05035	.20134	.49789	.49931	4.0440	50.364	1.0121
#3	.05045	.20153	.49782	.50429	4.0424	50.655	1.0252

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.069	.49757	.99939	50.452	.49961	9.9568	.49803
Stddev	.150	.00912	.00106	.390	.00044	.0281	.00154
%RSD	1.4895	1.8334	.10625	.77261	.08855	.28253	.30985

#1	9.8976	.48762	.99965	50.024	.49969	9.9356	.49736
#2	10.178	.49958	1.0003	50.547	.50000	9.9887	.49980
#3	10.130	.50553	.99822	50.786	.49913	9.9460	.49694

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 11:21:04 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1978	.39261	4.9924	.99369	.99240	.99317	.50200
Stddev	.0064	.00128	.0106	.00370	.00810	.01234	.00418
%RSD	.53508	.32609	.21283	.37222	.81625	1.2425	.83175

#1	1.1906	.39128	4.9836	.99099	.98310	.97921	.50570
#2	1.2000	.39383	5.0042	.99791	.99624	1.0026	.50284
#3	1.2029	.39274	4.9895	.99217	.99787	.99769	.49747

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.99194	1.0004	F .74495
Stddev	.00130	.0009	.10895
%RSD	.13084	.09184	14.625

#1	.99324	.99946	.64667
#2	.99065	1.0013	.72609
#3	.99192	1.0005	.86210

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7987.3	56062.	2593.4
Stddev	18.4	139.	14.3
%RSD	.23063	.24772	.54969

#1	8000.0	56221.	2607.2
#2	7995.8	56000.	2594.4
#3	7966.2	55965.	2578.7

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 11:24:40 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00004	-0.00420	-0.00020	.00294	.00012	.00010	.03652
Stddev	.00162	.00494	.00144	.00144	.00027	.00002	.02135
%RSD	3621.7	117.63	716.05	49.091	215.52	17.144	58.450

#1	-0.00092	.00090	.00130	.00188	-0.00018	.00010	.05260
#2	-0.00105	-0.00455	-0.00034	.00459	.00021	.00008	.04466
#3	.00183	-0.00897	-0.00156	.00236	.00034	.00011	.01230

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	-0.00003	-0.00073	-0.00008	.01723	.07041	-0.00701
Stddev	.00005	.00021	.00029	.00086	.01329	.11509	.00128
%RSD	22.935	721.45	39.676	1021.2	77.146	163.47	18.267

#1	.00022	-0.00023	-0.00093	-0.00080	.02995	.03692	-0.00837
#2	.00024	.00019	-0.00040	.00088	.00344	.19853	-0.00686
#3	.00015	-0.00004	-0.00085	-0.00033	.01829	-.02423	-0.00582

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06207	-0.00118	.00178	.01669	.00037	-0.00191	.00021
Stddev	.05987	.00099	.00007	.05001	.00101	.00297	.00089
%RSD	96.467	84.111	3.9210	299.59	272.22	155.52	419.85

#1	.01378	-0.00035	.00172	-.03571	-0.00050	-0.00355	-0.00074
#2	.12906	-0.00090	.00185	.06391	.00148	-0.00369	.00102
#3	.04336	-0.00227	.00177	.02189	.00013	.00152	.00036

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 11:24:40 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0014	-0.00093	.00301	.00009	-0.00002	.00261	-0.00100
Stddev	.00302	.00098	.00090	.00034	.00026	.00436	.00282
%RSD	2213.1	105.41	30.038	392.80	1419.2	167.07	282.17

#1	.00321	-.00078	.00208	.00008	-.00030	.00035	-.00297
#2	-.00264	-.00197	.00388	-.00025	.00021	-.00016	-.00226
#3	-.00098	-.00003	.00307	.00043	.00004	.00763	.00223

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00080	-0.00020	F -0.09176
Stddev	.00026	.00016	.07912
%RSD	32.960	80.362	86.224

#1	-.00074	-.00011	-.14639
#2	-.00109	-.00011	-.00103
#3	-.00057	-.00039	-.12786

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8019.8	57232.	2594.3
Stddev	34.1	267.	11.3
%RSD	.42559	.46624	.43600

#1	8043.0	56950.	2592.5
#2	7980.6	57481.	2606.4
#3	8035.8	57266.	2583.9

Approved: May 06, 2016

K: K Buck

Sample Name: PBW R2 Acquired: 5/5/2016 11:58:16 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567158-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00102	-.01906	-.00167	-.00287	-.00101	.00003	.02119	-.00007
Stddev	.00159	.00642	.00121	.00089	.00059	.00005	.00505	.00027
%RSD	156.74	33.691	72.308	30.893	58.405	157.37	23.854	380.62

#1	.00057	-.01323	-.00101	-.00188	-.00044	.00009	.02596	-.00021
#2	.00278	-.02595	-.00307	-.00313	-.00162	-.00000	.01589	-.00025
#3	-.00030	-.01801	-.00094	-.00360	-.00098	.00001	.02171	.00024

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00023	-.00026	-.00016	-.00332	.01099	-.00071	.10914	-.00267
Stddev	.00034	.00052	.00146	.01972	.04130	.00210	.08403	.00107
%RSD	150.13	197.25	895.38	594.82	375.67	295.94	76.994	40.002

#1	.00012	-.00086	-.00182	.00948	.03431	.00161	.17671	-.00232
#2	-.00005	-.00007	.00094	-.02603	-.03669	-.00249	.01505	-.00182
#3	.00061	.00013	.00039	.00660	.03537	-.00125	.13566	-.00387

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00023	.01781	.00049	-.00107	-.00168	.00028	.00143	.00123
Stddev	.00046	.01596	.00029	.00572	.00144	.00144	.00189	.00164
%RSD	203.08	89.630	59.531	533.27	86.090	516.89	132.12	133.28

#1	.00009	.00390	.00072	-.00697	-.00003	-.00106	.00264	.00191
#2	-.00015	.03524	.00060	.00444	-.00273	.00181	-.00075	.00242
#3	.00074	.01429	.00016	-.00069	-.00227	.00008	.00238	-.00064

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: PBW R2 Acquired: 5/5/2016 11:58:16 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567158-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	.00026	-.00423	-.00068	-.00065	.00046	-.01100
Stddev	.00102	.00058	.00548	.00379	.00039	.00012	.05379
%RSD	561.55	221.06	129.68	555.74	59.139	26.312	489.11

#1	-.00098	-.00021	-.00406	-.00241	-.00039	.00053	-.02199
#2	.00096	.00092	-.00979	.00366	-.00047	.00054	.04744
#3	.00056	.00008	.00117	-.00329	-.00110	.00032	-.05844

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8313.2	59512.	2678.3
Stddev	12.2	178.	16.9
%RSD	.14667	.29911	.63085

#1	8309.3	59645.	2660.3
#2	8326.9	59309.	2680.7
#3	8303.5	59580.	2693.9

Approved: May 06, 2016

K: K Buck

Sample Name: LCSW R2 Acquired: 5/5/2016 12:02:14 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567158-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19533	4.7805	.18869	.93655	.49133	.02372	4.9476	.02423
Stddev	.00212	.0257	.00222	.00342	.00148	.00012	.0181	.00022
%RSD	1.0836	.53811	1.1770	.36515	.30061	.49390	.36672	.90740

#1	.19419	4.7770	.18667	.93466	.49267	.02366	4.9377	.02448
#2	.19404	4.7566	.19107	.93448	.49156	.02365	4.9685	.02409
#3	.19778	4.8077	.18833	.94049	.48974	.02386	4.9366	.02410

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09932	.24276	.24696	2.0051	24.836	.49535	4.8836	.24924
Stddev	.00027	.00107	.00042	.0147	.037	.00242	.0796	.00396
%RSD	.27541	.44001	.16865	.73312	.14989	.48915	1.6296	1.5872

#1	.09964	.24224	.24650	1.9884	24.823	.49340	4.8704	.25365
#2	.09914	.24205	.24706	2.0104	24.878	.49458	4.8114	.24806
#3	.09919	.24399	.24732	2.0164	24.807	.49806	4.9689	.24601

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50047	24.800	.24822	4.6965	.24677	.58117	.18578	2.4786
Stddev	.00102	.054	.00014	.0137	.00178	.00144	.00617	.0064
%RSD	.20393	.21843	.05477	.29110	.72137	.24813	3.3205	.25898

#1	.50060	24.856	.24818	4.6807	.24845	.58119	.19012	2.4712
#2	.50142	24.798	.24812	4.7046	.24696	.57972	.18851	2.4815
#3	.49939	24.748	.24838	4.7041	.24490	.58261	.17872	2.4831

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: LCSW R2 Acquired: 5/5/2016 12:02:14 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567158-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49359	.49333	.49109	.24962	.48928	.48533	.23544
Stddev	.00043	.00086	.00195	.00328	.00048	.00042	.00987
%RSD	.08647	.17410	.39791	1.3144	.09789	.08579	4.1908
#1	.49375	.49315	.49118	.24671	.48963	.48487	.24481
#2	.49311	.49427	.48909	.25317	.48947	.48569	.22514
#3	.49392	.49259	.49299	.24898	.48873	.48543	.23639

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8284.3	59071.	2725.8
Stddev	1.4	293.	11.7
%RSD	.01721	.49633	.43084
#1	8283.4	58979.	2720.9
#2	8283.6	59399.	2739.3
#3	8285.9	58835.	2717.4

Approved: May 06, 2016

K: K Buck

Sample Name: L1604150701 Acquired: 5/5/2016 12:05:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00070	.02951	-.00136	.07729	.03563	-.00002	12.065	.00036
Stddev	.00164	.00438	.00078	.00087	.00043	.00003	.069	.00005
%RSD	235.49	14.829	57.404	1.1261	1.2204	202.98	.56932	12.925
#1	.00008	.02609	-.00222	.07753	.03609	-.00006	11.989	.00032
#2	.00255	.02799	-.00114	.07802	.03523	-.00000	12.121	.00041
#3	-.00055	.03444	-.00070	.07632	.03558	.00001	12.086	.00036

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00229	.00104	.00207	10.776	9.9816	4.0462	4.6299	.09578
Stddev	.00020	.00020	.00126	.052	.0705	.0106	.0306	.00058
%RSD	8.7279	19.354	60.964	.48564	.70585	.26082	.66029	.60365
#1	.00206	.00120	.00350	10.739	10.035	4.0464	4.6006	.09627
#2	.00241	.00081	.00158	10.836	10.008	4.0567	4.6276	.09593
#3	.00241	.00109	.00112	10.754	9.9017	4.0356	4.6616	.09514

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00152	95.047	.00725	.19332	.00982	.00335	-.00123	3.0184
Stddev	.00030	.181	.00073	.00744	.00107	.00371	.00543	.0041
%RSD	19.534	.19050	10.104	3.8511	10.882	110.82	441.40	.13440
#1	.00177	94.935	.00722	.20012	.00957	.00763	.00160	3.0140
#2	.00159	95.256	.00653	.19447	.01100	.00129	-.00749	3.0220
#3	.00119	94.949	.00800	.18536	.00891	.00112	.00220	3.0193

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1604150701 Acquired: 5/5/2016 12:05:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.03918	.00692	.00016	-.00003	.31985	.00193
Stddev	.00044	.00019	.00362	.00139	.00072	.00080	.10769
%RSD	299.09	.47288	52.257	877.18	2526.2	.25077	5570.3

#1	-.00028	.03936	.00388	.00018	.00080	.32019	-.10800
#2	.00013	.03899	.01092	.00154	-.00049	.32043	.10723
#3	.00059	.03919	.00597	-.00124	-.00039	.31894	.00657

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8593.3	60767.	2892.8
Stddev	19.5	187.	10.9
%RSD	.22645	.30715	.37780

#1	8614.5	60912.	2880.3
#2	8589.2	60832.	2900.2
#3	8576.3	60556.	2898.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155110 Acquired: 5/5/2016 12:09:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0021	-0.00578	.00177	.06957	.02219	.00000	44.226	.00020
Stddev	.00108	.00580	.00248	.00257	.00024	.00001	.030	.00014
%RSD	507.94	100.27	140.41	3.6996	1.0944	3471.7	.06747	67.270

#1	-0.00114	-0.01007	.00459	.07220	.02237	-0.00002	44.212	.00031
#2	-0.00048	.00081	-0.00007	.06944	.02191	.00001	44.205	.00025
#3	.00098	-0.00809	.00079	.06706	.02228	.00001	44.260	.00005

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	-0.00003	-0.00093	.29169	.90080	.00255	17.130	.03453
Stddev	.00028	.00068	.00052	.02153	.06304	.00320	.147	.00150
%RSD	2491.4	2041.7	56.283	7.3818	6.9986	125.33	.85626	4.3429

#1	.00027	-0.00080	-0.00051	.27522	.82844	-0.00114	17.149	.03528
#2	.00004	.00048	-0.00077	.28379	.94386	.00422	16.975	.03550
#3	-0.00028	.00022	-0.00152	.31605	.93009	.00456	17.267	.03280

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00239	7.4751	.00033	-0.01034	.00251	-0.00109	.00620	3.7787
Stddev	.00050	.0597	.00041	.00531	.00311	.00377	.00404	.0147
%RSD	20.860	.79862	123.33	51.357	123.53	345.60	65.145	.38837

#1	.00217	7.4395	-0.00008	-0.01431	.00231	.00175	.00237	3.7939
#2	.00204	7.4418	.00034	-0.00431	.00572	.00035	.00580	3.7775
#3	.00296	7.5440	.00073	-0.01238	-0.00048	-0.00537	.01042	3.7646

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155110 Acquired: 5/5/2016 12:09:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.08267	-.00366	-.00274	.00004	.00099	.03761
Stddev	.00063	.00026	.00208	.00315	.00091	.00032	.11269
%RSD	522.48	.31968	56.852	114.72	2153.8	32.213	299.60

#1	.00055	.08283	-.00212	-.00556	-.00054	.00069	-.09167
#2	-.00060	.08237	-.00603	-.00331	-.00043	.00095	.08944
#3	.00041	.08282	-.00284	.00065	.00109	.00132	.11506

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8202.4	58656.	2679.5
Stddev	23.0	39.	22.2
%RSD	.28059	.06668	.82765

#1	8196.1	58698.	2691.7
#2	8183.1	58621.	2654.0
#3	8227.9	58649.	2693.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155110PS Acquired: 5/5/2016 12:13:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567184-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18980	4.7056	.18604	.98942	.50326	.02332	44.195	.02345
Stddev	.00213	.0150	.00432	.00138	.00128	.00011	.252	.00017
%RSD	1.1232	.31939	2.3229	.13970	.25476	.45283	.56955	.72201

#1	.19010	4.7219	.18807	.98828	.50282	.02342	43.942	.02348
#2	.18753	4.6923	.18897	.99096	.50225	.02333	44.198	.02361
#3	.19177	4.7027	.18107	.98902	.50470	.02321	44.446	.02327

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09291	.23646	.23474	2.1900	25.307	.52268	20.088	.27231
Stddev	.00097	.00029	.00119	.0215	.065	.00371	.034	.00192
%RSD	1.0488	.12077	.50761	.98320	.25604	.71075	.17006	.70384

#1	.09374	.23655	.23559	2.1806	25.321	.51906	20.055	.27397
#2	.09315	.23614	.23526	2.1748	25.236	.52250	20.087	.27273
#3	.09184	.23669	.23338	2.2147	25.363	.52648	20.123	.27021

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48644	31.014	.23484	4.6673	.23920	.57308	.18720	5.8311
Stddev	.00496	.174	.00160	.0266	.00117	.00602	.00893	.0403
%RSD	1.0199	.56156	.67949	.57081	.48782	1.0503	4.7712	.69070

#1	.49145	30.863	.23643	4.6886	.23991	.57800	.19599	5.8694
#2	.48636	30.974	.23485	4.6758	.23983	.57487	.18748	5.8349
#3	.48152	31.204	.23324	4.6374	.23785	.56637	.17814	5.7891

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155110PS Acquired: 5/5/2016 12:13:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567184-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.47578	.56010	.47711	.23648	.48040	.46657	.10789
Stddev	.00513	.00321	.00337	.00234	.00126	.00444	.04471
%RSD	1.0785	.57250	.70547	.98960	.26225	.95268	41.438

#1	.48008	.55726	.47360	.23695	.48082	.47103	.13896
#2	.47716	.55947	.47740	.23393	.47898	.46653	.12804
#3	.47010	.56357	.48032	.23854	.48139	.46214	.05665

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8168.1	57842.	2676.0
Stddev	33.6	431.	4.5
%RSD	.41145	.74452	.16726

#1	8193.2	57348.	2681.2
#2	8181.2	58142.	2673.0
#3	8129.9	58034.	2673.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155110SDL Acquired: 5/5/2016 12:17:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG567184-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0131	-0.1337	-0.0005	.01645	.00456	-0.0002	9.0684
Stddev	.00081	.00876	.00255	.00159	.00041	.00007	.0670
%RSD	61.853	65.470	4858.1	9.6631	9.0715	331.69	.73918

#1	-0.0044	-0.0627	.00152	.01578	.00413	.00006	8.9976
#2	-0.0145	-0.1070	-0.0299	.01827	.00496	-0.0005	9.1309
#3	-0.0204	-0.2316	.00131	.01531	.00457	-0.0008	9.0768

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0011	.00004	-0.0015	.00009	.05967	.17729	-0.0288
Stddev	.00019	.00018	.00066	.00068	.00453	.05206	.00204
%RSD	183.91	433.83	443.35	769.20	7.5912	29.365	70.724

#1	.00009	-0.0004	-0.0082	-0.0069	.05647	.20598	-0.0201
#2	-0.0030	.00024	.00049	.00059	.06486	.20869	-0.0521
#3	-0.0010	-0.0009	-0.0011	.00037	.05770	.11719	-0.0142

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.5532	.00303	.00095	1.5605	-0.0041	-0.0065	-0.0027
Stddev	.0789	.00183	.00023	.0165	.00032	.00769	.00252
%RSD	2.2194	60.516	23.713	1.0545	78.378	1185.0	936.66

#1	3.5576	.00431	.00108	1.5780	-0.0047	-0.00771	.00261
#2	3.6298	.00093	.00069	1.5454	-0.0006	-0.00178	-0.00140
#3	3.4723	.00383	.00109	1.5582	-0.0069	.00755	-0.00202

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155110SDL Acquired: 5/5/2016 12:17:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG567184-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0159	-0.0162	.76054	-0.0063	.01699	-0.00324	-0.00358
Stddev	.00267	.00374	.00627	.00046	.00018	.00197	.00081
%RSD	167.57	231.50	.82481	73.306	1.0325	60.644	22.680

#1	-0.00210	.00077	.75504	-0.00081	.01691	-0.00407	-0.00308
#2	-0.00396	.00031	.76737	-0.00010	.01719	-0.00466	-0.00315
#3	.00129	-0.00593	.75920	-0.00097	.01686	-0.00100	-0.00452

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00060	.00059	F -.07433
Stddev	.00041	.00018	.07313
%RSD	69.143	31.018	98.393

#1	-0.00014	.00038	-.01045
#2	-0.00093	.00073	-.05843
#3	-0.00072	.00067	-.15411

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8316.1	58471.	2653.4
Stddev	70.2	688.	26.5
%RSD	.84384	1.1759	.99977

#1	8396.8	57715.	2666.5
#2	8282.5	58638.	2622.8
#3	8269.1	59059.	2670.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1605002701 Acquired: 5/5/2016 12:21:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00078	6.7066	.00156	.00893	.04482	-.00002	13.579	.00024
Stddev	.00186	.0284	.00252	.00156	.00033	.00004	.025	.00009
%RSD	237.16	.42353	161.64	17.447	.72670	180.00	.18597	37.960

#1	.00122	6.7126	-.00118	.00717	.04475	-.00004	13.553	.00027
#2	.00238	6.6756	.00378	.01015	.04518	.00002	13.582	.00014
#3	-.00125	6.7314	.00208	.00947	.04453	-.00006	13.603	.00032

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00029	-.00061	.00352	.31673	2.6466	-.00082	1.1243	.04191
Stddev	.00006	.00048	.00058	.01404	.0611	.00380	.0192	.00275
%RSD	20.354	78.807	16.407	4.4331	2.3069	464.23	1.7084	6.5682

#1	.00031	-.00099	.00397	.33294	2.7168	-.00340	1.1059	.04452
#2	.00035	-.00007	.00287	.30870	2.6066	.00354	1.1229	.03904
#3	.00023	-.00077	.00372	.30854	2.6162	-.00260	1.1442	.04218

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00095	5.1460	-.00015	9.7334	-.00068	-.00146	.00514	.15560
Stddev	.00024	.0084	.00064	.1263	.00279	.00185	.00579	.00285
%RSD	24.979	.16303	438.76	1.2980	408.19	126.21	112.58	1.8318

#1	.00068	5.1392	-.00060	9.8129	-.00359	-.00349	.00297	.15884
#2	.00114	5.1554	.00058	9.7995	-.00042	-.00103	.01171	.15452
#3	.00102	5.1434	-.00042	9.5877	.00196	.00013	.00076	.15345

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605002701 Acquired: 5/5/2016 12:21:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.02146	-.00197	-.00204	.00083	.06867	.07141
Stddev	.00016	.00002	.00295	.00275	.00100	.00078	.11028
%RSD	104.69	.07857	149.89	134.81	120.17	1.1353	154.43

#1	.00031	.02144	.00085	.00105	.00011	.06931	.02782
#2	.00016	.02147	-.00504	-.00422	.00198	.06890	.19682
#3	-.00001	.02147	-.00172	-.00295	.00041	.06780	-.01041

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8614.0	62615.	2941.3
Stddev	9.2	204.	4.6
%RSD	.10643	.32626	.15800

#1	8606.4	62661.	2937.4
#2	8624.2	62792.	2946.5
#3	8611.3	62392.	2940.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1605002702 Acquired: 5/5/2016 12:25:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00089	-.01810	-.00036	.00312	.00057	-.00005	20.259	.00042
Stddev	.00084	.00569	.00080	.00088	.00025	.00001	.190	.00018
%RSD	94.224	31.435	223.50	28.105	43.481	16.427	.93887	44.427

#1	.00139	-.02303	.00003	.00219	.00058	-.00005	20.042	.00029
#2	-.00008	-.01188	.00018	.00326	.00081	-.00004	20.340	.00032
#3	.00134	-.01939	-.00127	.00393	.00032	-.00006	20.396	.00063

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	-.00065	.00096	.01876	27.404	-.00383	1.9744	-.00158
Stddev	.00026	.00080	.00056	.00326	.150	.00233	.0390	.00114
%RSD	145.07	123.94	58.199	17.356	.54647	60.974	1.9735	72.138

#1	.00040	-.00029	.00061	.02002	27.337	-.00652	2.0073	-.00137
#2	-.00011	-.00156	.00066	.01506	27.300	-.00246	1.9314	-.00281
#3	.00024	-.00009	.00160	.02119	27.576	-.00250	1.9845	-.00056

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00044	6.7221	.00092	11.666	.00207	-.00094	.00732	.03019
Stddev	.00054	.0535	.00014	.299	.00177	.00108	.00585	.00128
%RSD	123.57	.79608	14.741	2.5666	85.596	115.87	79.904	4.2262

#1	-.00010	6.6633	.00100	11.869	.00306	.00004	.01407	.03159
#2	.00044	6.7350	.00076	11.807	.00002	-.00210	.00400	.02909
#3	.00098	6.7680	.00099	11.322	.00312	-.00074	.00388	.02988

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605002702 Acquired: 5/5/2016 12:25:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00094	.00503	-.00010	.00150	.00033	.05983	.09806
Stddev	.00012	.00013	.00204	.00166	.00006	.00178	.04972
%RSD	12.761	2.5315	2047.7	110.32	16.813	2.9772	50.706

#1	.00107	.00506	-.00151	.00202	.00039	.06126	.04129
#2	.00086	.00514	-.00102	.00284	.00034	.06039	.13389
#3	.00087	.00489	.00224	-.00035	.00027	.05783	.11900

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8974.8	64248.	2927.0
Stddev	44.6	516.	6.3
%RSD	.49678	.80287	.21684

#1	8926.4	63688.	2932.3
#2	8983.8	64350.	2920.0
#3	9014.2	64704.	2928.7

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 12:29:00 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40384	9.9912	.39933	.49752	1.0077	.05035	10.024
Stddev	.00223	.0444	.00448	.00398	.0055	.00020	.049
%RSD	.55112	.44404	1.1231	.80023	.54278	.40172	.48754

#1	.40637	9.9459	.40256	.49829	1.0016	.05031	9.9703
#2	.40218	9.9931	.40122	.49321	1.0094	.05018	10.034
#3	.40297	10.035	.39421	.50106	1.0122	.05057	10.066

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05050	.20212	.49998	.50478	4.0277	50.860	1.0250
Stddev	.00016	.00098	.00270	.00284	.0274	.094	.0044
%RSD	.31806	.48519	.54068	.56279	.67980	.18576	.42498

#1	.05054	.20257	.50039	.50667	3.9966	50.796	1.0211
#2	.05064	.20281	.49710	.50616	4.0383	50.814	1.0297
#3	.05033	.20100	.50246	.50152	4.0482	50.968	1.0242

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.087	.50276	1.0059	51.007	.50344	10.031	.50804
Stddev	.117	.00510	.0088	.102	.00325	.064	.00241
%RSD	1.1609	1.0147	.87469	.20078	.64512	.64092	.47353

#1	9.9729	.49735	1.0132	50.908	.50567	10.070	.51082
#2	10.207	.50344	1.0084	51.000	.50494	10.066	.50656
#3	10.082	.50749	.99613	51.112	.49972	9.9566	.50675

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 12:29:00 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2059	.40306	5.0388	1.0028	1.0050	1.0030	.50799
Stddev	.0087	.00485	.0243	.0061	.0036	.0017	.00873
%RSD	.72431	1.2027	.48158	.61171	.35957	.17211	1.7182

#1	1.2109	.40597	5.0570	1.0075	1.0009	1.0018	.51321
#2	1.2109	.40575	5.0481	1.0051	1.0068	1.0050	.51285
#3	1.1958	.39747	5.0112	.99589	1.0074	1.0023	.49792

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	1.0018	1.0060	F .15882
Stddev	.0027	.0057	.06002
%RSD	.27385	.56240	37.794

#1	1.0035	1.0095	.18391
#2	.99867	1.0091	.09032
#3	1.0034	.99950	.20222

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7967.0	56511.	2637.7
Stddev	38.5	506.	21.6
%RSD	.48359	.89571	.81707

#1	8000.1	56357.	2616.6
#2	7924.7	57076.	2659.6
#3	7976.2	56100.	2637.0

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 12:32:36 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	-.00350	.00137	.00314	-.00017	.00002	.02362
Stddev	.00100	.00846	.00116	.00024	.00129	.00002	.02331
%RSD	629.01	241.44	84.656	7.4902	744.22	106.07	98.682

#1	.00113	.00479	.00267	.00329	.00012	.00001	.04038
#2	-.00086	-.00318	.00098	.00327	-.00159	.00005	-.00300
#3	.00021	-.01212	.00045	.00287	.00094	.00001	.03349

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	.00016	-.00050	-.00077	.00704	.10713	-.00076
Stddev	.00016	.00017	.00098	.00058	.01577	.03439	.00236
%RSD	128.74	106.35	196.06	75.267	224.11	32.106	308.11

#1	.00026	-.00001	.00029	-.00028	.02408	.07375	-.00143
#2	-.00006	.00032	-.00019	-.00142	.00407	.14246	-.00272
#3	.00018	.00015	-.00159	-.00062	-.00704	.10518	.00185

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06190	-.00244	.00190	.02386	-.00069	-.00364	.00097
Stddev	.08862	.00132	.00012	.03942	.00186	.00402	.00303
%RSD	143.16	54.039	6.4255	165.19	267.99	110.48	311.48

#1	.08723	-.00334	.00204	.04432	-.00153	-.00030	-.00253
#2	-.03662	-.00093	.00183	.04884	-.00199	-.00252	.00281
#3	.13510	-.00304	.00183	-.02158	.00143	-.00810	.00264

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 12:32:36 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0192	.00244	.00397	-.00041	.00046	-.00362	-.00296
Stddev	.00408	.00665	.00249	.00008	.00020	.00004	.00400
%RSD	212.76	272.93	62.816	20.199	43.375	1.0131	135.30

#1	-0.0637	.00039	.00674	-.00045	.00037	-.00358	-.00683
#2	.00164	-.00295	.00191	-.00047	.00033	-.00364	.00116
#3	-.00102	.00986	.00325	-.00032	.00069	-.00363	-.00321

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00039	-.00004	F -.06842
Stddev	.00073	.00037	.02122
%RSD	187.68	1051.5	31.014

#1	.00009	-.00001	-.05500
#2	.00122	-.00042	-.09289
#3	-.00014	.00033	-.05738

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7928.0	56927.	2579.2
Stddev	58.5	77.	8.0
%RSD	.73730	.13535	.30908

#1	7898.2	56838.	2580.6
#2	7995.3	56974.	2586.4
#3	7890.3	56968.	2570.6

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155120 Acquired: 5/5/2016 12:36:32 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567158-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00073	-.01295	.00088	1.5057	.10864	-.00001	66.651	.00027
Stddev	.00150	.00405	.00298	.0014	.00051	.00005	.200	.00025
%RSD	205.08	31.311	337.36	.09369	.46789	509.37	.30045	91.022

#1	.00059	-.01461	-.00163	1.5044	.10856	-.00005	66.429	.00026
#2	.00231	-.01591	.00418	1.5054	.10919	.00004	66.708	.00003
#3	-.00069	-.00833	.00010	1.5072	.10818	-.00001	66.817	.00053

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00037	-.00054	.00199	.06856	1.9269	.00536	10.180	.17902
Stddev	.00031	.00018	.00169	.00401	.0607	.00478	.119	.00050
%RSD	84.087	34.025	85.146	5.8463	3.1520	89.136	1.1683	.27803

#1	.00073	-.00063	.00009	.06410	1.9709	.00617	10.044	.17861
#2	.00025	-.00033	.00253	.06973	1.8576	.00968	10.263	.17888
#3	.00014	-.00067	.00334	.07185	1.9522	.00023	10.233	.17958

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00191	18.083	-.00004	-.00736	.00169	-.00059	.00722	3.2878
Stddev	.00005	.077	.00047	.00381	.00110	.00293	.00575	.0151
%RSD	2.5558	.42760	1138.6	51.832	64.726	497.54	79.741	.45872

#1	.00185	18.027	-.00007	-.01016	.00216	-.00396	.00213	3.3030
#2	.00195	18.052	.00044	-.00302	.00248	.00128	.00605	3.2874
#3	.00192	18.172	-.00050	-.00889	.00044	.00092	.01346	3.2729

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155120 Acquired: 5/5/2016 12:36:32 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567158-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0080	.18582	-0.00934	-0.00278	-0.00051	.00162	-0.0010
Stddev	.00104	.00065	.00277	.00281	.00045	.00020	.07862
%RSD	129.41	.34765	29.620	101.09	87.978	12.364	76892.

#1	-0.00199	.18508	-.01249	-.00551	-.00098	.00170	-.05202
#2	-0.00006	.18613	-.00822	.00011	-.00049	.00176	-.03864
#3	-0.00036	.18626	-.00731	-.00294	-.00007	.00139	.09035

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8207.4	59068.	2726.7
Stddev	29.0	308.	16.7
%RSD	.35380	.52216	.61231

#1	8225.9	58753.	2708.9
#2	8222.4	59369.	2729.3
#3	8174.0	59082.	2742.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155122MS Acquired: 5/5/2016 12:40:26 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567158-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19157	4.7041	.18738	2.4812	.59032	.02312	73.483	.02384
Stddev	.00154	.0080	.00246	.0027	.00159	.00015	.403	.00010
%RSD	.80223	.16948	1.3148	.10817	.26867	.63561	.54880	.41094

#1	.19199	4.7127	.18483	2.4794	.58926	.02296	73.106	.02387
#2	.19286	4.7027	.18755	2.4799	.59215	.02313	73.908	.02373
#3	.18987	4.6969	.18975	2.4843	.58956	.02325	73.434	.02392

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09443	.23741	.23779	1.9630	26.166	.49495	15.007	.41024
Stddev	.00060	.00161	.00070	.0294	.121	.00468	.128	.00155
%RSD	.63158	.67981	.29506	1.4966	.46223	.94552	.85001	.37770

#1	.09498	.23577	.23803	1.9350	26.267	.49471	14.981	.40972
#2	.09380	.23900	.23700	1.9603	26.032	.49040	14.894	.40902
#3	.09453	.23748	.23834	1.9936	26.199	.49975	15.145	.41199

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49649	42.470	.23721	4.7264	.23892	.57587	.19048	5.8733
Stddev	.00280	.181	.00174	.0268	.00283	.00515	.00125	.0255
%RSD	.56347	.42634	.73277	.56625	1.1830	.89424	.65524	.43372

#1	.49913	42.418	.23579	4.7486	.23985	.58181	.19114	5.8902
#2	.49355	42.671	.23669	4.6967	.23574	.57268	.18904	5.8440
#3	.49678	42.320	.23915	4.7339	.24116	.57311	.19126	5.8857

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155122MS Acquired: 5/5/2016 12:40:26 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567158-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48151	.67021	.47503	.23691	.48108	.46793	2.2617
Stddev	.00230	.00109	.00465	.00100	.00034	.00199	.0684
%RSD	.47850	.16304	.97870	.42025	.07075	.42595	3.0254
#1	.48333	.66926	.47731	.23750	.48111	.46919	2.3381
#2	.47892	.67140	.47810	.23576	.48073	.46563	2.2411
#3	.48228	.66996	.46968	.23746	.48141	.46897	2.2060

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8095.3	58122.	2706.0
Stddev	33.7	178.	21.1
%RSD	.41614	.30706	.77949
#1	8075.4	58306.	2714.1
#2	8134.2	58109.	2682.0
#3	8076.4	57950.	2721.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155124MSD Acquired: 5/5/2016 12:43:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567158-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19129	4.6958	.19070	2.5227	.59650	.02329	74.881	.02361
Stddev	.00250	.0195	.00657	.0063	.00441	.00007	.481	.00033
%RSD	1.3064	.41589	3.4468	.25164	.73959	.30525	.64264	1.4053

#1	.18919	4.7157	.18791	2.5154	.59311	.02321	74.591	.02391
#2	.19062	4.6766	.18597	2.5264	.60149	.02329	75.436	.02325
#3	.19406	4.6951	.19820	2.5263	.59491	.02335	74.616	.02366

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09374	.23696	.23612	1.9520	26.263	.49030	15.465	.42173
Stddev	.00203	.00130	.00499	.0256	.282	.00370	.130	.00264
%RSD	2.1603	.54933	2.1128	1.3122	1.0755	.75371	.84324	.62693

#1	.09412	.23784	.23685	1.9238	26.278	.48627	15.317	.42332
#2	.09155	.23547	.23080	1.9738	26.538	.49353	15.516	.42320
#3	.09554	.23758	.24070	1.9584	25.973	.49111	15.562	.41868

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49232	43.126	.23544	4.6964	.23732	.57406	.18263	5.9359
Stddev	.01034	.238	.00440	.0988	.00780	.01306	.00405	.1273
%RSD	2.1004	.55100	1.8685	2.1034	3.2857	2.2755	2.2169	2.1441

#1	.49422	42.942	.23676	4.7115	.23712	.57311	.17891	5.9531
#2	.48116	43.394	.23053	4.5909	.22962	.56149	.18202	5.8009
#3	.50158	43.041	.23903	4.7867	.24521	.58757	.18694	6.0537

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155124MSD Acquired: 5/5/2016 12:43:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567158-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.47923	.67890	.47694	.23545	.48132	.46576	.13124
Stddev	.01023	.00474	.00990	.00406	.00173	.00998	.05847
%RSD	2.1356	.69784	2.0756	1.7222	.35851	2.1430	44.551
#1	.47980	.67649	.47300	.23884	.48289	.46785	.06562
#2	.46872	.68436	.48820	.23096	.48161	.45489	.15032
#3	.48916	.67586	.46962	.23655	.47947	.47452	.17779

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8231.9	58120.	2739.1
Stddev	175.0	193.	22.6
%RSD	2.1257	.33155	.82430
#1	8196.3	57903.	2757.6
#2	8421.9	58185.	2745.8
#3	8077.5	58272.	2714.0

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 12:47:33 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40213	10.001	.40847	.51367	1.0250	.05081	10.202
Stddev	.00092	.019	.00240	.00701	.0052	.00020	.047
%RSD	.22902	.19179	.58773	1.3639	.50847	.39666	.45971

#1	.40261	10.015	.41122	.52157	1.0282	.05103	10.236
#2	.40271	10.009	.40736	.50819	1.0279	.05063	10.221
#3	.40107	9.9790	.40681	.51126	1.0190	.05077	10.148

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05148	.20622	.49914	.51297	4.0858	51.657	1.0352
Stddev	.00045	.00034	.00339	.00337	.0423	.317	.0075
%RSD	.86914	.16640	.67844	.65661	1.0345	.61358	.72367

#1	.05164	.20639	.50181	.51467	4.1276	51.754	1.0277
#2	.05183	.20645	.49533	.51514	4.0868	51.914	1.0427
#3	.05097	.20583	.50028	.50909	4.0431	51.303	1.0354

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.389	.51223	1.0309	51.996	.51246	10.154	.51294
Stddev	.090	.00548	.0058	.191	.00076	.017	.00141
%RSD	.86643	1.0701	.56011	.36755	.14748	.16703	.27454

#1	10.291	.50614	1.0368	52.123	.51328	10.170	.51346
#2	10.469	.51676	1.0305	52.088	.51179	10.156	.51401
#3	10.405	.51379	1.0253	51.776	.51232	10.136	.51134

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 12:47:33 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2300	.40743	5.1141	1.0200	1.0219	1.0198	.51283
Stddev	.0047	.01182	.0169	.0029	.0039	.0043	.00556
%RSD	.37851	2.8999	.32977	.28471	.38113	.42607	1.0840
#1	1.2343	.40035	5.1296	1.0230	1.0228	1.0148	.51589
#2	1.2305	.42107	5.1167	1.0197	1.0253	1.0222	.51619
#3	1.2251	.40086	5.0961	1.0172	1.0177	1.0224	.50641

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.99867	1.0230	F .10574
Stddev	.00342	.0021	.06744
%RSD	.34253	.20491	63.776
#1	1.0009	1.0249	.03416
#2	.99473	1.0234	.16808
#3	1.0004	1.0208	.11499

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7822.3	56103.	2562.4
Stddev	37.4	95.	21.4
%RSD	.47778	.16893	.83422
#1	7839.8	55995.	2567.6
#2	7779.4	56170.	2538.9
#3	7847.7	56144.	2580.6

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 12:51:08 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00057	.00137	.00169	.00761	.00010	.00010	.01586	-.00011
Stddev	.00094	.00401	.00265	.00043	.00016	.00004	.01430	.00018
%RSD	163.94	292.07	156.66	5.5952	161.30	42.201	90.129	165.50

#1	-.00012	-.00325	-.00094	.00808	.00028	.00009	.01956	-.00008
#2	.00020	.00345	.00437	.00748	-.00005	.00006	.02796	-.00030
#3	.00164	.00392	.00165	.00726	.00008	.00015	.00008	.00005

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	-.00047	-.00032	-.00716	.15860	-.00337	.06654	-.00432
Stddev	.00013	.00156	.00022	.00473	.11295	.00132	.05633	.00440
%RSD	38.298	328.87	70.272	66.091	71.218	39.197	84.648	101.68

#1	.00027	-.00224	-.00020	-.01097	.21420	-.00481	.12218	-.00119
#2	.00026	.00011	-.00018	-.00186	.23298	-.00310	.00955	-.00244
#3	.00049	.00071	-.00057	-.00866	.02863	-.00221	.06790	-.00935

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00207	.02213	-.00132	.00201	-.00052	.00113	-.00131	.00410
Stddev	.00046	.00159	.00119	.00772	.00190	.00521	.00857	.00151
%RSD	22.059	7.2055	90.405	383.57	362.56	462.36	656.05	36.851

#1	.00231	.02397	-.00269	-.00346	.00157	-.00419	-.00099	.00237
#2	.00236	.02126	-.00056	.01085	-.00214	.00134	-.01004	.00478
#3	.00154	.02117	-.00070	-.00135	-.00100	.00623	.00711	.00514

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 12:51:08 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00008	-.00005	-.00301	-.00281	-.00054	-.00020	.00057
Stddev	.00050	.00004	.00438	.00129	.00119	.00020	.03484
%RSD	613.68	76.054	145.28	45.819	222.00	98.864	6102.9

#1	-.00046	-.00008	.00171	-.00132	-.00080	-.00018	-.03707
#2	.00054	-.00001	-.00383	-.00359	.00077	-.00001	.03167
#3	.00017	-.00006	-.00693	-.00351	-.00158	-.00041	.00711

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7910.4	56433.	2522.1
Stddev	36.8	256.	9.0
%RSD	.46581	.45425	.35639

#1	7869.6	56472.	2511.9
#2	7941.3	56159.	2525.9
#3	7920.3	56667.	2528.6

Approved: May 06, 2016

K: K Buck

Sample Name: LLCCV Acquired: 5/5/2016 12:55:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00947	.16158	.00956	.08238	.00943	.00162	.48191	.00087
Stddev	.00214	.00572	.00174	.00114	.00036	.00002	.01485	.00018
%RSD	22.551	3.5411	18.252	1.3780	3.8577	1.0269	3.0818	20.595

#1	.00833	.15497	.01082	.08302	.00957	.00160	.46645	.00084
#2	.01194	.16493	.00757	.08107	.00970	.00163	.48321	.00071
#3	.00815	.16483	.01029	.08306	.00902	.00162	.49607	.00107

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00438	.00372	.00433	.08717	.93667	.08247	.49728	.00670
Stddev	.00018	.00027	.00136	.02656	.05511	.00294	.06699	.00245
%RSD	4.1054	7.2600	31.442	30.469	5.8840	3.5664	13.471	36.516

#1	.00419	.00351	.00421	.06127	.94553	.07930	.57172	.00838
#2	.00454	.00403	.00575	.11435	.87767	.08511	.44184	.00389
#3	.00440	.00363	.00304	.08590	.98682	.08301	.47828	.00783

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00870	.45018	.01755	.78849	.00704	.08483	.02118	.81562
Stddev	.00027	.03050	.00097	.00569	.00080	.00252	.00227	.00385
%RSD	3.1281	6.7755	5.5045	.72122	11.422	2.9729	10.713	.47186

#1	.00901	.46166	.01649	.78447	.00631	.08270	.01871	.81141
#2	.00850	.41560	.01778	.79500	.00692	.08761	.02168	.81653
#3	.00858	.47328	.01838	.78600	.00790	.08417	.02317	.81894

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: LLCCV Acquired: 5/5/2016 12:55:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41482	.04158	.02556	.16142	.00737	.01781	9.6102
Stddev	.00143	.00036	.00681	.00117	.00066	.00019	.0714
%RSD	.34473	.87542	26.661	.72368	8.9584	1.0643	.74343
#1	.41569	.04125	.01933	.16277	.00673	.01786	9.6860
#2	.41560	.04197	.03284	.16075	.00733	.01760	9.6006
#3	.41317	.04151	.02451	.16074	.00805	.01797	9.5440

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7858.9	56372.	2545.4
Stddev	36.7	479.	10.8
%RSD	.46711	.84964	.42289
#1	7850.1	56096.	2557.8
#2	7827.4	56096.	2540.1
#3	7899.2	56925.	2538.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155102 Acquired: 5/5/2016 12:59:03 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0084	.08404	.01280	38.230	.33223	.00101	39.837
Stddev	.00099	.00457	.00208	.055	.00122	.00003	.085
%RSD	116.94	5.4428	16.217	.14315	.36685	2.9115	.21317

#1	-0.0078	.08643	.01204	38.243	.33092	.00099	39.770
#2	-0.0186	.08692	.01515	38.170	.33242	.00104	39.808
#3	.00011	.07877	.01122	38.277	.33333	.00099	39.932

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00019	.00086	.01233	.00069	1.1272	7.4520	.01056
Stddev	.00024	.00017	.00047	.00075	.0126	.0833	.00259
%RSD	131.49	20.083	3.8091	109.33	1.1209	1.1172	24.570

#1	.00015	.00078	.01220	.00005	1.1148	7.3562	.01355
#2	-.00004	.00074	.01285	.00152	1.1268	7.4923	.00913
#3	.00044	.00105	.01194	.00050	1.1400	7.5074	.00899

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.984	.02926	.02341	F 293.39	.00501	.63660	.00254
Stddev	.011	.00304	.00016	.35	.00039	.00196	.00419
%RSD	.05363	10.390	.66366	.11763	7.8674	.30853	164.62

#1	20.981	.03138	.02325	293.00	.00536	.63885	-.00148
#2	20.996	.03061	.02357	293.67	.00510	.63573	.00224
#3	20.974	.02577	.02341	293.50	.00458	.63523	.00688

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155102 Acquired: 5/5/2016 12:59:03 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	.00437	8.2915	.00089	.14698	-.00366	.00198
Stddev	.00280	.00413	.0163	.00056	.00090	.00637	.00174
%RSD	3113.6	94.595	.19617	63.427	.61197	174.09	87.850

#1	.00168	.00092	8.3094	.00096	.14674	.00250	.00117
#2	.00137	.00324	8.2875	.00029	.14798	-.00325	.00398
#3	-.00332	.00895	8.2777	.00141	.14623	-.01023	.00079

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.01019	.01021	4.6831
Stddev	.00027	.00007	.0591
%RSD	2.6726	.69427	1.2629

#1	.01034	.01014	4.6312
#2	.00988	.01028	4.6706
#3	.01036	.01022	4.7475

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8476.3	60038.	2952.9
Stddev	30.2	340.	27.3
%RSD	.35640	.56632	.92522

#1	8444.0	59731.	2966.8
#2	8503.8	60403.	2970.5
#3	8481.2	59979.	2921.4

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155104 Acquired: 5/5/2016 13:02:55 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00087	.00293	-0.00007	25.575	.10124	-0.00000	129.98	.00026
Stddev	.00081	.00819	.00327	.025	.00166	.00006	.66	.00023
%RSD	92.234	279.36	4594.0	.09829	1.6431	14249.	.50411	87.724

#1	-0.00027	.01156	.00292	25.547	.09949	-0.00006	129.31	.00004
#2	-0.00057	-.00474	-.00357	25.583	.10281	.00003	130.62	.00024
#3	-.00179	.00197	.00044	25.596	.10143	.00003	130.00	.00050

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00089	.00116	.00152	.09661	2.7674	.01806	40.289	.34529
Stddev	.00025	.00034	.00068	.00588	.0404	.00324	.183	.00723
%RSD	28.143	29.657	45.143	6.0881	1.4593	17.957	.45365	2.0944

#1	.00060	.00129	.00145	.10329	2.8022	.02151	40.079	.33749
#2	.00105	.00142	.00223	.09219	2.7769	.01761	40.415	.35177
#3	.00102	.00077	.00087	.09436	2.7231	.01507	40.372	.34662

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00057	91.514	.00191	.00552	-.00110	.00099	.00267	8.4770
Stddev	.00036	.318	.00022	.00567	.00144	.00373	.00596	.0226
%RSD	61.990	.34802	11.529	102.61	130.53	378.31	222.89	.26697

#1	.00098	91.174	.00213	.00022	-.00088	-.00126	.00265	8.4652
#2	.00034	91.806	.00190	.00485	-.00265	.00529	.00864	8.5031
#3	.00040	91.563	.00169	.01150	.00021	-.00107	-.00328	8.4627

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155104 Acquired: 5/5/2016 13:02:55 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.24453	-.01593	.00059	-.00026	.00207	.02243
Stddev	.00058	.00143	.00224	.00254	.00052	.00007	.08406
%RSD	1541.9	.58583	14.092	431.96	202.35	3.5972	374.76

#1	-.00001	.24297	-.01762	-.00155	.00033	.00198	-.07228
#2	-.00051	.24486	-.01338	.00340	-.00044	.00212	.05137
#3	.00064	.24577	-.01679	-.00009	-.00066	.00210	.08820

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8087.7	57486.	2698.1
Stddev	7.1	248.	27.0
%RSD	.08744	.43096	1.0023

#1	8095.8	57711.	2669.7
#2	8082.9	57220.	2701.2
#3	8084.3	57526.	2723.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155106 Acquired: 5/5/2016 13:06:48 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00142	-0.00413	-0.00174	.19425	.05275	-0.00003	64.890	.00016
Stddev	.00095	.00873	.00174	.01031	.00063	.00003	.277	.00027
%RSD	67.191	211.51	100.44	5.3089	1.1890	109.27	.42652	164.41

#1	-0.00167	.00587	-0.00199	.20526	.05224	.00001	64.659	.00045
#2	-0.00037	-.01026	.00012	.19267	.05345	-.00004	65.197	.00011
#3	-0.00223	-.00800	-0.00334	.18482	.05256	-.00005	64.813	-.00007

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	.00041	.00047	.00842	.70094	.00129	18.567	.20795
Stddev	.00011	.00087	.00012	.00677	.05516	.00079	.076	.00118
%RSD	53.428	210.59	24.828	80.418	7.8690	61.327	.41143	.56725

#1	.00023	-.00022	.00041	.01600	.66722	.00167	18.606	.20825
#2	.00008	.00140	.00060	.00298	.76459	.00181	18.615	.20895
#3	.00030	.00005	.00039	.00627	.67100	.00038	18.479	.20665

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00346	15.751	-0.00056	.00453	.00179	.00173	-.00195	6.0168
Stddev	.00023	.059	.00069	.00189	.00141	.00063	.00396	.0299
%RSD	6.5136	.37604	123.69	41.679	78.336	36.379	203.22	.49685

#1	.00372	15.703	-0.00039	.00595	.00271	.00114	-.00555	5.9976
#2	.00330	15.817	.00003	.00525	.00018	.00166	-.00257	6.0513
#3	.00336	15.732	-0.00133	.00239	.00249	.00239	.00228	6.0016

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155106 Acquired: 5/5/2016 13:06:48 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0072	.15703	-0.00993	-0.00228	-0.00115	.00105	.14809
Stddev	.00070	.00026	.00138	.00109	.00023	.00009	.03680
%RSD	97.921	.16405	13.917	47.954	20.198	8.5315	24.849

#1	-0.0023	.15701	-0.00956	-0.00205	-0.00123	.00109	.18650
#2	-0.00152	.15729	-0.00878	-0.00347	-0.00089	.00111	.14463
#3	-0.00040	.15678	-0.01146	-0.00132	-0.00134	.00095	.11315

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8153.8	58594.	2713.3
Stddev	40.3	277.	3.9
%RSD	.49471	.47223	.14336

#1	8172.9	58360.	2715.1
#2	8181.0	58900.	2708.8
#3	8107.4	58523.	2715.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155108 Acquired: 5/5/2016 13:10:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00067	.00798	.00334	10.028	.16124	.00001	29.356	.00010
Stddev	.00083	.00261	.00220	.026	.00115	.00002	.128	.00024
%RSD	123.55	32.643	66.002	.25672	.71574	328.47	.43701	235.74

#1	.00101	.00514	.00316	10.052	.16051	-.00001	29.273	-.00017
#2	-.00027	.01026	.00123	10.001	.16257	-.00001	29.503	.00025
#3	.00127	.00854	.00563	10.031	.16065	.00003	29.290	.00023

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	.00041	-.00048	1.5519	7.0582	.01717	22.621	.01761
Stddev	.00013	.00146	.00021	.0230	.1301	.00358	.064	.00188
%RSD	48.441	357.00	44.668	1.4809	1.8435	20.871	.28440	10.659

#1	.00028	.00209	-.00039	1.5780	7.0798	.01403	22.548	.01683
#2	.00039	-.00056	-.00073	1.5430	7.1761	.01641	22.668	.01976
#3	.00013	-.00030	-.00033	1.5346	6.9186	.02108	22.647	.01625

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00639	179.99	-.00018	.09844	-.00202	.00155	.00314	6.4942
Stddev	.00030	.41	.00115	.00580	.00366	.00077	.00382	.0114
%RSD	4.7342	.22518	619.57	5.8890	180.94	49.506	121.82	.17588

#1	.00670	180.36	.00093	.10014	.00174	.00067	.00716	6.4810
#2	.00637	180.04	-.00012	.09198	-.00557	.00195	-.00046	6.5001
#3	.00609	179.56	-.00136	.10319	-.00223	.00205	.00272	6.5014

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155108 Acquired: 5/5/2016 13:10:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00056	.13987	-.00225	.00195	-.00070	.00216	.09635
Stddev	.00072	.00060	.00480	.00390	.00091	.00013	.08794
%RSD	127.81	.42818	213.90	200.43	130.90	6.2350	91.270

#1	.00072	.13942	-.00771	.00591	-.00168	.00201	.17036
#2	.00120	.14055	.00129	-.00188	.00011	.00227	.11956
#3	-.00022	.13964	-.00032	.00181	-.00051	.00221	-.00086

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8009.7	56907.	2688.5
Stddev	37.7	442.	21.5
%RSD	.47103	.77754	.80039

#1	8015.3	56448.	2686.6
#2	8044.2	57330.	2711.0
#3	7969.4	56942.	2668.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155112 Acquired: 5/5/2016 13:14:36 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00074	.00363	.00216	.14067	.00548	-0.00005	48.697	.00015
Stddev	.00095	.00832	.00114	.00585	.00067	.00004	.096	.00026
%RSD	128.53	229.35	52.735	4.1612	12.274	70.665	.19807	176.35

#1	.00034	.01316	.00188	.14680	.00535	-.00001	48.602	.00003
#2	-.00144	-.00220	.00119	.14006	.00488	-.00007	48.795	-.00003
#3	-.00112	-.00008	.00341	.13514	.00620	-.00008	48.694	.00045

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	.00058	.00142	.03412	.88499	.00575	14.816	.03640
Stddev	.00031	.00072	.00052	.01361	.08516	.00199	.008	.00221
%RSD	155.75	123.84	36.842	39.894	9.6230	34.600	.05450	6.0625

#1	.00022	-.00025	.00105	.03564	.90028	.00702	14.817	.03861
#2	-.00012	.00101	.00202	.04692	.79322	.00346	14.808	.03420
#3	.00051	.00099	.00119	.01982	.96148	.00677	14.824	.03638

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00065	19.113	-.00028	.00284	-.00200	-.00192	.00523	3.7287
Stddev	.00007	.088	.00083	.00267	.00248	.00106	.00393	.0123
%RSD	11.281	.45787	298.16	94.080	124.16	55.283	75.140	.32883

#1	.00062	19.032	-.00028	.00261	-.00122	-.00080	.00923	3.7149
#2	.00073	19.206	-.00111	.00029	-.00477	-.00204	.00509	3.7383
#3	.00059	19.100	.00055	.00562	-.00000	-.00291	.00137	3.7330

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155112 Acquired: 5/5/2016 13:14:36 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0007	.09075	-0.00416	-0.00076	.00017	.00742	.03544
Stddev	.00063	.00040	.00300	.00264	.00068	.00015	.07797
%RSD	886.28	.43951	72.245	348.98	400.66	2.0333	220.00

#1	.00022	.09040	-.00280	.00221	-.00013	.00731	.12343
#2	-.00080	.09118	-.00207	-.00166	-.00031	.00759	-.02510
#3	.00036	.09067	-.00760	-.00282	.00095	.00735	.00800

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8220.1	58534.	2690.2
Stddev	40.9	239.	8.8
%RSD	.49783	.40758	.32802

#1	8266.6	58315.	2699.5
#2	8189.7	58788.	2681.9
#3	8204.1	58497.	2689.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155114 Acquired: 5/5/2016 13:18:32 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00141	.00542	.00311	18.805	.13132	-.00004	79.270	.00020
Stddev	.00040	.00216	.00139	.034	.00161	.00011	.453	.00016
%RSD	28.508	39.837	44.678	.17974	1.2274	271.10	.57135	80.933

#1	-0.00107	.00753	.00436	18.824	.12965	.00008	78.752	.00030
#2	-0.00186	.00551	.00162	18.766	.13287	-.00011	79.471	.00001
#3	-0.00132	.00322	.00335	18.825	.13143	-.00009	79.588	.00029

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00114	.00013	.00203	.03938	7.5485	.00996	34.109	.47928
Stddev	.00017	.00062	.00084	.01254	.0429	.00078	.178	.00257
%RSD	14.818	472.90	41.258	31.832	.56858	7.7856	.52247	.53647

#1	.00102	-.00017	.00125	.05228	7.5960	.00912	33.991	.47750
#2	.00107	.00084	.00291	.03862	7.5367	.01011	34.314	.48223
#3	.00133	-.00028	.00192	.02724	7.5126	.01064	34.022	.47811

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00359	187.22	.00454	.01238	.00049	.00060	-.00272	6.5726
Stddev	.00015	.83	.00106	.00639	.00390	.00074	.00531	.0111
%RSD	4.2823	.44351	23.374	51.638	799.78	123.96	195.50	.16886

#1	.00343	186.26	.00576	.01075	.00227	-.00014	-.00277	6.5795
#2	.00374	187.77	.00387	.01943	-.00398	.00060	.00262	6.5785
#3	.00359	187.62	.00398	.00696	.00318	.00134	-.00801	6.5598

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155114 Acquired: 5/5/2016 13:18:32 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0041	.12656	-0.00815	-0.00095	-0.00019	.00571	.14382
Stddev	.00103	.00110	.00423	.00328	.00049	.00013	.03822
%RSD	251.94	.87060	51.889	345.49	258.91	2.3076	26.573

#1	-0.00003	.12534	-.01299	-.00346	-.00014	.00585	.10405
#2	-.00158	.12685	-.00626	-.00215	.00027	.00568	.14713
#3	.00038	.12749	-.00519	.00276	-.00071	.00559	.18027

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8008.9	57058.	2682.1
Stddev	23.5	110.	13.7
%RSD	.29336	.19226	.51017

#1	8011.4	57062.	2697.1
#2	7984.3	57165.	2670.2
#3	8031.1	56946.	2679.1

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155116 Acquired: 5/5/2016 13:22:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00066	.00095	.00691	15.722	.63399	-0.00005	84.709	.00018
Stddev	.00184	.00596	.00093	.013	.00308	.00004	.298	.00025
%RSD	279.97	629.58	13.511	.08094	.48572	81.724	.35133	140.34

#1	-.00151	.00014	.00765	15.720	.63495	-.00010	84.719	-.00008
#2	-.00191	.00727	.00721	15.736	.63647	-.00002	85.001	.00042
#3	.00145	-.00457	.00586	15.711	.63054	-.00004	84.406	.00020

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00117	.00041	.00156	5.4806	5.8584	.01200	32.046	.05091
Stddev	.00019	.00107	.00128	.0469	.0563	.00227	.021	.00284
%RSD	16.368	259.75	82.454	.85525	.96115	18.885	.06501	5.5767

#1	.00133	.00025	.00261	5.4713	5.8029	.01388	32.069	.04780
#2	.00122	-.00057	.00013	5.5314	5.9155	.01263	32.028	.05336
#3	.00096	.00155	.00194	5.4391	5.8568	.00948	32.040	.05156

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00214	213.80	.00009	.10685	.00340	.00038	.00432	7.7890
Stddev	.00033	1.31	.00032	.00254	.00212	.00242	.00641	.0259
%RSD	15.376	.61055	360.76	2.3764	62.412	634.46	148.42	.33235

#1	.00251	213.90	-.00020	.10563	.00096	.00317	.01132	7.8045
#2	.00205	215.05	.00004	.10976	.00477	-.00115	-.00125	7.8034
#3	.00187	212.44	.00042	.10514	.00448	-.00088	.00288	7.7591

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155116 Acquired: 5/5/2016 13:22:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0074	.34730	-0.00832	-0.00355	-0.00054	.00063	.12722
Stddev	.00074	.00048	.00290	.00147	.00057	.00013	.07472
%RSD	100.49	.13866	34.805	41.526	105.63	21.106	58.735

#1	-0.0025	.34688	-.01129	-.00391	-.00082	.00073	.19140
#2	-0.0038	.34783	-.00551	-.00193	-.00091	.00048	.04519
#3	-0.00160	.34718	-.00816	-.00480	.00012	.00067	.14507

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8066.0	57108.	2734.4
Stddev	24.4	328.	51.6
%RSD	.30240	.57400	1.8861

#1	8090.1	57458.	2693.8
#2	8041.3	57060.	2717.0
#3	8066.7	56808.	2792.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155118 Acquired: 5/5/2016 13:26:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00084	.00818	.00394	14.673	.59056	-.00003	79.133	.00021
Stddev	.00089	.00452	.00081	.019	.00357	.00001	.499	.00021
%RSD	106.08	55.303	20.487	.12771	.60469	29.812	.63045	100.45

#1	.00168	.01219	.00463	14.656	.58759	-.00004	78.579	.00044
#2	-.00009	.00907	.00305	14.671	.59452	-.00003	79.547	.00015
#3	.00092	.00328	.00415	14.693	.58956	-.00002	79.272	.00004

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00088	.00078	.00146	5.1177	5.6079	.00959	30.173	.04964
Stddev	.00044	.00060	.00091	.0566	.0252	.00349	.229	.00261
%RSD	50.203	77.269	62.642	1.1054	.44888	36.401	.75982	5.2527

#1	.00133	.00050	.00248	5.0525	5.6354	.01330	30.285	.04797
#2	.00046	.00037	.00071	5.1537	5.5860	.00910	30.326	.04832
#3	.00084	.00147	.00119	5.1469	5.6021	.00637	29.910	.05265

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00198	198.74	.00005	.08987	-.00061	.00024	.00423	7.3032
Stddev	.00036	1.03	.00081	.00218	.00214	.00117	.00291	.0269
%RSD	17.969	.51858	1521.1	2.4305	351.17	484.38	68.717	.36807

#1	.00157	197.81	.00097	.08854	-.00180	-.00028	.00512	7.3112
#2	.00218	199.85	-.00023	.08869	.00186	.00158	.00098	7.3253
#3	.00220	198.56	-.00058	.09240	-.00189	-.00058	.00659	7.2733

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155118 Acquired: 5/5/2016 13:26:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0016	.32477	-0.00532	-0.00389	-0.00016	.00169	.13578
Stddev	.00041	.00170	.00601	.00076	.00058	.00004	.07933
%RSD	253.96	.52408	112.97	19.626	359.40	2.6156	58.430

#1	-0.0023	.32286	-0.00792	-0.00451	-0.00037	.00172	.14170
#2	-0.00053	.32613	-0.00958	-0.00304	-0.00061	.00164	.05364
#3	.00028	.32532	.00155	-0.00413	.00050	.00170	.21198

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8053.1	57257.	2729.6
Stddev	29.1	115.	3.7
%RSD	.36140	.20051	.13504

#1	8063.3	57234.	2728.3
#2	8020.3	57382.	2726.7
#3	8075.8	57156.	2733.7

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155126 Acquired: 5/5/2016 13:29:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00070	.00174	.00088	12.740	.21699	-0.00004	88.027	.00019
Stddev	.00159	.00265	.00081	.022	.00185	.00004	.518	.00015
%RSD	228.40	152.12	91.538	.17185	.85276	109.09	.58827	77.831

#1	-.00253	.00320	.00030	12.746	.21514	.00001	87.477	.00036
#2	.00033	.00333	.00181	12.716	.21884	-.00007	88.505	.00009
#3	.00011	-.00131	.00055	12.758	.21699	-.00005	88.100	.00013

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00074	-0.00000	.00205	.00587	6.9011	.02637	30.773	.22372
Stddev	.00022	.00022	.00092	.01231	.0599	.00186	.306	.00342
%RSD	29.612	5029.7	44.782	209.55	.86741	7.0609	.99539	1.5281

#1	.00053	.00024	.00171	-.00043	6.8680	.02701	30.422	.22321
#2	.00097	-.00020	.00134	-.00201	6.8652	.02428	30.909	.22059
#3	.00072	-.00005	.00308	.02006	6.9702	.02783	30.987	.22737

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00109	173.63	.00207	-.00482	.00143	.00017	.00033	7.3923
Stddev	.00009	.69	.00081	.00346	.00169	.00354	.00651	.0359
%RSD	8.5652	.39675	39.109	71.848	118.18	2034.5	1942.5	.48503

#1	.00110	172.94	.00122	-.00109	.00116	-.00270	.00264	7.4201
#2	.00119	174.31	.00215	-.00544	.00325	.00413	-.00701	7.4050
#3	.00100	173.63	.00283	-.00792	-.00011	-.00091	.00537	7.3518

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155126 Acquired: 5/5/2016 13:29:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.21271	-.01440	-.00246	.00024	.00244	.12274
Stddev	.00119	.00077	.00277	.00082	.00090	.00006	.02467
%RSD	2871.4	.36428	19.262	33.332	376.03	2.5986	20.101

#1	-.00093	.21186	-.01166	-.00172	-.00052	.00238	.14721
#2	-.00031	.21289	-.01721	-.00334	.00001	.00251	.09787
#3	.00136	.21338	-.01433	-.00231	.00123	.00244	.12312

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8133.4	57670.	2761.7
Stddev	49.9	426.	40.7
%RSD	.61307	.73884	1.4734

#1	8187.1	57200.	2808.7
#2	8088.5	58031.	2738.2
#3	8124.8	57780.	2738.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155128 Acquired: 5/5/2016 13:33:50 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00144	-0.00464	.00722	4.8915	.10291	.00001	50.080	.00003
Stddev	.00188	.00204	.00427	.0181	.00048	.00004	.165	.00007
%RSD	130.55	43.967	59.067	.37093	.46556	349.96	.32917	268.27

#1	-0.00298	-0.00655	.00855	4.9090	.10236	.00002	49.943	.00006
#2	-0.00198	-0.00487	.00245	4.8728	.10323	.00005	50.035	.00008
#3	.00065	-0.00249	.01067	4.8928	.10315	-0.00003	50.263	-0.00006

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00072	.00040	.00184	1.0566	2.9137	.00886	20.096	.09502
Stddev	.00018	.00056	.00112	.0202	.0740	.00135	.097	.00275
%RSD	24.777	139.37	61.161	1.9067	2.5406	15.275	.48371	2.8931

#1	.00068	.00096	.00057	1.0344	2.8775	.00986	20.133	.09223
#2	.00091	.00040	.00225	1.0737	2.8647	.00940	20.169	.09510
#3	.00056	-0.00016	.00270	1.0616	2.9989	.00732	19.985	.09773

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00469	70.415	.00048	.00548	.00242	.00013	.00064	6.0644
Stddev	.00020	.202	.00041	.00611	.00141	.00363	.00255	.0043
%RSD	4.3433	.28617	85.226	111.44	58.497	2824.5	395.93	.07001

#1	.00487	70.187	.00095	.01240	.00364	.00336	.00355	6.0692
#2	.00447	70.569	.00019	.00319	.00087	-0.00380	-0.00125	6.0631
#3	.00474	70.488	.00031	.00085	.00274	.00083	-0.00036	6.0610

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155128 Acquired: 5/5/2016 13:33:50 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0051	.11969	-0.00534	-0.00183	-0.00091	.00119	-0.01630
Stddev	.00006	.00059	.00475	.00195	.00112	.00007	.04045
%RSD	11.488	.48945	88.960	106.42	122.86	6.0597	248.24

#1	-0.00056	.11929	-0.00032	-0.00137	-0.00201	.00111	-.05305
#2	-0.00053	.11943	-0.00593	-0.00397	.00023	.00124	-.02288
#3	-0.00045	.12037	-0.00977	-0.00015	-0.00096	.00121	.02704

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8242.1	58732.	2747.2
Stddev	24.4	189.	13.1
%RSD	.29574	.32252	.47852

#1	8217.7	58553.	2761.9
#2	8242.0	58714.	2736.6
#3	8266.5	58930.	2743.1

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 13:37:43 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40298	10.012	.40584	F .57042	1.0076	.05025	10.027
Stddev	.00086	.010	.00206	.00574	.0044	.00008	.061
%RSD	.21268	.10338	.50810	1.0061	.43451	.15284	.60351

#1	.40397	10.011	.40675	.57632	1.0057	.05031	10.051
#2	.40255	10.002	.40729	.57007	1.0125	.05017	10.072
#3	.40243	10.023	.40348	.56486	1.0044	.05029	9.9585

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value				.50000			
Range				10.000%			

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05100	.20429	.49766	.51032	4.0411	50.868	1.0275
Stddev	.00038	.00067	.00256	.00079	.0280	.290	.0029
%RSD	.75214	.32651	.51520	.15420	.69251	.57054	.28417

#1	.05073	.20455	.49472	.50960	4.0314	50.731	1.0271
#2	.05084	.20353	.49887	.51019	4.0726	51.201	1.0305
#3	.05144	.20479	.49940	.51116	4.0191	50.671	1.0247

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.134	.50795	1.0210	51.112	.50851	10.074	.50951
Stddev	.058	.00025	.0040	.234	.00173	.010	.00457
%RSD	.57346	.04979	.38907	.45831	.34117	.09736	.89753

#1	10.082	.50812	1.0252	51.133	.50973	10.084	.51477
#2	10.197	.50766	1.0173	51.335	.50652	10.065	.50649
#3	10.125	.50806	1.0206	50.867	.50928	10.072	.50725

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 13:37:43 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2094	.40803	5.0836	1.0098	1.0056	1.0139	.51005
Stddev	.0063	.01373	.0190	.0043	.0039	.0135	.00108
%RSD	.52307	3.3656	.37443	.42422	.38611	1.3316	.21176

#1	1.2131	.41884	5.0990	1.0126	1.0050	1.0047	.51130
#2	1.2021	.39257	5.0623	1.0049	1.0098	1.0294	.50945
#3	1.2130	.41267	5.0894	1.0120	1.0021	1.0076	.50940

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	1.0006	1.0113	F .50836
Stddev	.0013	.0035	.10132
%RSD	.13365	.34176	19.930

#1	.99936	1.0141	.52714
#2	1.0020	1.0074	.39897
#3	1.0005	1.0123	.59898

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7853.9	56314.	2588.1
Stddev	17.4	93.	8.4
%RSD	.22105	.16465	.32568

#1	7862.4	56287.	2589.5
#2	7865.4	56238.	2595.8
#3	7833.9	56418.	2579.1

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 13:41:18 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00069	-.00680	.00042	.04730	.00058	.00003	.02323
Stddev	.00175	.00127	.00443	.00494	.00068	.00003	.01295
%RSD	253.89	18.711	1056.0	10.455	116.22	104.99	55.729

#1	.00246	-.00740	.00552	.05144	.00049	-.00000	.00861
#2	-.00105	-.00766	-.00188	.04863	.00130	.00005	.03323
#3	.00066	-.00534	-.00239	.04182	-.00004	.00003	.02786

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00011	.00021	-.00004	.00037	.00466	.05620	-.00244
Stddev	.00005	.00024	.00021	.00110	.01486	.03597	.00245
%RSD	40.779	114.19	483.77	297.31	319.18	64.016	100.39

#1	-.00006	.00004	.00014	-.00065	.01006	.05742	-.00504
#2	-.00014	.00049	-.00027	.00022	-.01215	.09154	-.00016
#3	-.00014	.00011	-.00000	.00153	.01606	.01962	-.00213

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.13953	-.00348	.00206	.03032	.00016	-.00579	-.00181
Stddev	.03628	.00245	.00011	.00814	.00120	.00256	.00150
%RSD	26.004	70.538	5.5291	26.838	734.41	44.224	82.690

#1	.15467	-.00631	.00213	.03846	-.00038	-.00296	-.00205
#2	.09812	-.00209	.00193	.02218	.00154	-.00795	-.00317
#3	.16578	-.00203	.00212	.03031	-.00068	-.00644	-.00021

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 13:41:18 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00374	.00069	.00524	.00025	.00007	-0.00138	-0.00079
Stddev	.00231	.00136	.00174	.00039	.00038	.00390	.00270
%RSD	61.605	198.19	33.229	156.93	585.74	283.03	343.27

#1	-0.00226	.00173	.00513	.00069	.00051	.00023	-.00389
#2	-0.00257	-.00085	.00704	.00013	-.00019	.00146	.00100
#3	-0.00640	.00117	.00356	-.00007	-.00012	-.00583	.00053

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00072	-0.00025	F -.08254
Stddev	.00116	.00008	.11997
%RSD	161.58	32.605	145.35

#1	.00177	-.00021	-.13474
#2	.00092	-.00020	-.16756
#3	-.00053	-.00035	.05469

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7921.6	56786.	2572.1
Stddev	31.1	348.	41.0
%RSD	.39200	.61294	1.5947

#1	7886.3	56556.	2608.7
#2	7933.6	56615.	2527.7
#3	7944.8	57186.	2579.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155130 Acquired: 5/5/2016 13:45:16 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00060	-.00634	-.00266	3.9767	.05826	.00004	72.327	.00032
Stddev	.00135	.00100	.00106	.0097	.00161	.00002	.282	.00011
%RSD	225.38	15.748	39.917	.24448	2.7565	37.065	.38924	34.117

#1	.00150	-.00737	-.00279	3.9878	.05652	.00006	72.093	.00023
#2	.00125	-.00629	-.00154	3.9697	.05969	.00003	72.250	.00028
#3	-.00095	-.00537	-.00365	3.9725	.05857	.00004	72.639	.00044

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00001	.00023	.00186	.00372	2.3013	.00957	14.433	-.00244
Stddev	.00026	.00036	.00080	.00875	.0687	.00439	.193	.00059
%RSD	2749.3	156.23	42.790	235.07	2.9843	45.818	1.3362	24.035

#1	.00019	.00032	.00189	.01348	2.2768	.00752	14.274	-.00212
#2	-.00030	-.00016	.00265	-.00341	2.3789	.00659	14.378	-.00209
#3	.00008	.00053	.00106	.00109	2.2483	.01461	14.648	-.00312

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00306	50.416	-.00026	-.00509	.00139	.00195	.01131	4.0846
Stddev	.00033	.137	.00109	.00284	.00214	.00354	.00421	.0084
%RSD	10.863	.27138	418.92	55.752	154.22	181.79	37.225	.20618

#1	.00296	50.317	-.00063	-.00727	.00335	.00059	.00647	4.0931
#2	.00279	50.360	.00096	-.00612	.00171	.00596	.01341	4.0762
#3	.00343	50.572	-.00111	-.00188	-.00090	-.00071	.01407	4.0845

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155130 Acquired: 5/5/2016 13:45:16 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00006	.18489	-.00941	-.00050	-.00090	.00139	.09924
Stddev	.00106	.00141	.00274	.00359	.00050	.00003	.06954
%RSD	1635.2	.76000	29.151	715.30	55.750	2.2774	70.073

#1	.00068	.18401	-.00762	.00196	-.00093	.00136	.04685
#2	.00067	.18416	-.00804	-.00462	-.00138	.00138	.17813
#3	-.00116	.18651	-.01257	.00116	-.00038	.00142	.07274

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8130.9	58196.	2731.8
Stddev	3.9	134.	19.0
%RSD	.04830	.23017	.69600

#1	8127.8	58084.	2729.8
#2	8129.7	58160.	2751.7
#3	8135.3	58344.	2713.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155132 Acquired: 5/5/2016 13:49:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00056	.00156	.00063	14.806	.07875	.00000	65.932	.00021
Stddev	.00140	.00289	.00139	.024	.00040	.00006	.219	.00021
%RSD	250.38	185.01	218.42	.16104	.51133	1667.8	.33242	101.55

#1	-.00070	.00392	-.00008	14.833	.07891	.00004	65.740	.00010
#2	.00031	.00243	-.00025	14.796	.07904	-.00007	66.170	.00045
#3	.00207	-.00166	.00223	14.789	.07829	.00004	65.884	.00007

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00075	.00055	.00284	.01945	7.0515	.05856	39.834	-.00172
Stddev	.00016	.00035	.00107	.00214	.0193	.00223	.198	.00088
%RSD	21.195	64.149	37.518	10.992	.27306	3.8150	.49802	51.309

#1	.00056	.00032	.00404	.01699	7.0294	.05607	39.607	-.00115
#2	.00082	.00037	.00250	.02089	7.0609	.05921	39.975	-.00127
#3	.00085	.00095	.00199	.02046	7.0643	.06039	39.920	-.00273

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00273	244.12	-.00048	-.00831	-.00153	-.00274	.00929	10.743
Stddev	.00040	.82	.00081	.00086	.00164	.00160	.00488	.006
%RSD	14.578	.33776	166.62	10.376	107.72	58.470	52.537	.05210

#1	.00274	243.34	.00038	-.00798	-.00303	-.00455	.00368	10.741
#2	.00313	244.98	-.00062	-.00929	.00023	-.00213	.01254	10.738
#3	.00233	244.03	-.00121	-.00766	-.00178	-.00153	.01164	10.749

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155132 Acquired: 5/5/2016 13:49:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	.33930	-.00571	.00005	-.00040	.00240	.05267
Stddev	.00099	.00204	.00233	.00376	.00015	.00012	.09467
%RSD	482.18	.60119	40.717	7236.7	36.630	5.1928	179.77

#1	-.00075	.33704	-.00725	-.00125	-.00034	.00249	.03976
#2	.00122	.34101	-.00304	-.00289	-.00057	.00226	-.03489
#3	.00015	.33985	-.00685	.00429	-.00030	.00244	.15313

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8025.0	57117.	2750.0
Stddev	67.0	284.	11.6
%RSD	.83472	.49728	.42251

#1	7947.8	56973.	2756.0
#2	8058.9	56934.	2736.6
#3	8068.2	57444.	2757.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155134 Acquired: 5/5/2016 13:53:03 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0002	-0.00418	.00184	3.8026	.05962	-0.00004	47.660
Stddev	.00087	.00293	.00189	.0095	.00067	.00003	.134
%RSD	3571.6	70.229	102.94	.25010	1.1255	61.245	.28189

#1	-0.00092	-0.00466	.00022	3.8132	.05925	-0.00007	47.573
#2	.00081	-0.00684	.00138	3.7998	.05921	-0.00004	47.815
#3	.00004	-0.00103	.00392	3.7948	.06039	-0.00002	47.593

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00036	.00025	.00079	.00194	-0.00285	3.7539	.02533
Stddev	.00018	.00022	.00052	.00116	.01196	.0703	.00426
%RSD	50.672	88.370	65.873	59.869	420.28	1.8733	16.828

#1	.00047	.00002	.00098	.00291	.00008	3.6782	.03003
#2	.00015	.00047	.00119	.00065	.00738	3.7662	.02425
#3	.00045	.00027	.00020	.00225	-0.01600	3.8172	.02172

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.276	F -0.00389	.00232	98.306	-0.00005	.02128	-0.00310
Stddev	.053	.00178	.00013	.251	.00071	.00297	.00212
%RSD	.18033	45.772	5.5084	.25580	1524.7	13.974	68.434

#1	29.227	-0.00302	.00227	98.255	.00032	.01889	-0.00292
#2	29.332	-0.00594	.00246	98.579	-0.00087	.02034	-0.00530
#3	29.270	-0.00272	.00222	98.083	.00041	.02461	-0.00107

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		36.000					
Low Limit		-0.00300					

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155134 Acquired: 5/5/2016 13:53:03 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03452	.00135	10.906	-.00076	.15307	-.00640	-.00330
Stddev	.00272	.00227	.029	.00070	.00083	.00411	.00151
%RSD	7.8760	167.93	.26557	92.839	.54405	64.287	45.700

#1	.03447	.00397	10.939	-.00149	.15219	-.00316	-.00156
#2	.03183	-.00001	10.896	-.00069	.15384	-.01102	-.00420
#3	.03727	.00009	10.884	-.00009	.15319	-.00501	-.00415

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00016	.00085	.03228
Stddev	.00124	.00015	.07212
%RSD	760.66	17.608	223.42

#1	-.00093	.00068	.10126
#2	-.00008	.00091	.03819
#3	.00150	.00096	-.04261

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8188.5	58505.	2767.8
Stddev	20.7	532.	23.9
%RSD	.25249	.90912	.86503

#1	8194.3	57920.	2740.2
#2	8205.7	58960.	2779.9
#3	8165.5	58633.	2783.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155136 Acquired: 5/5/2016 13:56:58 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0088	.24775	.00688	.07099	.07283	.00000	48.703	.00013
Stddev	.00034	.00805	.00239	.00412	.00090	.00004	.700	.00027
%RSD	38.180	3.2500	34.710	5.8048	1.2423	3047.8	1.4381	214.35

#1	-0.0053	.24908	.00508	.07060	.07180	-0.0001	47.914	.00043
#2	-0.0120	.23912	.00597	.07529	.07316	-0.0003	48.940	-0.0008
#3	-0.0092	.25506	.00958	.06708	.07352	.00005	49.253	.00002

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00047	-0.0030	.00159	.73616	.84266	.00607	14.931	.09177
Stddev	.00017	.00093	.00066	.01848	.05875	.00261	.101	.00222
%RSD	35.746	304.97	41.352	2.5106	6.9725	42.977	.67468	2.4243

#1	.00067	-0.0073	.00103	.74604	.78331	.00722	14.842	.08956
#2	.00038	-0.0095	.00231	.74760	.84388	.00308	14.910	.09401
#3	.00038	.00076	.00142	.71484	.90080	.00790	15.040	.09175

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00236	5.1556	.00021	.00997	-0.00150	.00058	.00046	5.5823
Stddev	.00026	.0092	.00063	.00342	.00192	.00399	.00325	.0274
%RSD	11.012	.17741	296.03	34.249	128.18	692.30	698.66	.49082

#1	.00251	5.1660	.00094	.00879	-0.00370	-0.00289	.00279	5.6009
#2	.00252	5.1488	-0.0013	.01382	-0.00069	.00494	.00184	5.5950
#3	.00206	5.1520	-0.0017	.00730	-0.0011	-0.00032	-0.00324	5.5508

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155136 Acquired: 5/5/2016 13:56:58 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0032	.10447	.00156	-0.00181	.00004	.00194	.05709
Stddev	.00044	.00030	.00499	.00047	.00061	.00009	.03654
%RSD	137.15	.29023	318.67	26.018	1454.0	4.5283	64.008

#1	-0.0042	.10419	.00411	-0.00221	-0.00065	.00189	.02037
#2	.00016	.10443	-0.00418	-0.00129	.00050	.00204	.09344
#3	-0.00071	.10479	.00476	-0.00192	.00027	.00189	.05744

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8246.6	59403.	2713.2
Stddev	13.7	275.	12.9
%RSD	.16663	.46262	.47690

#1	8231.9	59471.	2714.8
#2	8248.8	59636.	2725.3
#3	8259.1	59100.	2699.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155138 Acquired: 5/5/2016 14:00:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00057	.04748	.01224	2.3437	.50700	.00003	73.062	.00042
Stddev	.00048	.01085	.00206	.0063	.00187	.00004	.379	.00018
%RSD	85.030	22.851	16.843	.26952	.36788	133.86	.51880	43.368

#1	.00066	.05822	.01002	2.3454	.50553	.00008	72.701	.00062
#2	.00099	.03652	.01410	2.3367	.50910	.00001	73.456	.00035
#3	.00004	.04769	.01261	2.3490	.50636	.00001	73.028	.00028

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	.00052	.00203	1.5392	3.5678	.00999	26.527	.21148
Stddev	.00049	.00071	.00120	.0265	.0492	.00222	.130	.00167
%RSD	2633.7	136.18	58.904	1.7238	1.3786	22.202	.48897	.79013

#1	.00002	.00104	.00341	1.5418	3.5893	.00838	26.411	.21033
#2	.00050	-.00029	.00126	1.5644	3.5116	.00907	26.667	.21340
#3	-.00047	.00083	.00143	1.5115	3.6027	.01252	26.503	.21073

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00261	48.134	-.00036	.19419	.00044	.00130	-.00278	15.074
Stddev	.00061	.184	.00130	.00246	.00173	.00284	.00384	.011
%RSD	23.480	.38319	359.43	1.2676	393.88	218.76	138.15	.07171

#1	.00331	47.949	-.00129	.19184	-.00061	.00330	.00114	15.062
#2	.00239	48.318	.00112	.19675	.00244	.00255	-.00652	15.077
#3	.00214	48.135	-.00091	.19398	-.00051	-.00195	-.00295	15.083

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155138 Acquired: 5/5/2016 14:00:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0074	.17180	-0.00932	-0.00241	.00022	.00103	.13495
Stddev	.00084	.00090	.00364	.00121	.00183	.00017	.05210
%RSD	114.23	.52421	39.047	50.293	832.54	16.653	38.604

#1	.00021	.17126	-.01206	-.00299	.00117	.00084	.14866
#2	-.00100	.17284	-.00519	-.00102	.00139	.00117	.07737
#3	-.00142	.17131	-.01070	-.00323	-.00189	.00107	.17883

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8123.5	58679.	2720.9
Stddev	5.8	291.	11.9
%RSD	.07147	.49510	.43915

#1	8116.8	58561.	2707.7
#2	8127.1	59010.	2731.0
#3	8126.6	58465.	2723.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155102 Acquired: 5/5/2016 14:04:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 2 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0088	.04121	.00595	20.128	.17641	.00057	21.223	.00006
Stddev	.00104	.01319	.00278	.004	.00187	.00002	.170	.00008
%RSD	119.20	32.014	46.648	.01756	1.0605	4.2034	.80057	130.49

#1	-0.0044	.04397	.00868	20.131	.17426	.00056	21.055	-0.0002
#2	-0.0012	.05280	.00313	20.124	.17770	.00059	21.395	.00005
#3	-0.00207	.02685	.00606	20.128	.17726	.00055	21.220	.00014

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00064	.00587	.00029	.59962	3.9530	.00362	11.224	.01736
Stddev	.00037	.00041	.00049	.02344	.0780	.00243	.201	.00299
%RSD	57.097	7.0575	172.70	3.9092	1.9731	67.210	1.7924	17.200

#1	.00079	.00615	.00001	.60400	3.9874	.00641	10.991	.01391
#2	.00022	.00540	-.00001	.62056	3.8637	.00194	11.335	.01899
#3	.00091	.00608	.00086	.57430	4.0078	.00251	11.344	.01918

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01205	156.57	.00223	.32574	-.00130	.00135	-.00439	4.3112
Stddev	.00042	1.10	.00040	.00712	.00174	.00142	.00454	.0081
%RSD	3.4829	.70031	18.032	2.1858	133.82	105.25	103.49	.18892

#1	.01170	155.38	.00224	.31990	-.00285	-.00004	-.00374	4.3125
#2	.01251	157.55	.00263	.33367	.00058	.00280	-.00021	4.3186
#3	.01192	156.77	.00183	.32365	-.00164	.00128	-.00922	4.3025

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155102 Acquired: 5/5/2016 14:04:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 2 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0015	.07771	-0.00066	.00237	.00653	.00185	2.6965
Stddev	.00047	.00072	.00361	.00155	.00082	.00017	.0861
%RSD	315.16	.92081	543.62	65.431	12.593	9.0677	3.1934

#1	.00029	.07692	.00332	.00315	.00724	.00204	2.7919
#2	-0.00064	.07792	-0.00370	.00338	.00673	.00175	2.6730
#3	-0.00009	.07830	-0.00162	.00059	.00563	.00175	2.6246

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8192.7	58050.	2730.9
Stddev	29.5	212.	29.8
%RSD	.36046	.36437	1.0911

#1	8178.8	58082.	2752.9
#2	8172.7	57824.	2697.0
#3	8226.6	58244.	2742.7

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 14:08:40 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40083	9.9070	.40499	F .60260	1.0121	.05030	10.044
Stddev	.00415	.1140	.00196	.00984	.0089	.00033	.101
%RSD	1.0349	1.1505	.48450	1.6336	.87504	.65851	1.0046

#1	.40145	9.9414	.40465	.61024	1.0091	.05048	10.028
#2	.40463	9.9998	.40321	.60607	1.0221	.05049	10.152
#3	.39641	9.7798	.40709	.59149	1.0052	.04991	9.9517

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value				.50000			
Range				10.000%			

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05075	.20425	.49203	.51122	4.0375	51.071	1.0228
Stddev	.00040	.00114	.00389	.00213	.0325	.345	.0161
%RSD	.78237	.55872	.79049	.41740	.80501	.67545	1.5741

#1	.05118	.20539	.49189	.51362	4.0267	50.889	1.0227
#2	.05041	.20425	.49598	.50953	4.0741	51.469	1.0390
#3	.05065	.20311	.48820	.51051	4.0119	50.856	1.0068

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.169	.50717	1.0202	51.238	.50866	10.128	.50973
Stddev	.179	.00191	.0071	.425	.00102	.056	.00126
%RSD	1.7558	.37659	.69962	.82852	.19970	.55429	.24664

#1	10.169	.50870	1.0277	51.175	.50974	10.192	.50878
#2	10.347	.50778	1.0193	51.690	.50772	10.105	.50925
#3	9.9904	.50503	1.0135	50.848	.50852	10.087	.51115

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 14:08:40 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2211	.40193	5.1051	1.0141	1.0092	1.0114	.50947
Stddev	.0094	.01072	.0203	.0056	.0079	.0126	.00596
%RSD	.76863	2.6670	.39786	.54950	.78374	1.2436	1.1697

#1	1.2318	.41334	5.1285	1.0201	1.0087	1.0038	.51283
#2	1.2166	.40038	5.0954	1.0131	1.0173	1.0259	.51299
#3	1.2147	.39207	5.0915	1.0091	1.0015	1.0045	.50259

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.98929	1.0150	F .29131
Stddev	.00720	.0053	.02930
%RSD	.72816	.52172	10.059

#1	.99324	1.0211	.26419
#2	.99365	1.0121	.32240
#3	.98097	1.0118	.28735

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7887.8	56325.	2603.0
Stddev	45.7	126.	31.1
%RSD	.57969	.22427	1.1948

#1	7835.2	56179.	2606.9
#2	7918.2	56394.	2570.1
#3	7910.0	56401.	2631.9

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 14:12:16 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0011	-0.01006	.00081	.05490	.00048	.00004	.01236
Stddev	.00077	.01075	.00091	.00226	.00053	.00002	.01484
%RSD	696.47	106.78	112.86	4.1175	110.14	58.122	120.07

#1	-0.00002	-0.00745	-0.00020	.05747	.00000	.00001	.00001
#2	.00061	-0.00086	.00104	.05322	.00039	.00005	.02883
#3	-0.00092	-0.02187	.00159	.05400	.00105	.00005	.00824

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00009	.00013	-0.00071	.00069	-0.00807	.08423	.00019
Stddev	.00015	.00023	.00023	.00094	.00892	.04141	.00446
%RSD	164.62	172.99	32.109	135.62	110.51	49.166	2373.8

#1	.00026	.00038	-0.00087	.00155	-0.01814	.13001	-0.00362
#2	.00004	-0.00008	-0.00045	.00084	-0.00493	.07329	.00510
#3	-0.00002	.00010	-0.00081	-0.00031	-0.00115	.04938	-0.00091

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05746	-0.00108	.00180	.01260	.00007	-0.00515	-0.00024
Stddev	.06921	.00355	.00038	.00896	.00044	.00051	.00249
%RSD	120.46	327.23	21.042	71.057	651.21	9.8146	1041.4

#1	.13010	-0.00387	.00187	.01676	-0.00032	-0.00573	-0.00202
#2	.04999	-0.00230	.00213	.00232	-0.00002	-0.00486	.00260
#3	-0.00772	.00291	.00139	.01873	.00054	-0.00484	-0.00130

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 14:12:16 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00263	-.00138	.00255	-.00087	.00030	-.00398	-.00035
Stddev	.00165	.00185	.00144	.00042	.00014	.00238	.00040
%RSD	62.995	133.95	56.674	48.506	47.159	59.635	112.19

#1	.00387	-.00264	.00169	-.00130	.00040	-.00660	.00002
#2	.00326	.00074	.00174	-.00046	.00037	-.00340	-.00031
#3	.00075	-.00225	.00421	-.00084	.00014	-.00196	-.00077

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00007	-.00032	F -.07914
Stddev	.00104	.00010	.07063
%RSD	1583.8	31.412	89.248

#1	.00091	-.00041	-.01009
#2	-.00110	-.00034	-.07608
#3	.00038	-.00021	-.15126

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7940.5	56892.	2555.4
Stddev	35.4	389.	27.0
%RSD	.44602	.68430	1.0559

#1	7979.9	56823.	2586.5
#2	7930.0	56542.	2539.4
#3	7911.4	57312.	2540.2

Approved: May 06, 2016

K: K Buck

Sample Name: PBW 87 Acquired: 5/5/2016 14:46:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567465-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00081	-.01584	.00006	.00919	-.00029	-.00003	.02576
Stddev	.00046	.00046	.00112	.00131	.00028	.00008	.01500
%RSD	56.966	2.9199	1876.2	14.223	96.036	267.25	58.239

#1	.00036	-.01536	-.00047	.01032	-.00060	-.00005	.03450
#2	.00128	-.01628	.00135	.00776	-.00010	-.00010	.00844
#3	.00079	-.01589	-.00070	.00948	-.00016	.00006	.03434

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	.00007	.00004	-.00107	.01317	-.00318	-.00165
Stddev	.00022	.00017	.00057	.00020	.01379	.04311	.00271
%RSD	134.81	258.74	1480.0	18.784	104.70	1356.9	164.19

#1	.00041	.00008	.00042	-.00087	.02436	.02567	-.00476
#2	-.00001	.00022	.00032	-.00108	.01741	-.05273	.00018
#3	.00009	-.00011	-.00062	-.00127	-.00224	.01753	-.00036

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08959	F -.00305	.00041	.06101	.00032	-.00858	.00015
Stddev	.06873	.00090	.00017	.04740	.00053	.00328	.00146
%RSD	76.715	29.434	42.276	77.692	163.25	38.261	971.40

#1	.16767	-.00405	.00024	.06741	.00093	-.00583	.00138
#2	.06287	-.00232	.00040	.01074	-.00000	-.00771	.00054
#3	.03823	-.00278	.00058	.10489	.00004	-.01222	-.00147

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		36.000					
Low Limit		-.00300					

Approved: May 06, 2016

K: K Buck

Sample Name: PBW 87 Acquired: 5/5/2016 14:46:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567465-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0151	-0.0010	.00189	-0.0067	.00010	.00184	.00028
Stddev	.00136	.00139	.00069	.00074	.00024	.00543	.00246
%RSD	89.590	1364.1	36.393	111.24	245.30	294.37	885.87

#1	-0.0185	-0.0145	.00251	.00012	.00037	.00282	.00176
#2	-0.0267	.00133	.00202	-0.0135	-0.0006	-0.0401	-0.0256
#3	-0.0002	-0.0019	.00115	-0.0077	-0.0002	.00672	.00163

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.0029	.00091	.08067
Stddev	.00074	.00014	.14644
%RSD	259.67	15.469	181.52

#1	-0.0053	.00077	.23968
#2	.00055	.00105	-.04865
#3	-0.0088	.00090	.05099

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8437.2	60621.	2729.8
Stddev	31.2	323.	26.4
%RSD	.37018	.53343	.96834

#1	8471.5	60951.	2699.6
#2	8429.8	60607.	2740.9
#3	8410.4	60305.	2748.9

Approved: May 06, 2016

K: K Buck

Sample Name: LCSW 87 Acquired: 5/5/2016 14:49:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567465-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18998	4.6530	.18792	.92326	.47399	.02284	4.7532	.02386
Stddev	.00122	.0149	.00230	.00314	.00334	.00008	.0405	.00038
%RSD	.64162	.31990	1.2226	.34032	.70547	.34501	.85124	1.6073

#1	.19027	4.6685	.18626	.92669	.47106	.02288	4.7517	.02344
#2	.18864	4.6519	.19054	.92051	.47763	.02289	4.7944	.02392
#3	.19102	4.6388	.18696	.92260	.47327	.02275	4.7135	.02420

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09704	.23691	.24394	1.8860	24.030	.48158	4.8957	.23489
Stddev	.00032	.00100	.00017	.0351	.115	.00152	.0369	.00115
%RSD	.33320	.42251	.07128	1.8592	.47906	.31612	.75400	.48945

#1	.09668	.23805	.24410	1.8473	23.903	.48005	4.8849	.23526
#2	.09729	.23650	.24395	1.9157	24.060	.48159	4.8653	.23360
#3	.09717	.23618	.24375	1.8948	24.128	.48309	4.9368	.23580

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49078	23.906	.24442	4.6386	.24387	.57466	.18761	2.4546
Stddev	.00174	.082	.00220	.0153	.00211	.00090	.00707	.0072
%RSD	.35477	.34164	.90067	.32980	.86322	.15638	3.7710	.29296

#1	.49007	23.844	.24458	4.6408	.24360	.57417	.18607	2.4465
#2	.49277	23.999	.24654	4.6527	.24610	.57570	.18144	2.4574
#3	.48951	23.876	.24214	4.6223	.24191	.57412	.19533	2.4600

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: LCSW 87 Acquired: 5/5/2016 14:49:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567465-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48415	.47731	.47254	.24631	.47681	.47695	.07614
Stddev	.00156	.00148	.00408	.00110	.00151	.00223	.05361
%RSD	.32268	.31046	.86260	.44663	.31587	.46685	70.418
#1	.48333	.47593	.46792	.24742	.47780	.47574	.01729
#2	.48595	.47888	.47564	.24522	.47507	.47952	.08890
#3	.48317	.47711	.47405	.24631	.47754	.47560	.12222

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8164.3	58988.	2749.8
Stddev	49.9	300.	28.0
%RSD	.61101	.50933	1.0176
#1	8207.8	58801.	2726.1
#2	8109.9	58829.	2780.7
#3	8175.3	59335.	2742.6

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005701 Acquired: 5/5/2016 14:53:39 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.07151	-.00085	.04047	.09827	.00004	31.400	.00012
Stddev	.00154	.00945	.00332	.00150	.00047	.00003	.180	.00010
%RSD	1034.7	13.214	390.67	3.7097	.47788	64.771	.57198	81.467

#1	.00191	.08040	-.00437	.04215	.09777	.00002	31.525	.00022
#2	-.00092	.06159	.00220	.04000	.09871	.00007	31.481	.00002
#3	-.00054	.07255	-.00038	.03926	.09832	.00004	31.195	.00013

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	.00022	.00074	.10878	1.3731	.00961	18.629	.00224
Stddev	.00008	.00041	.00087	.02073	.0569	.00358	.156	.00191
%RSD	26.174	190.08	116.40	19.053	4.1425	37.302	.83544	85.305

#1	.00036	.00012	.00023	.09351	1.3547	.00945	18.714	.00245
#2	.00034	.00067	.00174	.13237	1.3278	.01327	18.723	.00405
#3	.00021	-.00013	.00026	.10046	1.4370	.00611	18.449	.00023

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00107	26.780	.00041	-.00093	-.00012	-.00112	.00344	4.2894
Stddev	.00004	.135	.00049	.00298	.00057	.00287	.00501	.0065
%RSD	3.9622	.50381	117.60	319.64	460.99	257.17	145.60	.15066

#1	.00107	26.848	.00082	-.00437	.00011	.00108	.00267	4.2968
#2	.00103	26.866	-.00013	.00062	-.00077	-.00007	-.00114	4.2847
#3	.00111	26.624	.00055	.00095	.00029	-.00436	.00880	4.2867

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005701 Acquired: 5/5/2016 14:53:39 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00071	.27616	-.00407	.00047	-.00102	.00381	.01689
Stddev	.00062	.00149	.00234	.00310	.00073	.00021	.10349
%RSD	87.300	.54021	57.490	654.61	72.094	5.4518	612.63

#1	.00040	.27725	-.00299	.00308	-.00063	.00359	-.07717
#2	.00030	.27677	-.00675	.00130	-.00186	.00384	.00010
#3	.00141	.27446	-.00246	-.00296	-.00056	.00400	.12775

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8189.3	58620.	2721.8
Stddev	16.1	626.	14.3
%RSD	.19629	1.0672	.52496

#1	8182.9	58172.	2722.2
#2	8177.3	58353.	2707.3
#3	8207.5	59335.	2735.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005702 Acquired: 5/5/2016 14:57:33 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00128	.01955	.00132	.01850	.15269	.00001	70.996	.00022
Stddev	.00139	.00464	.00222	.00198	.00108	.00002	.275	.00018
%RSD	108.13	23.716	167.30	10.694	.70459	167.00	.38799	78.017

#1	-.00008	.01510	.00359	.01878	.15392	-.00001	70.899	.00043
#2	.00270	.02435	.00122	.01639	.15222	.00003	71.307	.00013
#3	.00123	.01920	-.00084	.02032	.15193	.00002	70.782	.00012

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.00017	.00131	.03414	1.7907	.00565	19.640	-.00177
Stddev	.00046	.00072	.00109	.02991	.0857	.00266	.077	.00321
%RSD	399.72	426.56	82.865	87.611	4.7871	47.039	.39367	181.92

#1	.00064	-.00019	.00014	.02632	1.8249	.00410	19.698	-.00100
#2	-.00017	.00100	.00229	.00892	1.6932	.00872	19.552	-.00529
#3	-.00013	-.00030	.00151	.06719	1.8541	.00413	19.670	.00100

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00046	5.8903	-.00054	.01029	-.00051	.00074	-.00343	4.1909
Stddev	.00015	.0244	.00104	.00477	.00257	.00205	.00650	.0157
%RSD	33.269	.41375	193.92	46.309	500.96	276.54	189.21	.37408

#1	.00033	5.9135	.00061	.01571	.00079	-.00120	-.00895	4.1964
#2	.00042	5.8926	-.00141	.00675	-.00347	.00054	-.00507	4.2031
#3	.00063	5.8649	-.00081	.00841	.00115	.00288	.00372	4.1732

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005702 Acquired: 5/5/2016 14:57:33 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0062	.26056	-0.00866	-0.00076	-0.00025	.00194	.00558
Stddev	.00015	.00043	.00243	.00156	.00043	.00013	.04669
%RSD	24.871	.16366	28.105	204.66	170.37	6.5212	836.78

#1	-0.0045	.26037	-0.00590	-0.00249	-0.00013	.00180	.05054
#2	-0.0065	.26026	-0.00960	.00052	.00010	.00198	-.04266
#3	-0.0075	.26105	-0.01049	-0.00031	-0.00074	.00205	.00886

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8109.4	58457.	2691.2
Stddev	33.3	801.	35.2
%RSD	.41001	1.3703	1.3086

#1	8085.6	57569.	2652.4
#2	8147.4	58676.	2700.1
#3	8095.1	59125.	2721.1

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005703 Acquired: 5/5/2016 15:01:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00027	.00529	.00111	.04755	.15621	-0.00005	98.759	.00003
Stddev	.00097	.00316	.00061	.00157	.00121	.00006	.420	.00018
%RSD	352.41	59.771	54.438	3.3089	.77741	105.43	.42575	646.01

#1	-0.00057	.00184	.00138	.04821	.15612	-0.00004	98.958	.00018
#2	-0.00106	.00805	.00042	.04868	.15747	-0.00011	99.043	.00009
#3	.00081	.00598	.00154	.04575	.15504	-0.00001	98.276	-0.00018

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	.00046	.32742	.00513	.83456	.00806	11.357	.00044
Stddev	.00015	.00075	.00042	.02468	.08282	.00198	.061	.00284
%RSD	50.097	163.95	.12823	480.97	9.9236	24.536	.53374	651.83

#1	.00046	-0.00035	.32754	-.02295	.75392	.00858	11.346	.00322
#2	.00026	.00058	.32776	.02335	.91940	.00587	11.422	-.00246
#3	.00017	.00114	.32695	.01499	.83035	.00971	11.303	.00055

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00026	64.177	-0.00017	.02968	-0.00162	-0.00010	.00903	4.1602
Stddev	.00015	.260	.00075	.00647	.00080	.00108	.00381	.0162
%RSD	56.013	.40522	435.06	21.813	49.311	1104.9	42.142	.38957

#1	.00015	64.269	-0.00072	.02523	-0.00101	.00032	.01330	4.1592
#2	.00043	64.379	-0.00047	.03711	-0.00133	-0.00132	.00778	4.1769
#3	.00022	63.884	.00068	.02671	-0.00252	.00071	.00601	4.1445

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005703 Acquired: 5/5/2016 15:01:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0021	.28034	-0.1372	.00099	-0.0028	.02883	-0.3905
Stddev	.00067	.00092	.00678	.00092	.00052	.00023	.11460
%RSD	314.79	.32980	49.375	93.032	185.12	.80621	293.43

#1	-0.0083	.28099	-.02129	.00200	-0.0002	.02909	.08388
#2	.00050	.28075	-.00821	.00077	-0.00088	.02864	-.05811
#3	-0.00030	.27928	-.01168	.00020	.00005	.02875	-.14293

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7998.8	57486.	2686.3
Stddev	17.5	333.	18.1
%RSD	.21905	.57969	.67229

#1	7996.6	57651.	2666.3
#2	8017.4	57705.	2701.3
#3	7982.6	57103.	2691.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005704 Acquired: 5/5/2016 15:05:21 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00096	.08367	.00150	.02824	.04281	-.00000	77.690	.00019
Stddev	.00083	.00128	.00169	.00164	.00018	.00002	.357	.00014
%RSD	86.466	1.5259	112.39	5.8104	.42324	565.33	.46001	71.868

#1	.00076	.08487	.00294	.02839	.04267	-.00001	78.051	.00033
#2	.00187	.08382	-.00036	.02653	.04302	-.00001	77.683	.00006
#3	.00025	.08233	.00192	.02980	.04276	.00002	77.336	.00018

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	.00096	.00191	.16300	1.3142	.00929	11.508	.00589
Stddev	.00020	.00097	.00033	.00696	.0545	.00098	.106	.00179
%RSD	59.759	100.66	17.416	4.2678	4.1459	10.603	.91867	30.457

#1	.00011	.00052	.00228	.15507	1.3577	.00897	11.386	.00382
#2	.00050	.00029	.00163	.16589	1.2531	.01039	11.573	.00690
#3	.00041	.00207	.00181	.16805	1.3317	.00850	11.566	.00695

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00053	4.9595	-.00055	.00825	.00205	.00212	.00543	4.0538
Stddev	.00028	.0046	.00179	.00691	.00076	.00350	.00884	.0055
%RSD	52.780	.09318	322.29	83.765	37.185	164.91	162.85	.13657

#1	.00085	4.9558	-.00086	.00091	.00167	.00459	.00651	4.0598
#2	.00034	4.9647	.00137	.00920	.00154	.00365	-.00390	4.0528
#3	.00040	4.9580	-.00217	.01463	.00292	-.00188	.01367	4.0489

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005704 Acquired: 5/5/2016 15:05:21 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0039	.27579	-0.01011	-0.00258	.00002	.00437	-0.02072
Stddev	.00117	.00129	.00499	.00187	.00027	.00006	.08533
%RSD	303.81	.46613	49.341	72.534	1386.1	1.3892	411.80

#1	.00096	.27501	-.01197	-.00044	-.00028	.00440	.01963
#2	-.00099	.27727	-.01391	-.00388	.00025	.00441	-.11875
#3	-.00113	.27508	-.00446	-.00342	.00008	.00430	.03695

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8086.4	58177.	2697.1
Stddev	46.9	284.	28.3
%RSD	.58055	.48853	1.0483

#1	8064.3	58161.	2669.1
#2	8140.3	57901.	2725.7
#3	8054.6	58468.	2696.4

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005705 Acquired: 5/5/2016 15:09:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00041	1.6834	.00328	.03530	.16334	.00012	15.594	.00014
Stddev	.00117	.0048	.00231	.00308	.00144	.00001	.018	.00009
%RSD	284.02	.28715	70.446	8.7295	.87975	7.2500	.11668	62.233

#1	-0.00133	1.6886	.00202	.03204	.16260	.00013	15.574	.00017
#2	.00091	1.6827	.00187	.03569	.16242	.00012	15.609	.00022
#3	-0.00081	1.6790	.00594	.03816	.16499	.00012	15.600	.00004

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00203	.00218	.00350	3.4790	4.0550	-.00230	2.9190	.33718
Stddev	.00015	.00051	.00111	.0099	.1317	.00289	.0909	.00467
%RSD	7.5316	23.177	31.763	.28562	3.2480	125.62	3.1135	1.3840

#1	.00185	.00275	.00241	3.4902	3.9160	.00087	2.8835	.34138
#2	.00211	.00199	.00346	3.4711	4.1780	-.00479	3.0222	.33799
#3	.00213	.00179	.00462	3.4757	4.0709	-.00298	2.8512	.33216

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00103	5.1347	.00309	.27798	.00315	-.00260	.00525	3.1277
Stddev	.00049	.0294	.00036	.00937	.00264	.00264	.00041	.0169
%RSD	47.294	.57156	11.615	3.3722	83.631	101.71	7.7772	.53896

#1	.00159	5.1082	.00278	.26716	.00361	-.00558	.00512	3.1401
#2	.00076	5.1662	.00348	.28367	.00553	-.00052	.00571	3.1345
#3	.00074	5.1297	.00300	.28312	.00032	-.00171	.00493	3.1085

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005705 Acquired: 5/5/2016 15:09:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0015	.12933	.02809	.00050	.00271	.05580	.26641
Stddev	.00084	.00026	.00120	.00057	.00043	.00031	.03430
%RSD	555.02	.20112	4.2582	113.52	15.676	.55461	12.875

#1	-0.00098	.12949	.02891	.00063	.00230	.05584	.30433
#2	.00069	.12903	.02672	-.00012	.00270	.05609	.23754
#3	-.00017	.12948	.02863	.00099	.00315	.05548	.25735

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8449.9	60591.	2768.4
Stddev	20.9	151.	39.1
%RSD	.24676	.24851	1.4130

#1	8447.8	60421.	2737.1
#2	8430.2	60646.	2755.8
#3	8471.7	60707.	2812.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005706 Acquired: 5/5/2016 15:13:07 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00039	.01480	-.00202	.02081	.04764	.00003	66.853
Stddev	.00165	.00304	.00194	.00244	.00081	.00002	.268
%RSD	426.21	20.511	95.703	11.722	1.7018	68.521	.40161

#1	-.00095	.01131	-.00414	.02152	.04807	.00001	67.064
#2	.00224	.01627	-.00159	.01810	.04814	.00004	66.944
#3	-.00012	.01682	-.00034	.02282	.04670	.00004	66.551

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	.00016	-.00003	.00120	.02282	.67475	.00438
Stddev	.00031	.00025	.00043	.00050	.00916	.05995	.00290
%RSD	89.123	157.80	1501.9	42.238	40.139	8.8852	66.251

#1	.00019	.00010	.00010	.00136	.01354	.71784	.00719
#2	.00069	-.00006	.00033	.00063	.03186	.70012	.00453
#3	.00014	.00043	-.00051	.00159	.02307	.60628	.00140

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.5276	F -.00388	.00045	3.8580	-.00005	.00862	-.00071
Stddev	.1097	.00082	.00011	.0297	.00049	.00921	.00133
%RSD	1.9853	21.174	23.915	.77069	1065.8	106.81	187.69

#1	5.6307	-.00360	.00053	3.8847	.00052	.01924	-.00019
#2	5.4123	-.00323	.00033	3.8633	-.00029	.00284	.00029
#3	5.5400	-.00480	.00050	3.8260	-.00036	.00378	-.00222

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		36.000					
Low Limit		-.00300					

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005706 Acquired: 5/5/2016 15:13:07 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0125	-0.0014	3.4439	.00046	.20690	-0.00589	-0.00063
Stddev	.00169	.00783	.0122	.00040	.00134	.00223	.00169
%RSD	135.26	5727.9	.35552	86.504	.64733	37.855	267.39

#1	.00069	.00059	3.4577	.00079	.20720	-.00691	.00132
#2	-.00206	-.00831	3.4398	.00057	.20806	-.00742	-.00174
#3	-.00239	.00731	3.4342	.00002	.20543	-.00333	-.00147

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00040	.00128	-.03855
Stddev	.00079	.00014	.14039
%RSD	196.42	10.755	364.14

#1	-.00048	.00116	.08856
#2	.00105	.00126	-.18923
#3	.00063	.00143	-.01498

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8156.3	58635.	2689.7
Stddev	12.8	252.	12.8
%RSD	.15650	.43005	.47547

#1	8165.8	58376.	2675.4
#2	8161.3	58880.	2699.8
#3	8141.8	58650.	2694.1

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005706PS Acquired: 5/5/2016 15:17:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567535-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19060	4.7199	.18766	.95132	.52635	.02325	65.511	.02388
Stddev	.00051	.0136	.00110	.00601	.00212	.00006	.187	.00026
%RSD	.26517	.28785	.58542	.63221	.40372	.23911	.28525	1.1094

#1	.19114	4.7341	.18728	.95818	.52877	.02321	65.653	.02418
#2	.19052	4.7184	.18889	.94695	.52477	.02332	65.580	.02373
#3	.19014	4.7071	.18680	.94883	.52552	.02324	65.300	.02372

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09475	.23734	.23998	1.9643	25.451	.53361	9.7812	.24333
Stddev	.00048	.00066	.00116	.0274	.129	.00294	.0350	.00236
%RSD	.51017	.27890	.48539	1.3974	.50754	.55185	.35748	.97119

#1	.09502	.23810	.24103	1.9913	25.594	.53374	9.7997	.24266
#2	.09504	.23703	.24017	1.9652	25.343	.53060	9.7409	.24137
#3	.09419	.23689	.23873	1.9364	25.417	.53649	9.8031	.24596

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49437	27.931	.23744	4.7342	.24197	.57618	.18376	5.6174
Stddev	.00063	.110	.00075	.0054	.00368	.00602	.00052	.0084
%RSD	.12721	.39286	.31498	.11418	1.5226	1.0450	.28545	.14886

#1	.49477	28.055	.23820	4.7304	.23905	.57039	.18323	5.6236
#2	.49365	27.891	.23741	4.7404	.24075	.58241	.18428	5.6079
#3	.49470	27.847	.23670	4.7318	.24611	.57572	.18376	5.6208

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005706PS Acquired: 5/5/2016 15:17:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567535-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48255	.67495	.47507	.23842	.47940	.47317	.11498
Stddev	.00062	.00164	.00318	.00244	.00347	.00118	.03940
%RSD	.12773	.24322	.67007	1.0250	.72359	.24984	34.271

#1	.48318	.67667	.47140	.23561	.48112	.47452	.14118
#2	.48194	.67477	.47687	.23964	.48168	.47268	.06966
#3	.48252	.67340	.47695	.24002	.47541	.47231	.13409

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8065.2	57810.	2688.1
Stddev	22.6	191.	6.8
%RSD	.28013	.33000	.25169

#1	8039.9	57795.	2693.8
#2	8083.2	57628.	2680.6
#3	8072.6	58008.	2689.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005706SDL Acquired: 5/5/2016 15:20:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG567535-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0057	-0.01171	.00231	.01099	.00964	.00002	13.247	.00007
Stddev	.00137	.00285	.00261	.00036	.00034	.00003	.087	.00009
%RSD	239.13	24.354	112.86	3.2859	3.4750	137.15	.65305	116.77

#1	-0.0011	-0.01298	.00391	.01127	.00990	.00002	13.334	.00008
#2	-0.00211	-0.01370	-0.00070	.01058	.00976	.00005	13.245	.00015
#3	.00050	-0.00844	.00373	.01111	.00926	-0.00001	13.161	-0.00002

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	-0.00014	-0.00001	.01703	.20103	.00121	1.1333	-0.00151
Stddev	.00021	.00035	.00059	.02525	.11832	.00206	.0579	.00206
%RSD	145.23	248.94	5884.3	148.32	58.857	170.04	5.1095	136.92

#1	-0.00009	-0.00054	.00037	.01267	.10875	-0.00116	1.1977	-0.00083
#2	.00032	.00009	-0.00069	.04418	.15991	.00224	1.0855	-0.00382
#3	.00021	.00003	.00029	-0.00576	.33442	.00255	1.1168	.00013

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	.76879	-0.00006	-0.00157	-0.00058	-0.00248	.00816	.67256
Stddev	.00020	.02472	.00099	.00399	.00255	.00286	.00401	.00287
%RSD	58.873	3.2156	1759.5	254.26	441.73	115.51	49.108	.42621

#1	.00027	.79381	.00060	-0.00254	-0.00283	-0.00087	.01029	.66967
#2	.00019	.74438	.00043	.00282	-0.00110	-0.00578	.00354	.67540
#3	.00057	.76817	-0.00120	-0.00498	.00219	-0.00078	.01066	.67261

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005706SDL Acquired: 5/5/2016 15:20:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG567535-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0020	.03995	-0.00361	.00067	-0.00054	.00061	-0.02172
Stddev	.00063	.00022	.01155	.00073	.00072	.00015	.04314
%RSD	316.45	.55414	320.25	109.15	134.84	25.266	198.61

#1	-0.00036	.04002	.00863	.00132	.00008	.00067	.00789
#2	.00049	.04013	-.01432	-.00012	-.00035	.00072	-.00184
#3	-.00073	.03970	-.00513	.00081	-.00133	.00043	-.07121

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8382.2	60326.	2694.6
Stddev	22.6	340.	22.4
%RSD	.27019	.56398	.83039

#1	8363.4	59935.	2669.1
#2	8375.9	60554.	2703.5
#3	8407.4	60489.	2711.1

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 15:24:37 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39642	9.8822	.40218	.50402	.98988	.04961	9.8668
Stddev	.00154	.0408	.00309	.00361	.01345	.00010	.1057
%RSD	.38853	.41279	.76885	.71555	1.3589	.19451	1.0709

#1	.39467	9.9217	.40470	.50020	.97457	.04961	9.7483
#2	.39706	9.8403	.40311	.50451	.99525	.04951	9.9513
#3	.39754	9.8845	.39873	.50736	.99981	.04970	9.9007

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05029	.20087	.49056	.50177	3.9917	49.780	1.0068
Stddev	.00027	.00059	.00093	.00256	.0913	.506	.0114
%RSD	.54422	.29488	.18950	.51011	2.2872	1.0168	1.1299

#1	.05040	.20150	.48968	.50385	3.9021	49.227	.99395
#2	.05049	.20078	.49153	.50253	3.9884	49.894	1.0111
#3	.04998	.20032	.49048	.49891	4.0846	50.220	1.0155

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.9434	.49117	1.0042	50.203	.50109	9.9697	.49891
Stddev	.1483	.00698	.0030	.609	.00203	.0396	.00239
%RSD	1.4911	1.4210	.29551	1.2127	.40520	.39728	.47862

#1	9.7788	.48314	1.0070	49.533	.50338	10.013	.50126
#2	9.9850	.49579	1.0047	50.355	.50037	9.9612	.49900
#3	10.066	.49459	1.0011	50.722	.49952	9.9350	.49648

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 15:24:37 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1946	.39382	4.9959	.99378	.98463	.99318	.50240
Stddev	.0040	.00641	.0199	.00386	.01228	.01163	.00285
%RSD	.33844	1.6288	.39724	.38872	1.2469	1.1707	.56756

#1	1.1991	.39604	5.0163	.99707	.97093	.98806	.50137
#2	1.1914	.39882	4.9949	.99475	.98834	.98498	.50562
#3	1.1933	.38659	4.9766	.98953	.99463	1.0065	.50020

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.98709	.99929	F .05713
Stddev	.00331	.00254	.10786
%RSD	.33500	.25447	188.82

#1	.98474	1.0014	.10300
#2	.98567	1.0000	-.06609
#3	.99088	.99647	.13447

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7986.8	56602.	2632.3
Stddev	17.1	43.	7.2
%RSD	.21352	.07525	.27248

#1	7991.5	56558.	2631.8
#2	7967.9	56643.	2639.7
#3	8001.0	56605.	2625.3

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 15:28:12 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00135	-.00239	.00053	.01044	.00001	.00004	.01258
Stddev	.00127	.00546	.00160	.00163	.00040	.00005	.00549
%RSD	93.693	228.24	300.55	15.609	5813.2	128.24	43.628

#1	.00269	-.00840	.00033	.00951	.00010	.00009	.01135
#2	.00120	.00226	.00222	.01232	.00035	-.00001	.01859
#3	.00017	-.00103	-.00095	.00948	-.00043	.00004	.00782

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	.00023	.00097	-.00037	.01496	.06209	.00177
Stddev	.00016	.00054	.00159	.00040	.03657	.10897	.00392
%RSD	121.84	235.70	164.19	107.22	244.41	175.50	221.24

#1	.00017	.00031	-.00028	.00004	-.02726	.00566	.00386
#2	.00027	.00071	.00043	-.00076	.03684	.18770	-.00275
#3	-.00004	-.00035	.00277	-.00040	.03531	-.00709	.00421

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06279	-.00248	.00212	.02607	.00005	-.00686	-.00016
Stddev	.05534	.00184	.00027	.02185	.00141	.00262	.00276
%RSD	88.136	74.053	12.792	83.823	2564.5	38.258	1717.0

#1	.01335	-.00425	.00210	.01908	-.00133	-.00421	-.00334
#2	.05245	-.00058	.00241	.00857	.00002	-.00691	.00137
#3	.12257	-.00262	.00186	.05056	.00148	-.00945	.00149

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 15:28:12 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00322	.00649	.00251	-.00017	.00028	-.00555	-.00234
Stddev	.00260	.00416	.00118	.00040	.00043	.00535	.00281
%RSD	80.619	64.114	47.109	238.38	154.35	96.395	120.38

#1	.00325	.00463	.00322	-.00064	.00036	-.00215	.00053
#2	.00061	.00359	.00315	.00005	.00067	-.00279	-.00509
#3	.00580	.01126	.00114	.00008	-.00019	-.01172	-.00244

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00110	-.00021	F -.04106
Stddev	.00031	.00013	.05478
%RSD	28.549	60.543	133.43

#1	-.00074	-.00006	-.04213
#2	-.00123	-.00029	-.09529
#3	-.00132	-.00027	.01425

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8024.6	57463.	2600.5
Stddev	14.3	127.	28.3
%RSD	.17759	.22105	1.0870

#1	8041.0	57324.	2632.9
#2	8017.9	57495.	2580.7
#3	8015.0	57572.	2587.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005707 Acquired: 5/5/2016 15:32:09 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	.20781	.00065	.06967	.06247	.00003	38.189	.00031
Stddev	.00084	.00346	.00133	.00144	.00028	.00002	.188	.00014
%RSD	3006.1	1.6641	205.91	2.0639	.44792	56.431	.49110	45.740

#1	-.00087	.20440	-.00057	.07086	.06276	.00001	38.405	.00044
#2	.00017	.20770	.00044	.06808	.06243	.00004	38.099	.00034
#3	.00078	.21132	.00207	.07008	.06220	.00005	38.063	.00016

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00072	.00050	.00235	.32513	2.0070	.00063	4.7672	.01709
Stddev	.00029	.00047	.00078	.01387	.1305	.00229	.1123	.00197
%RSD	40.380	93.549	33.022	4.2658	6.5003	361.22	2.3565	11.556

#1	.00103	.00105	.00151	.34055	2.0627	-.00130	4.6389	.01771
#2	.00067	.00022	.00250	.31369	1.8580	.00003	4.8151	.01488
#3	.00045	.00024	.00305	.32114	2.1005	.00317	4.8477	.01868

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00072	11.375	.00026	.04890	.00190	-.00098	.00645	3.0000
Stddev	.00012	.140	.00129	.00518	.00173	.00356	.00179	.0044
%RSD	16.777	1.2345	494.06	10.599	91.320	364.38	27.663	.14663

#1	.00062	11.535	.00101	.05028	.00103	-.00149	.00486	3.0051
#2	.00085	11.315	.00099	.05325	.00389	.00281	.00611	2.9974
#3	.00069	11.273	-.00123	.04317	.00077	-.00425	.00838	2.9976

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005707 Acquired: 5/5/2016 15:32:09 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0070	.11966	.00217	-0.0143	.00017	.00569	.01435
Stddev	.00090	.00107	.00509	.00293	.00066	.00015	.05032
%RSD	128.98	.89613	234.30	204.67	392.46	2.6340	350.59

#1	.00027	.12090	.00007	.00188	.00091	.00583	.04530
#2	-0.0087	.11909	-0.0153	-0.0368	-0.0036	.00571	.04147
#3	-0.0150	.11900	.00798	-0.0249	-0.0004	.00553	-.04371

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8187.8	58868.	2696.1
Stddev	21.4	165.	37.3
%RSD	.26153	.28064	1.3827

#1	8171.8	58682.	2653.5
#2	8212.1	58997.	2711.8
#3	8179.5	58926.	2723.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005708 Acquired: 5/5/2016 15:36:04 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	-.00350	-.00105	.03549	.03925	-.00003	40.544
Stddev	.00091	.00801	.00146	.00115	.00034	.00003	.192
%RSD	453.02	228.96	139.07	3.2301	.86904	100.38	.47385

#1	.00090	.00364	-.00143	.03487	.03963	-.00003	40.544
#2	-.00083	-.00198	-.00227	.03478	.03898	-.00000	40.737
#3	.00054	-.01216	.00056	.03681	.03914	-.00006	40.352

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00121	.00014	-.00052	.00165	.00889	1.1448	.00134
Stddev	.00155	.00023	.00047	.00152	.02679	.0481	.00521
%RSD	128.25	162.27	89.599	91.962	301.24	4.2006	389.49

#1	.00299	-.00011	-.00032	.00335	-.01110	1.1071	.00213
#2	.00043	.00019	-.00106	.00041	-.00155	1.1990	-.00423
#3	.00020	.00034	-.00019	.00120	.03933	1.1283	.00611

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.2985	F -.00348	.00056	5.7235	.00017	.02816	-.00012
Stddev	.0734	.00152	.00043	.0318	.00097	.00765	.00203
%RSD	2.2239	43.576	77.943	.55579	552.67	27.157	1670.7

#1	3.3825	-.00286	.00006	5.7512	.00002	.03542	-.00145
#2	3.2466	-.00237	.00083	5.7305	-.00071	.02018	-.00112
#3	3.2665	-.00520	.00078	5.6888	.00121	.02887	.00221

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		36.000					
Low Limit		-.00300					

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005708 Acquired: 5/5/2016 15:36:04 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00282	.01083	4.3682	-.00054	.12993	-.00223	.00111
Stddev	.00346	.00716	.0195	.00048	.00029	.00227	.00164
%RSD	122.69	66.140	.44688	89.570	.22277	101.89	147.02

#1	-.00053	.00412	4.3905	-.00083	.13010	-.00480	.00118
#2	.00637	.01000	4.3596	-.00080	.13009	-.00139	.00271
#3	.00261	.01837	4.3545	.00002	.12959	-.00050	-.00056

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00030	.00343	.07321
Stddev	.00086	.00034	.04879
%RSD	287.22	9.9237	66.650

#1	.00053	.00377	.06939
#2	-.00118	.00309	.02644
#3	-.00025	.00343	.12380

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8180.2	59169.	2722.2
Stddev	4.2	57.	7.2
%RSD	.05077	.09563	.26514

#1	8178.4	59151.	2714.0
#2	8185.0	59125.	2727.6
#3	8177.2	59233.	2725.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005709 Acquired: 5/5/2016 15:39:58 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	.56351	.00352	.02786	.03525	.00002	46.740	.00045
Stddev	.00054	.00686	.00055	.00177	.00037	.00003	.111	.00017
%RSD	157.96	1.2166	15.638	6.3550	1.0571	159.03	.23693	37.511

#1	.00097	.56683	.00336	.02612	.03567	.00005	46.834	.00032
#2	.00004	.56807	.00306	.02782	.03509	-.00002	46.767	.00038
#3	.00003	.55563	.00413	.02966	.03498	.00003	46.618	.00064

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00046	.00022	.00781	.65047	3.2308	.00158	1.4718	.02182
Stddev	.00059	.00098	.00031	.01473	.0683	.00648	.0778	.00331
%RSD	128.78	443.26	3.9608	2.2641	2.1139	409.04	5.2866	15.154

#1	.00012	.00108	.00817	.63534	3.3040	-.00353	1.5555	.01803
#2	.00114	.00043	.00761	.65131	3.1689	.00887	1.4017	.02408
#3	.00011	-.00084	.00765	.66476	3.2195	-.00059	1.4582	.02337

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00156	1.5145	.00186	.19918	.00401	-.00337	.00141	5.3323
Stddev	.00016	.0063	.00112	.00692	.00199	.00373	.00304	.0079
%RSD	10.046	.41529	60.033	3.4747	49.619	110.73	216.43	.14754

#1	.00150	1.5205	.00206	.19233	.00255	-.00767	.00465	5.3383
#2	.00174	1.5080	.00066	.19905	.00628	-.00112	.00094	5.3353
#3	.00144	1.5150	.00286	.20617	.00321	-.00131	-.00138	5.3234

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005709 Acquired: 5/5/2016 15:39:58 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00058	.18784	.00619	-.00159	.00885	.05287	.06538
Stddev	.00124	.00101	.00545	.00146	.00204	.00021	.09242
%RSD	213.23	.53881	87.931	92.077	22.997	.39663	141.37

#1	.00175	.18815	.01050	-.00138	.00782	.05305	.16779
#2	-.00071	.18865	.00007	-.00024	.01120	.05293	-.01183
#3	.00070	.18670	.00801	-.00314	.00754	.05264	.04017

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8288.4	59401.	2705.6
Stddev	32.5	229.	13.8
%RSD	.39257	.38579	.50910

#1	8268.4	59140.	2689.8
#2	8325.9	59571.	2715.1
#3	8270.9	59491.	2712.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005710 Acquired: 5/5/2016 15:43:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00060	.03752	-0.00234	.03482	.04202	-0.00002	43.425	.00006
Stddev	.00130	.00465	.00299	.00109	.00013	.00003	.212	.00004
%RSD	214.92	12.406	127.83	3.1234	.31164	124.38	.48824	61.759

#1	-0.00172	.04012	-0.00499	.03593	.04216	-0.00002	43.622	.00005
#2	-0.00092	.04029	-0.00293	.03376	.04191	-0.00006	43.201	.00010
#3	.00082	.03214	.00090	.03476	.04197	.00001	43.453	.00003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	.00085	.00107	.04915	1.1798	.00139	2.2671	.00188
Stddev	.00031	.00070	.00034	.03241	.1100	.00428	.0802	.00283
%RSD	191.47	82.404	32.014	65.938	9.3231	307.10	3.5357	151.12

#1	.00035	.00102	.00112	.08640	1.2856	-0.00350	2.2762	.00281
#2	.00033	.00008	.00070	.02738	1.1877	.00444	2.3424	-.00131
#3	-0.00019	.00145	.00138	.03367	1.0660	.00323	2.1828	.00412

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	6.6004	.00029	.04382	.00216	.00083	.00919	4.2395
Stddev	.00051	.0236	.00070	.01281	.00244	.00172	.00397	.0071
%RSD	294.41	.35805	243.82	29.240	112.64	207.03	43.263	.16643

#1	.00076	6.6250	-0.00029	.05557	.00001	.00009	.01360	4.2460
#2	-0.00003	6.5983	.00106	.03016	.00167	-0.00040	.00806	4.2320
#3	-0.00021	6.5779	.00009	.04573	.00481	.00279	.00590	4.2405

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005710 Acquired: 5/5/2016 15:43:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0044	.11770	-0.00625	.00075	-0.00030	.00199	.09838
Stddev	.00093	.00038	.00297	.00140	.00085	.00010	.07735
%RSD	210.03	.32228	47.588	186.55	279.43	4.9602	78.619

#1	.00030	.11797	-.00726	-.00012	-.00056	.00190	.00949
#2	-.00148	.11726	-.00858	.00001	-.00099	.00197	.13530
#3	-.00014	.11786	-.00290	.00237	.00065	.00209	.15035

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8309.3	59347.	2727.2
Stddev	21.5	176.	3.4
%RSD	.25824	.29584	.12649

#1	8318.0	59536.	2725.6
#2	8284.9	59317.	2724.9
#3	8325.1	59189.	2731.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006402 Acquired: 5/5/2016 15:47:45 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567465-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00032	-.01359	.03298	.03034	.22166	-.00003	21.942
Stddev	.00041	.00735	.00351	.00349	.00064	.00004	.027
%RSD	127.75	54.046	10.646	11.489	.28939	127.80	.12522

#1	-.00015	-.01074	.02964	.02823	.22215	-.00002	21.969
#2	.00060	-.02194	.03664	.02842	.22189	-.00008	21.942
#3	.00052	-.00810	.03264	.03436	.22094	-.00000	21.914

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00043	.00098	-.00218	.00133	28.652	.48686	-.00472
Stddev	.00030	.00019	.00063	.00059	.038	.06615	.00420
%RSD	69.797	19.018	29.056	43.883	.13121	13.587	88.839

#1	.00049	.00119	-.00185	.00154	28.633	.42655	-.00304
#2	.00011	.00085	-.00179	.00067	28.628	.55761	-.00950
#3	.00070	.00089	-.00291	.00179	28.695	.47642	-.00163

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.572	.90374	.00082	3.3778	.00129	.22531	.00358
Stddev	.255	.00315	.00007	.0059	.00098	.00520	.00204
%RSD	.99529	.34837	8.8702	.17352	75.658	2.3100	57.099

#1	25.495	.90440	.00083	3.3784	.00210	.23128	.00376
#2	25.364	.90032	.00089	3.3716	.00155	.22289	.00145
#3	25.856	.90651	.00075	3.3833	.00021	.22175	.00553

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006402 Acquired: 5/5/2016 15:47:45 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567465-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0036	-0.0024	5.0269	-0.0012	.17170	.01277	.00147
Stddev	.00471	.00283	.0154	.00080	.00036	.00290	.00223
%RSD	1321.5	1191.9	.30688	691.98	.21100	22.667	151.10

#1	-0.00482	.00300	5.0351	.00052	.17202	.00966	.00030
#2	.00457	-.00146	5.0364	.00015	.17131	.01538	.00008
#3	-.00082	-.00226	5.0091	-.00102	.17178	.01329	.00404

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.0128	.00283	F -.23800
Stddev	.00073	.00015	.03135
%RSD	57.204	5.2243	13.174

#1	-0.0048	.00285	-.22760
#2	-.00192	.00267	-.21317
#3	-.00144	.00296	-.27323

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8459.1	61298.	2823.4
Stddev	29.7	419.	10.4
%RSD	.35077	.68358	.36791

#1	8491.2	61262.	2813.5
#2	8432.6	60899.	2834.2
#3	8453.5	61734.	2822.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006403 Acquired: 5/5/2016 15:51:39 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00135	-.01458	.03006	.02783	.20876	-.00001	20.781
Stddev	.00102	.00310	.00057	.00121	.00129	.00005	.068
%RSD	75.310	21.287	1.9095	4.3599	.61910	454.43	.32859

#1	.00211	-.01598	.03037	.02649	.20849	-.00006	20.860
#2	.00019	-.01103	.02939	.02816	.20763	.00000	20.747
#3	.00175	-.01675	.03041	.02885	.21017	.00003	20.737

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00025	.00076	-.00149	.00081	27.228	.53249	-.00345
Stddev	.00022	.00014	.00015	.00026	.056	.02189	.00144
%RSD	87.306	18.576	10.215	32.304	.20619	4.1102	41.698

#1	.00033	.00092	-.00143	.00106	27.292	.51232	-.00423
#2	.00041	.00072	-.00166	.00054	27.192	.52939	-.00179
#3	.00000	.00064	-.00138	.00083	27.199	.55576	-.00433

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.187	.85254	.00059	3.2051	.00096	.21283	.00375
Stddev	.092	.00265	.00023	.0237	.00070	.00418	.00109
%RSD	.38228	.31047	38.713	.73878	72.939	1.9635	28.938

#1	24.235	.85278	.00079	3.1880	.00017	.20823	.00500
#2	24.246	.85506	.00064	3.1953	.00151	.21389	.00304
#3	24.081	.84978	.00034	3.2322	.00121	.21638	.00321

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006403 Acquired: 5/5/2016 15:51:39 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0123	.00641	4.7803	-.00023	.16204	.00770	-.00073
Stddev	.00088	.00306	.0030	.00090	.00050	.00146	.00103
%RSD	71.527	47.833	.06208	396.37	.31042	18.926	140.61

#1	-0.0062	.00994	4.7784	-.00055	.16243	.00608	.00013
#2	-0.0083	.00458	4.7837	-.00092	.16147	.00890	-.00188
#3	-0.0223	.00470	4.7787	.00079	.16222	.00812	-.00045

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.0199	.00316	F -.22868
Stddev	.00072	.00016	.03526
%RSD	36.374	5.2143	15.418

#1	-0.0136	.00328	-.26692
#2	-0.0184	.00323	-.22167
#3	-0.0278	.00297	-.19746

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8452.4	60946.	2827.7
Stddev	4.5	208.	26.2
%RSD	.05336	.34107	.92725

#1	8456.1	60745.	2798.9
#2	8453.8	60933.	2850.2
#3	8447.4	61160.	2834.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006404MS Acquired: 5/5/2016 15:55:33 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567465-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19225	4.7169	.21696	.96194	.68824	.02326	25.115
Stddev	.00149	.0116	.00099	.00505	.00130	.00001	.071
%RSD	.77305	.24623	.45482	.52504	.18835	.05892	.28081

#1	.19396	4.7281	.21673	.96417	.68970	.02326	25.179
#2	.19158	4.7177	.21611	.96550	.68723	.02325	25.125
#3	.19122	4.7049	.21804	.95616	.68780	.02328	25.039

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02405	.09664	.23929	.24057	28.424	24.622	.48696
Stddev	.00018	.00029	.00146	.00252	.057	.034	.00474
%RSD	.75991	.30443	.61103	1.0495	.19879	.13883	.97274

#1	.02398	.09697	.23922	.24279	28.366	24.621	.48551
#2	.02425	.09641	.24079	.24110	28.479	24.656	.48312
#3	.02390	.09655	.23787	.23782	28.427	24.588	.49226

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.371	1.0758	.49692	27.328	.24150	4.9162	.24595
Stddev	.139	.0074	.00316	.024	.00267	.0240	.00353
%RSD	.48819	.68624	.63503	.08906	1.1036	.48828	1.4337

#1	28.233	1.0690	.49927	27.340	.24264	4.9282	.24838
#2	28.510	1.0837	.49815	27.343	.24340	4.9319	.24756
#3	28.369	1.0749	.49333	27.300	.23845	4.8886	.24190

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006404MS Acquired: 5/5/2016 15:55:33 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567465-04

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.57826	.19063	7.1195	.48107	.64446	.48599	.24050
Stddev	.00529	.00314	.0182	.00379	.00176	.00628	.00513
%RSD	.91448	1.6447	.25584	.78859	.27360	1.2930	2.1339
#1	.58321	.18780	7.1240	.48395	.64466	.49324	.24360
#2	.57889	.19400	7.1350	.48249	.64611	.48277	.24332
#3	.57269	.19010	7.0994	.47677	.64260	.48198	.23457

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.48513	.46976	F -.16180
Stddev	.00098	.00264	.11567
%RSD	.20285	.56162	71.492
#1	.48512	.47212	-.24672
#2	.48612	.47024	-.20861
#3	.48415	.46691	-.03005

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8323.9	59792.	2828.7
Stddev	26.7	55.	15.3
%RSD	.32099	.09214	.53979
#1	8322.4	59822.	2813.0
#2	8351.3	59728.	2829.6
#3	8297.9	59825.	2843.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006405MSD Acquired: 5/5/2016 15:59:13 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567465-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19102	4.6990	.21801	.96024	.70041	.02319	26.254
Stddev	.00201	.0031	.00128	.00152	.00236	.00004	.082
%RSD	1.0539	.06489	.58670	.15799	.33765	.17148	.31337

#1	.18880	4.6976	.21662	.96047	.70306	.02324	26.342
#2	.19154	4.6968	.21828	.96163	.69963	.02317	26.241
#3	.19273	4.7024	.21914	.95862	.69853	.02317	26.179

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02414	.09693	.23785	.23921	29.867	24.791	.48795
Stddev	.00027	.00016	.00111	.00089	.086	.105	.00104
%RSD	1.1139	.16508	.46872	.36998	.28884	.42157	.21245

#1	.02383	.09674	.23663	.23897	29.814	24.908	.48750
#2	.02431	.09703	.23811	.24019	29.820	24.707	.48914
#3	.02428	.09701	.23881	.23846	29.966	24.760	.48721

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.651	1.1272	.50003	27.672	.24311	4.9299	.24067
Stddev	.085	.0064	.00083	.038	.00071	.0104	.00126
%RSD	.28621	.56449	.16550	.13687	.29008	.21206	.52494

#1	29.615	1.1311	.49909	27.715	.24263	4.9275	.24208
#2	29.590	1.1306	.50034	27.648	.24392	4.9413	.24027
#3	29.748	1.1198	.50065	27.652	.24278	4.9208	.23965

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006405MSD Acquired: 5/5/2016 15:59:13 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567465-05

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.57762	.19269	7.4187	.48183	.65534	.49935	.23933
Stddev	.00234	.00265	.0029	.00086	.00196	.01102	.00174
%RSD	.40568	1.3749	.03963	.17837	.29945	2.2073	.72766

#1	.58031	.19553	7.4166	.48102	.65747	.50750	.23769
#2	.57655	.19225	7.4220	.48273	.65494	.50375	.24116
#3	.57601	.19029	7.4173	.48175	.65361	.48681	.23913

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.47955	.47256	F -.23745
Stddev	.00085	.00075	.03360
%RSD	.17633	.15769	14.150

#1	.47858	.47317	-.22200
#2	.48012	.47278	-.27600
#3	.47995	.47173	-.21436

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8318.6	59916.	2820.2
Stddev	3.7	92.	4.0
%RSD	.04418	.15427	.14092

#1	8322.3	60022.	2816.1
#2	8315.0	59858.	2820.4
#3	8318.4	59867.	2824.1

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006406 Acquired: 5/5/2016 16:02:52 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	-.00450	.02809	.04992	.17368	-.00002	8.7650
Stddev	.00169	.00390	.00285	.00171	.00080	.00006	.0620
%RSD	773.61	86.636	10.144	3.4316	.46102	356.40	.70746

#1	-.00173	-.00686	.02602	.05187	.17396	-.00005	8.8360
#2	.00100	.00000	.03134	.04864	.17277	.00005	8.7375
#3	.00138	-.00664	.02691	.04927	.17429	-.00005	8.7215

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	-.00008	-.00145	.00139	37.084	2.2323	-.00319
Stddev	.00012	.00030	.00048	.00096	.160	.0961	.00352
%RSD	86.439	356.52	33.451	69.358	.43166	4.3070	110.45

#1	.00021	-.00039	-.00193	.00221	37.053	2.1853	-.00008
#2	.00021	.00020	-.00096	.00033	37.257	2.3429	-.00248
#3	.00000	-.00006	-.00146	.00161	36.941	2.1687	-.00701

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	51.302	.28865	.00072	2.5206	-.00001	.53588	-.00038
Stddev	.314	.00315	.00028	.0071	.00114	.00804	.00131
%RSD	.61206	1.0896	39.044	.28157	8738.2	1.5001	343.11

#1	51.523	.29163	.00040	2.5141	-.00070	.53903	-.00143
#2	51.440	.28895	.00092	2.5282	-.00064	.52675	-.00081
#3	50.943	.28537	.00084	2.5195	.00130	.54188	.00109

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006406 Acquired: 5/5/2016 16:02:52 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00041	.00731	5.9823	.00023	.09703	.01443	-.00031
Stddev	.00444	.00664	.0159	.00069	.00014	.00516	.00052
%RSD	1071.0	90.766	.26659	300.57	.14319	35.768	165.79

#1	.00554	.00305	5.9903	-.00052	.09693	.01416	-.00012
#2	-.00227	.00392	5.9927	.00082	.09719	.00941	-.00090
#3	-.00202	.01496	5.9639	.00039	.09696	.01972	.00008

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00210	.00328	F -.33721
Stddev	.00032	.00018	.10811
%RSD	15.213	5.3369	32.060

#1	-.00177	.00330	-.30148
#2	-.00212	.00344	-.45867
#3	-.00241	.00310	-.25149

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8257.5	59690.	2783.3
Stddev	3.9	355.	9.5
%RSD	.04776	.59446	.34241

#1	8260.0	59441.	2788.1
#2	8253.0	60096.	2772.3
#3	8259.6	59533.	2789.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006407 Acquired: 5/5/2016 16:06:45 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00045	-0.00060	.05110	.07090	.57138	-0.00010	76.360
Stddev	.00077	.00518	.00148	.00095	.00264	.00007	.374
%RSD	171.70	860.90	2.8938	1.3467	.46234	69.228	.48977

#1	.00034	.00479	.05164	.07175	.57280	-0.00009	76.493
#2	-0.00048	-0.00105	.04943	.07109	.56834	-0.00003	75.938
#3	-0.00121	-0.00554	.05224	.06987	.57302	-0.00017	76.649

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00056	.00014	.00054	.00112	27.057	.99176	.00478
Stddev	.00009	.00037	.00087	.00058	.122	.01467	.00025
%RSD	16.757	265.46	159.94	51.751	.45197	1.4797	5.1513

#1	.00054	.00049	.00154	.00083	27.146	.97580	.00502
#2	.00048	-0.00024	.00009	.00074	26.917	.99481	.00477
#3	.00066	.00016	-0.00001	.00178	27.108	1.0047	.00453

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	47.673	2.3888	.00118	13.551	.00081	.32412	.00191
Stddev	.094	.0059	.00010	.063	.00084	.00474	.00077
%RSD	.19752	.24720	8.6818	.46373	103.06	1.4631	40.524

#1	47.713	2.3880	.00121	13.597	.00127	.32678	.00123
#2	47.565	2.3833	.00127	13.480	-0.00015	.31865	.00174
#3	47.740	2.3950	.00107	13.578	.00132	.32694	.00275

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006407 Acquired: 5/5/2016 16:06:45 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00113	.00606	8.9922	.00037	.44226	.00170	.00016
Stddev	.00038	.00413	.0033	.00121	.00074	.00631	.00105
%RSD	33.141	68.155	.03663	329.54	.16625	371.57	675.16

#1	.00111	.01023	8.9885	.00173	.44311	.00896	-.00054
#2	.00077	.00197	8.9933	-.00009	.44180	-.00136	-.00036
#3	.00152	.00599	8.9949	-.00055	.44187	-.00250	.00137

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00163	.00157	F -.15365
Stddev	.00004	.00015	.06418
%RSD	2.3240	9.5294	41.772

#1	-.00167	.00152	-.22132
#2	-.00161	.00174	-.09364
#3	-.00160	.00146	-.14600

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8148.3	58527.	2745.8
Stddev	8.1	405.	13.0
%RSD	.09986	.69236	.47340

#1	8152.4	58387.	2742.7
#2	8153.6	58210.	2760.1
#3	8138.9	58984.	2734.7

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 16:10:36 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39832	9.9187	.39826	.49851	.98817	.04950	9.8460
Stddev	.00201	.0137	.00020	.00162	.00260	.00006	.0311
%RSD	.50388	.13854	.05035	.32530	.26344	.11913	.31578

#1	.39601	9.9059	.39836	.49763	.98521	.04948	9.8121
#2	.39966	9.9171	.39839	.49753	.99011	.04947	9.8528
#3	.39928	9.9332	.39803	.50038	.98918	.04957	9.8731

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05047	.20119	.49482	.50276	3.9753	49.760	1.0146
Stddev	.00034	.00017	.00105	.00160	.0099	.235	.0039
%RSD	.67933	.08639	.21253	.31814	.24921	.47216	.38467

#1	.05049	.20103	.49461	.50185	3.9641	49.531	1.0113
#2	.05011	.20116	.49388	.50460	3.9793	50.001	1.0189
#3	.05079	.20137	.49596	.50182	3.9827	49.749	1.0136

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.9962	.49573	1.0067	50.027	.50393	9.9676	.50253
Stddev	.0950	.00177	.0027	.048	.00152	.0232	.00080
%RSD	.95064	.35678	.26454	.09501	.30135	.23256	.15957

#1	10.106	.49659	1.0095	49.973	.50249	9.9519	.50220
#2	9.9468	.49690	1.0065	50.062	.50379	9.9566	.50194
#3	9.9361	.49369	1.0042	50.046	.50551	9.9942	.50344

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 16:10:36 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2005	.40222	5.0017	.99629	.98434	.98364	.50436
Stddev	.0110	.00747	.0047	.00076	.00348	.00442	.00020
%RSD	.91405	1.8561	.09464	.07643	.35376	.44917	.03871
#1	1.2035	.40144	4.9977	.99659	.98032	.98556	.50416
#2	1.1884	.41004	5.0005	.99542	.98625	.97859	.50438
#3	1.2097	.39517	5.0069	.99685	.98644	.98678	.50455

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.99513	.99855	F .12842
Stddev	.00283	.00165	.10774
%RSD	.28483	.16550	83.898
#1	.99299	.99746	.04120
#2	.99405	.99774	.09520
#3	.99834	1.0005	.24886

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7967.9	56758.	2655.2
Stddev	12.2	434.	14.1
%RSD	.15277	.76381	.52951
#1	7980.1	57060.	2660.6
#2	7967.9	56953.	2639.3
#3	7955.8	56261.	2665.8

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 16:14:14 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00029	-.01015	-.00283	.00585	.00070	-.00003	.02857	.00005
Stddev	.00071	.00233	.00214	.00032	.00013	.00009	.01718	.00016
%RSD	246.08	22.994	75.539	5.5099	18.449	277.69	60.135	320.34

#1	.00020	-.01272	-.00438	.00618	.00085	-.00012	.04581	-.00013
#2	-.00037	-.00957	-.00039	.00582	.00065	.00006	.02844	.00018
#3	.00104	-.00817	-.00372	.00554	.00061	-.00004	.01145	.00009

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00026	-.00005	-.00065	.00037	.06993	-.00385	.11616	-.00435
Stddev	.00006	.00064	.00131	.02691	.12198	.00174	.03345	.00126
%RSD	23.729	1249.2	202.86	7196.6	174.45	45.201	28.793	28.882

#1	.00032	-.00000	.00019	-.02205	.00176	-.00580	.07871	-.00579
#2	.00028	-.00072	-.00216	.03022	.21076	-.00330	.12674	-.00348
#3	.00019	.00057	.00003	-.00704	-.00274	-.00245	.14304	-.00378

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00187	.02490	.00012	-.00139	-.00086	.00105	.00103	.00286
Stddev	.00030	.02944	.00123	.00190	.00415	.00020	.00860	.00141
%RSD	16.297	118.20	1038.8	136.91	482.83	19.134	832.81	49.380

#1	.00160	.00028	.00063	-.00021	-.00367	.00084	.00968	.00175
#2	.00180	.01692	.00101	-.00358	-.00281	.00123	.00094	.00445
#3	.00220	.05751	-.00128	-.00037	.00390	.00107	-.00752	.00239

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 16:14:14 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0008	.00009	.00174	-0.00059	-0.00027	-0.00010	-0.03915
Stddev	.00018	.00016	.00317	.00539	.00038	.00008	.07056
%RSD	242.11	179.58	182.67	912.28	139.80	82.177	180.23

#1	.00013	.00025	-.00137	-.00248	-.00030	-.00003	.03272
#2	-.00014	-.00007	.00161	-.00479	-.00063	-.00019	-.04185
#3	-.00022	.00008	.00497	.00549	.00012	-.00007	-.10833

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8038.0	57785.	2611.1
Stddev	45.6	257.	48.1
%RSD	.56785	.44533	1.8418

#1	7995.8	58078.	2601.7
#2	8031.8	57598.	2568.4
#3	8086.4	57677.	2663.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1605007801 Acquired: 5/5/2016 16:18:11 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0051	.02348	.54010	8.5654	F 177.83	-0.0008	F 1583.8
Stddev	.00254	.01408	.01570	.0175	2.52	.00006	9.3
%RSD	502.69	59.980	2.9060	.20437	1.4153	76.487	.58592

#1	-0.00096	.01135	.54652	8.5647	174.93	-0.0002	1594.1
#2	.00223	.02015	.55157	8.5482	179.16	-0.0014	1581.4
#3	-0.00279	.03892	.52222	8.5832	179.41	-0.0009	1576.0

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit					45.000		270.00
Low Limit					-0.00500		-1.0000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01145	.02436	.00324	.01120	18.327	162.25	15.191
Stddev	.00043	.00039	.00081	.00089	.074	.24	.020
%RSD	3.7364	1.5948	24.945	7.9685	.40381	.14893	.13418

#1	.01096	.02417	.00304	.01075	18.399	162.08	15.169
#2	.01171	.02411	.00254	.01223	18.332	162.53	15.209
#3	.01169	.02481	.00412	.01063	18.251	162.15	15.194

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	263.41	1.3723	.00216	F 4014.4	-0.00555	.30494	.00886
Stddev	1.21	.0046	.00072	78.0	.00072	.01185	.00277
%RSD	.45764	.33190	33.335	1.9426	13.055	3.8859	31.307

#1	263.24	1.3676	.00234	4100.4	-0.00523	.31848	.01123
#2	264.69	1.3726	.00136	3994.4	-0.00504	.29988	.00581
#3	262.30	1.3767	.00277	3948.4	-0.00637	.29647	.00955

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-5.0000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605007801 Acquired: 5/5/2016 16:18:11 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0597	.00270	1.2156	-.00129	F 342.82	F -.17794	-.00405
Stddev	.00532	.01548	.0389	.00124	6.94	.00371	.00684
%RSD	89.126	573.70	3.1993	95.974	2.0230	2.0863	169.06

#1	-.01002	.00268	1.2398	-.00187	349.10	-.18197	-.01132
#2	-.00793	-.01277	1.2362	-.00214	335.38	-.17717	-.00307
#3	.00005	.01819	1.1707	.00013	343.97	-.17466	.00225

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					9.0000	36.000	
Low Limit					-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00302	.08791	F -.77659
Stddev	.00115	.00208	.03745
%RSD	38.043	2.3625	4.8222

#1	-.00184	.08935	-.79665
#2	-.00308	.08886	-.73338
#3	-.00414	.08553	-.79973

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	6040.9	42975.	2493.9
Stddev	14.1	204.	16.3
%RSD	.23266	.47422	.65287

#1	6034.2	43021.	2477.9
#2	6031.4	43153.	2510.5
#3	6057.1	42753.	2493.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1605007901 Acquired: 5/5/2016 16:22:27 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00130	1.2098	.00322	.07856	.31729	-.00001	7.6888	.00256
Stddev	.00058	.0103	.00358	.00626	.13452	.00002	1.8343	.00030
%RSD	44.523	.85017	110.93	7.9719	42.396	130.18	23.856	11.733

#1	.00196	1.2186	.00693	.08563	.19564	-.00003	6.0439	.00222
#2	.00107	1.2123	-.00021	.07633	.29447	.00000	7.3558	.00280
#3	.00087	1.1985	.00295	.07372	.46176	-.00001	9.6668	.00267

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00242	.00174	.00906	2.4857	7.5927	.02160	1.3882	.12141
Stddev	.00037	.00025	.00064	.0279	.0626	.01348	.1781	.00100
%RSD	15.361	14.613	7.0916	1.1209	.82426	62.410	12.829	.82726

#1	.00276	.00149	.00980	2.5156	7.5354	.00778	1.2645	.12239
#2	.00203	.00200	.00869	2.4605	7.5832	.02230	1.3078	.12039
#3	.00248	.00174	.00868	2.4811	7.6594	.03471	1.5924	.12145

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00122	32.426	.00433	.04522	.02619	.00071	.00132	2.7200
Stddev	.00062	5.121	.00116	.00384	.00101	.00389	.00269	.0220
%RSD	51.136	15.792	26.669	8.4959	3.8575	546.35	203.75	.80689

#1	.00084	27.814	.00365	.04875	.02634	-.00232	.00238	2.7149
#2	.00194	31.528	.00567	.04113	.02712	.00509	-.00174	2.7440
#3	.00088	37.936	.00369	.04580	.02511	-.00064	.00331	2.7010

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605007901 Acquired: 5/5/2016 16:22:27 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00059	.78884	.03452	.00283	.00480	.18878	.51900
Stddev	.00051	.34174	.00120	.00228	.00027	.00105	.01790
%RSD	86.447	43.322	3.4628	80.610	5.7298	.55547	3.4491

#1	.00117	.47891	.03317	.00126	.00495	.18781	.51767
#2	.00028	.73227	.03493	.00179	.00448	.18989	.53753
#3	.00030	1.1553	.03545	.00545	.00496	.18863	.50181

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9012.4	64819.	3055.1
Stddev	49.5	221.	24.3
%RSD	.54895	.34057	.79678

#1	9057.1	64565.	3043.1
#2	8959.3	64924.	3039.0
#3	9020.8	64967.	3083.1

Approved: May 06, 2016

K: K Buck

Sample Name: L1605007902 Acquired: 5/5/2016 16:26:19 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	6.5069	.01073	.06618	.20555	.00027	23.624	.01351
Stddev	.00205	.0223	.00222	.00106	.00464	.00003	.090	.00006
%RSD	1024.5	.34299	20.705	1.5941	2.2565	10.053	.38058	.43835

#1	.00182	6.4811	.01312	.06702	.21080	.00030	23.727	.01344
#2	.00088	6.5199	.00871	.06500	.20383	.00027	23.578	.01352
#3	-.00210	6.5196	.01038	.06653	.20201	.00024	23.566	.01356

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01579	.01179	.05725	16.734	48.997	.01150	5.8316	.97718
Stddev	.00044	.00045	.00070	.022	.038	.00116	.0682	.00617
%RSD	2.7589	3.8146	1.2199	.12876	.07852	10.083	1.1692	.63095

#1	.01614	.01171	.05657	16.711	49.007	.01120	5.8772	.97396
#2	.01592	.01227	.05720	16.739	48.955	.01279	5.7532	.98429
#3	.01530	.01139	.05797	16.753	49.030	.01053	5.8644	.97330

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00576	137.04	.02811	.67557	.18004	.00073	.00089	14.853
Stddev	.00004	.08	.00037	.00356	.00322	.00392	.00805	.028
%RSD	.67316	.05651	1.3071	.52642	1.7867	534.06	903.13	.19101

#1	.00575	136.99	.02853	.67248	.18079	.00480	.00307	14.856
#2	.00580	137.13	.02793	.67945	.17652	.00042	.00762	14.881
#3	.00573	137.00	.02786	.67477	.18282	-.00302	-.00802	14.824

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605007902 Acquired: 5/5/2016 16:26:19 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00194	.31833	.15231	.00023	.03185	1.4392	2.3649
Stddev	.00049	.01329	.00139	.00358	.00020	.0010	.0708
%RSD	25.324	4.1747	.91298	1586.4	.62525	.07204	2.9924
#1	.00138	.33269	.15245	-.00366	.03171	1.4386	2.2834
#2	.00214	.31582	.15086	.00094	.03208	1.4404	2.4109
#3	.00230	.30647	.15363	.00339	.03176	1.4387	2.4004

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8369.3	59654.	2855.5
Stddev	27.8	324.	23.0
%RSD	.33160	.54394	.80417
#1	8355.2	59376.	2844.6
#2	8351.3	60010.	2839.9
#3	8401.2	59575.	2881.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012301 Acquired: 5/5/2016 16:30:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0057	.05166	-0.00384	3.4640	F 201.11	-0.00012	F 986.93
Stddev	.00275	.00337	.00185	.0187	2.41	.00001	2.72
%RSD	484.61	6.5330	48.177	.54111	1.2006	6.7892	.27604

#1	.00088	.05268	-.00271	3.4546	203.87	-.00012	989.91
#2	.00116	.05441	-.00284	3.4519	199.36	-.00011	986.31
#3	-.00374	.04789	-.00598	3.4856	200.11	-.00012	984.57

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit					45.000		270.00
Low Limit					-.00500		-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00763	.02867	.01441	.00144	15.002	148.22	11.126
Stddev	.00055	.00009	.00079	.00007	.013	.04	.030
%RSD	7.1580	.31629	5.4721	4.7624	.08888	.02387	.27154

#1	.00820	.02863	.01352	.00152	14.999	148.21	11.159
#2	.00711	.02861	.01471	.00140	15.017	148.19	11.100
#3	.00759	.02878	.01501	.00141	14.990	148.26	11.120

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	103.63	1.2852	.00001	F 3379.8	-.00464	F -.10722	.00207
Stddev	.39	.0050	.00054	107.0	.00133	.00205	.00296
%RSD	.37269	.39173	4486.7	3.1653	28.710	1.9116	143.02

#1	103.60	1.2895	.00064	3492.7	-.00328	-.10490	.00485
#2	103.26	1.2865	-.00027	3366.7	-.00471	-.10800	.00241
#3	104.03	1.2797	-.00033	3280.0	-.00594	-.10877	-.00105

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass
High Limit				270.00		180.00	
Low Limit				-.50000		-.10000	

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012301 Acquired: 5/5/2016 16:30:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00556	.00038	5.4333	-.00167	F 402.20	F -.13547	-.00116
Stddev	.00729	.00663	.0628	.00024	2.54	.00257	.00289
%RSD	131.05	1753.3	1.1550	14.618	.63040	1.8970	249.93

#1	.00525	.00696	5.4538	-.00162	403.55	-.13821	.00164
#2	.01300	-.00631	5.4833	-.00194	403.77	-.13312	-.00098
#3	-.00156	.00049	5.3629	-.00146	399.27	-.13507	-.00413

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					9.0000	36.000	
Low Limit					-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00114	.00614	F -.81671
Stddev	.00121	.00160	.04767
%RSD	106.24	26.135	5.8367

#1	-.00041	.00757	-.86539
#2	-.00047	.00645	-.81462
#3	-.00254	.00440	-.77012

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	6815.7	49602.	2935.9
Stddev	52.9	322.	9.6
%RSD	.77661	.64837	.32809

#1	6872.8	49968.	2940.1
#2	6805.9	49474.	2924.9
#3	6768.3	49364.	2942.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012501 Acquired: 5/5/2016 16:34:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00000	.00408	-.00054	.04075	.25933	-.00004	56.912	.00033
Stddev	.00076	.00374	.00351	.00130	.00475	.00002	.381	.00006
%RSD	18978.	91.465	648.00	3.1867	1.8299	53.264	.67002	16.835

#1	.00005	.00699	.00340	.04107	.26332	-.00005	57.302	.00028
#2	-.00078	-.00013	-.00330	.03932	.26059	-.00002	56.896	.00039
#3	.00074	.00540	-.00173	.04186	.25408	-.00004	56.540	.00032

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00037	-.00012	.00419	1.1405	1.2272	.00740	9.0455	.79592
Stddev	.00058	.00019	.00125	.0273	.1047	.00230	.0735	.00207
%RSD	157.30	163.08	29.900	2.3912	8.5325	31.091	.81305	.25957

#1	.00097	-.00030	.00306	1.1620	1.3413	.00917	9.1236	.79817
#2	.00033	-.00013	.00398	1.1497	1.2047	.00823	9.0352	.79410
#3	-.00019	.00008	.00554	1.1098	1.1355	.00480	8.9776	.79550

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00037	28.482	-.00036	.01443	.00124	.00057	.00175	5.5919
Stddev	.00008	.109	.00075	.00669	.00168	.00301	.00944	.0805
%RSD	22.833	.38442	206.04	46.322	136.00	531.49	538.23	1.4398

#1	.00027	28.504	.00038	.01415	-.00006	-.00142	-.00598	5.6756
#2	.00042	28.579	-.00112	.00789	.00313	.00403	-.00103	5.5851
#3	.00042	28.363	-.00035	.02126	.00064	-.00092	.01228	5.5150

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012501 Acquired: 5/5/2016 16:34:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00026	.51847	-.00570	.00023	-.00028	.00371	.04659
Stddev	.00059	.00973	.00516	.00101	.00091	.00015	.06260
%RSD	227.34	1.8761	90.515	447.42	325.65	3.9789	134.36

#1	.00094	.52811	-.00082	.00109	-.00002	.00387	.04728
#2	-.00005	.51864	-.01109	-.00089	-.00130	.00367	-.01635
#3	-.00011	.50865	-.00518	.00048	.00048	.00358	.10885

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8300.5	62140.	2955.4
Stddev	82.9	420.	21.8
%RSD	.99826	.67522	.73811

#1	8394.1	62433.	2930.8
#2	8271.2	62328.	2963.2
#3	8236.3	61659.	2972.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012502 Acquired: 5/5/2016 16:40:38 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00057	-0.00076	-0.00131	.03880	.10458	-0.00004	51.546	.00032
Stddev	.00142	.00777	.00176	.00070	.00080	.00001	.091	.00012
%RSD	249.20	1023.3	134.29	1.8057	.76548	24.789	.17634	35.707

#1	-0.00035	.00477	.00065	.03801	.10370	-0.00004	51.517	.00043
#2	-0.00208	-0.00965	-0.00181	.03908	.10527	-0.00004	51.648	.00020
#3	.00073	.00260	-0.00277	.03932	.10477	-0.00003	51.473	.00033

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	-0.00005	.00326	.09053	.93701	.00645	7.3392	.00665
Stddev	.00025	.00078	.00033	.01852	.09507	.00386	.2705	.00094
%RSD	560.00	1441.6	10.142	20.457	10.146	59.783	3.6850	14.213

#1	.00005	-0.00080	.00335	.10048	1.0422	.00837	7.3942	.00568
#2	-0.00020	-0.00012	.00290	.06916	.85719	.00897	7.5779	.00757
#3	.00029	.00076	.00354	.10195	.91165	.00201	7.0455	.00668

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00151	21.220	-0.00048	.00267	.00133	.00061	.00085	5.4290
Stddev	.00061	.081	.00029	.00989	.00185	.00099	.00155	.0226
%RSD	40.226	.38350	59.352	369.96	139.53	162.15	182.54	.41701

#1	.00106	21.130	-0.00062	.00191	-0.00001	.00159	-0.00091	5.4162
#2	.00126	21.245	-0.00015	-0.00681	.00344	.00065	.00143	5.4157
#3	.00220	21.286	-0.00067	.01292	.00055	-0.00040	.00203	5.4552

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012502 Acquired: 5/5/2016 16:40:38 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0076	.36175	-0.00715	.00169	-0.00073	.00346	.02203
Stddev	.00070	.00148	.00395	.00164	.00039	.00022	.10262
%RSD	93.057	.40883	55.163	97.035	53.177	6.3770	465.72

#1	-0.0017	.36008	-0.00310	-0.00015	-0.00029	.00328	.08086
#2	-0.00057	.36287	-0.01098	.00220	-0.00088	.00370	.08170
#3	-0.00153	.36231	-0.00738	.00300	-0.00103	.00339	-.09646

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8305.7	59215.	2762.5
Stddev	14.8	125.	2.4
%RSD	.17784	.21182	.08861

#1	8290.8	59088.	2761.0
#2	8320.3	59339.	2765.4
#3	8305.9	59217.	2761.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1605007801 Acquired: 5/5/2016 16:44:32 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00068	-.00557	.02397	.38131	8.4677	-.00004	122.21
Stddev	.00177	.00958	.00124	.00416	.0835	.00004	1.34
%RSD	259.01	172.14	5.1842	1.0900	.98671	91.397	1.0928

#1	.00180	-.01080	.02254	.37862	8.5626	-.00005	123.74
#2	.00161	-.01139	.02465	.37923	8.4054	-.00008	121.28
#3	-.00136	.00549	.02472	.38610	8.4351	.00000	121.61

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00025	.00212	-.00006	.00031	.91259	7.2190	.65274
Stddev	.00002	.00039	.00119	.00025	.02823	.0728	.01078
%RSD	7.9939	18.518	2001.4	80.276	3.0929	1.0085	1.6510

#1	.00023	.00254	.00093	.00060	.93853	7.1851	.66182
#2	.00025	.00207	.00027	.00017	.88253	7.3025	.64083
#3	.00027	.00176	-.00137	.00017	.91671	7.1693	.65559

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.239	.06399	-.00011	F 323.86	-.00085	.01709	.00420
Stddev	.085	.00188	.00025	4.12	.00102	.00930	.00196
%RSD	.64195	2.9423	237.00	1.2721	119.46	54.395	46.674

#1	13.305	.06231	-.00038	328.60	-.00069	.02322	.00601
#2	13.143	.06603	-.00006	321.12	.00008	.00639	.00448
#3	13.268	.06363	.00012	321.87	-.00194	.02167	.00211

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605007801 Acquired: 5/5/2016 16:44:32 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0032	.00324	.04865	-.00119	F 21.665	-.01779	.00077
Stddev	.00038	.00190	.00188	.00139	.236	.00257	.00338
%RSD	119.05	58.725	3.8548	116.82	1.0914	14.467	436.98

#1	.00006	.00213	.04662	-.00032	21.930	-.01758	.00011
#2	-.00031	.00215	.04900	-.00279	21.475	-.01532	.00443
#3	-.00071	.00543	.05032	-.00045	21.589	-.02046	-.00223

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit					9.0000		
Low Limit					-.01000		

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.0062	.00484	F -.07341
Stddev	.00015	.00022	.01331
%RSD	24.451	4.4694	18.135

#1	-.00051	.00473	-.06371
#2	-.00079	.00509	-.08859
#3	-.00055	.00470	-.06793

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8143.1	57807.	2771.9
Stddev	25.7	282.	34.5
%RSD	.31530	.48861	1.2458

#1	8171.0	57646.	2732.1
#2	8137.8	58133.	2790.9
#3	8120.4	57642.	2792.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012301 Acquired: 5/5/2016 16:48:29 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 250 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0097	-0.00967	.00110	.07067	4.5072	-0.00000	28.359
Stddev	.00146	.00742	.00220	.00265	.0220	.00005	.206
%RSD	151.22	76.691	199.59	3.7450	.48857	955.70	.72488

#1	-0.0164	-0.00592	-0.00131	.06766	4.5206	-0.00006	28.497
#2	-0.00198	-0.00487	.00301	.07171	4.4818	.00003	28.123
#3	.00071	-0.01821	.00162	.07263	4.5192	.00001	28.457

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00002	.00121	-0.00036	-0.00036	.31862	3.1910	.22121
Stddev	.00018	.00019	.00081	.00125	.01720	.0992	.00520
%RSD	1096.3	15.390	225.05	349.45	5.3978	3.1095	2.3496

#1	-0.00010	.00142	-0.00011	.00040	.32602	3.2955	.21585
#2	.00019	.00113	.00029	-0.00180	.29896	3.0981	.22155
#3	-0.00014	.00108	-0.00127	.00033	.33088	3.1793	.22622

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.6346	.02795	-0.00019	128.44	-0.00017	-0.00174	-0.00010
Stddev	.0663	.00259	.00034	.75	.00114	.00495	.00210
%RSD	2.5157	9.2666	181.34	.58316	674.42	283.85	2017.8

#1	2.5594	.02630	-0.00021	128.97	.00014	.00261	-0.00249
#2	2.6598	.02660	.00017	127.59	-0.00144	-0.00072	.00147
#3	2.6846	.03093	-0.00052	128.78	.00079	-0.00713	.00071

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012301 Acquired: 5/5/2016 16:48:29 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 250 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0141	.00359	.09536	-0.0135	F 13.926	-0.00229	-0.00001
Stddev	.00203	.00288	.00131	.00159	.078	.00544	.00264
%RSD	143.91	80.059	1.3778	118.10	.55685	237.31	18385.

#1	-0.0152	.00053	.09428	-0.0139	13.963	.00026	.00255
#2	-0.00339	.00625	.09498	-0.00292	13.837	.00140	.00013
#3	.00067	.00400	.09683	.00027	13.979	-.00855	-.00273

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit					9.0000		
Low Limit					-.01000		

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00024	-0.00006	.02914
Stddev	.00046	.00006	.03359
%RSD	195.83	116.01	115.27

#1	.00030	-0.00002	.06747
#2	-0.00054	-0.00013	.00478
#3	-0.00046	-0.00001	.01518

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8370.2	59475.	2744.6
Stddev	13.3	345.	54.1
%RSD	.15874	.58050	1.9699

#1	8371.8	59844.	2732.3
#2	8382.6	59423.	2803.8
#3	8356.2	59160.	2697.8

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 16:52:24 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39448	9.7584	.39622	.49179	.98212	.04892	9.7889
Stddev	.00394	.0151	.00224	.00216	.00488	.00010	.0465
%RSD	.99787	.15500	.56522	.44018	.49674	.21216	.47463

#1	.39261	9.7620	.39471	.49335	.97893	.04903	9.7355
#2	.39901	9.7714	.39516	.49270	.98774	.04882	9.8115
#3	.39183	9.7418	.39879	.48932	.97970	.04891	9.8197

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04982	.19965	.48797	.49962	3.9680	49.479	1.0055
Stddev	.00020	.00039	.00141	.00322	.0628	.093	.0102
%RSD	.40244	.19641	.28928	.64383	1.5821	.18792	1.0127

#1	.05002	.19991	.48957	.50333	3.8961	49.396	.99403
#2	.04962	.19920	.48746	.49801	3.9953	49.579	1.0133
#3	.04983	.19985	.48689	.49753	4.0124	49.460	1.0093

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.8240	.48455	1.0021	49.349	.49847	9.8794	.49242
Stddev	.1640	.00454	.0024	.207	.00283	.0077	.00035
%RSD	1.6696	.93698	.23591	.41873	.56751	.07791	.07132

#1	9.7769	.48611	1.0048	49.122	.50156	9.8825	.49260
#2	9.6887	.47944	1.0002	49.526	.49600	9.8706	.49201
#3	10.006	.48811	1.0014	49.399	.49786	9.8851	.49265

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 16:52:24 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1862	.39480	4.9665	.98287	.98285	.97510	.49810
Stddev	.0025	.00848	.0111	.00332	.00256	.00665	.00429
%RSD	.21057	2.1476	.22350	.33815	.26012	.68155	.86055

#1	1.1868	.38525	4.9788	.98670	.98120	.96891	.50209
#2	1.1835	.39769	4.9572	.98080	.98579	.97425	.49357
#3	1.1884	.40145	4.9636	.98111	.98155	.98213	.49865

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.97853	.98764	F .13235
Stddev	.00214	.00309	.04983
%RSD	.21819	.31321	37.649

#1	.97638	.98915	.15000
#2	.98065	.98408	.07610
#3	.97858	.98969	.17096

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7961.6	56464.	2634.1
Stddev	39.4	205.	18.0
%RSD	.49434	.36260	.68157

#1	7944.7	56388.	2641.3
#2	8006.6	56307.	2647.3
#3	7933.6	56695.	2613.7

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 16:55:49 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00206	-0.00624	.00026	.00550	.00117	.00006	.05383
Stddev	.00030	.00404	.00249	.00068	.00029	.00008	.00778
%RSD	14.664	64.738	961.99	12.332	24.490	139.52	14.460

#1	-0.00189	-0.00409	.00253	.00528	.00086	.00014	.06095
#2	-0.00241	-0.00373	.00064	.00626	.00122	-0.00001	.05503
#3	-0.00189	-0.01090	-0.00240	.00496	.00143	.00004	.04552

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	.00011	-0.00131	-0.00004	.02065	.16703	-0.00028
Stddev	.00013	.00019	.00025	.00145	.00886	.13643	.00095
%RSD	93.673	182.89	19.021	3774.1	42.912	81.676	334.55

#1	.00002	-0.00010	-0.00155	.00032	.01697	.26285	-0.00120
#2	.00029	.00013	-0.00105	-0.00163	.01422	.22742	-0.00035
#3	.00012	.00028	-0.00133	.00120	.03075	.01084	.00070

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04940	-0.00195	.00226	.08997	.00011	-0.00248	.00166
Stddev	.02026	.00190	.00020	.02592	.00076	.00595	.00128
%RSD	41.010	97.450	8.6982	28.813	726.29	239.61	77.157

#1	.04075	-0.00308	.00203	.07195	-0.00059	.00439	.00069
#2	.07255	-0.00302	.00237	.11968	-0.00002	-0.00604	.00311
#3	.03490	.00024	.00238	.07829	.00092	-0.00581	.00117

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 16:55:49 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00053	.00191	.00029	.00025	.00080	-.00758	-.00025
Stddev	.00252	.00530	.00097	.00096	.00033	.00325	.00098
%RSD	478.92	277.08	339.40	381.72	41.093	42.862	385.10

#1	.00334	.00800	-.00071	.00135	.00100	-.00469	.00068
#2	-.00025	-.00173	.00035	-.00029	.00098	-.01110	-.00018
#3	-.00151	-.00052	.00122	-.00032	.00042	-.00696	-.00127

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00041	-.00035	F -.04044
Stddev	.00045	.00008	.04669
%RSD	109.98	23.673	115.46

#1	-.00010	-.00044	-.00225
#2	-.00021	-.00032	-.09250
#3	-.00093	-.00028	-.02657

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7978.0	57321.	2643.5
Stddev	10.3	425.	32.6
%RSD	.12936	.74073	1.2345

#1	7987.5	57185.	2674.8
#2	7979.6	57797.	2646.0
#3	7967.0	56982.	2609.7

Approved: May 06, 2016

K: K Buck

Sample Name: LLCCV Acquired: 5/5/2016 16:59:45 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00765	.16669	.01044	.08168	.00827	.00150	.79528	.00060
Stddev	.00115	.00251	.00288	.00181	.00021	.00009	.00927	.00017
%RSD	15.014	1.5075	27.578	2.2211	2.5071	6.0880	1.1652	28.168

#1	.00891	.16928	.01119	.08173	.00837	.00153	.80366	.00042
#2	.00738	.16654	.00726	.07984	.00841	.00156	.79686	.00061
#3	.00666	.16426	.01288	.08346	.00803	.00139	.78533	.00076

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00405	.00473	.00414	.07724	.95144	.08053	.58611	.00519
Stddev	.00038	.00004	.00103	.02031	.02409	.00257	.10018	.00262
%RSD	9.4352	.78374	24.967	26.295	2.5316	3.1928	17.093	50.512

#1	.00382	.00471	.00339	.08673	.92399	.08188	.49536	.00217
#2	.00449	.00472	.00371	.05392	.96905	.07756	.56936	.00651
#3	.00384	.00478	.00532	.09106	.96127	.08214	.69361	.00689

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00834	.49217	.01676	.77872	.00812	.08211	.02069	.79388
Stddev	.00026	.02704	.00084	.00258	.00186	.00229	.00914	.00144
%RSD	3.0820	5.4943	5.0026	.33140	22.947	2.7918	44.185	.18152

#1	.00811	.52102	.01597	.78029	.00914	.08257	.02080	.79234
#2	.00828	.48809	.01668	.77574	.00926	.07962	.02978	.79520
#3	.00862	.46740	.01764	.78012	.00597	.08413	.01150	.79412

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: LLCCV Acquired: 5/5/2016 16:59:45 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40392	.03965	.02322	.15747	.00686	.01895	10.253
Stddev	.00197	.00040	.00195	.00092	.00095	.00002	.138
%RSD	.48664	1.0203	8.3796	.58201	13.903	.11558	1.3421
#1	.40370	.03939	.02111	.15774	.00775	.01895	10.266
#2	.40599	.03944	.02360	.15822	.00700	.01893	10.383
#3	.40207	.04011	.02495	.15644	.00585	.01898	10.109

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8036.7	57467.	2665.2
Stddev	28.7	617.	28.4
%RSD	.35670	1.0732	1.0665
#1	8069.6	57881.	2685.1
#2	8017.2	56758.	2632.7
#3	8023.2	57761.	2677.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155102 Acquired: 5/5/2016 17:03:41 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	-.02300	.00143	.37243	.00309	.00003	.42179	.00024
Stddev	.00148	.00357	.00248	.00143	.00046	.00002	.00473	.00019
%RSD	662.65	15.535	173.64	.38530	14.800	71.676	1.1208	80.809

#1	.00027	-.01985	.00257	.37347	.00362	.00004	.42208	.00042
#2	.00168	-.02226	.00314	.37302	.00280	.00004	.42636	.00024
#3	-.00127	-.02688	-.00142	.37079	.00286	.00000	.41692	.00004

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	-.00033	-.00065	.00302	.13165	-.00157	.40461	-.00297
Stddev	.00019	.00091	.00077	.00788	.04631	.00363	.05282	.00041
%RSD	72.735	279.15	118.57	260.98	35.180	230.79	13.055	13.835

#1	.00049	-.00004	-.00128	-.00608	.12195	-.00240	.45910	-.00256
#2	.00020	.00041	.00021	.00733	.09095	.00240	.35364	-.00297
#3	.00012	-.00135	-.00089	.00780	.18204	-.00471	.40109	-.00338

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00019	3.1391	.00020	.01107	-.00074	-.00064	-.00139	.07699
Stddev	.00045	.0089	.00032	.00247	.00162	.00203	.00411	.00066
%RSD	239.80	.28391	159.08	22.276	219.71	318.29	295.92	.85275

#1	.00009	3.1319	-.00017	.00939	.00004	.00152	-.00540	.07774
#2	.00068	3.1491	.00035	.01390	-.00260	-.00251	.00281	.07660
#3	-.00021	3.1364	.00041	.00992	.00035	-.00092	-.00158	.07661

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155102 Acquired: 5/5/2016 17:03:41 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0006	.00147	-0.00269	-0.00188	-0.00031	.00021	.04281
Stddev	.00077	.00011	.00137	.00016	.00056	.00009	.05042
%RSD	1197.7	7.5887	50.902	8.7677	182.73	40.415	117.77

#1	-0.00037	.00142	-0.00172	-0.00177	-0.00090	.00022	-0.01347
#2	.00081	.00139	-0.00209	-0.00207	.00022	.00029	.05804
#3	-0.00063	.00160	-0.00425	-0.00181	-0.00024	.00012	.08385

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8637.9	61784.	2774.2
Stddev	3.3	191.	17.8
%RSD	.03834	.30843	.64266

#1	8634.1	61875.	2756.2
#2	8640.4	61912.	2774.7
#3	8639.1	61565.	2791.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155104 Acquired: 5/5/2016 17:07:39 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00084	-.02388	-.00026	.25666	.00105	.00004	1.3324	-.00013
Stddev	.00094	.00424	.00292	.00049	.00043	.00009	.0050	.00020
%RSD	111.54	17.741	1132.1	.19226	41.100	238.48	.37648	152.48

#1	-.00002	-.02860	-.00221	.25720	.00140	.00006	1.3274	-.00007
#2	.00185	-.02042	-.00166	.25624	.00057	.00012	1.3324	-.00036
#3	.00070	-.02262	.00309	.25654	.00119	-.00006	1.3374	.00003

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	.00034	.00029	-.00300	.08983	-.00231	.45218	-.00070
Stddev	.00021	.00022	.00164	.02457	.04510	.00471	.08237	.00261
%RSD	137.93	65.053	558.42	817.96	50.202	203.85	18.217	369.89

#1	-.00009	.00030	.00104	.00978	.03955	.00255	.41614	-.00012
#2	.00027	.00014	.00142	.01254	.12669	-.00685	.54644	-.00355
#3	.00028	.00057	-.00159	-.03133	.10326	-.00264	.39397	.00156

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00008	.99833	-.00097	-.00293	.00013	.00103	.00078	.08074
Stddev	.00032	.01147	.00137	.00968	.00132	.00076	.00622	.00145
%RSD	392.50	1.1491	141.84	330.41	980.23	74.214	795.12	1.7929

#1	.00038	1.0043	-.00167	.00543	-.00099	.00065	-.00193	.07980
#2	-.00025	.98510	.00061	-.01354	-.00019	.00190	.00790	.08241
#3	.00011	1.0056	-.00185	-.00068	.00159	.00053	-.00362	.08002

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155104 Acquired: 5/5/2016 17:07:39 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0027	.00235	.00401	.00103	-.00003	.00040	.05764
Stddev	.00039	.00023	.00444	.00244	.00010	.00029	.11313
%RSD	146.47	9.6991	110.67	237.90	363.51	72.975	196.26

#1	-0.00050	.00214	.00054	.00310	.00008	.00072	.17751
#2	.00018	.00233	.00901	.00166	-.00007	.00034	-.04727
#3	-.00048	.00259	.00248	-.00167	-.00009	.00015	.04269

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8517.1	60758.	2773.9
Stddev	34.1	680.	27.2
%RSD	.40045	1.1198	.97884

#1	8539.7	61499.	2762.1
#2	8477.8	60614.	2754.6
#3	8533.7	60161.	2805.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155106 Acquired: 5/5/2016 17:11:35 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0028	-0.00345	-0.00106	.05916	.05310	-0.00004	65.627	.00034
Stddev	.00075	.00716	.00123	.00053	.00136	.00002	.908	.00014
%RSD	272.01	207.18	116.54	.89583	2.5575	64.961	1.3840	41.291

#1	-0.00113	.00479	-0.00042	.05940	.05163	-0.00004	64.585	.00049
#2	.00026	-0.00703	-0.00248	.05856	.05430	-0.00001	66.256	.00022
#3	.00004	-0.00811	-0.00028	.05954	.05339	-0.00006	66.039	.00030

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0016	-0.00006	.00175	.01883	.77989	.00348	18.707	.21192
Stddev	.00024	.00112	.00044	.01936	.09540	.00512	.575	.00498
%RSD	149.01	2013.0	24.868	102.84	12.233	147.20	3.0722	2.3496

#1	-0.00008	-0.00123	.00159	.03798	.72623	-0.00076	18.063	.20749
#2	.00003	.00100	.00225	-0.00074	.72340	.00203	18.890	.21731
#3	-0.00044	.00007	.00142	.01925	.89004	.00916	19.167	.21098

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00293	15.887	.00008	.00641	-0.00408	-0.00185	.00329	6.1613
Stddev	.00034	.218	.00048	.00433	.00226	.00206	.00307	.0070
%RSD	11.668	1.3735	592.37	67.559	55.430	111.24	93.297	.11318

#1	.00319	15.646	.00012	.00607	-0.00668	-0.00151	.00679	6.1563
#2	.00307	16.071	-0.00041	.00226	-0.00257	.00001	.00199	6.1583
#3	.00255	15.945	.00053	.01091	-0.00299	-0.00407	.00108	6.1693

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155106 Acquired: 5/5/2016 17:11:35 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0070	.15867	-0.00747	.00013	-0.00073	.00119	.09424
Stddev	.00059	.00287	.00408	.00047	.00107	.00008	.01178
%RSD	84.286	1.8061	54.622	364.72	147.26	6.5163	12.498

#1	-0.0121	.15539	-0.01197	-0.00034	-0.00056	.00118	.10304
#2	-0.00085	.16067	-0.00402	.00013	-0.00187	.00126	.08086
#3	-0.00005	.15995	-0.00641	.00060	.00025	.00111	.09880

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8019.0	57805.	2695.7
Stddev	30.8	256.	31.7
%RSD	.38390	.44297	1.1755

#1	7983.7	57679.	2731.0
#2	8040.0	57637.	2669.7
#3	8033.4	58100.	2686.4

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155108 Acquired: 5/5/2016 17:15:30 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00122	-.02639	.00119	.09721	.00182	.00001	.26679
Stddev	.00150	.00965	.00324	.00250	.00046	.00002	.03074
%RSD	122.93	36.588	272.26	2.5666	25.200	158.47	11.521

#1	.00029	-.03197	-.00150	.09890	.00141	.00003	.28176
#2	.00296	-.01524	.00478	.09840	.00231	-.00001	.28718
#3	.00042	-.03195	.00029	.09435	.00175	.00002	.23144

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	.00004	-.00051	-.00030	-.00049	.19594	.00073
Stddev	.00025	.00005	.00138	.00040	.01427	.09014	.00165
%RSD	846.95	133.10	270.41	130.83	2940.5	46.003	225.23

#1	-.00024	.00009	.00106	.00007	.00137	.09827	-.00113
#2	.00007	-.00001	-.00102	-.00072	-.01559	.21361	.00129
#3	.00026	.00004	-.00157	-.00026	.01277	.27593	.00203

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25587	F -.00315	.00001	1.8685	-.00038	.00145	.00056
Stddev	.12049	.00168	.00021	.0191	.00063	.00524	.00263
%RSD	47.089	53.297	2517.8	1.0220	167.16	361.37	474.50

#1	.14060	-.00315	.00024	1.8860	-.00076	.00689	.00147
#2	.38098	-.00483	-.00017	1.8482	.00035	.00102	-.00241
#3	.24604	-.00147	-.00005	1.8713	-.00072	-.00356	.00261

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		36.000					
Low Limit		-.00300					

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155108 Acquired: 5/5/2016 17:15:30 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0082	-0.00325	.05721	-0.00078	.00162	.00537	.00136
Stddev	.00263	.00446	.00083	.00086	.00014	.00346	.00320
%RSD	319.54	137.35	1.4550	110.15	8.5643	64.349	235.58

#1	-0.00385	-0.00137	.05699	.00009	.00168	.00263	-0.00157
#2	.00049	-0.00835	.05813	-0.00163	.00147	.00424	.00087
#3	.00089	-0.00004	.05652	-0.00080	.00173	.00926	.00477

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00004	.00029	-0.00451
Stddev	.00051	.00003	.05492
%RSD	1339.9	8.5801	1217.5

#1	-0.00062	.00032	.04272
#2	.00018	.00028	-0.06478
#3	.00032	.00028	.00853

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8518.8	60867.	2779.9
Stddev	31.5	398.	36.0
%RSD	.36958	.65396	1.2966

#1	8488.0	61176.	2792.9
#2	8517.5	61007.	2739.2
#3	8551.0	60417.	2807.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155112 Acquired: 5/5/2016 17:19:27 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00063	.01055	.00125	.05280	.00492	-0.00001	48.331	.00031
Stddev	.00090	.00770	.00314	.00113	.00011	.00002	.844	.00018
%RSD	143.33	72.934	251.47	2.1455	2.1336	120.07	1.7455	58.980

#1	-0.00051	.01353	.00460	.05204	.00481	-0.00001	47.358	.00010
#2	.00021	.01632	-.00162	.05410	.00494	-0.00000	48.784	.00044
#3	-.00158	.00181	.00076	.05226	.00502	-0.00003	48.852	.00040

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.00118	.00096	.01537	.92729	.00152	14.524	.03578
Stddev	.00034	.00045	.00024	.00546	.05172	.00120	.257	.00308
%RSD	872.83	37.973	25.247	35.566	5.5777	79.268	1.7697	8.6048

#1	.00035	.00107	.00119	.02102	.90597	.00196	14.231	.03413
#2	-.00033	.00080	.00098	.01495	.98626	.00244	14.628	.03933
#3	.00010	.00168	.00070	.01012	.88963	.00016	14.713	.03388

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00050	18.901	-.00033	.00669	-.00137	-.00201	.00670	3.7687
Stddev	.00057	.281	.00009	.00359	.00249	.00085	.00309	.0039
%RSD	112.83	1.4851	28.386	53.648	182.32	42.399	46.053	.10259

#1	.00083	18.577	-.00043	.01083	-.00421	-.00102	.00745	3.7717
#2	-.00015	19.063	-.00031	.00478	-.00029	-.00251	.00331	3.7701
#3	.00083	19.063	-.00025	.00446	.00040	-.00248	.00935	3.7643

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155112 Acquired: 5/5/2016 17:19:27 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0051	.08985	-0.00484	-0.00067	-0.00070	.00711	.05852
Stddev	.00026	.00119	.00303	.00182	.00054	.00015	.02797
%RSD	51.494	1.3200	62.608	270.41	77.849	2.1149	47.802

#1	-0.00078	.08851	-0.00134	-0.00039	-0.00007	.00709	.08502
#2	-0.00025	.09076	-0.00647	-0.00262	-0.00095	.00696	.02927
#3	-0.00051	.09029	-0.00672	.00099	-0.00107	.00726	.06128

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8100.3	57978.	2708.4
Stddev	23.2	418.	48.5
%RSD	.28675	.72161	1.7897

#1	8094.3	57546.	2748.4
#2	8080.6	58381.	2654.5
#3	8125.9	58006.	2722.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155114 Acquired: 5/5/2016 17:23:23 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00088	-.01785	-.00204	.18244	.00105	-.00001	.81287	.00004
Stddev	.00110	.00649	.00099	.00184	.00031	.00001	.01596	.00040
%RSD	125.43	36.354	48.672	1.0100	29.375	140.82	1.9634	1115.0

#1	.00000	-.02487	-.00229	.18035	.00095	-.00002	.82617	.00048
#2	.00212	-.01661	-.00095	.18384	.00140	-.00000	.79517	-.00029
#3	.00052	-.01207	-.00289	.18313	.00080	-.00000	.81727	-.00008

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	-.00156	-.00073	.00471	.16468	.00024	.43886	.00204
Stddev	.00061	.00077	.00063	.00523	.04336	.00030	.08816	.00232
%RSD	409.26	49.059	86.585	111.17	26.331	123.30	20.089	113.42

#1	.00081	-.00202	-.00129	-.00130	.12511	.00029	.35543	-.00028
#2	.00001	-.00068	-.00005	.00715	.15790	-.00008	.43007	.00205
#3	-.00038	-.00199	-.00084	.00827	.21104	.00051	.53110	.00436

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	1.9103	-.00063	-.00200	-.00215	.00212	.00334	.05941
Stddev	.00016	.0155	.00035	.00315	.00370	.00394	.00112	.00176
%RSD	1370.4	.80967	55.648	157.44	171.76	185.64	33.583	2.9701

#1	.00013	1.9259	-.00031	-.00431	.00033	-.00238	.00212	.06144
#2	.00007	1.8950	-.00058	-.00329	-.00641	.00383	.00432	.05853
#3	-.00017	1.9099	-.00100	.00159	-.00038	.00491	.00357	.05827

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155114 Acquired: 5/5/2016 17:23:23 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0057	.00110	-0.00111	-0.00009	.00028	.00051	-0.00141
Stddev	.00030	.00044	.00301	.00257	.00055	.00012	.05747
%RSD	53.262	39.743	271.85	2748.8	193.72	23.201	4074.0

#1	-0.0067	.00159	.00224	.00273	.00078	.00046	-.01597
#2	-0.0023	.00075	-.00197	-.00229	-.00030	.00064	-.05020
#3	-0.0081	.00096	-.00360	-.00071	.00036	.00042	.06194

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8509.0	60693.	2731.0
Stddev	67.1	506.	40.9
%RSD	.78874	.83328	1.4988

#1	8583.7	60878.	2743.6
#2	8453.7	61080.	2764.1
#3	8489.7	60120.	2685.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155116 Acquired: 5/5/2016 17:27:20 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00103	-0.02189	-0.00273	.15572	.00606	.00002	.83444
Stddev	.00064	.00181	.00251	.00105	.00080	.00005	.00594
%RSD	62.419	8.2641	91.986	.67545	13.163	255.96	.71243

#1	-0.00175	-.02170	-.00558	.15568	.00639	.00006	.82978
#2	-0.00079	-.02379	-.00172	.15469	.00664	-.00003	.84114
#3	-0.00054	-.02019	-.00088	.15679	.00515	.00003	.83240

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.00018	.00019	.00031	.04864	.09959	.00018
Stddev	.00020	.00036	.00064	.00044	.01243	.05717	.00106
%RSD	537.40	205.10	340.75	143.12	25.559	57.406	579.01

#1	-0.00019	.00055	-0.00006	.00025	.05192	.13047	.00132
#2	.00019	-.00018	.00092	-.00010	.05909	.13468	.00000
#3	.00011	.00016	-.00029	.00077	.03489	.03362	-.00077

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50601	-.00200	-.00010	2.2152	-.00052	-.00088	.00067
Stddev	.07557	.00123	.00018	.0211	.00036	.00773	.00022
%RSD	14.935	61.566	190.99	.95135	67.979	882.48	32.428

#1	.48538	-.00231	-0.00004	2.2385	-.00075	-.00977	.00087
#2	.58976	-.00064	-.00030	2.2097	-.00071	.00421	.00068
#3	.44290	-.00305	.00005	2.1974	-.00011	.00294	.00044

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155116 Acquired: 5/5/2016 17:27:20 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00031	-.00555	.07177	-.00080	.00339	-.00302	-.00130
Stddev	.00573	.00360	.00152	.00053	.00055	.00047	.00519
%RSD	1819.4	64.749	2.1197	66.754	16.230	15.513	399.86

#1	.00315	-.00786	.07001	-.00079	.00285	-.00252	.00187
#2	.00408	-.00739	.07266	-.00133	.00336	-.00345	-.00729
#3	-.00628	-.00141	.07264	-.00027	.00395	-.00307	.00153

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00007	.00014	F -.08314
Stddev	.00145	.00017	.06824
%RSD	2039.2	125.91	82.076

#1	.00163	-.00003	-.15933
#2	-.00123	.00031	-.02763
#3	-.00019	.00013	-.06247

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8496.1	60122.	2734.2
Stddev	38.6	486.	14.7
%RSD	.45436	.80765	.53729

#1	8493.0	59728.	2718.1
#2	8459.1	59972.	2746.9
#3	8536.1	60664.	2737.6

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155118 Acquired: 5/5/2016 17:31:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00078	-.02058	-.00018	.14444	.00654	.00004	.81213
Stddev	.00145	.00330	.00056	.00317	.00084	.00004	.01739
%RSD	186.76	16.052	306.10	2.1936	12.911	109.62	2.1418

#1	-.00039	-.01871	-.00015	.14501	.00661	.00008	.81755
#2	.00032	-.02439	.00036	.14729	.00735	-.00001	.82617
#3	.00241	-.01863	-.00075	.14103	.00566	.00005	.79267

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00001	.00024	.00005	.00027	.03946	.15325	-.00268
Stddev	.00013	.00015	.00077	.00110	.01386	.04932	.00143
%RSD	2510.1	62.843	1681.2	410.18	35.117	32.181	53.375

#1	.00003	.00007	.00000	-.00095	.03725	.20521	-.00200
#2	.00010	.00034	-.00070	.00119	.02684	.14744	-.00432
#3	-.00015	.00031	.00083	.00057	.05429	.10709	-.00171

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.46613	-.00248	-.00011	2.0825	-.00042	.00216	.00232
Stddev	.02445	.00087	.00021	.0089	.00075	.00432	.00225
%RSD	5.2458	35.008	184.73	.42755	176.38	199.55	96.864

#1	.46905	-.00181	.00004	2.0772	.00014	-.00261	.00236
#2	.44035	-.00217	-.00035	2.0928	-.00127	.00330	.00006
#3	.48899	-.00346	-.00003	2.0775	-.00014	.00580	.00456

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155118 Acquired: 5/5/2016 17:31:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.00654	.06737	-.00004	.00336	.00139	.00202
Stddev	.00403	.00205	.00166	.00045	.00014	.00374	.00062
%RSD	3498.9	31.353	2.4669	1136.6	4.0722	268.56	30.674

#1	.00068	.00889	.06558	.00047	.00321	-.00246	.00170
#2	-.00417	.00511	.06887	-.00040	.00337	.00164	.00162
#3	.00384	.00563	.06767	-.00019	.00349	.00501	.00273

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00005	.00034	F -.04963
Stddev	.00043	.00011	.03225
%RSD	865.80	31.808	64.977

#1	.00015	.00022	-.03308
#2	-.00054	.00040	-.02902
#3	.00024	.00041	-.08680

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8478.1	60883.	2719.9
Stddev	34.5	71.	.9
%RSD	.40713	.11580	.03482

#1	8439.8	60917.	2720.6
#2	8506.8	60931.	2718.8
#3	8487.8	60802.	2720.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155126 Acquired: 5/5/2016 17:35:03 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00051	-0.01717	.00035	.12723	.00174	.00002	.90135	-0.00026
Stddev	.00129	.00587	.00320	.00091	.00094	.00005	.03356	.00013
%RSD	250.78	34.211	912.73	.71832	54.054	296.20	3.7234	52.269

#1	-0.00043	-0.01469	.00359	.12638	.00066	-0.00004	.89243	-0.00036
#2	-0.00184	-0.02387	.00026	.12712	.00235	.00005	.93847	-0.00031
#3	.00073	-0.01294	-0.00280	.12820	.00222	.00003	.87315	-0.00011

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00008	-0.00007	.00094	-0.01076	.13415	-0.00169	.38128	-0.00081
Stddev	.00016	.00055	.00094	.02144	.11134	.00603	.14252	.00234
%RSD	194.07	741.62	100.08	199.21	82.997	357.03	37.379	288.01

#1	.00027	.00036	.00118	-0.01491	.08680	-0.00276	.21930	-0.00188
#2	-0.00005	.00010	-0.00010	.01245	.05431	-0.00711	.48741	-0.00243
#3	.00003	-0.00069	.00173	-0.02982	.26134	.00480	.43715	.00187

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	1.8236	.00026	-0.00487	.00089	-0.00147	-0.00612	.06917
Stddev	.00029	.0299	.00098	.00829	.00014	.00191	.00283	.00177
%RSD	173.82	1.6408	374.52	170.23	15.763	129.63	46.219	2.5568

#1	.00032	1.8543	.00126	.00449	.00072	-0.00309	-0.00710	.06717
#2	-0.00017	1.8222	-0.00071	-0.00783	.00098	.00064	-0.00293	.07051
#3	.00036	1.7945	.00025	-0.01128	.00095	-0.00197	-0.00832	.06984

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155126 Acquired: 5/5/2016 17:35:03 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0076	.00208	-0.0250	.00141	-0.0023	.00040	-0.01754
Stddev	.00086	.00026	.00242	.00107	.00035	.00016	.05740
%RSD	113.72	12.731	96.505	76.100	151.40	38.789	327.24

#1	-0.0116	.00233	-0.00337	.00036	.00016	.00023	-.04767
#2	.00023	.00181	.00023	.00250	-.00049	.00052	-.05360
#3	-.00135	.00209	-.00436	.00137	-.00035	.00046	.04865

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8519.0	60960.	2754.1
Stddev	7.3	82.	44.7
%RSD	.08520	.13380	1.6238

#1	8513.0	61052.	2702.5
#2	8527.0	60932.	2778.6
#3	8516.8	60896.	2781.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155128 Acquired: 5/5/2016 17:39:00 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00048	-0.01495	.00068	.95006	.01990	-0.00002	9.8107	-0.00004
Stddev	.00137	.00399	.00210	.00411	.00025	.00004	.0233	.00016
%RSD	282.97	26.676	308.86	.43221	1.2641	219.90	.23707	383.24

#1	.00081	-.01246	.00123	.94590	.01991	.00003	9.8186	-.00009
#2	-.00034	-.01954	.00245	.95017	.02015	-.00003	9.8290	-.00017
#3	-.00192	-.01284	-.00164	.95411	.01964	-.00005	9.7845	.00014

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	-0.00068	-0.00011	.21611	.59117	.00211	4.1323	.01395
Stddev	.00020	.00030	.00086	.01686	.03453	.00135	.0979	.00148
%RSD	137.44	44.701	774.66	7.8026	5.8418	64.096	2.3699	10.579

#1	.00027	-.00033	-.00110	.19947	.57902	.00055	4.0859	.01434
#2	-.00008	-.00089	.00047	.21568	.56435	.00287	4.2448	.01232
#3	.00024	-.00081	.00030	.23318	.63013	.00291	4.0662	.01519

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00090	13.899	-0.00037	.00223	-0.00114	-0.00077	-0.00093	1.1632
Stddev	.00015	.041	.00022	.00345	.00276	.00213	.00528	.0052
%RSD	16.998	.29346	58.827	155.09	243.38	275.35	567.28	.44641

#1	.00096	13.911	-.00014	-.00103	.00190	-.00061	-.00659	1.1631
#2	.00101	13.933	-.00057	.00585	-.00179	.00127	-.00007	1.1581
#3	.00073	13.854	-.00039	.00187	-.00351	-.00298	.00387	1.1684

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155128 Acquired: 5/5/2016 17:39:00 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0137	.02258	-0.00375	.00084	-0.00044	.00104	.08390
Stddev	.00014	.00024	.00401	.00145	.00081	.00019	.01843
%RSD	10.063	1.0684	106.84	173.53	184.92	17.918	21.969

#1	-0.0152	.02232	-0.0105	-0.0012	-0.0128	.00084	.10110
#2	-0.0126	.02262	-0.00836	.00251	.00033	.00120	.06444
#3	-0.0132	.02280	-0.0185	.00013	-0.0037	.00109	.08617

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8490.8	60481.	2764.7
Stddev	15.2	130.	36.4
%RSD	.17933	.21557	1.3178

#1	8492.8	60632.	2725.2
#2	8474.7	60400.	2772.1
#3	8505.0	60412.	2796.9

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 17:42:54 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39548	9.8347	.39935	.50127	.98630	.04948	9.8817
Stddev	.00110	.0233	.00371	.00500	.00294	.00026	.0885
%RSD	.27803	.23649	.92974	.99834	.29838	.51971	.89530

#1	.39458	9.8084	.40147	.50697	.98426	.04977	9.8321
#2	.39671	9.8527	.40151	.49925	.98967	.04938	9.9838
#3	.39515	9.8430	.39506	.49759	.98496	.04928	9.8291

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05017	.20022	.48946	.50194	3.9479	49.849	1.0161
Stddev	.00027	.00051	.00198	.00226	.0389	.280	.0036
%RSD	.53222	.25692	.40417	.45014	.98481	.56239	.34960

#1	.05038	.20078	.49174	.49938	3.9214	49.637	1.0125
#2	.04987	.19976	.48841	.50365	3.9297	50.167	1.0196
#3	.05027	.20012	.48823	.50279	3.9925	49.744	1.0163

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.012	.49523	1.0062	50.060	.50031	9.9352	.50072
Stddev	.030	.00178	.0019	.237	.00034	.0163	.00089
%RSD	.29565	.35994	.18861	.47303	.06784	.16444	.17805

#1	9.9839	.49616	1.0051	49.915	.50037	9.9164	.50080
#2	10.043	.49636	1.0084	50.334	.50061	9.9439	.49979
#3	10.009	.49317	1.0051	49.932	.49994	9.9454	.50157

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 17:42:54 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1945	.39494	4.9914	.99018	.98178	.98514	.50119
Stddev	.0021	.00460	.0082	.00245	.00247	.01424	.00415
%RSD	.17356	1.1635	.16343	.24775	.25171	1.4456	.82805

#1	1.1969	.39935	4.9835	.99156	.97977	.97683	.50353
#2	1.1930	.39018	4.9908	.99162	.98454	1.0016	.50365
#3	1.1937	.39528	4.9998	.98734	.98102	.97701	.49640

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.98224	.99439	F .44605
Stddev	.00175	.00046	.10744
%RSD	.17794	.04587	24.087

#1	.98235	.99450	.32349
#2	.98044	.99477	.52400
#3	.98393	.99388	.49066

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7872.0	56358.	2610.2
Stddev	6.5	488.	44.1
%RSD	.08203	.86514	1.6911

#1	7868.1	55795.	2641.0
#2	7879.4	56638.	2559.6
#3	7868.4	56641.	2630.0

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 17:46:30 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00095	-.00607	-.00073	.00525	.00049	.00004	.04506
Stddev	.00130	.00859	.00191	.00173	.00037	.00005	.01065
%RSD	135.90	141.50	262.74	32.892	75.312	146.49	23.640

#1	-.00047	-.01130	-.00244	.00663	.00018	-.00001	.04701
#2	-.00242	.00384	-.00107	.00331	.00039	.00009	.03357
#3	.00003	-.01076	.00133	.00580	.00091	.00003	.05461

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	.00004	-.00075	-.00030	.00022	.12112	-.00508
Stddev	.00008	.00042	.00096	.00122	.00353	.04311	.00213
%RSD	65.323	1072.8	128.21	406.11	1639.9	35.588	41.966

#1	.00003	-.00040	.00030	.00060	-.00148	.07330	-.00746
#2	.00020	.00007	-.00158	-.00169	-.00215	.15697	-.00447
#3	.00016	.00045	-.00096	.00019	.00428	.13310	-.00332

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03870	-.00378	.00219	.05693	.00035	-.00445	-.00057
Stddev	.02649	.00133	.00029	.02052	.00039	.00615	.00143
%RSD	68.434	35.287	12.993	36.040	111.79	138.22	252.39

#1	.06338	-.00311	.00195	.04959	.00056	.00079	.00077
#2	.01072	-.00531	.00213	.08011	-.00010	-.01121	-.00208
#3	.04202	-.00291	.00251	.04110	.00059	-.00292	-.00040

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 17:46:30 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0148	.00840	.00181	-.00067	.00057	-.00337	.00120
Stddev	.00134	.00258	.00042	.00128	.00021	.00380	.00245
%RSD	90.374	30.700	23.406	192.85	36.525	112.89	204.67

#1	-.00093	.00552	.00144	.00076	.00041	-.00566	-.00105
#2	-.00051	.01050	.00227	-.00173	.00081	-.00546	.00380
#3	-.00301	.00918	.00171	-.00103	.00049	.00102	.00084

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00002	-.00013	F -.06213
Stddev	.00071	.00011	.06670
%RSD	4366.6	79.484	107.34

#1	.00034	-.00024	.00207
#2	.00044	-.00013	-.05739
#3	-.00083	-.00003	-.13107

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7941.9	56935.	2581.1
Stddev	8.2	162.	65.9
%RSD	.10383	.28423	2.5540

#1	7937.2	57049.	2637.2
#2	7937.0	57006.	2508.5
#3	7951.4	56749.	2597.6

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155130 Acquired: 5/5/2016 17:50:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00010	-.02088	.00072	.77735	.01134	-.00001	14.088	.00014
Stddev	.00085	.00427	.00052	.00242	.00048	.00002	.107	.00009
%RSD	846.06	20.443	72.769	.31116	4.2486	325.78	.75598	61.615

#1	-.00076	-.01806	.00085	.77731	.01183	.00001	14.182	.00007
#2	.00014	-.01880	.00014	.77979	.01131	-.00001	14.108	.00024
#3	.00093	-.02579	.00117	.77495	.01087	-.00001	13.972	.00012

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	-.00110	.00153	.00545	.52969	-.00117	2.9338	-.00256
Stddev	.00008	.00033	.00033	.02326	.03677	.00086	.0707	.00109
%RSD	34.148	30.040	21.689	426.51	6.9413	73.622	2.4089	42.447

#1	.00021	-.00148	.00166	.02457	.48779	-.00178	2.8567	-.00140
#2	.00030	-.00088	.00178	.01223	.55659	-.00019	2.9491	-.00274
#3	.00015	-.00094	.00115	-.02044	.54467	-.00155	2.9955	-.00356

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00050	9.9581	.00034	.00107	-.00109	-.00001	.00204	.77797
Stddev	.00040	.0727	.00057	.00138	.00062	.00164	.00195	.00320
%RSD	78.767	.73054	167.51	128.33	56.726	12398.	95.328	.41142

#1	.00005	9.9846	.00039	.00198	-.00160	.00154	-.00020	.77730
#2	.00071	10.014	-.00025	.00174	-.00040	-.00173	.00311	.78146
#3	.00075	9.8759	.00089	-.00051	-.00126	.00014	.00322	.77516

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155130 Acquired: 5/5/2016 17:50:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0007	.03459	-0.00571	-0.00147	.00013	.00052	.07223
Stddev	.00002	.00031	.00335	.00253	.00023	.00022	.06183
%RSD	28.691	.88403	58.636	172.57	169.65	41.761	85.595

#1	-0.0008	.03474	-0.00536	.00132	.00002	.00070	.11840
#2	-0.0005	.03479	-0.00923	-0.00210	-0.00001	.00028	.00199
#3	-0.0008	.03424	-0.00256	-0.00362	.00040	.00059	.09630

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8437.2	60487.	2742.0
Stddev	48.3	527.	19.0
%RSD	.57227	.87084	.69406

#1	8481.3	60325.	2724.9
#2	8444.9	61076.	2738.6
#3	8385.6	60061.	2762.5

Approved: May 06, 2016

<i>K: K Buck</i>

Sample Name: L1604155132 Acquired: 5/5/2016 17:54:22 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00075	-.02059	-.00069	.14896	.00002	.00006	.65004	-.00003
Stddev	.00041	.00494	.00217	.00052	.00043	.00006	.03896	.00015
%RSD	55.175	24.010	315.17	.34955	1939.4	91.060	5.9941	546.82

#1	.00032	-.02132	-.00310	.14851	.00027	.00001	.63563	.00013
#2	.00078	-.02513	-.00007	.14882	-.00048	.00013	.69416	-.00006
#3	.00114	-.01532	.00110	.14953	.00027	.00005	.62034	-.00016

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	-.00050	.00012	-.00431	.17657	-.00122	.55571	-.00109
Stddev	.00010	.00047	.00085	.01332	.03421	.00535	.05704	.00148
%RSD	78.011	95.206	696.18	309.00	19.377	437.34	10.265	136.33

#1	.00008	-.00019	-.00038	-.00197	.21227	.00345	.58122	.00031
#2	.00025	-.00026	-.00036	-.01864	.14407	-.00706	.49036	-.00264
#3	.00007	-.00104	.00110	.00768	.17337	-.00006	.59554	-.00093

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	2.5532	-.00070	.00342	-.00053	-.00092	.00483	.10074
Stddev	.00041	.0260	.00031	.00388	.00067	.00404	.00236	.00080
%RSD	871.14	1.0193	43.481	113.65	126.15	438.36	48.747	.79227

#1	-.00036	2.5662	-.00082	-.00080	-.00012	-.00145	.00648	.10164
#2	.00005	2.5701	-.00093	.00685	-.00017	-.00467	.00213	.10011
#3	.00045	2.5232	-.00036	.00419	-.00130	.00336	.00589	.10047

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155132 Acquired: 5/5/2016 17:54:22 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0059	.00354	-0.00441	.00305	.00068	.00058	.01869
Stddev	.00062	.00015	.00182	.00335	.00072	.00007	.02714
%RSD	105.44	4.1607	41.387	110.09	105.06	13.018	145.19

#1	-0.0041	.00370	-0.00650	-0.00077	.00073	.00059	-0.00523
#2	-0.00007	.00352	-0.00319	.00438	-0.00006	.00049	.04819
#3	-0.00127	.00340	-0.00353	.00553	.00137	.00064	.01312

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8479.5	60591.	2748.5
Stddev	25.2	366.	7.9
%RSD	.29678	.60482	.28897

#1	8483.5	60688.	2747.8
#2	8452.6	60899.	2741.0
#3	8502.5	60186.	2756.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155134 Acquired: 5/5/2016 17:58:19 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00026	-0.01259	.00204	.73777	.01102	.00002	9.2410	-0.00009
Stddev	.00124	.00580	.00291	.00447	.00061	.00005	.0428	.00019
%RSD	482.20	46.070	142.72	.60622	5.5605	316.09	.46311	203.81

#1	-0.00126	-0.01533	.00491	.73492	.01172	.00006	9.1916	-0.00030
#2	.00113	-0.00593	.00210	.74293	.01055	.00002	9.2641	.00009
#3	-0.00064	-0.01651	-0.00090	.73546	.01079	-0.00003	9.2672	-0.00007

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00009	-0.00046	.00001	.00570	.80726	.00119	5.9311	-0.00291
Stddev	.00037	.00033	.00134	.02254	.04933	.00168	.1012	.00268
%RSD	429.56	71.328	13992.	395.45	6.1107	142.02	1.7060	92.104

#1	.00014	-0.00036	.00142	-.01603	.79523	-0.00075	5.9647	-0.00279
#2	.00012	-0.00019	-0.00015	.00417	.76507	.00202	6.0113	-0.00029
#3	-0.00051	-0.00083	-0.00125	.02896	.86150	.00229	5.8174	-0.00565

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	19.280	-0.00049	.00491	.00217	.00849	-0.00597	2.1251
Stddev	.00019	.098	.00056	.00189	.00233	.00262	.00166	.0053
%RSD	63.367	.50600	113.06	38.537	107.44	30.877	27.783	.24838

#1	.00027	19.290	-0.00033	.00649	-0.00009	.00994	-0.00523	2.1193
#2	.00050	19.177	-0.00112	.00545	.00204	.01006	-0.00787	2.1263
#3	.00013	19.371	-0.00004	.00281	.00456	.00546	-0.00481	2.1297

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155134 Acquired: 5/5/2016 17:58:19 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0065	.02970	-0.0002	.00298	-0.0045	.00053	-0.03314
Stddev	.00043	.00044	.00030	.00686	.00125	.00021	.07608
%RSD	66.289	1.4708	1413.5	230.48	278.22	38.438	229.55

#1	-0.0103	.03019	-0.00017	.01088	-0.00032	.00031	-0.00311
#2	-0.00018	.02935	.00033	-0.00141	.00073	.00059	-0.11965
#3	-0.00074	.02957	-0.00022	-0.00054	-0.00175	.00071	.02334

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8429.3	60130.	2737.2
Stddev	23.6	246.	5.7
%RSD	.28030	.40971	.20746

#1	8455.8	60333.	2730.7
#2	8410.4	60201.	2739.3
#3	8421.6	59856.	2741.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155136 Acquired: 5/5/2016 18:02:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00068	.25340	.00458	.01895	.07175	.00004	48.213	.00017
Stddev	.00114	.00358	.00261	.00078	.00009	.00003	.135	.00017
%RSD	167.87	1.4135	57.004	4.1096	.12980	75.225	.28045	98.761

#1	.00014	.25753	.00380	.01884	.07165	.00002	48.221	.00004
#2	.00199	.25124	.00750	.01824	.07179	.00002	48.344	.00035
#3	-.00009	.25142	.00245	.01979	.07182	.00007	48.074	.00011

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	.00035	.00133	.73909	.79140	.00095	14.964	.09243
Stddev	.00011	.00090	.00112	.01845	.08456	.00368	.204	.00386
%RSD	40.784	260.58	84.534	2.4964	10.685	389.26	1.3611	4.1707

#1	.00039	-.00012	.00132	.72733	.70076	-.00265	14.729	.09287
#2	.00026	.00139	.00246	.72958	.80526	.00471	15.089	.08838
#3	.00017	-.00023	.00021	.76035	.86817	.00078	15.073	.09605

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00312	5.1098	-.00048	.00458	.00278	-.00043	.00063	5.5545
Stddev	.00019	.0465	.00187	.00660	.00142	.00325	.00473	.0068
%RSD	6.0487	.91059	393.45	144.21	51.012	763.94	756.49	.12244

#1	.00317	5.0618	-.00263	.00252	.00258	.00231	-.00461	5.5512
#2	.00291	5.1547	.00052	.01196	.00428	-.00401	.00460	5.5624
#3	.00328	5.1128	.00069	-.00075	.00147	.00043	.00189	5.5500

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155136 Acquired: 5/5/2016 18:02:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	.10313	-.00469	-.00017	.00014	.00198	.14205
Stddev	.00046	.00084	.00370	.00074	.00102	.00019	.02966
%RSD	255.25	.81576	78.881	429.29	751.65	9.4553	20.877

#1	.00062	.10258	-.00394	-.00051	-.00066	.00178	.17619
#2	.00022	.10410	-.00143	.00068	.00128	.00215	.12271
#3	-.00030	.10272	-.00871	-.00068	-.00021	.00201	.12725

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8315.6	58996.	2728.0
Stddev	40.4	357.	61.9
%RSD	.48573	.60561	2.2683

#1	8279.3	58659.	2723.8
#2	8359.1	59371.	2668.4
#3	8308.3	58958.	2791.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155138 Acquired: 5/5/2016 18:06:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00055	-.01571	.00426	.45854	.09743	-.00006	14.314
Stddev	.00154	.00636	.00133	.00360	.00158	.00004	.072
%RSD	279.52	40.478	31.228	.78494	1.6232	76.147	.50623

#1	.00203	-.01143	.00343	.45892	.09922	-.00010	14.305
#2	-.00105	-.01268	.00579	.45477	.09680	-.00004	14.391
#3	.00068	-.02302	.00356	.46194	.09625	-.00002	14.247

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	.00034	-.00031	-.00009	.29638	.76000	.00185
Stddev	.00010	.00030	.00054	.00108	.00491	.05232	.00363
%RSD	35.829	89.505	175.48	1166.1	1.6566	6.8845	196.42

#1	.00017	-.00001	-.00092	-.00128	.29939	.71057	.00603
#2	.00028	.00054	-.00004	.00083	.29904	.75464	-.00048
#3	.00036	.00047	.00004	.00018	.29071	.81480	-.00001

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.4597	.03916	.00053	9.6124	-.00032	.03694	.00236
Stddev	.1224	.00058	.00003	.0358	.00076	.00593	.00213
%RSD	2.2418	1.4688	5.8111	.37283	232.66	16.045	90.407

#1	5.4366	.03980	.00054	9.5711	.00033	.04296	.00409
#2	5.5920	.03869	.00049	9.6309	-.00016	.03111	.00302
#3	5.3504	.03899	.00055	9.6351	-.00115	.03677	-.00002

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1604155138 Acquired: 5/5/2016 18:06:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00404	-.00208	2.9541	-.00047	.03326	.00117	.00025
Stddev	.00417	.00236	.0051	.00058	.00036	.00896	.00031
%RSD	103.20	113.53	.17336	123.04	1.0829	763.99	127.15

#1	.00764	.00023	2.9510	-.00097	.03297	-.00537	.00052
#2	.00500	-.00449	2.9600	.00016	.03315	.01138	.00031
#3	-.00053	-.00197	2.9512	-.00059	.03366	-.00250	-.00009

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00036	.00038	F -.05987
Stddev	.00020	.00006	.09035
%RSD	56.531	14.835	150.92

#1	-.00027	.00032	-.01874
#2	-.00060	.00042	.00260
#3	-.00022	.00041	-.16347

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8502.0	61235.	2759.5
Stddev	49.4	347.	14.0
%RSD	.58115	.56608	.50627

#1	8526.6	61412.	2757.1
#2	8534.4	60835.	2746.9
#3	8445.2	61457.	2774.6

Approved: May 06, 2016

K: K Buck

Sample Name: L1605007801 Acquired: 5/5/2016 18:10:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 1000 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00044	-.01755	.00522	.03808	.82127	.00000	11.973
Stddev	.00058	.00495	.00422	.00110	.00424	.00009	.079
%RSD	132.62	28.176	80.890	2.8798	.51584	41730.	.65606

#1	.00029	-.02233	.00984	.03697	.82593	-.00000	12.024
#2	-.00005	-.01246	.00157	.03810	.82021	.00009	12.014
#3	.00108	-.01787	.00425	.03917	.81766	-.00009	11.883

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00006	.00073	-.00076	-.00022	.07282	.74719	.06140
Stddev	.00038	.00021	.00050	.00100	.00863	.05837	.00095
%RSD	613.30	29.393	65.539	448.38	11.857	7.8120	1.5499

#1	-.00040	.00058	-.00123	.00070	.08244	.76667	.06244
#2	.00035	.00097	-.00023	-.00129	.06573	.79334	.06117
#3	-.00014	.00063	-.00083	-.00008	.07029	.68158	.06058

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.3519	.00221	-.00029	32.062	-.00075	.00190	.00070
Stddev	.0724	.00440	.00021	.151	.00067	.00300	.00110
%RSD	5.3526	199.22	71.127	.46943	89.549	157.47	157.29

#1	1.4314	-.00283	-.00011	32.222	-.00000	.00474	-.00026
#2	1.2899	.00416	-.00051	32.039	-.00095	-.00123	.00046
#3	1.3344	.00528	-.00025	31.924	-.00130	.00220	.00191

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605007801 Acquired: 5/5/2016 18:10:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 1000 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00040	.00052	.00455	-.00056	2.1142	.00044	-.00055
Stddev	.00283	.00214	.00105	.00033	.0129	.00734	.00167
%RSD	702.45	410.98	23.126	58.773	.61187	1653.9	301.82

#1	-.00090	.00217	.00464	-.00087	2.1278	.00032	-.00219
#2	-.00154	-.00189	.00346	-.00061	2.1125	.00785	.00115
#3	.00365	.00128	.00557	-.00021	2.1021	-.00683	-.00062

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00019	.00084	F -.04436
Stddev	.00078	.00011	.06530
%RSD	418.65	13.001	147.20

#1	-.00071	.00089	.03101
#2	.00069	.00090	-.08022
#3	.00057	.00071	-.08387

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8500.8	60041.	2747.3
Stddev	14.0	42.	26.5
%RSD	.16414	.07074	.96605

#1	8484.7	60059.	2743.1
#2	8509.4	60072.	2723.2
#3	8508.3	59993.	2775.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012301 Acquired: 5/5/2016 18:13:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 1000 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00089	-.01915	.00266	.01644	1.1290	-.00004	7.0296	.00029
Stddev	.00152	.00409	.00147	.00084	.0084	.00004	.0871	.00011
%RSD	171.55	21.349	55.284	5.0868	.74313	107.49	1.2394	38.409

#1	.00221	-.01839	.00435	.01653	1.1353	-.00002	7.0687	.00026
#2	.00122	-.02357	.00189	.01556	1.1323	-.00008	7.0904	.00042
#3	-.00077	-.01550	.00173	.01723	1.1195	-.00001	6.9298	.00021

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00032	-.00135	-.00026	.06711	.81174	.05423	.60313	.00449
Stddev	.00042	.00049	.00102	.01601	.06598	.00480	.01919	.00101
%RSD	131.64	36.218	395.43	23.850	8.1288	8.8453	3.1825	22.542

#1	.00036	-.00191	-.00101	.06771	.75944	.04892	.58116	.00565
#2	.00073	-.00113	-.00090	.08281	.78991	.05554	.61663	.00377
#3	-.00012	-.00101	-.00066	.05081	.88587	.05824	.61160	.00405

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00033	32.652	-.00010	.00203	.00049	-.00068	.00020	.02033
Stddev	.00030	.250	.00072	.00139	.00317	.00223	.00247	.00035
%RSD	91.463	.76633	758.95	68.525	651.97	325.75	1233.1	1.7261

#1	.00060	32.919	-.00081	.00051	.00216	-.00277	-.00072	.02073
#2	.00036	32.615	.00064	.00324	.00247	.00166	.00300	.02006
#3	.00001	32.423	-.00012	.00233	-.00317	-.00094	-.00168	.02020

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012301 Acquired: 5/5/2016 18:13:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 1000 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	3.4894	.00220	-.00030	.00015	.00026	.04095
Stddev	.00025	.0221	.00040	.00116	.00092	.00002	.11459
%RSD	641.53	.63360	18.096	380.98	600.70	7.5252	279.86

#1	.00010	3.5071	.00202	.00005	-.00012	.00027	.17103
#2	-.00023	3.4966	.00193	-.00160	.00118	.00024	-.04508
#3	.00025	3.4646	.00266	.00064	-.00060	.00028	-.00311

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8469.5	60292.	2758.7
Stddev	31.0	348.	22.4
%RSD	.36611	.57772	.81226

#1	8500.0	60258.	2733.0
#2	8438.0	59963.	2769.5
#3	8470.5	60657.	2773.7

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 18:17:51 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39625	9.8757	.39546	.49531	.98551	.04931	9.8776
Stddev	.00268	.0260	.00389	.00210	.00796	.00013	.0353
%RSD	.67511	.26308	.98470	.42455	.80780	.25877	.35754

#1	.39627	9.8572	.39103	.49325	.97854	.04917	9.8513
#2	.39892	9.9054	.39834	.49522	.98381	.04935	9.8638
#3	.39357	9.8645	.39701	.49745	.99419	.04941	9.9178

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05015	.20103	.49265	.50151	3.9478	49.766	1.0088
Stddev	.00024	.00025	.00131	.00072	.0684	.545	.0073
%RSD	.47999	.12591	.26599	.14285	1.7328	1.0943	.72732

#1	.05018	.20130	.49117	.50131	3.8995	49.271	1.0006
#2	.05037	.20079	.49313	.50231	3.9179	49.679	1.0108
#3	.04989	.20100	.49366	.50093	4.0261	50.349	1.0149

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.9437	.49011	1.0066	49.909	.50168	9.9345	.50308
Stddev	.1256	.00705	.0028	.287	.00084	.0024	.00174
%RSD	1.2635	1.4383	.28162	.57446	.16703	.02447	.34609

#1	10.020	.48370	1.0089	49.659	.50075	9.9325	.50311
#2	9.7987	.48898	1.0075	49.846	.50238	9.9337	.50481
#3	10.013	.49766	1.0035	50.222	.50192	9.9372	.50133

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 18:17:51 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1972	.40274	5.0074	.99345	.98410	.98432	.50035
Stddev	.0011	.00721	.0024	.00222	.00731	.01521	.00202
%RSD	.09329	1.7904	.04719	.22346	.74299	1.5451	.40292

#1	1.1959	.41105	5.0047	.99243	.97905	.96857	.50265
#2	1.1980	.39904	5.0087	.99599	.98076	.98547	.49891
#3	1.1976	.39813	5.0089	.99191	.99248	.99893	.49948

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.98670	.99502	F .19627
Stddev	.00251	.00098	.14424
%RSD	.25477	.09829	73.493

#1	.98530	.99563	.31779
#2	.98520	.99553	.23414
#3	.98960	.99389	.03687

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7868.9	56150.	2619.7
Stddev	10.7	196.	20.2
%RSD	.13600	.34852	.77024

#1	7879.2	56374.	2629.8
#2	7857.8	56011.	2596.5
#3	7869.8	56065.	2632.8

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 18:21:28 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00010	-0.00381	-0.00115	.00344	.00044	.00006	.04480	.00021
Stddev	.00118	.00299	.00142	.00123	.00032	.00009	.02428	.00039
%RSD	1176.6	78.540	123.92	35.887	72.724	157.37	54.184	191.53

#1	.00084	-.00527	-.00260	.00477	.00008	-.00004	.02226	-.00020
#2	-.00142	-.00037	-.00110	.00319	.00069	.00007	.04165	.00059
#3	.00028	-.00578	.00025	.00234	.00055	.00014	.07050	.00023

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	-.00068	-.00143	-.00042	.13137	-.00290	.10238	-.00384
Stddev	.00025	.00027	.00160	.00843	.04847	.00114	.06328	.00139
%RSD	186.46	40.436	111.78	2028.6	36.895	39.392	61.812	36.214

#1	.00041	-.00057	-.00132	.00267	.16835	-.00415	.16226	-.00224
#2	.00003	-.00048	.00011	.00604	.07650	-.00262	.03617	-.00453
#3	-.00005	-.00099	-.00308	-.00996	.14926	-.00192	.10872	-.00474

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00227	.03002	-.00039	-.00146	-.00060	-.00061	.00223	.00075
Stddev	.00025	.02642	.00105	.00754	.00401	.00347	.00835	.00097
%RSD	10.885	87.989	268.63	516.39	666.56	570.47	373.88	129.51

#1	.00202	.00606	.00062	.00707	.00274	-.00393	.00945	.00086
#2	.00252	.02565	-.00031	-.00725	.00051	-.00088	-.00692	-.00027
#3	.00227	.05835	-.00148	-.00420	-.00505	.00299	.00417	.00165

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 18:21:28 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00041	.00019	-.00317	-.00063	-.00010	-.00029	-.03624
Stddev	.00053	.00024	.00979	.00411	.00074	.00031	.04305
%RSD	129.68	122.76	308.90	653.30	731.96	105.50	118.80

#1	.00011	.00018	.00807	.00376	-.00053	.00005	-.08591
#2	.00010	.00044	-.00769	-.00439	-.00053	-.00056	-.00950
#3	.00101	-.00004	-.00989	-.00126	.00075	-.00037	-.01332

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7954.5	57072.	2602.2
Stddev	25.4	242.	27.2
%RSD	.31919	.42472	1.0457

#1	7946.4	56804.	2600.0
#2	7982.9	57136.	2630.5
#3	7934.1	57276.	2576.2

Approved: May 06, 2016

K: K Buck

Sample Name: LLCCV Acquired: 5/5/2016 18:25:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00888	.16070	.00474	.08009	.00768	.00163	.97286	.00071
Stddev	.00081	.00272	.00391	.00135	.00076	.00005	.04250	.00016
%RSD	9.1599	1.6907	82.547	1.6848	9.8967	2.8341	4.3685	22.001

#1	.00960	.15802	.00906	.07864	.00694	.00158	.92483	.00062
#2	.00906	.16064	.00371	.08034	.00846	.00165	1.0056	.00089
#3	.00800	.16345	.00144	.08131	.00766	.00166	.98814	.00062

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00445	.00329	.00447	.08325	.96265	.07960	.36276	.00639
Stddev	.00032	.00058	.00165	.01702	.06678	.00026	.05657	.00420
%RSD	7.1396	17.755	36.910	20.448	6.9367	.32904	15.594	65.691

#1	.00408	.00336	.00305	.08582	1.0394	.07950	.42542	.00164
#2	.00462	.00384	.00628	.06508	.93035	.07940	.31544	.00792
#3	.00465	.00268	.00407	.09884	.91816	.07990	.34743	.00962

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00769	.48176	.01495	.78128	.00689	.08318	.01961	.80397
Stddev	.00033	.02667	.00075	.00423	.00224	.00333	.00443	.00116
%RSD	4.2475	5.5360	4.9944	.54082	32.451	4.0020	22.591	.14474

#1	.00744	.47914	.01563	.77870	.00616	.08467	.01891	.80460
#2	.00757	.50965	.01415	.77897	.00940	.07936	.02435	.80468
#3	.00806	.45650	.01507	.78615	.00511	.08550	.01557	.80262

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: LLCCV Acquired: 5/5/2016 18:25:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40843	.04059	.02257	.16002	.00763	.02287	9.6743
Stddev	.00085	.00011	.00108	.00349	.00083	.00018	.0199
%RSD	.20770	.27451	4.8044	2.1816	10.832	.79628	.20523
#1	.40820	.04056	.02210	.16390	.00670	.02287	9.6969
#2	.40937	.04072	.02381	.15903	.00828	.02306	9.6659
#3	.40773	.04051	.02180	.15713	.00791	.02269	9.6600

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7958.0	56940.	2597.4
Stddev	43.9	241.	26.7
%RSD	.55102	.42301	1.0262
#1	8006.7	57006.	2625.5
#2	7945.4	56673.	2594.3
#3	7921.8	57142.	2572.5

Approved: May 06, 2016

K: K Buck

Sample Name: PBW 82 Acquired: 5/5/2016 18:29:22 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567644-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00104	-.00496	.00060	.00150	.00114	.00004	.00672	.00001
Stddev	.00137	.00424	.00159	.00091	.00065	.00005	.02758	.00025
%RSD	131.88	85.397	266.40	60.946	56.877	117.18	410.35	4391.4

#1	-.00031	-.00363	-.00102	.00183	.00094	-.00001	.01508	.00029
#2	.00243	-.00970	.00064	.00047	.00187	.00008	-.02407	-.00010
#3	.00099	-.00155	.00216	.00221	.00062	.00005	.02916	-.00017

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00007	-.00024	.00008	.02160	.10272	-.00117	.07628	-.00168
Stddev	.00037	.00123	.00084	.00651	.03925	.00472	.18069	.00029
%RSD	536.23	501.95	1067.9	30.150	38.208	403.13	236.89	17.176

#1	.00036	-.00060	.00099	.02811	.14303	.00361	.24876	-.00194
#2	-.00029	.00112	-.00010	.02160	.10049	-.00584	-.11164	-.00174
#3	-.00028	-.00125	-.00066	.01508	.06463	-.00129	.09172	-.00137

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00008	.03104	.00012	-.01176	-.00161	-.00029	.00110	.00850
Stddev	.00006	.03630	.00026	.00234	.00186	.00277	.00819	.00269
%RSD	80.221	116.96	211.81	19.868	115.67	951.36	741.00	31.624

#1	.00001	.04865	.00020	-.01093	.00052	-.00348	-.00393	.00703
#2	.00012	.05517	-.00017	-.01440	-.00245	.00131	.01055	.01161
#3	.00010	-.01071	.00034	-.00995	-.00289	.00130	-.00331	.00687

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: PBW 82 Acquired: 5/5/2016 18:29:22 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567644-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0049	.00008	-0.00067	-0.00043	-0.00006	.00094	-0.01619
Stddev	.00071	.00005	.00435	.00070	.00070	.00004	.10195
%RSD	147.26	57.619	648.20	162.11	1144.4	4.6921	629.87

#1	.00033	.00014	.00033	-.00039	-.00063	.00094	-.11764
#2	-.00080	.00006	-.00543	-.00116	-.00028	.00089	.08625
#3	-.00099	.00005	.00309	.00025	.00073	.00098	-.01717

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8095.6	58237.	2645.4
Stddev	20.4	233.	1.7
%RSD	.25203	.40042	.06435

#1	8119.1	58240.	2647.3
#2	8085.3	58003.	2644.0
#3	8082.4	58469.	2645.0

Approved: May 06, 2016

K: K Buck

Sample Name: LCSW 82 Acquired: 5/5/2016 18:33:18 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567644-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19464	4.8233	.19034	.94505	.49776	.02371	5.0082	.02455
Stddev	.00044	.0070	.00011	.00588	.00276	.00007	.0370	.00028
%RSD	.22552	.14598	.05624	.62211	.55422	.28711	.73878	1.1546

#1	.19501	4.8228	.19021	.93912	.49538	.02365	4.9674	.02461
#2	.19474	4.8165	.19042	.95088	.50078	.02369	5.0396	.02425
#3	.19416	4.8305	.19037	.94516	.49711	.02378	5.0176	.02480

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09971	.24397	.25228	1.9804	25.272	.50722	5.0705	.24705
Stddev	.00020	.00074	.00059	.0319	.098	.00689	.0217	.00298
%RSD	.20190	.30416	.23280	1.6121	.38877	1.3587	.42844	1.2056

#1	.09980	.24313	.25292	1.9550	25.158	.51074	5.0954	.24698
#2	.09948	.24428	.25175	1.9698	25.326	.51164	5.0607	.25006
#3	.09986	.24451	.25218	2.0162	25.331	.49928	5.0554	.24410

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50885	25.245	.25238	4.7680	.24888	.59144	.18766	2.5297
Stddev	.00150	.184	.00098	.0144	.00248	.00467	.00644	.0034
%RSD	.29437	.72872	.38955	.30098	.99581	.78975	3.4309	.13548

#1	.51046	25.127	.25340	4.7845	.24935	.59683	.18247	2.5330
#2	.50750	25.457	.25144	4.7611	.24620	.58850	.18565	2.5261
#3	.50859	25.151	.25229	4.7584	.25109	.58900	.19487	2.5299

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: LCSW 82 Acquired: 5/5/2016 18:33:18 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567644-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49808	.49950	.49069	.25106	.49017	.49135	.37405
Stddev	.00192	.00313	.00288	.00192	.00200	.00116	.04400
%RSD	.38583	.62695	.58619	.76483	.40888	.23656	11.762
#1	.49832	.49688	.48798	.25309	.48797	.49223	.33706
#2	.49604	.50297	.49371	.24927	.49188	.49003	.42270
#3	.49986	.49866	.49037	.25082	.49067	.49180	.36239

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8064.1	58085.	2644.5
Stddev	26.2	225.	14.2
%RSD	.32542	.38712	.53812
#1	8089.0	57971.	2657.3
#2	8066.7	58344.	2647.2
#3	8036.7	57940.	2629.2

Approved: May 06, 2016

K: K Buck

Sample Name: FBLK1 Acquired: 5/5/2016 18:36:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567499-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	.00118	-.00190	.00626	.00015	.00005	.00339	.00016
Stddev	.00077	.00211	.00170	.00210	.00043	.00005	.01804	.00005
%RSD	224.55	179.38	89.377	33.493	275.54	90.183	531.87	34.883

#1	.00116	.00315	-.00036	.00696	-.00030	.00005	.00976	.00010
#2	-.00037	.00145	-.00373	.00390	.00023	.00001	.01739	.00020
#3	.00024	-.00106	-.00162	.00792	.00054	.00010	-.01697	.00016

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00019	-.00077	-.00061	.00999	.14448	-.00262	.12601	-.00249
Stddev	.00012	.00087	.00186	.00955	.02265	.00130	.06775	.00210
%RSD	62.576	113.15	303.24	95.608	15.679	49.506	53.766	84.321

#1	.00009	-.00160	-.00056	.00279	.15170	-.00113	.05235	-.00020
#2	.00032	-.00086	.00122	.00636	.11910	-.00344	.18566	-.00433
#3	.00016	.00014	-.00250	.02083	.16265	-.00330	.14002	-.00294

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00058	139.29	-.00025	-.00819	.00088	-.00149	.00205	.00793
Stddev	.00069	.80	.00031	.00441	.00275	.00249	.00289	.00164
%RSD	119.81	.57456	122.98	53.890	313.12	167.17	141.20	20.627

#1	.00024	139.89	-.00037	-.00333	.00362	-.00264	.00469	.00653
#2	.00137	139.59	.00010	-.01194	.00088	-.00320	-.00104	.00754
#3	.00012	138.38	-.00049	-.00930	-.00187	.00137	.00248	.00973

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: FBLK1 Acquired: 5/5/2016 18:36:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567499-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0005	.00039	.00240	-0.00066	.00033	.00325	.08054
Stddev	.00029	.00029	.00295	.00393	.00109	.00012	.03030
%RSD	542.13	72.631	122.86	590.87	328.85	3.6658	37.624

#1	-0.0011	.00012	.00236	.00076	.00033	.00332	.09635
#2	-0.0031	.00038	-0.0053	-0.0511	-0.0076	.00311	.09966
#3	.00026	.00069	.00536	.00235	.00142	.00331	.04560

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7984.0	57044.	2661.6
Stddev	32.1	354.	42.4
%RSD	.40153	.61973	1.5915

#1	7951.7	57430.	2614.5
#2	8015.8	56969.	2696.6
#3	7984.4	56735.	2673.6

Approved: May 06, 2016

K: K Buck

Sample Name: FBLK2 Acquired: 5/5/2016 18:40:56 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567499-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00037	-.01447	.00024	.00105	.00039	.00003	.02500
Stddev	.00147	.00656	.00294	.00134	.00073	.00004	.01207
%RSD	398.11	45.338	1245.9	127.51	184.69	164.10	48.277

#1	.00206	-.00690	.00361	.00248	.00109	.00005	.01121
#2	-.00037	-.01835	-.00116	-.00017	.00045	.00005	.03017
#3	-.00058	-.01817	-.00174	.00083	-.00036	-.00002	.03362

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00024	.00031	.00001	.00036	.00034	.09669	-.00080
Stddev	.00006	.00016	.00060	.00124	.01529	.09818	.00223
%RSD	26.132	49.760	4845.0	345.91	4563.8	101.55	277.84

#1	.00030	.00018	.00046	.00179	-.00332	-.01165	.00177
#2	.00018	.00049	.00025	-.00027	-.01280	.12191	-.00207
#3	.00024	.00027	-.00067	-.00044	.01712	.17980	-.00211

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03454	F -.00382	.00008	.07214	.00044	-.01072	.00048
Stddev	.03074	.00325	.00006	.01399	.00039	.00175	.00201
%RSD	88.993	85.189	79.472	19.390	87.672	16.280	419.83

#1	.05631	-.00280	.00009	.06870	.00088	-.01151	.00135
#2	.04794	-.00746	.00001	.08752	.00027	-.01193	-.00182
#3	-.00062	-.00120	.00013	.06019	.00017	-.00872	.00191

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		36.000					
Low Limit		-.00300					

Approved: May 06, 2016

K: K Buck

Sample Name: FBLK2 Acquired: 5/5/2016 18:40:56 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567499-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00246	.00245	.00683	-.00021	-.00044	-.00400	-.00120
Stddev	.00246	.00391	.00121	.00069	.00015	.00233	.00349
%RSD	100.20	159.52	17.730	330.97	34.120	58.223	291.93

#1	.00001	.00419	.00545	.00026	-.00052	-.00476	-.00522
#2	-.00491	.00519	.00773	-.00101	-.00053	-.00138	.00069
#3	-.00248	-.00203	.00731	.00011	-.00027	-.00585	.00094

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00008	.00285	.01886
Stddev	.00096	.00034	.05747
%RSD	1130.8	11.895	304.70

#1	.00051	.00252	.07860
#2	-.00119	.00320	-.03603
#3	.00043	.00285	.01401

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8142.1	59238.	2688.9
Stddev	46.1	583.	19.3
%RSD	.56603	.98332	.71747

#1	8131.5	59409.	2679.6
#2	8102.3	59715.	2676.0
#3	8192.6	58589.	2711.1

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006101 Acquired: 5/5/2016 18:44:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0004	.01695	-0.00124	.03105	.40592	-0.00002	F 445.09
Stddev	.00240	.01233	.00180	.00165	.00233	.00002	2.85
%RSD	6813.6	72.746	145.66	5.3023	.57465	101.81	.63990

#1	-0.00038	.00345	-0.00020	.02922	.40800	.00000	448.21
#2	.00252	.02761	-0.00019	.03154	.40637	-0.00005	444.42
#3	-0.00224	.01980	-0.00332	.03240	.40340	-0.00002	442.64

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							270.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00074	.00096	.00172	.00553	.00830	241.99	.04803
Stddev	.00018	.00045	.00100	.00153	.01069	1.68	.00333
%RSD	23.944	46.457	58.200	27.617	128.85	.69218	6.9300

#1	.00059	.00065	.00091	.00425	.00339	243.78	.04810
#2	.00093	.00076	.00284	.00722	.00094	241.74	.04467
#3	.00069	.00147	.00141	.00513	.02056	240.46	.05133

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.11797	-0.00189	.00649	F 346.27	-0.00164	.04616	.03377
Stddev	.02156	.00193	.00016	2.83	.00059	.00279	.00274
%RSD	18.278	101.95	2.4910	.81667	35.861	6.0523	8.1021

#1	.11294	-.00216	.00666	349.25	-.00215	.04522	.03286
#2	.09937	.00015	.00648	345.94	-.00176	.04395	.03160
#3	.14160	-.00368	.00634	343.62	-.00100	.04930	.03684

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006101 Acquired: 5/5/2016 18:44:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00256	.02926	.16361	-.00029	.37269	F -.05438	-.00130
Stddev	.00170	.00560	.00109	.00079	.00171	.00346	.00046
%RSD	66.336	19.135	.66468	273.64	.45757	6.3693	35.664

#1	.00448	.03460	.16237	.00062	.37462	-.05718	-.00090
#2	.00127	.02343	.16439	-.00064	.37207	-.05050	-.00181
#3	.00192	.02976	.16407	-.00085	.37138	-.05545	-.00119

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						36.000	
Low Limit						-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00071	.08060	.00503
Stddev	.00012	.00035	.06223
%RSD	16.644	.43879	1237.0

#1	-.00067	.08099	-.03614
#2	-.00085	.08029	-.02538
#3	-.00062	.08052	.07662

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7561.8	53725.	2659.7
Stddev	20.9	36.	37.5
%RSD	.27703	.06677	1.4109

#1	7552.9	53746.	2619.4
#2	7546.8	53684.	2693.6
#3	7585.8	53746.	2666.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006201 Acquired: 5/5/2016 18:48:47 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0023	.02466	.00020	.02000	.17936	.00001	F 489.83
Stddev	.00142	.00470	.00252	.00054	.00148	.00006	1.25
%RSD	609.52	19.038	1254.2	2.6776	.82433	983.69	.25519

#1	.00115	.02213	-.00261	.01948	.17775	.00005	488.96
#2	-.00170	.02177	.00227	.02055	.17968	.00004	491.26
#3	-.00015	.03008	.00094	.01998	.18065	-.00006	489.26

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							270.00
Low Limit							-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00062	.00108	.00075	.01643	.01781	258.38	.05417
Stddev	.00013	.00012	.00016	.00058	.02790	.75	.00329
%RSD	20.683	10.761	20.740	3.5318	156.65	.29095	6.0677

#1	.00060	.00115	.00089	.01578	.04503	257.63	.05420
#2	.00076	.00095	.00078	.01664	-.01072	259.13	.05744
#3	.00051	.00115	.00058	.01688	.01911	258.37	.05086

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04978	-.00153	.00917	F 347.95	-.00125	.03009	.04687
Stddev	.03928	.00336	.00056	.90	.00021	.00406	.00230
%RSD	78.912	219.58	6.1306	.25988	16.857	13.506	4.9085

#1	.00589	-.00533	.00852	347.19	-.00103	.02856	.04542
#2	.08164	-.00030	.00952	348.95	-.00128	.02702	.04568
#3	.06182	.00104	.00946	347.70	-.00145	.03470	.04953

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605006201 Acquired: 5/5/2016 18:48:47 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00074	.05964	.20972	.00009	.37334	F -.06071	-.00208
Stddev	.00061	.00581	.00281	.00090	.00192	.00315	.00196
%RSD	83.175	9.7491	1.3420	995.53	.51297	5.1942	94.092

#1	.00022	.06625	.21291	-.00077	.37118	-.06285	-.00030
#2	.00058	.05732	.20868	.00102	.37401	-.05709	-.00418
#3	.00141	.05534	.20757	.00002	.37483	-.06219	-.00177

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						36.000	
Low Limit						-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00044	.28508	F -.04117
Stddev	.00100	.00067	.05658
%RSD	229.07	.23588	137.41

#1	.00148	.28578	.02075
#2	.00036	.28444	-.09016
#3	-.00052	.28501	-.05411

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7627.9	54252.	2660.0
Stddev	47.5	145.	24.5
%RSD	.62331	.26775	.92079

#1	7644.7	54419.	2643.4
#2	7664.8	54185.	2648.6
#3	7574.3	54152.	2688.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1605008501 Acquired: 5/5/2016 18:52:29 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00121	.06085	.00227	.03653	.01646	.00005	10.900	.00464
Stddev	.00130	.00605	.00465	.00108	.00044	.00004	.063	.00022
%RSD	107.27	9.9429	204.77	2.9542	2.6765	79.431	.57463	4.7550

#1	-0.00271	.05883	.00245	.03586	.01688	.00007	10.828	.00457
#2	-0.00051	.06765	-.00246	.03778	.01650	.00008	10.931	.00489
#3	-0.00041	.05606	.00683	.03596	.01600	.00000	10.941	.00446

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00087	-.00010	4.1678	.02851	.60552	-.00241	.85334	.02704
Stddev	.00003	.00066	.0059	.03380	.09413	.00105	.02578	.00129
%RSD	3.1066	685.41	.14192	118.57	15.546	43.447	3.0205	4.7654

#1	.00086	.00065	4.1714	.02372	.66565	-.00350	.86734	.02839
#2	.00084	-.00060	4.1711	.06445	.49703	-.00141	.82360	.02582
#3	.00090	-.00033	4.1610	-.00264	.65386	-.00232	.86910	.02691

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02342	138.69	.00197	3.5610	.09470	.02526	-.00097	.12492
Stddev	.00005	.38	.00096	.0041	.00200	.00135	.00581	.00201
%RSD	.19711	.27363	48.589	.11625	2.1068	5.3358	595.99	1.6117

#1	.02343	138.39	.00086	3.5652	.09661	.02678	-.00659	.12724
#2	.02345	139.12	.00248	3.5609	.09485	.02421	-.00133	.12358
#3	.02336	138.56	.00255	3.5569	.09263	.02480	.00500	.12395

Check ?
 High Limit
 Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605008501 Acquired: 5/5/2016 18:52:29 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0024	.01975	-0.00376	-0.00293	-0.0026	1.3071	-0.0054
Stddev	.00041	.00040	.00217	.00115	.00111	.0025	.02834
%RSD	171.31	2.0409	57.900	39.150	432.15	.19372	5241.3

#1	.00019	.01996	-.00126	-.00356	.00100	1.3083	-.03307
#2	-.00029	.01928	-.00523	-.00362	-.00107	1.3088	.01267
#3	-.00062	.02000	-.00478	-.00161	-.00070	1.3042	.01878

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8027.3	57142.	2684.3
Stddev	23.8	389.	24.8
%RSD	.29650	.68118	.92561

#1	8054.3	56828.	2659.1
#2	8009.6	57578.	2685.1
#3	8017.9	57022.	2708.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015001 Acquired: 5/5/2016 18:56:20 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0052	.04855	.01206	.03064	.08411	.00006	226.10
Stddev	.00083	.00626	.00242	.00229	.00027	.00004	.48
%RSD	160.04	12.902	20.068	7.4879	.31591	65.618	.21111

#1	-0.0018	.04771	.01454	.03153	.08415	.00011	226.59
#2	.00009	.05519	.01195	.03236	.08382	.00003	225.64
#3	-0.00146	.04275	.00970	.02804	.08435	.00005	226.08

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00271	.00062	.00052	.22706	.02573	2.2041	.01540
Stddev	.00022	.00050	.00065	.00157	.01597	.0632	.00409
%RSD	8.2201	82.005	124.20	.69003	62.095	2.8672	26.579

#1	.00277	.00008	.00055	.22836	.03352	2.2757	.01348
#2	.00247	.00109	.00115	.22748	.00735	2.1805	.01261
#3	.00290	.00068	-.00014	.22532	.03631	2.1560	.02009

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.2792	.18922	.00017	10.371	.00111	.31825	.01925
Stddev	.0419	.00205	.00035	.032	.00070	.00248	.00320
%RSD	1.2769	1.0820	201.67	.30737	63.524	.77997	16.603

#1	3.2440	.19044	.00035	10.361	.00121	.31606	.01741
#2	3.2680	.18686	.00039	10.344	.00176	.32095	.01740
#3	3.3255	.19037	-.00023	10.406	.00036	.31774	.02294

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015001 Acquired: 5/5/2016 18:56:20 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00340	.00251	.85395	-.00083	.73814	F -.03306	-.00047
Stddev	.00031	.00370	.00165	.00130	.00182	.00328	.00036
%RSD	9.1609	147.29	.19299	156.77	.24683	9.9301	77.360

#1	.00304	-.00063	.85471	-.00221	.73824	-.03580	-.00084
#2	.00358	.00659	.85509	-.00065	.73628	-.03394	-.00011
#3	.00357	.00158	.85206	.00037	.73992	-.02942	-.00046

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						36.000	
Low Limit						-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00024	.09201	-.01884
Stddev	.00047	.00015	.05868
%RSD	199.91	.16386	311.46

#1	-.00063	.09189	.02820
#2	.00028	.09218	-.08459
#3	-.00036	.09197	-.00012

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7925.5	57333.	2695.0
Stddev	31.9	125.	16.3
%RSD	.40281	.21858	.60378

#1	7891.8	57332.	2678.9
#2	7929.4	57207.	2694.6
#3	7955.3	57458.	2711.4

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015001PS Acquired: 5/5/2016 19:00:11 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567684-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19671	4.9285	.20601	.97967	.56872	.02368	210.31	.02711
Stddev	.00154	.0171	.00162	.00476	.00143	.00004	.62	.00017
%RSD	.78378	.34687	.78585	.48585	.25147	.16464	.29371	.63604

#1	.19525	4.9480	.20426	.97469	.56707	.02366	209.96	.02717
#2	.19832	4.9160	.20634	.98418	.56961	.02366	211.03	.02724
#3	.19655	4.9215	.20745	.98014	.56949	.02373	209.95	.02691

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09601	.24180	.44536	1.9661	26.984	.55957	7.7440	.41576
Stddev	.00028	.00168	.00045	.0175	.267	.00720	.1463	.00581
%RSD	.29432	.69640	.10080	.89055	.99051	1.2872	1.8894	1.3970

#1	.09617	.24297	.44568	1.9848	27.045	.55171	7.6703	.41388
#2	.09618	.23987	.44485	1.9635	27.215	.56585	7.6492	.42227
#3	.09568	.24256	.44555	1.9500	26.691	.56117	7.9125	.41112

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50680	34.343	.24385	5.2761	.25410	.59415	.20300	3.3291
Stddev	.00059	.090	.00129	.0084	.00306	.00259	.00361	.0052
%RSD	.11627	.26073	.53064	.15923	1.2040	.43637	1.7768	.15534

#1	.50711	34.323	.24486	5.2759	.25714	.59191	.20467	3.3247
#2	.50717	34.440	.24239	5.2846	.25102	.59699	.20548	3.3348
#3	.50612	34.265	.24429	5.2678	.25414	.59354	.19886	3.3278

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015001PS Acquired: 5/5/2016 19:00:11 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567684-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48979	1.1428	.47277	.24249	.49321	.56502	.15730
Stddev	.00210	.0036	.00676	.00123	.00330	.00039	.04559
%RSD	.42797	.31394	1.4306	.50633	.66914	.06985	28.980
#1	.48758	1.1423	.46587	.24363	.49698	.56465	.10576
#2	.49176	1.1466	.47939	.24265	.49081	.56498	.17381
#3	.49003	1.1395	.47304	.24119	.49185	.56543	.19233

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7955.7	56445.	2644.9
Stddev	17.9	487.	11.8
%RSD	.22475	.86352	.44707
#1	7937.5	56121.	2631.5
#2	7973.3	57006.	2654.0
#3	7956.2	56208.	2649.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015001SDL Acquired: 5/5/2016 19:03:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG567684-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00027	-0.01444	.00164	.00731	.01608	.00003	43.628	.00062
Stddev	.00094	.00854	.00179	.00442	.00075	.00006	.035	.00014
%RSD	350.70	59.147	109.58	60.463	4.6445	214.32	.08091	23.010

#1	-0.00136	-0.00611	.00323	.01232	.01599	-.00003	43.590	.00058
#2	.00033	-.01403	.00198	.00568	.01538	.00009	43.660	.00078
#3	.00022	-.02318	-.00030	.00394	.01686	.00003	43.634	.00050

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00047	-0.00108	.04264	-0.00257	.49116	.00090	.71049	.03294
Stddev	.00012	.00076	.00113	.01551	.03444	.00111	.12513	.00139
%RSD	25.883	70.183	2.6587	602.79	7.0123	122.81	17.611	4.2332

#1	.00059	-0.00021	.04187	.01353	.46027	.00002	.68470	.03407
#2	.00035	-0.00162	.04211	-.01741	.52829	.00055	.84651	.03138
#3	.00046	-0.00140	.04394	-.00384	.48490	.00215	.60027	.03337

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00065	1.9738	-0.00001	.06180	.00431	.00113	.00215	.15706
Stddev	.00028	.0245	.00103	.00363	.00092	.00141	.00650	.00130
%RSD	42.986	1.2391	7431.9	5.8779	21.282	124.91	302.84	.82705

#1	.00033	1.9954	-0.00083	.06290	.00532	.00275	-.00363	.15646
#2	.00085	1.9472	.00114	.05774	.00353	.00014	.00920	.15617
#3	.00077	1.9787	-.00035	.06475	.00409	.00050	.00087	.15855

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015001SDL Acquired: 5/5/2016 19:03:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG567684-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0086	.13766	-0.00506	.00226	-0.00046	.01810	.01137
Stddev	.00073	.00019	.00259	.00126	.00027	.00008	.10148
%RSD	85.718	.13910	51.291	55.671	57.981	.41664	892.50

#1	-0.00170	.13769	-0.00762	.00306	-0.00016	.01807	-.10440
#2	-0.00049	.13745	-0.00511	.00081	-0.00065	.01805	.05361
#3	-0.00038	.13783	-0.00244	.00290	-0.00058	.01819	.08490

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8595.1	61374.	2761.9
Stddev	30.6	484.	4.3
%RSD	.35594	.78867	.15650

#1	8630.2	60875.	2766.5
#2	8574.5	61841.	2761.3
#3	8580.4	61405.	2757.9

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 19:07:46 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39741	9.9094	.39953	.49646	.99798	.04991	9.9821
Stddev	.00120	.0069	.00379	.00225	.00586	.00017	.0633
%RSD	.30191	.06970	.94911	.45380	.58688	.33543	.63376

#1	.39690	9.9016	.39534	.49462	.99146	.04998	9.9108
#2	.39878	9.9147	.40050	.49897	1.0028	.04972	10.004
#3	.39655	9.9119	.40274	.49578	.99972	.05003	10.031

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05048	.20202	.49245	.50406	3.9915	50.467	1.0245
Stddev	.00034	.00032	.00172	.00343	.0545	.147	.0104
%RSD	.66675	.16027	.34999	.68021	1.3649	.29216	1.0099

#1	.05054	.20168	.49358	.50616	3.9436	50.327	1.0128
#2	.05078	.20232	.49330	.50593	4.0507	50.621	1.0324
#3	.05012	.20207	.49046	.50011	3.9800	50.453	1.0284

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.055	.49863	1.0117	50.603	.50286	9.9814	.50262
Stddev	.108	.00104	.0057	.275	.00182	.0294	.00187
%RSD	1.0730	.20927	.56576	.54334	.36251	.29419	.37255

#1	9.9325	.49890	1.0153	50.291	.50191	10.002	.50170
#2	10.136	.49748	1.0146	50.810	.50496	9.9947	.50477
#3	10.097	.49951	1.0051	50.709	.50171	9.9477	.50139

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 19:07:46 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1991	.39879	5.0232	.99872	.99395	.99500	.50180
Stddev	.0027	.00553	.0168	.00407	.00578	.00757	.00547
%RSD	.22766	1.3876	.33379	.40771	.58147	.76105	1.0895

#1	1.1960	.40187	5.0301	1.0007	.98774	.98893	.50276
#2	1.2002	.40211	5.0354	1.0015	.99918	.99259	.50672
#3	1.2012	.39240	5.0041	.99404	.99492	1.0035	.49591

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.98528	1.0018	F .16594
Stddev	.00319	.0024	.12969
%RSD	.32351	.23521	78.153

#1	.98597	1.0036	.30838
#2	.98807	1.0026	.13476
#3	.98181	.99910	.05469

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7949.4	56239.	2629.7
Stddev	37.1	114.	20.3
%RSD	.46682	.20296	.77234

#1	7907.7	56115.	2607.3
#2	7961.9	56341.	2647.0
#3	7978.7	56261.	2634.7

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 19:11:21 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00105	-.00824	.00090	.00451	.00093	.00006	.00800
Stddev	.00068	.00560	.00289	.00037	.00032	.00004	.01635
%RSD	64.897	67.994	320.19	8.1972	34.022	62.878	204.40

#1	.00046	-.00178	.00422	.00494	.00061	.00003	.01215
#2	.00089	-.01109	-.00110	.00428	.00124	.00010	-.01003
#3	.00179	-.01184	-.00041	.00432	.00095	.00004	.02188

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00023	.00006	-.00097	-.00012	.00859	.17247	.00072
Stddev	.00007	.00044	.00085	.00184	.01823	.10902	.00256
%RSD	30.324	764.59	87.698	1548.9	212.14	63.212	355.67

#1	.00031	-.00032	.00000	.00159	-.00188	.16739	-.00214
#2	.00020	-.00005	-.00157	.00012	-.00198	.28395	.00279
#3	.00017	.00054	-.00133	-.00206	.02964	.06608	.00151

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08054	-.00153	.00206	.01731	-.00069	-.00307	-.00097
Stddev	.06224	.00426	.00029	.02831	.00030	.00452	.00105
%RSD	77.283	278.70	13.872	163.60	43.418	147.10	107.59

#1	.15039	-.00459	.00173	-.01538	-.00099	.00205	-.00031
#2	.06024	-.00334	.00225	.03409	-.00067	-.00477	-.00043
#3	.03098	.00334	.00221	.03321	-.00040	-.00650	-.00218

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 19:11:21 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0031	-0.00294	.00273	-0.00043	.00026	-0.00204	-0.00287
Stddev	.00261	.00207	.00109	.00078	.00010	.00574	.00160
%RSD	854.56	70.385	39.815	183.62	37.430	282.02	55.606

#1	.00118	-.00319	.00154	-.00105	.00015	-.00401	-.00104
#2	.00122	-.00488	.00299	.00045	.00032	-.00653	-.00361
#3	-.00332	-.00076	.00366	-.00069	.00031	.00443	-.00396

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00030	.00006	F -.04654
Stddev	.00088	.00009	.09931
%RSD	296.80	168.68	213.38

#1	-.00105	-.00004	-.03165
#2	-.00051	.00006	.04449
#3	.00067	.00015	-.15246

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7999.0	57495.	2602.5
Stddev	37.0	495.	6.3
%RSD	.46200	.86158	.24251

#1	8039.3	56925.	2601.8
#2	7991.1	57821.	2609.1
#3	7966.6	57740.	2596.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015102 Acquired: 5/5/2016 19:15:19 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00023	.09670	-.00073	.02565	.03069	.00011	89.652	.00050
Stddev	.00145	.00474	.00234	.00035	.00045	.00007	.311	.00007
%RSD	632.28	4.9047	322.79	1.3565	1.4822	60.064	.34692	13.891

#1	.00072	.10157	.00009	.02562	.03021	.00017	89.652	.00044
#2	.00138	.09642	-.00337	.02600	.03111	.00013	89.962	.00048
#3	-.00141	.09210	.00110	.02531	.03076	.00004	89.340	.00058

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00187	.00154	.00043	.40540	1.2587	.06296	44.614	.07903
Stddev	.00064	.00023	.00019	.03149	.0065	.00334	.257	.00236
%RSD	34.464	14.654	43.178	7.7682	.51724	5.3024	.57574	2.9867

#1	.00216	.00180	.00054	.42634	1.2642	.06010	44.337	.07717
#2	.00113	.00139	.00022	.36918	1.2605	.06214	44.844	.07824
#3	.00231	.00142	.00054	.42067	1.2515	.06663	44.660	.08168

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00066	218.48	.00317	.07283	-.00277	.00045	.00632	17.615
Stddev	.00028	.71	.00087	.00730	.00141	.00174	.00566	.040
%RSD	41.552	.32491	27.488	10.027	51.137	387.35	89.558	.22472

#1	.00093	219.01	.00353	.07079	-.00210	.00204	.00008	17.660
#2	.00038	218.77	.00380	.06676	-.00439	.00073	.01111	17.594
#3	.00068	217.68	.00218	.08093	-.00181	-.00141	.00777	17.590

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015102 Acquired: 5/5/2016 19:15:19 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0121	1.1988	-0.0934	-0.0237	-0.0072	.00325	.02942
Stddev	.00075	.0030	.00510	.00342	.00090	.00009	.05233
%RSD	61.790	.24656	54.620	144.30	125.44	2.7213	177.88

#1	-0.0106	1.1990	-0.1335	.00128	.00027	.00329	.08169
#2	-0.0055	1.2016	-0.0360	-0.0551	-0.0148	.00332	-0.2297
#3	-0.00202	1.1957	-0.1109	-0.0288	-0.0094	.00315	.02954

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7771.7	55056.	2619.4
Stddev	12.7	224.	15.7
%RSD	.16293	.40725	.60102

#1	7779.4	55238.	2605.5
#2	7757.1	55124.	2636.5
#3	7778.7	54805.	2616.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015104 Acquired: 5/5/2016 19:19:12 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00051	.47636	.00043	.02883	.04568	.00014	91.056	.00039
Stddev	.00301	.00749	.00221	.00305	.00091	.00004	.405	.00011
%RSD	594.44	1.5718	519.37	10.590	2.0030	30.662	.44462	28.056

#1	.00388	.46772	.00098	.02843	.04471	.00011	91.074	.00035
#2	-.00048	.48076	-.00201	.03206	.04653	.00013	91.452	.00051
#3	-.00189	.48061	.00231	.02600	.04581	.00019	90.643	.00031

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00364	.00199	.00231	7.6478	2.3447	.06432	47.610	.37291
Stddev	.00016	.00148	.00021	.0886	.1006	.00222	.153	.00313
%RSD	4.5270	74.479	9.2620	1.1590	4.2899	3.4554	.32157	.83978

#1	.00356	.00360	.00230	7.6697	2.4560	.06653	47.541	.36941
#2	.00352	.00170	.00210	7.7235	2.3176	.06208	47.785	.37386
#3	.00383	.00068	.00252	7.5503	2.2604	.06434	47.504	.37546

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00082	195.53	.00413	.05450	.00031	-.00058	.00081	13.658
Stddev	.00010	.87	.00071	.00495	.00403	.00310	.00895	.006
%RSD	11.766	.44748	17.295	9.0860	1289.4	534.46	1107.5	.04274

#1	.00092	195.45	.00376	.05497	.00249	-.00378	.00680	13.660
#2	.00081	196.45	.00496	.04933	.00279	.00240	.00510	13.651
#3	.00073	194.70	.00368	.05920	-.00434	-.00035	-.00948	13.662

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015104 Acquired: 5/5/2016 19:19:12 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0002	1.7714	.00899	-.00527	.00079	.01019	.29600
Stddev	.00080	.0076	.00312	.00557	.00104	.00011	.11004
%RSD	4733.1	.42972	34.700	105.77	131.92	1.0896	37.176

#1	.00069	1.7698	.01258	.00100	.00029	.01029	.39043
#2	.00013	1.7797	.00694	-.00966	.00009	.01020	.32242
#3	-.00088	1.7648	.00745	-.00716	.00198	.01007	.17516

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7848.1	55497.	2665.1
Stddev	29.1	291.	39.7
%RSD	.37080	.52361	1.4882

#1	7880.2	55530.	2639.0
#2	7823.4	55192.	2645.6
#3	7840.8	55770.	2710.7

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015106 Acquired: 5/5/2016 19:23:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00078	.01858	-0.00047	.02048	.02435	.00003	73.234	.00043
Stddev	.00088	.00286	.00167	.00308	.00059	.00003	.357	.00016
%RSD	112.66	15.390	354.13	15.043	2.4080	93.198	.48742	36.034

#1	-0.00028	.01544	-0.00235	.01696	.02502	.00006	73.215	.00058
#2	-0.00180	.01927	.00009	.02270	.02402	.00001	73.600	.00027
#3	-0.00027	.02103	.00084	.02177	.02399	.00002	72.886	.00045

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00058	.00066	.00145	.02354	.87844	.06791	43.136	.02035
Stddev	.00027	.00103	.00063	.00745	.05874	.00149	.411	.00061
%RSD	46.075	155.20	43.087	31.670	6.6867	2.1895	.95249	3.0142

#1	.00073	.00028	.00212	.02991	.87494	.06625	43.061	.02050
#2	.00075	-.00012	.00088	.01534	.93884	.06836	43.579	.01968
#3	.00027	.00183	.00136	.02537	.82152	.06912	42.768	.02088

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	260.83	-0.00035	.07556	.00287	.00176	.00225	16.056
Stddev	.00012	1.12	.00074	.01087	.00255	.00135	.00487	.013
%RSD	41.717	.42953	213.14	14.387	89.080	76.603	216.65	.08113

#1	.00016	260.90	-0.00096	.07835	.00209	.00040	.00402	16.071
#2	.00034	261.92	-0.00058	.08477	.00572	.00177	-.00326	16.047
#3	.00039	259.68	.00048	.06357	.00079	.00309	.00598	16.050

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015106 Acquired: 5/5/2016 19:23:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	1.1161	-0.00884	.00041	.00018	.00281	.08918
Stddev	.00048	.0044	.00688	.00148	.00105	.00023	.12337
%RSD	1482.4	.39659	77.796	361.38	599.42	8.0295	138.34

#1	.00040	1.1165	-.01282	.00209	.00034	.00265	.16929
#2	.00021	1.1203	-.01280	-.00071	-.00095	.00272	.15113
#3	-.00051	1.1115	-.00090	-.00015	.00114	.00307	-.05289

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7806.1	55166.	2612.6
Stddev	14.6	111.	21.2
%RSD	.18743	.20193	.80999

#1	7821.2	55218.	2598.9
#2	7804.9	55038.	2602.0
#3	7792.0	55242.	2637.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015108 Acquired: 5/5/2016 19:27:00 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00153	.01164	.00164	.00956	.06265	.00007	114.59
Stddev	.00161	.00888	.00044	.00156	.00094	.00002	.61
%RSD	105.14	76.263	26.997	16.274	1.5009	25.760	.53367

#1	-.00088	.01390	.00136	.01001	.06364	.00006	115.26
#2	-.00336	.00185	.00142	.01085	.06255	.00010	114.45
#3	-.00035	.01918	.00216	.00783	.06177	.00007	114.07

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	.00038	.00055	.00199	.00418	1.2432	.04952
Stddev	.00013	.00026	.00082	.00052	.03022	.0897	.00206
%RSD	75.606	67.342	149.24	26.136	723.60	7.2168	4.1612

#1	.00015	.00034	.00046	.00232	.02360	1.1874	.04805
#2	.00031	.00015	-.00022	.00139	.01957	1.1955	.05188
#3	.00005	.00066	.00142	.00226	-.03064	1.3467	.04864

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	55.422	.00767	-.00000	F 282.89	.00033	.10120	-.00036
Stddev	.109	.00155	.00043	2.20	.00062	.00200	.00404
%RSD	.19751	20.283	12880.	.77737	186.74	1.9750	1130.7

#1	55.296	.00621	.00045	285.32	-.00005	.10350	-.00027
#2	55.473	.00931	-.00003	282.31	.00105	.09990	.00364
#3	55.497	.00747	-.00042	281.04	-.00000	.10020	-.00443

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015108 Acquired: 5/5/2016 19:27:00 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00074	-.00088	17.070	-.00010	1.2244	-.01537	-.00017
Stddev	.00426	.00292	.050	.00062	.0078	.00255	.00373
%RSD	571.84	330.74	.29185	646.42	.63407	16.595	2227.0

#1	.00498	.00096	17.111	-.00065	1.2307	-.01794	-.00447
#2	.00080	-.00424	17.085	.00058	1.2266	-.01532	.00216
#3	-.00354	.00064	17.015	-.00022	1.2157	-.01284	.00181

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00020	.00205	.10326
Stddev	.00053	.00013	.06700
%RSD	268.70	6.5386	64.887

#1	-.00078	.00217	.04108
#2	-.00005	.00208	.17422
#3	.00024	.00191	.09448

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7696.0	54701.	2617.5
Stddev	21.6	231.	25.4
%RSD	.28031	.42319	.97011

#1	7685.8	54459.	2594.4
#2	7720.8	54723.	2644.7
#3	7681.5	54920.	2613.4

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015110 Acquired: 5/5/2016 19:30:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0061	.00725	.00344	.03657	.17762	.00005	60.395	.00048
Stddev	.00089	.00750	.00129	.00150	.00058	.00002	.280	.00045
%RSD	145.84	103.46	37.455	4.0897	.32598	37.006	.46415	92.478

#1	-0.0037	-0.0048	.00427	.03824	.17827	.00007	60.696	-0.0001
#2	.00013	.00773	.00196	.03534	.17718	.00004	60.345	.00059
#3	-0.0160	.01450	.00410	.03614	.17740	.00004	60.142	.00087

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00095	.00418	.00044	.43114	9.8786	.07898	10.963	.04126
Stddev	.00017	.00032	.00074	.00284	.1182	.00078	.126	.00293
%RSD	17.854	7.7492	167.44	.65984	1.1967	.99123	1.1457	7.0926

#1	.00079	.00454	-0.0038	.42790	9.8720	.07897	11.034	.04405
#2	.00094	.00391	.00066	.43326	10.000	.07821	10.818	.04152
#3	.00113	.00408	.00104	.43225	9.7638	.07977	11.036	.03821

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00156	90.571	.00071	.02759	.00375	.00058	.00071	11.179
Stddev	.00021	.437	.00152	.01077	.00333	.00193	.00571	.035
%RSD	13.440	.48218	214.94	39.042	88.613	333.53	801.61	.31741

#1	.00138	91.043	-0.00099	.03988	.00757	.00280	-0.00542	11.139
#2	.00151	90.487	.00195	.02316	.00146	-0.00063	.00589	11.208
#3	.00179	90.181	.00116	.01975	.00223	-0.00044	.00167	11.190

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015110 Acquired: 5/5/2016 19:30:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00057	2.7136	-0.00703	-0.00266	-0.00032	.00574	.04737
Stddev	.00060	.0124	.00076	.00302	.00068	.00028	.02456
%RSD	104.47	.45832	10.849	113.44	212.17	4.8605	51.854

#1	.00117	2.7269	-.00643	.00079	-.00099	.00545	.02056
#2	-.00003	2.7117	-.00678	-.00482	.00038	.00577	.05277
#3	.00058	2.7022	-.00789	-.00395	-.00036	.00601	.06879

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7909.2	57109.	2636.5
Stddev	17.4	305.	25.1
%RSD	.21945	.53452	.95063

#1	7917.5	57167.	2616.2
#2	7920.9	56779.	2628.7
#3	7889.3	57381.	2664.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1604015301 Acquired: 5/5/2016 19:34:48 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567644-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0038	.00392	-0.0104	.02150	.00679	.00002	49.122
Stddev	.00128	.00497	.00202	.00258	.00058	.00005	.240
%RSD	334.57	126.79	194.69	11.993	8.6033	247.59	.48792

#1	-0.0128	.00699	-0.0208	.01913	.00631	.00007	49.171
#2	-0.0096	.00658	.00129	.02424	.00744	.00002	49.333
#3	.00109	-.00181	-.00233	.02114	.00661	-.00003	48.862

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	-.00030	.00074	.00089	.17652	1.3245	-.00075
Stddev	.00015	.00011	.00069	.00092	.02718	.0659	.00263
%RSD	349.17	36.771	93.266	103.02	15.400	4.9763	352.38

#1	.00016	-.00037	.00117	.00163	.18822	1.3883	-.00187
#2	.00011	-.00037	-.00006	.00120	.14544	1.2567	.00226
#3	-.00013	-.00017	.00110	-.00014	.19589	1.3285	-.00262

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.977	.08751	.00008	14.582	.00030	-.00232	-.00133
Stddev	.146	.00288	.00006	.075	.00078	.00291	.00382
%RSD	1.0430	3.2910	75.809	.51232	254.68	125.52	287.97

#1	14.063	.08901	.00015	14.626	.00001	.00094	.00273
#2	13.809	.08419	.00005	14.623	-.00028	-.00322	-.00485
#3	14.060	.08933	.00004	14.496	.00118	-.00468	-.00187

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1604015301 Acquired: 5/5/2016 19:34:48 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567644-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00019	.00531	4.8441	-.00023	.15716	-.00633	-.00468
Stddev	.00394	.00620	.0098	.00080	.00073	.00406	.00135
%RSD	2057.7	116.79	.20153	349.18	.46296	64.198	28.743

#1	.00107	.01191	4.8348	-.00114	.15675	-.00472	-.00564
#2	.00362	-.00040	4.8542	.00032	.15800	-.01095	-.00526
#3	-.00411	.00442	4.8433	.00014	.15673	-.00332	-.00314

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00078	.00233	F -.06770
Stddev	.00034	.00012	.10415
%RSD	43.679	5.1540	153.85

#1	.00112	.00221	-.18655
#2	.00077	.00233	-.02417
#3	.00044	.00245	.00763

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7942.1	57482.	2625.6
Stddev	58.5	60.	41.0
%RSD	.73617	.10388	1.5627

#1	7985.0	57498.	2583.1
#2	7965.9	57532.	2628.6
#3	7875.5	57416.	2665.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015302MS Acquired: 5/5/2016 19:38:41 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567644-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19610	4.8158	.19271	.97715	.50037	.02371	55.149	.02456
Stddev	.00217	.0135	.00334	.00552	.00319	.00007	.238	.00026
%RSD	1.1061	.27996	1.7321	.56533	.63724	.27556	.43192	1.0505

#1	.19852	4.8272	.18934	.97350	.50379	.02373	55.418	.02470
#2	.19545	4.8009	.19601	.97445	.49748	.02364	55.065	.02472
#3	.19433	4.8193	.19278	.98351	.49983	.02376	54.964	.02426

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09683	.24284	.24425	2.1910	26.530	.50899	19.219	.34402
Stddev	.00019	.00147	.00115	.0190	.117	.00576	.186	.00177
%RSD	.19728	.60332	.47025	.86905	.44052	1.1322	.96520	.51496

#1	.09662	.24449	.24558	2.1690	26.665	.51492	19.409	.34533
#2	.09699	.24168	.24359	2.2024	26.467	.50341	19.038	.34200
#3	.09689	.24236	.24358	2.2015	26.458	.50862	19.209	.34473

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50858	39.950	.24397	4.8482	.24554	.59036	.18318	7.4565
Stddev	.00030	.207	.00085	.0107	.00236	.00305	.00177	.0167
%RSD	.05992	.51730	.35038	.22026	.96152	.51639	.96484	.22431

#1	.50890	40.156	.24310	4.8359	.24653	.59006	.18425	7.4682
#2	.50855	39.743	.24481	4.8536	.24284	.59355	.18114	7.4373
#3	.50829	39.949	.24400	4.8551	.24724	.58748	.18415	7.4638

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015302MS Acquired: 5/5/2016 19:38:41 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567644-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49389	.65923	.49087	.24682	.49375	.48361	.13795
Stddev	.00137	.00414	.00243	.00149	.00235	.00052	.09785
%RSD	.27838	.62764	.49465	.60481	.47535	.10789	70.934
#1	.49468	.66395	.49335	.24598	.49359	.48301	.02615
#2	.49230	.65623	.49077	.24854	.49148	.48390	.17965
#3	.49468	.65752	.48850	.24594	.49616	.48393	.20804

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7985.8	57289.	2639.9
Stddev	16.7	213.	28.8
%RSD	.20932	.37097	1.0927
#1	7988.7	57112.	2606.7
#2	8001.0	57525.	2659.1
#3	7967.9	57231.	2653.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015303MSD Acquired: 5/5/2016 19:42:22 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567644-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19290	4.7376	.19073	.96614	.49104	.02351	54.642	.02434
Stddev	.00200	.0106	.00407	.00267	.00346	.00004	.270	.00025
%RSD	1.0360	.22358	2.1337	.27681	.70415	.16677	.49454	1.0124

#1	.19100	4.7294	.19364	.96832	.48879	.02355	54.366	.02450
#2	.19271	4.7340	.19247	.96696	.49502	.02352	54.907	.02446
#3	.19498	4.7496	.18608	.96316	.48932	.02347	54.653	.02406

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09585	.23901	.24171	2.1814	25.913	.49694	19.075	.34232
Stddev	.00041	.00113	.00111	.0175	.353	.00458	.185	.00500
%RSD	.42937	.47150	.45747	.79981	1.3632	.92156	.97031	1.4599

#1	.09582	.23817	.24115	2.1646	26.035	.49365	18.863	.33659
#2	.09628	.24029	.24298	2.1995	26.189	.50217	19.158	.34578
#3	.09546	.23857	.24099	2.1802	25.515	.49500	19.204	.34459

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50294	39.348	.24032	4.7898	.24548	.58690	.18365	7.4699
Stddev	.00016	.192	.00108	.0044	.00104	.00892	.00830	.0124
%RSD	.03210	.48862	.44856	.09249	.42559	1.5191	4.5217	.16624

#1	.50288	39.211	.24013	4.7872	.24525	.58339	.19324	7.4681
#2	.50281	39.568	.24148	4.7949	.24662	.59703	.17891	7.4830
#3	.50312	39.264	.23935	4.7872	.24457	.58027	.17880	7.4584

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605015303MSD Acquired: 5/5/2016 19:42:22 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567644-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48835	.65001	.48401	.24054	.48333	.47764	.05741
Stddev	.00062	.00197	.00392	.00391	.00063	.00086	.04856
%RSD	.12778	.30296	.80890	1.6236	.12974	.18101	84.592
#1	.48907	.64844	.48226	.23743	.48400	.47817	.03371
#2	.48796	.65222	.48126	.24493	.48324	.47810	.02524
#3	.48801	.64938	.48849	.23927	.48276	.47664	.11327

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8052.9	57656.	2698.8
Stddev	26.2	223.	1.0
%RSD	.32585	.38734	.03814
#1	8054.6	57826.	2697.8
#2	8078.3	57739.	2699.8
#3	8025.9	57403.	2698.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1605016102 Acquired: 5/5/2016 19:46:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0027	-0.0096	.00196	.01267	.00057	.00009	1.9317	.00010
Stddev	.00114	.00650	.00296	.00157	.00073	.00004	.0253	.00016
%RSD	417.79	65.188	150.80	12.405	128.66	46.398	1.3081	165.64

#1	-0.00054	-0.01696	-0.00094	.01365	.00135	.00005	1.9163	.00008
#2	.00098	-0.00881	.00185	.01352	-0.00009	.00013	1.9609	.00026
#3	-0.00126	-0.00412	.00497	.01086	.00044	.00007	1.9179	-0.00005

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	-0.00060	.00191	.02774	13.758	-0.00136	.54318	.01727
Stddev	.00023	.00110	.00137	.01105	.099	.00050	.10082	.00152
%RSD	148.13	184.95	71.580	39.831	.71911	37.185	18.560	8.8273

#1	-0.00007	-0.00106	.00146	.01499	13.865	-0.00137	.65365	.01783
#2	.00039	-0.00139	.00082	.03364	13.669	-0.00085	.51976	.01555
#3	.00014	.00066	.00344	.03459	13.741	-0.00186	.45614	.01844

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00190	38.897	.00211	2.3165	.00020	.00127	.00496	.20053
Stddev	.00019	.047	.00090	.0057	.00086	.00214	.00201	.00083
%RSD	9.9295	.12092	42.584	.24415	422.39	168.50	40.609	.41529

#1	.00180	38.844	.00240	2.3219	.00105	-0.00079	.00466	.19961
#2	.00178	38.935	.00284	2.3169	.00023	.00112	.00311	.20074
#3	.00212	38.912	.00111	2.3106	-0.00067	.00348	.00710	.20123

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605016102 Acquired: 5/5/2016 19:46:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	.00204	-.00099	-.00241	.00006	.02278	.04008
Stddev	.00082	.00026	.00367	.00111	.00091	.00028	.04550
%RSD	485.19	12.710	370.67	45.960	1433.3	1.2478	113.52

#1	.00111	.00175	-.00304	-.00238	.00022	.02308	.00402
#2	-.00040	.00209	.00324	-.00353	-.00091	.02276	.09120
#3	-.00020	.00226	-.00317	-.00132	.00088	.02251	.02501

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8212.7	59112.	2709.0
Stddev	17.7	309.	19.1
%RSD	.21555	.52188	.70419

#1	8206.8	59373.	2694.6
#2	8198.7	59190.	2701.8
#3	8232.6	58772.	2730.6

Approved: May 06, 2016

<i>K: K Buck</i>

Sample Name: L1605016104 Acquired: 5/5/2016 19:49:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	.07539	-.00007	.01323	.01134	-.00005	77.129	.00047
Stddev	.00038	.00296	.00118	.00129	.00057	.00005	.349	.00011
%RSD	126.00	3.9324	1652.9	9.7894	5.0528	107.30	.45229	23.432

#1	.00049	.07332	.00078	.01173	.01100	-.00002	77.428	.00035
#2	.00056	.07878	-.00141	.01393	.01201	-.00011	77.214	.00056
#3	-.00014	.07406	.00042	.01401	.01103	-.00002	76.746	.00051

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00067	.00340	.01490	.32909	14.855	.00408	3.7950	.15765
Stddev	.00003	.00127	.00064	.02099	.083	.00044	.0639	.00253
%RSD	3.9794	37.398	4.2811	6.3779	.56149	10.743	1.6844	1.6062

#1	.00069	.00446	.01463	.32829	14.921	.00388	3.7444	.15493
#2	.00064	.00374	.01444	.35047	14.883	.00459	3.8668	.15806
#3	.00068	.00199	.01563	.30851	14.761	.00378	3.7737	.15995

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00204	42.306	.00290	44.498	.00093	-.00104	.00541	.38863
Stddev	.00019	.261	.00020	.063	.00217	.00078	.00482	.00120
%RSD	9.5235	.61598	6.9200	.14094	232.53	75.343	88.978	.30945

#1	.00192	42.508	.00276	44.532	.00096	-.00023	.01048	.38725
#2	.00226	42.399	.00313	44.536	-.00125	-.00179	.00486	.38947
#3	.00193	42.012	.00281	44.426	.00308	-.00108	.00090	.38917

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605016104 Acquired: 5/5/2016 19:49:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00047	.05264	-.00210	.00139	.00127	.08356	.08765
Stddev	.00037	.00011	.00182	.00313	.00022	.00044	.06277
%RSD	77.452	.21586	86.460	225.23	17.366	.52141	71.612

#1	.00067	.05251	-.00357	.00483	.00108	.08385	.12649
#2	.00005	.05271	-.00007	-.00129	.00152	.08377	.01524
#3	.00070	.05271	-.00267	.00064	.00123	.08306	.12124

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8708.8	62955.	3005.5
Stddev	7.1	92.	18.6
%RSD	.08171	.14683	.61932

#1	8710.0	63057.	2996.4
#2	8701.1	62929.	2993.2
#3	8715.2	62878.	3026.9

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 19:53:52 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40501	10.040	.40445	.50069	.99950	.05046	10.042
Stddev	.00085	.032	.00464	.00530	.01459	.00028	.143
%RSD	.20938	.31975	1.1480	1.0595	1.4598	.54583	1.4237

#1	.40511	10.017	.40762	.49573	.98267	.05027	9.8812
#2	.40412	10.077	.39912	.50005	1.0072	.05034	10.154
#3	.40581	10.028	.40660	.50628	1.0086	.05078	10.091

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05111	.20544	.50214	.51354	4.0001	50.694	1.0328
Stddev	.00019	.00067	.00311	.00327	.0830	.635	.0135
%RSD	.36843	.32480	.61995	.63630	2.0752	1.2524	1.3091

#1	.05106	.20619	.50137	.51724	3.9045	49.977	1.0178
#2	.05132	.20491	.49949	.51105	4.0538	51.182	1.0441
#3	.05095	.20522	.50557	.51234	4.0419	50.924	1.0364

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.100	.49848	1.0290	50.874	.51262	10.175	.51205
Stddev	.285	.01083	.0029	.673	.00180	.013	.00012
%RSD	2.8258	2.1716	.27740	1.3222	.35207	.12761	.02268

#1	9.7773	.48770	1.0322	50.097	.51122	10.184	.51195
#2	10.205	.50935	1.0280	51.273	.51199	10.160	.51201
#3	10.319	.49841	1.0268	51.251	.51466	10.182	.51218

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 19:53:52 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2191	.40786	5.1120	1.0194	.99501	.99808	.50843
Stddev	.0077	.01139	.0080	.0027	.01541	.01638	.00450
%RSD	.62848	2.7929	.15687	.26469	1.5482	1.6413	.88544

#1	1.2116	.40229	5.1195	1.0220	.97723	.97926	.50882
#2	1.2189	.40032	5.1035	1.0166	1.0045	1.0092	.51273
#3	1.2269	.42096	5.1129	1.0195	1.0033	1.0058	.50375

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	1.0030	1.0201	F .16868
Stddev	.0018	.0011	.06343
%RSD	.18066	.10533	37.604

#1	1.0011	1.0203	.12982
#2	1.0047	1.0190	.13434
#3	1.0033	1.0211	.24187

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7885.7	56543.	2606.1
Stddev	37.9	305.	37.3
%RSD	.48017	.53895	1.4304

#1	7891.9	56787.	2649.0
#2	7920.1	56641.	2587.9
#3	7845.2	56201.	2581.4

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 19:57:29 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0084	-0.0696	-0.0126	.00299	.00042	.00009	.02534	.00006
Stddev	.00092	.00251	.00055	.00117	.00020	.00006	.02471	.00007
%RSD	109.92	36.112	43.581	38.975	46.966	67.166	97.539	105.17

#1	-0.0127	-0.0495	-0.0112	.00189	.00020	.00016	.01401	.00012
#2	-0.0146	-0.0616	-0.0186	.00421	.00046	.00006	.05368	.00008
#3	.00022	-0.00978	-0.00079	.00287	.00059	.00005	.00832	-0.00001

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00042	-0.0062	-0.0016	-0.00474	.08710	-0.00068	.08776	-0.00110
Stddev	.00048	.00032	.00080	.00998	.03362	.00176	.07124	.00191
%RSD	113.80	51.951	511.07	210.49	38.600	260.68	81.180	173.36

#1	.00041	-0.00025	-0.00089	-.01430	.12592	.00135	.02002	.00098
#2	-0.00005	-0.00080	.00070	.00561	.06821	-0.00187	.08120	-.00278
#3	.00091	-0.00082	-0.00028	-.00553	.06717	-0.00151	.16206	-.00151

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00212	.05265	-0.00080	.00284	-0.00142	.00231	.00152	.00258
Stddev	.00017	.01071	.00034	.00103	.00206	.00128	.00588	.00115
%RSD	7.9706	20.339	42.762	36.369	145.24	55.274	386.97	44.687

#1	.00196	.06318	-0.00044	.00165	-.00308	.00090	-.00485	.00242
#2	.00211	.04177	-0.0112	.00344	-.00206	.00267	.00672	.00151
#3	.00230	.05301	-0.00083	.00342	.00089	.00338	.00268	.00380

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 19:57:29 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	-.00030	-.00118	-.00259	.00052	.00010	-.01572
Stddev	.00072	.00021	.00092	.00127	.00109	.00010	.08678
%RSD	3505.9	72.108	77.399	49.168	210.02	102.14	551.99

#1	.00073	-.00030	-.00144	-.00215	-.00029	-.00002	.05651
#2	.00006	-.00008	-.00195	-.00159	.00009	.00015	-.11199
#3	-.00072	-.00051	-.00017	-.00402	.00176	.00018	.00831

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7960.5	56702.	2581.4
Stddev	36.9	60.	46.2
%RSD	.46337	.10579	1.7881

#1	7974.4	56689.	2574.0
#2	7918.7	56767.	2630.9
#3	7988.4	56649.	2539.4

Approved: May 06, 2016

K: K Buck

Sample Name: L1605016106 Acquired: 5/5/2016 20:01:26 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00005	-.01321	.00075	.00483	.00353	-.00004	2.0169
Stddev	.00290	.00320	.00357	.00126	.00029	.00006	.0093
%RSD	5808.7	24.210	478.43	26.094	8.2271	172.92	.46255

#1	.00300	-.01605	.00435	.00431	.00357	-.00009	2.0206
#2	-.00278	-.00975	-.00278	.00390	.00323	.00003	2.0238
#3	-.00037	-.01383	.00067	.00626	.00380	-.00005	2.0063

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	.00048	-.00050	.00044	.02014	.56308	-.00192
Stddev	.00023	.00012	.00042	.00031	.02123	.03774	.00084
%RSD	138.73	24.385	84.932	69.429	105.41	6.7016	43.638

#1	-.00005	.00043	-.00067	.00019	-.00001	.52020	-.00128
#2	.00040	.00040	-.00002	.00078	.04231	.59123	-.00160
#3	.00015	.00062	-.00080	.00035	.01812	.57781	-.00286

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.43200	.04060	.00054	.73212	.00047	.06994	-.00024
Stddev	.14120	.00268	.00028	.02110	.00035	.00108	.00251
%RSD	32.685	6.6056	52.482	2.8814	73.376	1.5391	1045.7

#1	.55877	.03845	.00025	.75644	.00066	.07090	.00243
#2	.27982	.03974	.00056	.72116	.00068	.07014	-.00059
#3	.45740	.04361	.00081	.71876	.00007	.06878	-.00256

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605016106 Acquired: 5/5/2016 20:01:26 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0031	-0.0117	.09255	-0.0026	.00583	-0.0182	-0.0106
Stddev	.00127	.00430	.00183	.00050	.00010	.00277	.00123
%RSD	403.74	367.57	1.9722	193.48	1.6856	152.71	115.99

#1	.00111	.00170	.09250	-.00051	.00587	-.00315	.00023
#2	-.00132	.00091	.09440	.00031	.00591	-.00367	-.00221
#3	-.00073	-.00612	.09075	-.00058	.00572	.00137	-.00120

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.0009	.00275	F -.08334
Stddev	.00115	.00037	.04288
%RSD	1343.7	13.554	51.453

#1	.00120	.00249	-.03515
#2	-.00102	.00317	-.09759
#3	-.00044	.00258	-.11729

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8138.2	58703.	2641.0
Stddev	23.2	232.	21.1
%RSD	.28557	.39462	.79795

#1	8161.3	58922.	2618.5
#2	8138.5	58461.	2644.3
#3	8114.8	58727.	2660.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1605020202 Acquired: 5/5/2016 20:05:11 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00108	.00488	.00921	.05402	.14626	.00002	45.736
Stddev	.00134	.00876	.00386	.00057	.00168	.00009	.026
%RSD	124.33	179.27	41.959	1.0607	1.1469	409.25	.05776

#1	.00023	.00723	.01363	.05336	.14561	.00010	45.766
#2	-.00101	-.00481	.00649	.05431	.14817	-.00007	45.724
#3	-.00245	.01223	.00750	.05438	.14501	.00003	45.717

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00051	.00056	.00100	.00146	13.845	1.7285	.00157
Stddev	.00019	.00032	.00043	.00043	.050	.0677	.00099
%RSD	37.359	57.690	43.040	29.531	.36212	3.9139	62.748

#1	.00051	.00077	.00066	.00148	13.793	1.7857	.00128
#2	.00032	.00072	.00148	.00188	13.893	1.6538	.00267
#3	.00070	.00019	.00085	.00102	13.849	1.7459	.00076

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.617	10.064	.00216	8.8106	.00286	.17876	.00136
Stddev	.219	.033	.00010	.0250	.00028	.00859	.00287
%RSD	2.0616	.33207	4.7549	.28332	9.9150	4.8033	210.91

#1	10.499	10.027	.00221	8.8042	.00279	.18105	.00184
#2	10.870	10.091	.00204	8.7894	.00262	.18597	-.00172
#3	10.483	10.075	.00222	8.8381	.00317	.16926	.00395

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605020202 Acquired: 5/5/2016 20:05:11 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00207	.00446	4.4330	.00011	.22405	.00165	.00130
Stddev	.00425	.00752	.0111	.00058	.00040	.00902	.00291
%RSD	205.16	168.79	.25089	526.86	.18004	545.73	224.29

#1	-.00028	-.00388	4.4453	.00047	.22414	.00697	.00199
#2	.00698	.01073	4.4237	-.00056	.22362	-.00876	-.00189
#3	-.00048	.00653	4.4299	.00042	.22441	.00675	.00379

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00129	.00286	F -.16707
Stddev	.00016	.00015	.08157
%RSD	12.626	5.1032	48.823

#1	.00110	.00287	-.25371
#2	.00139	.00270	-.15575
#3	.00138	.00299	-.09175

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8036.1	57730.	2636.5
Stddev	16.2	408.	42.8
%RSD	.20188	.70756	1.6220

#1	8030.4	57301.	2637.7
#2	8023.4	58115.	2593.1
#3	8054.4	57772.	2678.6

Approved: May 06, 2016

K: K Buck

Sample Name: L1605020203 Acquired: 5/5/2016 20:09:04 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0032	.00835	.11612	.09518	.27391	-0.0002	43.055
Stddev	.00116	.00356	.00009	.00251	.00161	.00006	.257
%RSD	358.10	42.579	.07350	2.6378	.58823	350.66	.59784

#1	.00011	.00979	.11608	.09566	.27219	.00005	42.762
#2	.00055	.01097	.11622	.09246	.27539	-.00005	43.244
#3	-.00163	.00430	.11606	.09742	.27414	-.00005	43.159

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00101	.00155	.00008	.00133	18.315	1.2520	.00742
Stddev	.00026	.00022	.00094	.00081	.073	.0183	.00391
%RSD	25.319	14.506	1229.5	61.111	.39646	1.4583	52.711

#1	.00128	.00148	.00076	.00040	18.325	1.2479	.00417
#2	.00098	.00137	-.00099	.00168	18.238	1.2719	.00633
#3	.00077	.00180	.00046	.00190	18.382	1.2361	.01177

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.940	.79232	.00090	14.576	.00259	.39050	.00035
Stddev	.284	.00208	.00043	.022	.00048	.00963	.00225
%RSD	.64558	.26259	47.684	.15143	18.459	2.4654	636.90

#1	43.680	.78992	.00069	14.552	.00213	.38827	-.00223
#2	44.243	.79364	.00061	14.595	.00309	.38218	.00143
#3	43.899	.79339	.00139	14.583	.00256	.40104	.00186

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605020203 Acquired: 5/5/2016 20:09:04 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00376	.00235	9.4379	.00030	.16000	.00609	.00092
Stddev	.00240	.00342	.0134	.00024	.00070	.00676	.00369
%RSD	63.804	145.48	.14188	79.169	.43797	110.97	401.31

#1	.00445	.00581	9.4492	.00048	.15964	.01042	-.00029
#2	.00109	-.00102	9.4415	.00003	.15955	-.00170	-.00201
#3	.00574	.00226	9.4231	.00038	.16081	.00954	.00507

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00091	.00239	F -.19731
Stddev	.00012	.00004	.03201
%RSD	13.609	1.4708	16.223

#1	-.00088	.00242	-.18910
#2	-.00080	.00235	-.17021
#3	-.00105	.00239	-.23263

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8196.1	58773.	2685.5
Stddev	16.6	146.	29.1
%RSD	.20312	.24769	1.0837

#1	8188.1	58821.	2704.0
#2	8215.3	58610.	2652.0
#3	8185.1	58889.	2700.6

Approved: May 06, 2016

K: K Buck

Sample Name: L1605020204 Acquired: 5/5/2016 20:12:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00095	.00012	.19314	.09188	.51047	-0.00006	42.456
Stddev	.00062	.00171	.00039	.00172	.00256	.00005	.383
%RSD	64.593	1479.4	.20380	1.8730	.50142	73.641	.90251

#1	-0.00119	.00076	.19275	.09349	.50848	-0.00007	42.316
#2	-0.00142	.00140	.19354	.09006	.51336	-0.00011	42.890
#3	-0.00025	-0.00182	.19313	.09210	.50957	-0.00001	42.163

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00157	.00084	-0.00117	.00141	25.710	1.1344	.00185
Stddev	.00034	.00027	.00156	.00076	.169	.0394	.00072
%RSD	21.929	31.747	132.69	54.022	.65660	3.4733	39.126

#1	.00164	.00115	-0.00050	.00229	25.599	1.1312	.00267
#2	.00119	.00065	-0.00295	.00101	25.904	1.0967	.00159
#3	.00187	.00073	-0.00006	.00093	25.627	1.1753	.00129

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	59.627	.26611	.00107	29.772	.00075	.83893	.00053
Stddev	.619	.00572	.00038	.178	.00054	.00582	.00134
%RSD	1.0374	2.1513	35.475	.59790	72.272	.69365	254.05

#1	59.168	.25966	.00150	29.734	.00065	.83278	.00198
#2	60.330	.27060	.00077	29.966	.00027	.84434	.00025
#3	59.383	.26806	.00095	29.616	.00134	.83967	-0.00065

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605020204 Acquired: 5/5/2016 20:12:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00182	.00334	8.9663	-.00020	.32915	.00430	-.00033
Stddev	.00158	.00160	.0114	.00084	.00163	.00516	.00021
%RSD	87.083	47.901	.12748	423.24	.49444	119.80	61.855

#1	.00246	.00306	8.9724	-.00068	.32848	.00216	-.00023
#2	.00298	.00189	8.9734	.00077	.33100	.01018	-.00021
#3	.00002	.00505	8.9531	-.00069	.32796	.00056	-.00057

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00173	.00158	F -.28908
Stddev	.00055	.00022	.07226
%RSD	31.922	13.931	24.995

#1	-.00236	.00179	-.37248
#2	-.00132	.00158	-.24525
#3	-.00151	.00135	-.24952

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8210.5	58818.	2748.1
Stddev	21.7	103.	25.9
%RSD	.26479	.17451	.94421

#1	8198.4	58792.	2734.9
#2	8235.6	58731.	2731.5
#3	8197.5	58931.	2778.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1605020205 Acquired: 5/5/2016 20:16:52 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00054	-.00289	.07818	.04885	.32391	.00001	70.618
Stddev	.00056	.00631	.00052	.00038	.00078	.00001	.102
%RSD	103.27	218.07	.66550	.77536	.23958	105.60	.14407

#1	.00115	.00381	.07822	.04911	.32446	.00002	70.679
#2	.00007	-.00872	.07765	.04842	.32302	.00002	70.500
#3	.00040	-.00377	.07869	.04903	.32425	-.00000	70.674

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00078	.00008	-.00076	.00101	21.082	1.0601	.00697
Stddev	.00017	.00047	.00064	.00090	.053	.0546	.00323
%RSD	22.004	620.20	84.569	88.784	.24907	5.1535	46.264

#1	.00081	.00059	-.00006	.00094	21.142	.99758	.00786
#2	.00093	-.00032	-.00089	.00015	21.056	1.0988	.00339
#3	.00060	-.00005	-.00132	.00195	21.047	1.0839	.00966

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.003	2.0036	.00466	32.698	.00083	.37354	.00181
Stddev	.068	.0099	.00009	.093	.00108	.00474	.00234
%RSD	.20563	.49413	1.8523	.28325	129.87	1.2692	129.28

#1	33.036	1.9969	.00461	32.737	.00194	.37717	.00432
#2	33.048	1.9989	.00461	32.592	.00078	.37528	-.00032
#3	32.925	2.0150	.00476	32.765	-.00022	.36818	.00143

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605020205 Acquired: 5/5/2016 20:16:52 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0026	.00874	7.1446	.00011	.47187	-0.00442	.00156
Stddev	.00336	.00677	.0119	.00036	.00126	.00235	.00352
%RSD	1315.0	77.433	.16623	318.41	.26615	53.263	225.67

#1	.00105	.00185	7.1576	.00012	.47045	-.00228	.00236
#2	.00226	.00900	7.1418	-.00025	.47233	-.00403	-.00229
#3	-.00407	.01538	7.1344	.00046	.47284	-.00694	.00461

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00131	.00118	F -.24060
Stddev	.00041	.00032	.05394
%RSD	31.387	27.093	22.417

#1	-.00089	.00153	-.22632
#2	-.00134	.00112	-.30024
#3	-.00171	.00089	-.19525

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8335.7	59804.	2794.2
Stddev	30.4	236.	37.4
%RSD	.36417	.39431	1.3398

#1	8347.1	59532.	2751.5
#2	8301.2	59932.	2821.7
#3	8358.6	59948.	2809.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1605020206 Acquired: 5/5/2016 20:20:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0072	-0.01417	.00086	.00035	.00266	.00006	.03367
Stddev	.00207	.00616	.00041	.00222	.00031	.00004	.03105
%RSD	288.27	43.503	47.556	629.81	11.841	64.030	92.223

#1	.00131	-.01649	.00133	-.00203	.00288	.00005	.01644
#2	-.00283	-.01883	.00069	.00236	.00280	.00010	.06951
#3	-.00064	-.00718	.00057	.00073	.00230	.00002	.01505

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00009	.00012	-.00010	.00159	-.00567	.10243	-.00232
Stddev	.00030	.00030	.00101	.00072	.02317	.06276	.00288
%RSD	349.31	236.72	980.52	45.454	408.89	61.273	124.34

#1	-.00005	.00004	.00105	.00132	-.02322	.11317	-.00084
#2	-.00012	.00045	-.00056	.00104	-.01437	.03499	-.00564
#3	.00043	-.00012	-.00080	.00241	.02059	.15913	-.00047

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06952	-.00073	.00032	.06623	.00025	-.00666	-.00080
Stddev	.05661	.00120	.00007	.00957	.00066	.00513	.00252
%RSD	81.438	164.58	20.667	14.449	260.20	77.025	314.63

#1	.02897	-.00181	.00028	.06527	-.00023	-.00260	.00098
#2	.04539	.00056	.00039	.05717	.00101	-.01242	-.00368
#3	.13420	-.00094	.00027	.07624	-.00001	-.00495	.00030

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605020206 Acquired: 5/5/2016 20:20:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00070	.00355	.00673	-.00023	.00164	-.00217	-.00322
Stddev	.00235	.00454	.00038	.00081	.00030	.00527	.00149
%RSD	337.24	127.73	5.6687	355.03	18.335	242.97	46.142

#1	.00302	.00850	.00641	.00063	.00153	.00071	-.00202
#2	.00076	.00257	.00715	-.00033	.00141	-.00826	-.00488
#3	-.00168	-.00042	.00663	-.00098	.00198	.00104	-.00276

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00008	.00085	F -.06642
Stddev	.00055	.00023	.03540
%RSD	667.01	27.075	53.292

#1	.00045	.00084	-.10480
#2	-.00065	.00108	-.03504
#3	-.00005	.00062	-.05944

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8092.7	58512.	2613.8
Stddev	33.9	798.	23.0
%RSD	.41938	1.3644	.87925

#1	8099.7	57703.	2611.4
#2	8055.9	58534.	2592.1
#3	8122.7	59299.	2637.9

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 20:24:40 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40900	10.148	.40793	.50531	1.0074	.05094	10.109
Stddev	.00048	.027	.00318	.00459	.0041	.00007	.046
%RSD	.11657	.26499	.77982	.90857	.40303	.12811	.45864

#1	.40848	10.167	.40466	.51054	1.0028	.05089	10.056
#2	.40942	10.160	.40812	.50192	1.0106	.05092	10.138
#3	.40909	10.117	.41102	.50348	1.0087	.05101	10.133

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05179	.20699	.50506	.51708	4.0542	50.942	1.0362
Stddev	.00024	.00015	.00089	.00131	.0500	.247	.0045
%RSD	.46753	.07182	.17695	.25318	1.2321	.48454	.43580

#1	.05155	.20713	.50554	.51649	4.0012	50.677	1.0395
#2	.05203	.20683	.50562	.51618	4.1004	50.985	1.0380
#3	.05180	.20702	.50403	.51859	4.0610	51.165	1.0310

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.266	.50884	1.0348	51.353	.51657	10.245	.51379
Stddev	.166	.00119	.0027	.243	.00271	.017	.00525
%RSD	1.6206	.23324	.26007	.47369	.52393	.16776	1.0222

#1	10.093	.50767	1.0376	51.072	.51419	10.226	.50828
#2	10.280	.50882	1.0344	51.504	.51601	10.260	.51875
#3	10.425	.51004	1.0323	51.482	.51951	10.248	.51433

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 20:24:40 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2329	.41487	5.1275	1.0249	1.0058	1.0111	.51760
Stddev	.0051	.00812	.0037	.0045	.0053	.0093	.00466
%RSD	.41144	1.9583	.07321	.43589	.53082	.91972	.90058

#1	1.2378	.41076	5.1249	1.0198	1.0002	1.0054	.51419
#2	1.2277	.40963	5.1259	1.0274	1.0065	1.0061	.52291
#3	1.2331	.42423	5.1318	1.0275	1.0108	1.0219	.51570

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	1.0171	1.0289	F .18548
Stddev	.0023	.0030	.01129
%RSD	.22330	.29347	6.0887

#1	1.0181	1.0256	.19842
#2	1.0188	1.0316	.18038
#3	1.0146	1.0296	.17763

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7847.9	56047.	2600.6
Stddev	47.1	239.	23.2
%RSD	.59990	.42655	.89141

#1	7899.2	55917.	2625.0
#2	7838.0	56323.	2578.9
#3	7806.6	55902.	2597.9

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 20:28:16 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00049	-0.00448	-0.00019	.00134	.00069	.00003	.02523	.00007
Stddev	.00081	.00604	.00086	.00155	.00063	.00002	.02877	.00003
%RSD	163.30	134.64	460.54	116.13	91.787	66.150	114.01	48.555

#1	.00023	-.00317	-.00084	.00278	.00140	.00005	.01508	.00010
#2	-.00136	.00079	-.00050	.00154	.00019	.00004	.00292	.00004
#3	-.00034	-.01107	.00078	-.00031	.00048	.00001	.05770	.00006

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	-.00021	-.00023	.01432	.03557	-.00390	.08450	-.00141
Stddev	.00008	.00045	.00011	.01291	.04073	.00108	.06431	.00095
%RSD	29.289	219.25	46.208	90.135	114.50	27.719	76.098	67.342

#1	.00025	-.00019	-.00035	.02917	.07906	-.00283	.13477	-.00048
#2	.00020	-.00067	-.00019	.00572	.02937	-.00499	.01204	-.00138
#3	.00035	.00023	-.00015	.00808	-.00170	-.00387	.10670	-.00237

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00175	.03363	.00018	-.00751	-.00340	-.00159	.00097	.00094
Stddev	.00031	.01042	.00042	.00694	.00293	.00254	.00242	.00212
%RSD	17.504	30.974	238.62	92.344	85.995	159.73	248.98	225.61

#1	.00207	.03727	-.00030	-.00234	-.00678	-.00235	.00350	.00027
#2	.00172	.04174	.00032	-.01540	-.00185	-.00367	-.00133	.00332
#3	.00146	.02188	.00051	-.00481	-.00158	.00124	.00075	-.00076

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 20:28:16 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	-.00003	-.00169	-.00121	.00015	-.00012	-.03154
Stddev	.00063	.00030	.00152	.00254	.00043	.00009	.02676
%RSD	312.46	1104.1	90.048	208.75	285.64	78.039	84.861

#1	.00056	-.00025	-.00306	.00156	-.00001	-.00017	-.01090
#2	-.00053	.00031	-.00005	-.00341	.00063	-.00017	-.02194
#3	.00057	-.00015	-.00196	-.00180	-.00018	-.00001	-.06178

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8004.1	57090.	2561.9
Stddev	12.4	432.	25.9
%RSD	.15436	.75663	1.0115

#1	7991.9	56757.	2537.7
#2	8003.6	57578.	2558.8
#3	8016.6	56935.	2589.3

Approved: May 06, 2016

K: K Buck

Sample Name: LLCCV Acquired: 5/5/2016 20:32:12 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00863	.16193	.00890	.08082	.00834	.00158	.81806	.00081
Stddev	.00231	.00407	.00286	.00232	.00081	.00006	.03484	.00013
%RSD	26.789	2.5164	32.108	2.8747	9.7184	3.9710	4.2584	16.493

#1	.01060	.16202	.01189	.08280	.00791	.00155	.77793	.00066
#2	.00608	.16595	.00862	.08142	.00783	.00165	.83582	.00089
#3	.00920	.15781	.00620	.07826	.00927	.00153	.84044	.00089

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00440	.00407	.00328	.08446	.90727	.07814	.56190	.00775
Stddev	.00008	.00078	.00088	.00217	.05302	.00141	.09564	.00053
%RSD	1.7891	19.229	26.674	2.5689	5.8439	1.8073	17.021	6.8823

#1	.00434	.00317	.00398	.08465	.86362	.07901	.45225	.00733
#2	.00449	.00462	.00230	.08654	.96628	.07651	.62812	.00835
#3	.00437	.00442	.00356	.08221	.89192	.07889	.60533	.00758

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00869	.46776	.01663	.77612	.01027	.08315	.01789	.80509
Stddev	.00041	.01587	.00078	.00903	.00069	.00128	.00258	.00238
%RSD	4.6728	3.3924	4.6977	1.1640	6.6697	1.5430	14.450	.29544

#1	.00862	.45914	.01573	.77368	.00951	.08314	.02037	.80493
#2	.00832	.48607	.01700	.76855	.01046	.08188	.01809	.80280
#3	.00912	.45806	.01716	.78612	.01085	.08445	.01521	.80755

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: LLCCV Acquired: 5/5/2016 20:32:12 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41091	.04125	.02300	.15631	.00760	.01871	9.9608
Stddev	.00215	.00081	.00743	.00146	.00024	.00025	.1285
%RSD	.52292	1.9666	32.300	.93695	3.1336	1.3116	1.2904
#1	.41316	.04051	.03052	.15664	.00788	.01892	10.064
#2	.41068	.04212	.02283	.15470	.00745	.01878	10.002
#3	.40889	.04111	.01566	.15758	.00749	.01844	9.8168

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8016.5	57253.	2574.2
Stddev	24.8	453.	27.7
%RSD	.30904	.79159	1.0763
#1	7989.8	57662.	2585.7
#2	8021.0	56766.	2542.6
#3	8038.8	57331.	2594.4

Approved: May 06, 2016

K: K Buck

Sample Name: PBW 7P Acquired: 5/5/2016 20:36:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567600-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00037	-0.00974	.00008	.00059	.00080	.00003	-0.01199	.00015
Stddev	.00112	.00790	.00430	.00068	.00060	.00002	.01573	.00013
%RSD	301.51	81.034	5321.1	115.47	75.263	65.491	791.92	86.962

#1	-0.00110	-0.00502	-0.00435	.00026	.00088	.00005	-0.01068	.00029
#2	.00092	-0.00535	.00423	.00138	.00016	.00004	.01617	.00003
#3	-0.00093	-0.01886	.00036	.00014	.00135	.00001	-0.01145	.00014

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	-0.00031	.00012	.00210	.05779	-0.00687	.09698	-0.00273
Stddev	.00019	.00109	.00089	.00658	.06254	.00175	.01218	.00472
%RSD	134.11	348.80	729.11	313.30	108.22	25.460	12.558	173.18

#1	.00006	.00094	.00017	.00910	-0.00361	-0.00857	.09461	-0.00764
#2	.00036	-0.00102	.00099	-0.00395	.05556	-0.00698	.11017	.00178
#3	.00000	-0.00085	-0.00079	.00115	.12142	-0.00507	.08616	-0.00233

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00025	.03886	-0.00035	-0.00774	.00003	.00041	.00539	.00591
Stddev	.00033	.01688	.00096	.00618	.00292	.00211	.00530	.00021
%RSD	133.36	43.442	276.96	79.909	11086.	517.60	98.318	3.5713

#1	-0.00011	.05793	-0.00123	-0.00764	.00334	-0.00111	-0.00023	.00581
#2	.00031	.03286	.00067	-0.01397	-0.00219	.00282	.00611	.00616
#3	.00055	.02581	-0.00047	-0.00160	-0.00106	-0.00049	.01029	.00577

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: PBW 7P Acquired: 5/5/2016 20:36:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567600-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0046	.00029	.00150	-0.00144	-0.00035	.00060	.10756
Stddev	.00085	.00015	.00467	.00456	.00058	.00011	.10216
%RSD	182.73	51.960	310.76	315.95	166.24	17.716	94.976

#1	-0.00117	.00021	-0.00353	-0.00564	-0.00079	.00070	.19544
#2	-0.00069	.00020	.00235	-0.00210	.00031	.00059	.13177
#3	.00047	.00046	.00569	.00341	-0.00058	.00049	-0.00453

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8037.0	57943.	2586.9
Stddev	43.8	225.	5.8
%RSD	.54454	.38810	.22237

#1	8087.1	58183.	2584.0
#2	8017.8	57738.	2583.1
#3	8006.1	57906.	2593.5

Approved: May 06, 2016

K: K Buck

Sample Name: LCSW 7P Acquired: 5/5/2016 20:40:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567600-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19228	4.7441	.18651	.93345	.48680	.02327	4.9470	.02421
Stddev	.00309	.0060	.00348	.00091	.00467	.00004	.0583	.00032
%RSD	1.6071	.12695	1.8638	.09802	.95853	.17541	1.1786	1.3231

#1	.19569	4.7470	.19051	.93418	.49216	.02331	5.0125	.02390
#2	.19146	4.7481	.18419	.93376	.48362	.02326	4.9006	.02418
#3	.18968	4.7372	.18484	.93242	.48463	.02322	4.9281	.02454

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09804	.24132	.24732	1.9780	24.889	.50720	4.9059	.24220
Stddev	.00013	.00086	.00076	.0351	.085	.00410	.1545	.00078
%RSD	.12780	.35801	.30672	1.7739	.34215	.80765	3.1489	.32321

#1	.09818	.24085	.24676	1.9690	24.913	.51190	5.0667	.24265
#2	.09800	.24232	.24700	2.0167	24.794	.50529	4.8922	.24265
#3	.09794	.24080	.24818	1.9483	24.959	.50440	4.7587	.24130

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50073	24.739	.24754	4.6698	.24677	.58157	.18935	2.4738
Stddev	.00066	.140	.00015	.0085	.00307	.00307	.00571	.0014
%RSD	.13194	.56625	.06002	.18162	1.2423	.52777	3.0173	.05595

#1	.50150	24.892	.24769	4.6643	.24329	.57831	.18633	2.4753
#2	.50033	24.618	.24753	4.6656	.24910	.58440	.18578	2.4725
#3	.50038	24.706	.24740	4.6796	.24791	.58200	.19594	2.4737

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: LCSW 7P Acquired: 5/5/2016 20:40:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567600-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48913	.48956	.48808	.24273	.48664	.48275	.34571
Stddev	.00073	.00189	.00348	.00352	.00111	.00082	.05446
%RSD	.14953	.38666	.71344	1.4482	.22728	.16998	15.753

#1	.48859	.49153	.48975	.24106	.48703	.48241	.28841
#2	.48885	.48938	.48408	.24677	.48750	.48215	.35195
#3	.48996	.48776	.49041	.24036	.48539	.48369	.39679

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8054.4	57406.	2630.1
Stddev	32.7	327.	21.9
%RSD	.40608	.56981	.83116

#1	8032.1	57059.	2607.2
#2	8039.1	57709.	2650.7
#3	8091.9	57449.	2632.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005801 Acquired: 5/5/2016 20:43:47 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0156	.01403	-0.0113	.04597	.15896	.00006	101.01
Stddev	.00284	.00075	.00166	.00123	.00105	.00006	.27
%RSD	182.22	5.3550	146.25	2.6846	.65787	108.48	.27149

#1	-0.0239	.01330	.00077	.04487	.15851	.00008	100.77
#2	.00161	.01480	-0.0192	.04574	.15820	.00010	100.95
#3	-0.00390	.01399	-0.0225	.04731	.16015	-0.00001	101.31

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00010	.00014	.00128	.01302	.05398	.86662	.00964
Stddev	.00031	.00014	.00069	.00089	.00720	.05066	.00200
%RSD	326.72	104.21	53.994	6.8259	13.330	5.8455	20.695

#1	-0.00020	.00026	.00067	.01238	.05289	.82597	.00904
#2	.00007	.00017	.00203	.01264	.04740	.85051	.01187
#3	.00042	-0.00002	.00113	.01403	.06166	.92337	.00802

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.346	-0.00145	.00090	61.079	.00034	.00123	-0.00129
Stddev	.141	.00152	.00011	.127	.00036	.00747	.00210
%RSD	1.1433	104.70	12.731	.20808	106.48	606.88	162.55

#1	12.509	-0.00318	.00081	61.037	.00072	.00798	-0.00210
#2	12.264	-0.00033	.00103	60.978	-0.00001	.00252	-0.00285
#3	12.265	-0.00084	.00087	61.222	.00031	-0.00680	.00109

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605005801 Acquired: 5/5/2016 20:43:47 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0114	-0.0106	4.4339	-0.0015	.29646	-0.01453	-0.00317
Stddev	.00281	.00583	.0022	.00032	.00092	.00346	.00238
%RSD	245.31	548.42	.05071	216.55	.31035	23.841	75.293

#1	-0.00210	-0.00593	4.4315	-0.00026	.29568	-0.01834	-0.00532
#2	.00201	.00540	4.4358	.00021	.29622	-0.01367	-0.00061
#3	-0.00335	-0.00267	4.4345	-0.00041	.29747	-0.01158	-0.00356

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00073	.05213	F -.09546
Stddev	.00047	.00023	.06327
%RSD	63.864	.43393	66.280

#1	-0.00020	.05223	-.16594
#2	-0.00095	.05229	-.07690
#3	-0.00105	.05187	-.04355

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7989.4	56759.	2616.6
Stddev	30.1	330.	7.2
%RSD	.37730	.58096	.27514

#1	7961.0	56499.	2621.6
#2	7986.1	57130.	2619.9
#3	8021.0	56648.	2608.4

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012002 Acquired: 5/5/2016 20:47:40 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	.16075	.00282	.07662	.00858	.00003	26.542
Stddev	.00053	.00644	.00222	.00131	.00078	.00002	.113
%RSD	4901.1	4.0060	78.692	1.7118	9.0636	87.162	.42646

#1	.00056	.15733	.00155	.07812	.00794	.00005	26.415
#2	-.00001	.16818	.00152	.07567	.00944	.00002	26.633
#3	-.00051	.15674	.00538	.07609	.00835	.00001	26.579

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.02454	-.00007	.00198	-.00013	3.2159	4.0497
Stddev	.00012	.00049	.00138	.00036	.01062	.0681	.0090
%RSD	112.90	2.0029	1969.3	18.231	8486.0	2.1181	.22295

#1	.00023	.02480	-.00165	.00161	-.00760	3.1897	4.0423
#2	.00012	.02397	.00057	.00199	-.00481	3.2932	4.0597
#3	-.00002	.02485	.00088	.00234	.01203	3.1648	4.0471

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.9961	.00061	.20292	F 576.40	.02658	3.2981	.00025
Stddev	.0376	.00164	.00075	21.37	.00010	.0046	.00208
%RSD	.53763	269.72	.37126	3.7077	.36647	.14031	844.20

#1	6.9854	.00047	.20332	552.14	.02664	3.2967	.00262
#2	6.9651	.00231	.20338	592.45	.02646	3.3033	-.00062
#3	7.0379	-.00096	.20205	584.62	.02663	3.2943	-.00126

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012002 Acquired: 5/5/2016 20:47:40 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00048	.00334	1.8194	.00044	.13004	.00074	-.00332
Stddev	.00079	.00127	.0061	.00027	.00050	.00130	.00066
%RSD	162.08	37.987	.33343	61.214	.38318	174.59	19.925

#1	.00107	.00479	1.8220	.00013	.12962	-.00074	-.00276
#2	-.00041	.00244	1.8238	.00062	.13059	.00170	-.00315
#3	.00079	.00279	1.8125	.00057	.12989	.00127	-.00405

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00153	.00123	-.03634
Stddev	.00070	.00007	.04666
%RSD	45.614	5.5383	128.38

#1	-.00171	.00130	-.03880
#2	-.00076	.00116	.01149
#3	-.00212	.00122	-.08173

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7735.5	54195.	2628.3
Stddev	30.1	306.	1.4
%RSD	.38930	.56510	.05177

#1	7770.3	54404.	2626.7
#2	7718.8	53843.	2629.1
#3	7717.5	54338.	2629.0

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012002PS Acquired: 5/5/2016 20:51:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567689-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19858	5.0474	.19839	1.0405	.49712	.02443	28.456
Stddev	.00027	.0211	.00212	.0013	.00073	.00002	.068
%RSD	.13819	.41732	1.0701	.12065	.14596	.06391	.23747

#1	.19887	5.0548	.19642	1.0404	.49788	.02444	28.457
#2	.19852	5.0638	.20064	1.0393	.49644	.02442	28.387
#3	.19833	5.0237	.19811	1.0418	.49705	.02442	28.522

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02496	.11845	.24378	.24430	1.9691	27.907	4.2039
Stddev	.00011	.00078	.00067	.00125	.0386	.255	.0079
%RSD	.45064	.65628	.27499	.51071	1.9609	.91535	.18689

#1	.02505	.11761	.24424	.24344	1.9517	28.068	4.1970
#2	.02483	.11915	.24301	.24573	1.9423	27.613	4.2124
#3	.02498	.11857	.24410	.24373	2.0134	28.041	4.2021

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.135	.24270	.68913	F 543.43	.26748	7.9404	.23847
Stddev	.061	.00258	.00047	10.22	.00144	.0187	.00054
%RSD	.54969	1.0651	.06861	1.8800	.53712	.23585	.22622

#1	11.171	.24438	.68876	533.38	.26620	7.9199	.23900
#2	11.170	.23972	.68966	543.12	.26904	7.9447	.23792
#3	11.065	.24400	.68898	553.80	.26720	7.9567	.23849

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012002PS Acquired: 5/5/2016 20:51:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567689-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.59296	.18642	4.1845	.49131	.60854	.48959	.22914
Stddev	.00150	.00981	.0040	.00185	.00129	.01047	.00286
%RSD	.25374	5.2620	.09637	.37630	.21166	2.1376	1.2476

#1	.59304	.19250	4.1798	.48921	.60710	.48157	.23202
#2	.59141	.19165	4.1869	.49266	.60958	.50142	.22630
#3	.59442	.17510	4.1867	.49207	.60893	.48576	.22910

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.49909	.50007	.09687
Stddev	.00196	.00063	.13470
%RSD	.39343	.12655	139.05

#1	.49682	.49964	-.04864
#2	.50029	.49977	.12203
#3	.50015	.50080	.21722

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7722.3	54423.	2602.7
Stddev	57.1	58.	26.4
%RSD	.73895	.10700	1.0142

#1	7785.0	54405.	2631.5
#2	7708.7	54489.	2596.9
#3	7673.4	54377.	2579.7

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012002SDL Acquired: 5/5/2016 20:55:31 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG567689-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00154	.01301	.00224	.01656	.00217	-.00001	4.9734	.00010
Stddev	.00109	.00502	.00065	.00254	.00078	.00003	.0174	.00018
%RSD	70.648	38.590	29.160	15.356	35.927	387.97	.35004	183.74

#1	-.00147	.01862	.00267	.01703	.00295	-.00004	4.9865	.00009
#2	-.00049	.01150	.00257	.01884	.00216	.00002	4.9800	-.00008
#3	-.00266	.00892	.00149	.01382	.00139	.00000	4.9536	.00029

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00458	-.00006	.00037	.00768	.60258	.77928	1.5175	-.00244
Stddev	.00041	.00064	.00056	.00336	.04125	.00198	.0616	.00128
%RSD	8.9313	1147.3	150.01	43.744	6.8447	.25389	4.0575	52.366

#1	.00413	-.00074	.00011	.01069	.57971	.78150	1.5772	-.00219
#2	.00493	.00005	.00101	.00406	.57784	.77866	1.4542	-.00131
#3	.00468	.00053	-.00001	.00828	.65020	.77769	1.5211	-.00383

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03722	111.06	.00502	.61699	.00040	.00020	-.00087	.33520
Stddev	.00029	.57	.00103	.00363	.00162	.00355	.00498	.00377
%RSD	.78024	.51205	20.535	.58795	407.54	1746.8	570.00	1.1261

#1	.03722	111.69	.00554	.61290	-.00079	-.00360	.00040	.33717
#2	.03751	110.90	.00383	.61824	.00224	.00343	.00335	.33757
#3	.03693	110.59	.00569	.61983	-.00026	.00079	-.00637	.33084

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012002SDL Acquired: 5/5/2016 20:55:31 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG567689-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00006	.02433	.00219	.00083	-.00072	.00028	-.00888
Stddev	.00104	.00006	.00632	.00293	.00072	.00024	.02556
%RSD	1699.1	.26648	288.28	354.15	100.45	85.048	287.74

#1	.00100	.02430	-.00155	.00402	.00011	.00002	.00860
#2	.00023	.02440	-.00136	.00022	-.00113	.00034	.00297
#3	-.00105	.02428	.00948	-.00175	-.00114	.00048	-.03822

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8437.6	59674.	2724.9
Stddev	14.6	310.	5.2
%RSD	.17299	.51979	.19217

#1	8435.6	60008.	2730.7
#2	8453.0	59618.	2720.5
#3	8424.0	59395.	2723.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012401 Acquired: 5/5/2016 20:59:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0289	.05121	-0.0361	3.0086	F 403.82	-0.0002	F 1567.1
Stddev	.00341	.00256	.00029	.0066	4.89	.00008	6.2
%RSD	117.89	5.0083	7.9315	.21953	1.2108	444.38	.39510

#1	-0.0237	.05047	-0.0355	3.0162	402.95	.00007	1561.8
#2	.00023	.04910	-0.0392	3.0053	409.09	-0.00009	1573.9
#3	-0.0653	.05407	-0.0336	3.0043	399.42	-0.00004	1565.7

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit					45.000		270.00
Low Limit					-0.0500		-1.0000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01578	.05588	.00557	.00432	13.395	121.26	17.114
Stddev	.00060	.00057	.00097	.00165	.031	.49	.081
%RSD	3.8225	1.0145	17.501	38.259	.23406	.40711	.47438

#1	.01527	.05613	.00451	.00289	13.388	120.89	17.124
#2	.01645	.05629	.00577	.00612	13.429	121.82	17.190
#3	.01563	.05524	.00642	.00394	13.367	121.06	17.029

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	159.44	2.1678	.00170	F 3843.9	-0.00932	-0.05452	.00500
Stddev	.45	.0029	.00021	53.6	.00120	.01383	.00253
%RSD	.28031	.13203	12.175	1.3942	12.817	25.374	50.476

#1	159.01	2.1648	.00169	3899.8	-0.00902	-0.03936	.00214
#2	159.91	2.1706	.00149	3839.2	-0.01064	-0.06645	.00597
#3	159.41	2.1680	.00191	3792.9	-0.00831	-0.05776	.00690

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-5.0000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012401 Acquired: 5/5/2016 20:59:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-00335	-00546	.71213	-00121	F 295.12	F -.18133	.00256
Stddev	.00538	.01914	.01482	.00083	5.53	.00104	.00246
%RSD	160.46	350.49	2.0815	68.728	1.8749	.57153	96.329

#1	.00146	.00957	.72470	-.00077	288.80	-.18051	-.00023
#2	-.00916	-.02701	.71590	-.00068	299.08	-.18250	.00442
#3	-.00236	.00106	.69579	-.00216	297.48	-.18100	.00348

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					9.0000	36.000	
Low Limit					-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-00094	.01996	F -.62998
Stddev	.00037	.00047	.11861
%RSD	39.571	2.3548	18.827

#1	-.00105	.02036	-.68127
#2	-.00053	.02008	-.71431
#3	-.00125	.01945	-.49436

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	5769.8	40822.	2299.8
Stddev	9.5	277.	25.4
%RSD	.16449	.67958	1.1063

#1	5760.1	40688.	2329.0
#2	5770.3	41141.	2283.0
#3	5779.0	40638.	2287.3

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012402 Acquired: 5/5/2016 21:03:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00397	.07184	-0.00161	3.2380	F 434.49	-0.00012	F 1648.5
Stddev	.00399	.00894	.00552	.0059	5.27	.00007	14.5
%RSD	100.47	12.448	342.02	.18323	1.2124	55.590	.87670

#1	-0.00836	.08189	-0.00132	3.2327	431.62	-0.00019	1643.8
#2	-0.00056	.06885	-0.00727	3.2370	431.28	-0.00007	1637.0
#3	-0.00299	.06477	.00375	3.2444	440.57	-0.00010	1664.7

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit					45.000		270.00
Low Limit					-0.00500		-10.000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01737	.06145	.00204	.00309	13.354	129.00	17.653
Stddev	.00031	.00102	.00097	.00069	.059	.33	.033
%RSD	1.7761	1.6680	47.447	22.217	.44128	.25819	.18708

#1	.01752	.06147	.00198	.00248	13.302	128.70	17.632
#2	.01702	.06246	.00111	.00297	13.343	128.95	17.635
#3	.01758	.06041	.00304	.00383	13.418	129.36	17.691

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	164.55	2.3051	-0.00041	F 3792.5	-0.00852	-0.06043	.00506
Stddev	.74	.0126	.00035	44.0	.00091	.00642	.00232
%RSD	.45275	.54558	86.158	1.1601	10.731	10.621	45.940

#1	164.44	2.3023	-0.00039	3835.2	-0.00855	-0.06758	.00770
#2	163.86	2.2941	-0.00007	3747.3	-0.00942	-0.05516	.00415
#3	165.34	2.3188	-0.00077	3794.9	-0.00759	-0.05856	.00333

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-50.000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012402 Acquired: 5/5/2016 21:03:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-00386	F -01298	.71480	-00257	F 307.14	F -.19431	-.00019
Stddev	.01096	.00747	.00344	.00089	4.71	.00689	.00348
%RSD	284.20	57.593	.48066	34.761	1.5331	3.5447	1870.2

#1	-.00613	-.02049	.71519	-.00314	302.18	-.20077	.00366
#2	-.01350	-.01291	.71802	-.00304	307.68	-.18706	-.00312
#3	.00807	-.00554	.71118	-.00154	311.55	-.19510	-.00110

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit		90.000			9.0000	36.000	
Low Limit		-.01000			-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00148	.03144	F -.73335
Stddev	.00176	.00059	.03259
%RSD	119.42	1.8700	4.4439

#1	.00018	.03097	-.77075
#2	-.00332	.03210	-.71830
#3	-.00128	.03126	-.71101

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	5721.8	40545.	2273.5
Stddev	9.8	207.	36.2
%RSD	.17152	.50946	1.5909

#1	5733.1	40487.	2275.3
#2	5715.9	40373.	2308.7
#3	5716.4	40774.	2236.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012403 Acquired: 5/5/2016 21:08:00 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -0.00467	.80689	-0.00700	1.1704	F 658.37	.00002	F 1653.7
Stddev	.00117	.00440	.00611	.0040	15.16	.00006	12.3
%RSD	25.058	.54533	87.331	.33753	2.3025	315.86	.74388

#1	-0.00334	.80576	-0.01125	1.1682	658.85	.00009	1663.1
#2	-0.00553	.81175	-0.00975	1.1680	673.28	-0.00002	1658.4
#3	-0.00514	.80317	.00001	1.1750	642.97	-0.00001	1639.8

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit	9.0000				45.000		270.00
Low Limit	-0.00400				-0.00500		-0.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02645	.09636	.00448	.00503	18.599	61.460	14.697
Stddev	.00115	.00102	.00135	.00231	.089	.355	.121
%RSD	4.3330	1.0544	30.111	45.868	.47775	.57816	.81990

#1	.02637	.09696	.00386	.00592	18.701	61.803	14.836
#2	.02763	.09693	.00603	.00241	18.555	61.483	14.622
#3	.02534	.09519	.00355	.00676	18.541	61.093	14.632

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	165.17	2.3422	.00161	F 3587.2	-0.01263	-0.06952	.00353
Stddev	.71	.0094	.00049	97.2	.00137	.01198	.00573
%RSD	.42936	.40016	30.171	2.7098	10.854	17.237	162.17

#1	165.99	2.3524	.00135	3668.0	-0.01413	-0.07236	.00748
#2	164.84	2.3402	.00218	3614.3	-0.01145	-0.07983	-0.00304
#3	164.69	2.3340	.00131	3479.3	-0.01230	-0.05637	.00616

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-0.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012403 Acquired: 5/5/2016 21:08:00 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0122	F -0.1351	.79035	.00018	F 335.90	F -.18608	-.00092
Stddev	.00475	.00682	.00865	.00128	2.49	.00905	.00115
%RSD	389.82	50.488	1.0947	719.18	.74071	4.8654	124.68

#1	-0.0385	-.02135	.79963	.00159	335.89	-.18394	-.00193
#2	-.00408	-.00899	.78892	-.00016	338.39	-.19600	.00033
#3	.00427	-.01018	.78250	-.00089	333.41	-.17828	-.00117

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit		90.000			9.0000	36.000	
Low Limit		-.01000			-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.0115	.02490	F -.80961
Stddev	.00066	.00006	.10936
%RSD	57.278	.25006	13.508

#1	-0.0129	.02495	-.85366
#2	-.00172	.02483	-.89007
#3	-.00043	.02493	-.68509

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	5743.6	40660.	2268.7
Stddev	28.1	222.	22.4
%RSD	.48870	.54631	.98702

#1	5763.2	40548.	2275.6
#2	5756.3	40916.	2243.6
#3	5711.5	40516.	2286.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012404 Acquired: 5/5/2016 21:12:14 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0317	.06689	-0.0538	2.3693	F 337.30	.00006	F 1234.1
Stddev	.00283	.00386	.00422	.0068	9.42	.00004	10.5
%RSD	89.098	5.7744	78.416	.28609	2.7924	71.250	.84916

#1	-0.0643	.06444	-0.01012	2.3771	346.76	.00002	1246.0
#2	-0.0143	.06489	-0.0205	2.3647	327.92	.00006	1230.2
#3	-0.0166	.07134	-0.0396	2.3662	337.21	.00010	1226.2

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit					45.000		270.00
Low Limit					-0.0500		-1.0000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01259	.04676	.00362	.00199	14.205	96.563	12.169
Stddev	.00102	.00070	.00039	.00218	.111	.275	.032
%RSD	8.0908	1.4974	10.646	109.21	.78414	.28495	.26593

#1	.01328	.04747	.00397	.00004	14.321	96.880	12.203
#2	.01142	.04674	.00321	.00434	14.099	96.417	12.163
#3	.01307	.04607	.00369	.00159	14.196	96.391	12.139

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	127.01	.49516	.00038	F 3243.1	-0.00570	-0.08476	.00233
Stddev	.49	.00334	.00033	108.3	.00098	.01028	.00883
%RSD	.38869	.67530	87.313	3.3395	17.176	12.129	378.41

#1	127.58	.49136	.00010	3364.8	-0.0661	-0.09658	.01115
#2	126.73	.49648	.00030	3207.3	-0.0466	-0.07785	.00234
#3	126.73	.49764	.00075	3157.3	-0.0584	-0.07985	-0.00650

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-5.0000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012404 Acquired: 5/5/2016 21:12:14 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00205	-.00479	.82644	-.00185	F 328.74	F -.15978	-.00132
Stddev	.00240	.00299	.01584	.00128	4.47	.00913	.00541
%RSD	116.98	62.305	1.9170	69.516	1.3586	5.7154	409.58

#1	.00216	-.00232	.84204	-.00279	333.86	-.14953	-.00237
#2	.00439	-.00395	.82691	-.00236	326.70	-.16703	.00454
#3	-.00040	-.00811	.81036	-.00038	325.67	-.16280	-.00613

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					9.0000	36.000	
Low Limit					-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00108	.00231	F -.74132
Stddev	.00065	.00006	.11252
%RSD	59.933	2.5666	15.179

#1	-.00053	.00235	-.80590
#2	-.00179	.00232	-.80666
#3	-.00092	.00224	-.61138

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	5761.0	40417.	2192.5
Stddev	50.2	74.	29.8
%RSD	.87124	.18370	1.3582

#1	5769.7	40345.	2158.2
#2	5707.1	40493.	2208.8
#3	5806.4	40414.	2210.6

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 21:16:30 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40994	10.129	.40997	.51806	1.0491	.05158	10.295
Stddev	.00019	.023	.00560	.00059	.0044	.00020	.125
%RSD	.04596	.22989	1.3656	.11443	.41936	.39128	1.2122

#1	.40980	10.104	.41621	.51856	1.0496	.05137	10.209
#2	.41015	10.132	.40540	.51822	1.0533	.05161	10.439
#3	.40986	10.151	.40830	.51741	1.0445	.05177	10.238

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05148	.20633	.50652	.51343	4.1053	51.454	1.0325
Stddev	.00012	.00025	.00463	.00081	.0198	.270	.0062
%RSD	.22842	.12341	.91457	.15847	.48136	.52506	.59786

#1	.05142	.20653	.50365	.51283	4.0876	51.158	1.0271
#2	.05162	.20642	.50405	.51310	4.1016	51.687	1.0311
#3	.05142	.20604	.51187	.51435	4.1266	51.518	1.0392

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.202	.50918	1.0270	49.845	.51217	10.180	.51090
Stddev	.156	.00281	.0029	.343	.00192	.018	.00458
%RSD	1.5309	.55112	.28425	.68717	.37425	.17377	.89674

#1	10.379	.50741	1.0303	49.504	.51330	10.199	.51618
#2	10.145	.51242	1.0257	50.189	.50996	10.163	.50800
#3	10.083	.50771	1.0250	49.844	.51326	10.179	.50851

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 21:16:30 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2252	.40495	5.1043	1.0234	1.0530	1.0122	.51398
Stddev	.0031	.00354	.0133	.0035	.0060	.0023	.00167
%RSD	.24995	.87333	.25967	.34339	.57263	.22699	.32396

#1	1.2228	.40711	5.1082	1.0257	1.0554	1.0096	.51583
#2	1.2287	.40087	5.0895	1.0194	1.0575	1.0140	.51353
#3	1.2242	.40687	5.1151	1.0252	1.0462	1.0129	.51259

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	1.0107	1.0262	F .09543
Stddev	.0011	.0015	.06066
%RSD	.10505	.14587	63.558

#1	1.0116	1.0278	.10175
#2	1.0096	1.0260	.15268
#3	1.0110	1.0248	.03186

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7630.1	54021.	2469.1
Stddev	8.2	175.	13.9
%RSD	.10770	.32370	.56229

#1	7633.1	54216.	2471.3
#2	7620.8	53880.	2454.3
#3	7636.3	53966.	2481.8

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 21:20:06 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0017	.00120	-0.00239	.01081	.00238	.00011	-0.00097
Stddev	.00137	.00335	.00266	.00064	.00027	.00007	.01900
%RSD	821.40	279.30	111.49	5.9181	11.278	58.330	1967.7

#1	.00089	.00227	-0.00546	.01038	.00261	.00014	-.01740
#2	-.00171	-.00256	-0.00071	.01051	.00208	.00004	-.00533
#3	.00033	.00389	-0.00100	.01155	.00245	.00017	.01984

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	.00014	.00114	-0.00003	-0.00238	.31422	.00062
Stddev	.00020	.00006	.00091	.00061	.01007	.06440	.00200
%RSD	149.17	44.812	80.012	2060.3	423.44	20.494	324.65

#1	-0.00003	.00018	.00180	-0.00064	.00269	.27312	.00213
#2	.00007	.00007	.00010	-0.00002	-.01397	.28111	.00137
#3	.00036	.00018	.00152	.00057	.00415	.38844	-.00165

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05965	-0.00107	.00220	.35063	-0.00110	-0.00610	-0.00074
Stddev	.03091	.00132	.00054	.01238	.00050	.00222	.00140
%RSD	51.824	122.75	24.711	3.5309	45.402	36.445	190.28

#1	.08113	-0.00030	.00225	.36489	-0.00139	-0.00354	-.00234
#2	.07359	-0.00260	.00272	.34428	-0.00052	-0.00759	-0.00009
#3	.02422	-0.00032	.00163	.34270	-0.00138	-0.00717	.00023

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 21:20:06 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0014	-0.00196	.00278	-0.00035	.00323	-0.00051	-0.00179
Stddev	.00286	.00764	.00210	.00100	.00043	.01019	.00289
%RSD	2063.4	390.59	75.570	283.05	13.225	1994.6	161.52

#1	.00302	-.00505	.00421	-.00046	.00356	-.00475	-.00479
#2	-.00255	-.00756	.00037	-.00130	.00275	-.00790	.00097
#3	-.00088	.00675	.00377	.00070	.00340	.01111	-.00155

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00063	.00010	F -.06192
Stddev	.00085	.00004	.01405
%RSD	133.95	40.131	22.689

#1	-.00087	.00012	-.07371
#2	.00031	.00012	-.04638
#3	-.00133	.00005	-.06567

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7487.5	53720.	2444.4
Stddev	25.9	273.	13.5
%RSD	.34550	.50741	.55219

#1	7479.4	53895.	2449.5
#2	7516.4	53860.	2454.6
#3	7466.6	53406.	2429.1

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012405 Acquired: 5/5/2016 21:24:03 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -0.0457	.06364	-0.0209	.95879	F 606.20	-0.0005	F 1471.5
Stddev	.00228	.01259	.00160	.00453	21.50	.00007	8.0
%RSD	49.869	19.776	76.391	.47249	3.5462	134.03	.54384

#1	-0.0344	.07199	-0.0098	.95462	628.08	-0.0005	1480.8
#2	-0.0719	.04916	-0.0392	.95815	605.40	-0.0013	1467.2
#3	-0.0308	.06977	-0.0137	.96361	585.11	.00001	1466.6

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit	9.0000				45.000		270.00
Low Limit	-0.0400				-0.0500		-1.0000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02232	.08684	.00330	-0.0152	16.460	39.421	12.541
Stddev	.00220	.00069	.00070	.00173	.056	.305	.049
%RSD	9.8355	.79225	21.127	113.77	.33739	.77400	.39181

#1	.02483	.08716	.00301	-0.0280	16.502	39.392	12.548
#2	.02136	.08731	.00280	.00045	16.397	39.131	12.488
#3	.02077	.08605	.00409	-0.0221	16.481	39.739	12.586

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	146.31	1.3674	.00027	F 3263.4	-0.0092	-0.06421	.00449
Stddev	.50	.0055	.00050	152.1	.00081	.01049	.00323
%RSD	.34293	.40209	186.82	4.6608	8.1207	16.344	72.004

#1	146.58	1.3664	-0.0031	3431.9	-0.01081	-0.06824	.00076
#2	145.73	1.3625	.00048	3222.1	-0.00973	-0.05230	.00641
#3	146.61	1.3734	.00063	3136.2	-0.00923	-0.07209	.00630

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-0.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012405 Acquired: 5/5/2016 21:24:03 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-00186	-00220	.63208	-00104	F 299.24	F -.17664	-.00030
Stddev	.00312	.00962	.00953	.00048	8.82	.00288	.00361
%RSD	168.11	437.97	1.5082	46.164	2.9474	1.6304	1211.8

#1	-00537	.00670	.63979	-00050	305.58	-17612	.00160
#2	.00058	-.01240	.63504	-.00143	302.97	-17975	-.00446
#3	-00078	-00089	.62142	-00119	289.17	-17407	.00197

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					9.0000	36.000	
Low Limit					-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-00001	.00236	F -.77223
Stddev	.00049	.00018	.10096
%RSD	6149.4	7.7140	13.074

#1	.00042	.00229	-.85723
#2	-.00054	.00223	-.66064
#3	.00010	.00257	-.79882

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	5913.1	41481.	2225.6
Stddev	34.1	567.	39.4
%RSD	.57687	1.3676	1.7723

#1	5952.4	40920.	2187.5
#2	5895.2	41469.	2223.1
#3	5891.7	42054.	2266.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012406 Acquired: 5/5/2016 21:28:19 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0169	.04311	.00480	3.3549	F 329.78	.00002	F 1319.8
Stddev	.00171	.00288	.00689	.0066	3.85	.00009	4.7
%RSD	101.34	6.6700	143.52	.19560	1.1671	469.38	.35527

#1	-0.0186	.04610	.00839	3.3491	325.53	.00013	1318.7
#2	-0.0332	.04285	-0.0314	3.3536	330.78	-0.0001	1315.8
#3	.00010	.04037	.00916	3.3621	333.02	-0.0005	1324.9

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit					45.000		270.00
Low Limit					-0.0500		-1.0000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01173	.04324	.00531	.00236	23.608	128.72	14.724
Stddev	.00044	.00089	.00029	.00089	.233	.27	.031
%RSD	3.7287	2.0688	5.4754	37.514	.98702	.21172	.21104

#1	.01125	.04325	.00526	.00181	23.875	129.03	14.759
#2	.01185	.04414	.00504	.00189	23.501	128.60	14.713
#3	.01210	.04235	.00562	.00338	23.447	128.53	14.699

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	133.10	.70571	.00217	F 3329.7	-0.0769	-0.07380	.00652
Stddev	.76	.00487	.00045	50.2	.00067	.00958	.00667
%RSD	.57308	.69069	20.611	1.5063	8.7052	12.977	102.33

#1	133.97	.70154	.00259	3373.9	-0.0714	-0.07881	.01387
#2	132.55	.70452	.00222	3275.2	-0.0750	-0.06276	.00085
#3	132.78	.71107	.00170	3340.1	-0.0844	-0.07983	.00484

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-5.0000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012406 Acquired: 5/5/2016 21:28:19 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0117	-0.0093	.68122	-0.0253	F 303.67	F -.16361	-0.0118
Stddev	.00398	.00318	.00993	.00113	2.59	.00552	.00175
%RSD	339.81	340.40	1.4576	44.570	.85429	3.3761	148.59

#1	-0.0514	-0.0439	.68442	-0.0358	303.19	-1.6933	.00050
#2	.00283	.00188	.68915	-0.0265	301.36	-1.6319	-0.0104
#3	-0.0120	-0.0030	.67008	-0.0134	306.48	-1.5831	-0.0300

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					9.0000	36.000	
Low Limit					-0.1000	-0.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.0299	.00257	F -.82330
Stddev	.00081	.00014	.05067
%RSD	26.980	5.5418	6.1540

#1	-0.0207	.00255	-0.77676
#2	-0.00359	.00244	-0.87727
#3	-0.00329	.00273	-0.81587

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-0.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	5917.7	41287.	2280.8
Stddev	7.3	127.	17.3
%RSD	.12252	.30830	.75814

#1	5925.0	41158.	2277.3
#2	5910.5	41413.	2299.6
#3	5917.5	41291.	2265.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012407 Acquired: 5/5/2016 21:32:35 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00296	.06284	-0.00155	4.9255	F 151.68	.00002	F 1295.3
Stddev	.00168	.00982	.00311	.0118	.63	.00005	10.3
%RSD	56.799	15.630	200.51	.23925	.41346	306.43	.79702

#1	-0.00489	.06804	-0.00047	4.9119	151.86	-0.00002	1296.6
#2	-0.00182	.06896	-0.00506	4.9331	150.99	.00007	1284.4
#3	-0.00217	.05151	.00088	4.9315	152.20	-0.00001	1304.9

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit					45.000		270.00
Low Limit					-0.00500		-10.000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00587	.02163	.00331	.00422	12.383	202.32	13.765
Stddev	.00030	.00087	.00012	.00168	.020	.65	.032
%RSD	5.0468	4.0078	3.5575	39.735	.16372	.32208	.22962

#1	.00586	.02207	.00341	.00468	12.387	203.04	13.801
#2	.00557	.02219	.00334	.00236	12.400	201.78	13.742
#3	.00617	.02063	.00318	.00562	12.361	202.13	13.753

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	122.85	.35752	.00001	F 3546.1	-0.00634	-0.05566	.00044
Stddev	.10	.00358	.00084	10.8	.00055	.00990	.00344
%RSD	.08379	1.0026	10915.	.30397	8.6585	17.791	779.93

#1	122.94	.35969	.00074	3552.5	-0.00665	-0.06703	-0.00301
#2	122.74	.35338	.00019	3533.7	-0.00570	-0.05106	.00387
#3	122.87	.35949	-0.00091	3552.2	-0.00666	-0.04891	.00047

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-50.000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012407 Acquired: 5/5/2016 21:32:35 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00108	-.00859	.65830	-.00266	F 293.28	F -.16051	-.00393
Stddev	.00200	.01092	.00652	.00134	1.40	.00530	.00323
%RSD	185.32	127.03	.99107	50.416	.47878	3.3010	82.272

#1	.00181	-.02114	.66008	-.00384	294.89	-.15761	-.00698
#2	.00260	-.00338	.66375	-.00120	292.30	-.16663	-.00055
#3	-.00118	-.00126	.65107	-.00295	292.65	-.15731	-.00425

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					9.0000	36.000	
Low Limit					-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00146	.00438	F -.68843
Stddev	.00068	.00004	.10138
%RSD	46.885	.86362	14.726

#1	-.00077	.00437	-.60856
#2	-.00146	.00443	-.65426
#3	-.00213	.00436	-.80248

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	5918.0	41054.	2260.1
Stddev	40.4	212.	36.3
%RSD	.68232	.51603	1.6051

#1	5927.3	40810.	2254.3
#2	5873.8	41190.	2299.0
#3	5953.0	41161.	2227.1

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012408 Acquired: 5/5/2016 21:36:54 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -0.00409	.04448	-0.00074	.56153	F 380.98	.00001	F 996.03
Stddev	.00028	.01082	.00404	.00075	12.65	.00007	13.29
%RSD	6.7844	24.316	549.58	.13422	3.3200	506.67	1.3345

#1	-0.00377	.04868	.00309	.56207	373.73	.00004	989.92
#2	-0.00424	.03219	-0.00033	.56067	395.59	-0.00007	1011.3
#3	-0.00426	.05256	-0.00497	.56184	373.64	.00007	986.90

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit	9.0000				45.000		270.00
Low Limit	-0.00400				-0.00500		-0.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01317	.05716	.00211	.00083	15.932	20.598	7.7816
Stddev	.00107	.00158	.00027	.00058	.107	.165	.0445
%RSD	8.1098	2.7597	12.703	69.671	.67139	.80213	.57142

#1	.01228	.05687	.00181	.00036	15.836	20.557	7.7517
#2	.01435	.05887	.00232	.00065	16.047	20.780	7.8327
#3	.01288	.05576	.00219	.00147	15.912	20.458	7.7604

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	92.195	.71955	-0.00010	F 2144.3	-0.00622	-0.04491	.00345
Stddev	.583	.00841	.00023	58.5	.00052	.00529	.00692
%RSD	.63251	1.1682	222.89	2.7304	8.3198	11.783	200.39

#1	91.765	.71212	.00014	2119.5	-0.00568	-0.03991	.01081
#2	92.858	.72868	-0.00014	2211.2	-0.00671	-0.05045	.00247
#3	91.960	.71785	-0.00032	2102.3	-0.00627	-0.04437	-0.00292

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-0.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012408 Acquired: 5/5/2016 21:36:54 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00025	-.00550	.32981	-.00252	F 199.32	F -.12218	-.00379
Stddev	.00296	.00418	.00796	.00078	6.24	.00342	.00359
%RSD	1170.5	75.979	2.4123	31.023	3.1287	2.7988	94.772

#1	-.00033	-.00498	.33240	-.00255	193.88	-.11958	-.00791
#2	.00346	-.00160	.33614	-.00329	206.13	-.12605	-.00135
#3	-.00237	-.00990	.32088	-.00173	197.97	-.12090	-.00211

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					9.0000	36.000	
Low Limit					-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00272	.00164	F -.56651
Stddev	.00040	.00037	.11071
%RSD	14.557	22.286	19.542

#1	-.00255	.00130	-.56073
#2	-.00244	.00203	-.45880
#3	-.00318	.00161	-.67999

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	6355.6	45387.	2429.9
Stddev	68.4	216.	64.2
%RSD	1.0755	.47591	2.6418

#1	6281.4	45616.	2450.0
#2	6369.5	45359.	2358.1
#3	6415.9	45187.	2481.7

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012409 Acquired: 5/5/2016 21:41:12 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -0.0450	.02861	-0.0192	4.0421	F 339.18	.00005	F 1480.5
Stddev	.00072	.00703	.00279	.0094	2.81	.00002	8.5
%RSD	15.995	24.567	145.78	.23130	.82935	39.969	.57351

#1	-0.0430	.02129	-0.0220	4.0333	341.66	.00003	1486.1
#2	-0.0530	.03531	-0.0456	4.0519	336.12	.00005	1470.7
#3	-0.0390	.02921	.00101	4.0409	339.77	.00007	1484.7

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit	9.0000				45.000		270.00
Low Limit	-0.0400				-0.0500		-1.0000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01256	.04711	.00706	.00358	14.843	154.00	14.519
Stddev	.00059	.00072	.00133	.00051	.110	.18	.033
%RSD	4.6719	1.5343	18.787	14.316	.74148	.11522	.22789

#1	.01259	.04779	.00855	.00398	14.764	154.15	14.556
#2	.01196	.04719	.00600	.00376	14.796	153.80	14.508
#3	.01313	.04635	.00664	.00300	14.968	154.05	14.493

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	156.87	.63415	.00081	F 3493.9	-0.00636	-0.09692	.00995
Stddev	.44	.00312	.00024	101.3	.00073	.01523	.00267
%RSD	.27963	.49222	29.564	2.8989	11.416	15.714	26.825

#1	157.33	.63756	.00109	3481.5	-0.00629	-0.07952	.00948
#2	156.45	.63346	.00069	3399.3	-0.00711	-0.10783	.01283
#3	156.81	.63143	.00066	3600.8	-0.00567	-0.10341	.00755

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-0.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012409 Acquired: 5/5/2016 21:41:12 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-00431	F -01487	.97973	-00040	F 409.51	F -.18625	-.00235
Stddev	.00759	.01667	.01136	.00093	5.09	.00227	.00627
%RSD	175.89	112.10	1.1595	231.41	1.2421	1.2183	266.12

#1	-00975	-.03408	.99089	.00059	413.92	-.18366	.00391
#2	-.00755	-.00621	.98011	-.00054	403.94	-.18790	-.00235
#3	.00436	-.00431	.96818	-.00126	410.67	-.18718	-.00862

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit		90.000			9.0000	36.000	
Low Limit		-.01000			-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-00122	.06603	F -.92411
Stddev	.00116	.00063	.01932
%RSD	94.890	.95918	2.0912

#1	-00254	.06656	-.94291
#2	-.00077	.06620	-.90430
#3	-.00036	.06533	-.92510

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	5856.6	41196.	2294.5
Stddev	20.1	22.	24.6
%RSD	.34349	.05285	1.0715

#1	5868.3	41172.	2288.2
#2	5868.2	41215.	2321.7
#3	5833.4	41201.	2273.7

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012410 Acquired: 5/5/2016 21:45:27 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0281	.17661	.00262	1.2329	F 357.77	-0.0003	F 1260.8
Stddev	.00167	.00823	.00187	.0077	9.40	.00002	5.5
%RSD	59.617	4.6585	71.432	.62403	2.6275	75.968	.43955

#1	-0.0115	.18292	.00369	1.2415	349.59	-0.0002	1260.1
#2	-0.0277	.16730	.00370	1.2305	355.68	-0.0001	1255.6
#3	-0.0450	.17960	.00046	1.2267	368.04	-0.0005	1266.7

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit					45.000		270.00
Low Limit					-0.0500		-1.0000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01422	.05484	.20777	.16723	33.547	47.714	11.189
Stddev	.00081	.00082	.00054	.00358	.108	.201	.056
%RSD	5.7130	1.5036	.25830	2.1419	.32220	.42063	.49697

#1	.01400	.05494	.20737	.16729	33.641	47.725	11.197
#2	.01354	.05560	.20838	.17078	33.429	47.508	11.129
#3	.01512	.05397	.20755	.16362	33.569	47.909	11.240

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	137.35	.92476	.19317	F 2769.0	.03583	.00633	.01722
Stddev	1.11	.00970	.00361	24.8	.00071	.01450	.00495
%RSD	.81008	1.0489	1.8706	.89616	1.9708	228.96	28.727

#1	137.18	.92243	.19548	2797.6	.03657	.02267	.01835
#2	136.33	.91643	.19503	2752.8	.03575	.00135	.02151
#3	138.54	.93541	.18901	2756.7	.03517	-0.00502	.01181

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-5.0000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012410 Acquired: 5/5/2016 21:45:27 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-00453	.01004	1.6100	.00617	F 274.64	F -.15295	-.00527
Stddev	.00312	.00339	.0125	.00071	3.05	.00446	.00235
%RSD	68.914	33.780	.77817	11.444	1.1105	2.9183	44.689

#1	-00180	.00683	1.6198	.00686	273.40	-.15296	-.00286
#2	-00794	.01359	1.6142	.00619	272.41	-.14848	-.00537
#3	-00385	.00971	1.5959	.00545	278.11	-.15741	-.00757

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					9.0000	36.000	
Low Limit					-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00168	.80174	F -.86332
Stddev	.00085	.00737	.09147
%RSD	50.833	.91885	10.596

#1	.00258	.80413	-.78436
#2	.00156	.80760	-.96356
#3	.00089	.79347	-.84206

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	6008.3	42774.	2254.5
Stddev	87.3	110.	26.9
%RSD	1.4535	.25619	1.1923

#1	6057.8	42875.	2275.0
#2	5907.5	42790.	2264.6
#3	6059.7	42658.	2224.1

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012411 Acquired: 5/5/2016 21:49:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0376	.85608	.03145	2.5319	F 237.16	.00008	F 1598.3
Stddev	.00200	.00341	.00120	.0098	2.87	.00008	3.2
%RSD	53.141	.39887	3.8033	.38917	1.2117	98.589	.20061

#1	-0.0146	.85829	.03097	2.5309	237.81	.00017	1601.3
#2	-0.0474	.85214	.03281	2.5423	239.66	.00000	1594.9
#3	-0.0508	.85779	.03057	2.5227	234.02	.00008	1598.6

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit					45.000		270.00
Low Limit					-.00500		-.10000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02004	.03245	.14135	.39401	84.670	133.46	15.866
Stddev	.00037	.00065	.00033	.00323	.261	.51	.095
%RSD	1.8684	2.0151	.23349	.81854	.30817	.38487	.60072

#1	.01992	.03298	.14097	.39527	84.627	133.16	15.803
#2	.02046	.03265	.14155	.39642	84.950	134.05	15.976
#3	.01975	.03172	.14152	.39035	84.433	133.16	15.819

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	175.90	.79736	.01477	F 3239.6	.01220	4.9458	.07086
Stddev	1.01	.00342	.00080	111.5	.00096	.0417	.00347
%RSD	.57331	.42885	5.4265	3.4428	7.8646	.84339	4.9028

#1	175.72	.80120	.01478	3366.5	.01127	4.9612	.06692
#2	176.99	.79621	.01397	3157.1	.01319	4.9776	.07349
#3	175.00	.79465	.01557	3195.4	.01215	4.8986	.07216

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012411 Acquired: 5/5/2016 21:49:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0499	F -0.01003	15.216	.01025	F 323.34	F -.14363	-.00014
Stddev	.00503	.00711	.054	.00111	6.22	.00518	.00574
%RSD	100.73	70.867	.35553	10.873	1.9244	3.6092	3967.2

#1	-.00935	-.01623	15.243	.00972	329.77	-.14542	.00403
#2	.00051	-.01158	15.251	.01153	322.92	-.14769	-.00669
#3	-.00614	-.00227	15.154	.00951	317.35	-.13779	.00222

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit		90.000			9.0000	36.000	
Low Limit		-.01000			-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00109	3.1270	F -1.4574
Stddev	.00092	.0191	.0986
%RSD	84.577	.61194	6.7653

#1	.00009	3.1359	-1.5437
#2	.00126	3.1400	-1.3499
#3	.00191	3.1050	-1.4787

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	5915.0	41872.	2331.4
Stddev	28.2	387.	29.1
%RSD	.47605	.92387	1.2474

#1	5904.1	42316.	2299.0
#2	5893.9	41689.	2355.4
#3	5946.9	41610.	2339.7

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012412 Acquired: 5/5/2016 21:53:35 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0134	.85398	-0.0268	3.0750	F 163.55	-0.0007	F 1779.3
Stddev	.00150	.00903	.00222	.0125	4.08	.00008	4.4
%RSD	111.83	1.0578	82.953	.40702	2.4937	125.98	.24869

#1	-0.0188	.86441	-0.0397	3.0704	160.48	-0.0016	1778.7
#2	-0.0251	.84888	-0.0011	3.0655	161.98	-0.0005	1784.1
#3	.00035	.84865	-0.0395	3.0892	168.17	.00001	1775.3

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit					45.000		270.00
Low Limit					-0.0500		-1.0000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00736	.02297	.00606	.00740	20.613	179.69	17.798
Stddev	.00082	.00043	.00181	.00128	.164	.79	.073
%RSD	11.085	1.8820	29.791	17.261	.79788	.44175	.40955

#1	.00643	.02329	.00814	.00876	20.796	179.70	17.827
#2	.00772	.02316	.00515	.00622	20.565	180.47	17.853
#3	.00794	.02248	.00489	.00723	20.478	178.88	17.716

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	195.56	.67337	-0.0092	F 3381.7	-0.00755	F -.11424	.00568
Stddev	1.74	.00494	.00034	69.2	.00152	.01518	.00661
%RSD	.88845	.73345	36.625	2.0456	20.157	13.285	116.27

#1	197.50	.67127	-0.0130	3457.4	-0.00593	-1.0027	-0.0012
#2	195.00	.67901	-0.0082	3365.8	-0.00894	-1.1207	.00429
#3	194.16	.66984	-0.0065	3321.8	-0.00779	-1.3039	.01288

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass
High Limit				270.00		180.00	
Low Limit				-5.0000		-1.0000	

Approved: May 06, 2016

K: K Buck

Sample Name: L1605012412 Acquired: 5/5/2016 21:53:35 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00602	-0.00538	.69253	-0.00204	F 435.18	F -0.20295	-0.00339
Stddev	.00417	.01472	.01294	.00148	8.51	.00212	.00385
%RSD	69.301	273.74	1.8687	72.680	1.9552	1.0446	113.77

#1	-0.00259	.00219	.69558	-0.00237	429.85	-20084	-0.00697
#2	-0.00480	-.02235	.70367	-.00332	444.99	-.20293	-.00389
#3	-.01066	.00402	.67833	-.00042	430.69	-.20508	.00069

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit					9.0000	36.000	
Low Limit					-.01000	-.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00172	.11575	F -1.1079
Stddev	.00055	.00180	.1000
%RSD	31.805	1.5583	9.0229

#1	-0.00235	.11652	-1.0204
#2	-0.00135	.11703	-1.0863
#3	-0.00146	.11369	-1.2168

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	5789.6	41057.	2275.5
Stddev	22.5	224.	16.4
%RSD	.38903	.54518	.72075

#1	5776.4	41199.	2290.1
#2	5776.8	40799.	2257.8
#3	5815.6	41173.	2278.7

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 21:57:51 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40451	10.029	.40423	.51959	1.0296	.05094	10.399
Stddev	.00317	.027	.00213	.00111	.0117	.00006	.147
%RSD	.78296	.26673	.52589	.21434	1.1369	.12148	1.4102

#1	.40272	9.9987	.40641	.51856	1.0199	.05089	10.361
#2	.40817	10.039	.40216	.51943	1.0426	.05093	10.561
#3	.40264	10.049	.40412	.52077	1.0263	.05101	10.275

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05140	.20480	.49985	.50866	4.0899	51.045	1.0283
Stddev	.00005	.00041	.00183	.00094	.0803	.627	.0154
%RSD	.10026	.19856	.36518	.18568	1.9632	1.2276	1.4991

#1	.05138	.20446	.49775	.50831	4.0086	50.323	1.0107
#2	.05136	.20525	.50100	.50973	4.0918	51.452	1.0350
#3	.05146	.20470	.50080	.50795	4.1692	51.359	1.0392

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.111	.50881	1.0186	49.476	.50812	10.126	.50786
Stddev	.126	.00787	.0034	.539	.00056	.010	.00277
%RSD	1.2503	1.5470	.33639	1.0893	.10977	.10206	.54603

#1	9.9750	.49983	1.0205	48.863	.50784	10.119	.50491
#2	10.132	.51209	1.0206	49.875	.50775	10.138	.50825
#3	10.225	.51452	1.0146	49.691	.50876	10.122	.51042

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 21:57:51 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2163	.40580	5.0906	1.0164	1.0837	1.0144	.51198
Stddev	.0045	.00228	.0017	.0015	.0269	.0169	.00060
%RSD	.36992	.56268	.03340	.14405	2.4819	1.6680	.11776

#1	1.2115	.40703	5.0925	1.0167	1.0942	.99498	.51237
#2	1.2204	.40316	5.0902	1.0176	1.1037	1.0223	.51128
#3	1.2171	.40720	5.0892	1.0148	1.0531	1.0260	.51228

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.99888	1.0153	F .11893
Stddev	.00248	.0017	.08426
%RSD	.24834	.16671	70.847

#1	1.0001	1.0148	.05401
#2	1.0005	1.0172	.21414
#3	.99603	1.0140	.08863

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7990.5	56444.	2593.2
Stddev	43.7	164.	17.8
%RSD	.54707	.29069	.68744

#1	8024.6	56622.	2613.1
#2	7941.2	56412.	2588.2
#3	8005.7	56298.	2578.5

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 22:01:26 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00160	-.00521	.00012	.01256	.00144	.00007	.05990	-.00003
Stddev	.00096	.01011	.00046	.00248	.00064	.00005	.02443	.00026
%RSD	60.177	194.08	375.63	19.737	44.551	67.461	40.783	870.93

#1	.00201	-.00548	.00049	.01411	.00070	.00013	.03246	-.00009
#2	.00229	.00503	.00027	.01386	.00185	.00004	.07929	.00026
#3	.00050	-.01519	-.00040	.00970	.00177	.00005	.06794	-.00026

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00021	-.00042	-.00071	-.00147	.23467	-.00078	.11259	-.00101
Stddev	.00019	.00014	.00018	.01594	.09674	.00023	.04552	.00102
%RSD	90.975	32.526	25.798	1086.1	41.224	30.104	40.434	100.83

#1	.00002	-.00037	-.00092	.00911	.22290	-.00079	.08703	-.00031
#2	.00040	-.00031	-.00057	-.01980	.33676	-.00054	.16515	-.00217
#3	.00020	-.00057	-.00063	.00629	.14435	-.00101	.08559	-.00053

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00201	.45805	-.00048	-.00898	.00069	-.00003	-.00174	.00188
Stddev	.00018	.02287	.00081	.00254	.00383	.00215	.00633	.00020
%RSD	8.8682	4.9920	167.15	28.255	557.94	6865.6	364.28	10.558

#1	.00181	.46109	-.00122	-.00678	-.00150	-.00150	.00250	.00211
#2	.00204	.47924	.00038	-.01175	.00511	.00243	.00130	.00179
#3	.00217	.43381	-.00060	-.00839	-.00155	-.00103	-.00901	.00175

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 22:01:26 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0045	.00526	.00554	.00266	-0.0011	.00016	.00946
Stddev	.00034	.00019	.00371	.00258	.00078	.00013	.06572
%RSD	74.833	3.6720	66.978	96.798	707.80	81.741	694.39

#1	-0.0070	.00543	.00907	-0.0010	-0.0022	.00007	-.06584
#2	-0.0007	.00530	.00167	.00501	-0.0083	.00010	.03900
#3	-0.0059	.00505	.00588	.00307	.00072	.00032	.05524

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8036.5	57696.	2609.0
Stddev	13.6	348.	30.9
%RSD	.16934	.60364	1.1863

#1	8029.2	58092.	2632.6
#2	8028.2	57436.	2573.9
#3	8052.2	57561.	2620.4

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013802 Acquired: 5/5/2016 22:05:12 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567600-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00106	-.00011	.02207	.02244	.32293	.00001	98.827
Stddev	.00189	.00469	.00072	.00298	.00235	.00007	.355
%RSD	178.00	4238.1	3.2693	13.284	.72887	521.99	.35878

#1	.00047	.00510	.02197	.02175	.32558	-.00006	99.230
#2	-.00046	-.00399	.02141	.02570	.32109	.00008	98.565
#3	.00318	-.00144	.02284	.01986	.32211	.00002	98.685

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00061	.00086	.00134	.00184	8.9567	.96833	.00662
Stddev	.00005	.00043	.00035	.00114	.0172	.06313	.00159
%RSD	7.5652	49.784	26.303	61.856	.19231	6.5199	23.973

#1	.00064	.00120	.00167	.00077	8.9719	.98904	.00662
#2	.00056	.00038	.00097	.00171	8.9602	.89744	.00503
#3	.00063	.00100	.00137	.00303	8.9380	1.0185	.00820

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.533	5.4553	.00534	36.030	.00186	.12322	.00009
Stddev	.293	.0176	.00035	.185	.00024	.00439	.00064
%RSD	1.4250	.32281	6.5608	.51294	12.708	3.5645	725.89

#1	20.703	5.4687	.00520	36.242	.00199	.12352	-.00027
#2	20.195	5.4617	.00508	35.908	.00158	.12746	.00082
#3	20.702	5.4353	.00574	35.939	.00200	.11869	-.00029

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013802 Acquired: 5/5/2016 22:05:12 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567600-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00019	.00220	6.1342	-.00012	.54147	-.00523	-.00173
Stddev	.00320	.00258	.0081	.00090	.00131	.00156	.00380
%RSD	1670.0	117.48	.13200	779.44	.24131	29.778	220.37

#1	-.00237	.00473	6.1266	-.00022	.54272	-.00567	-.00537
#2	.00378	-.00044	6.1427	.00084	.54158	-.00350	-.00203
#3	-.00084	.00231	6.1333	-.00096	.54011	-.00651	.00222

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00052	.00258	F -.12616
Stddev	.00033	.00027	.04446
%RSD	63.127	10.580	35.240

#1	.00024	.00229	-.12518
#2	.00044	.00283	-.08220
#3	.00089	.00262	-.17110

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7985.0	57596.	2651.1
Stddev	26.8	153.	26.4
%RSD	.33521	.26490	.99694

#1	8010.3	57539.	2620.9
#2	7957.0	57481.	2669.7
#3	7987.7	57769.	2662.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013803 Acquired: 5/5/2016 22:09:04 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00039	.00642	.02070	.02086	.32559	-.00003	99.633	.00039
Stddev	.00114	.00474	.00180	.00133	.00319	.00003	1.025	.00013
%RSD	291.20	73.825	8.7032	6.3767	.97848	95.390	1.0286	33.727

#1	.00103	.00117	.01862	.02091	.32926	.00000	100.81	.00046
#2	-.00092	.01039	.02189	.01950	.32393	-.00004	99.120	.00046
#3	.00106	.00770	.02158	.02216	.32358	-.00005	98.967	.00024

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00101	.00180	.00071	8.7899	.95331	.00516	20.938	5.2634
Stddev	.00055	.00123	.00127	.0946	.03354	.00369	.328	.0482
%RSD	54.582	68.551	177.56	1.0764	3.5183	71.408	1.5685	.91619

#1	.00162	.00247	-.00026	8.8957	.94628	.00631	21.291	5.3191
#2	.00087	.00255	.00214	8.7610	.92385	.00104	20.641	5.2365
#3	.00055	.00038	.00026	8.7132	.98981	.00814	20.882	5.2346

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00524	37.603	.00302	.11259	.00130	-.00401	-.00011	6.2704
Stddev	.00020	.420	.00064	.00852	.00038	.00560	.00767	.0048
%RSD	3.8695	1.1162	21.239	7.5704	29.443	139.64	7273.9	.07583

#1	.00532	38.086	.00355	.10846	.00137	-.00467	.00641	6.2731
#2	.00501	37.387	.00322	.12239	.00164	.00189	.00184	6.2649
#3	.00540	37.334	.00231	.10692	.00089	-.00925	-.00856	6.2731

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013803 Acquired: 5/5/2016 22:09:04 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0041	.54581	-0.1350	-0.0185	.00065	.00379	-0.03025
Stddev	.00098	.00436	.00293	.00338	.00074	.00009	.07991
%RSD	239.19	.79934	21.714	182.60	114.07	2.2510	264.19

#1	-0.0122	.55082	-0.1687	-0.0543	.00004	.00388	-.08164
#2	-0.0069	.54372	-0.1204	-0.0142	.00044	.00371	.06182
#3	.00068	.54288	-0.1158	.00129	.00147	.00380	-.07092

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8048.4	57685.	2684.9
Stddev	20.7	293.	52.1
%RSD	.25737	.50839	1.9386

#1	8040.6	57928.	2629.0
#2	8032.8	57768.	2693.9
#3	8071.9	57360.	2731.9

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013804MS Acquired: 5/5/2016 22:12:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567600-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19102	4.7141	.21105	.95409	.80888	.02351	104.83	.02428
Stddev	.00145	.0088	.00390	.00694	.00270	.00003	.44	.00019
%RSD	.76024	.18663	1.8470	.72767	.33326	.11522	.41636	.78952

#1	.19203	4.7067	.21406	.96118	.81013	.02348	104.87	.02439
#2	.19167	4.7118	.21244	.94730	.81072	.02351	105.25	.02439
#3	.18935	4.7238	.20665	.95379	.80578	.02354	104.38	.02406

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09509	.23740	.23564	10.960	25.555	.50159	25.529	5.7648
Stddev	.00045	.00030	.00054	.095	.167	.00343	.204	.0239
%RSD	.47747	.12835	.23003	.87040	.65391	.68298	.80006	.41532

#1	.09495	.23767	.23552	10.877	25.390	.50048	25.616	5.7479
#2	.09472	.23707	.23623	11.064	25.724	.49885	25.676	5.7922
#3	.09560	.23747	.23517	10.940	25.551	.50543	25.296	5.7542

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49723	60.299	.23829	4.9000	.24079	.57963	.19025	8.6311
Stddev	.00040	.170	.00127	.0089	.00383	.00077	.00532	.0032
%RSD	.08102	.28233	.53501	.18155	1.5895	.13361	2.7979	.03685

#1	.49759	60.304	.23694	4.9043	.23648	.58006	.18778	8.6278
#2	.49731	60.468	.23848	4.9059	.24380	.57874	.19636	8.6316
#3	.49679	60.127	.23947	4.8898	.24209	.58009	.18661	8.6341

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013804MS Acquired: 5/5/2016 22:12:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567600-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48041	1.0222	.47874	.23898	.47870	.46842	-.00674
Stddev	.00139	.0042	.00282	.00201	.00183	.00100	.04479
%RSD	.29012	.41469	.58883	.84091	.38197	.21251	664.95

#1	.47899	1.0231	.48199	.24029	.48079	.46924	-.01406
#2	.48178	1.0260	.47719	.23667	.47790	.46870	-.04741
#3	.48045	1.0176	.47703	.23999	.47741	.46731	.04126

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8039.8	56850.	2677.9
Stddev	10.6	188.	12.7
%RSD	.13219	.33143	.47495

#1	8040.5	56649.	2669.1
#2	8050.1	57022.	2672.1
#3	8028.8	56880.	2692.5

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013805MSD Acquired: 5/5/2016 22:16:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567600-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19566	4.8453	.21460	.97874	.78855	.02419	93.949	.02486
Stddev	.00245	.0136	.00146	.00443	.00360	.00002	.300	.00020
%RSD	1.2510	.27979	.68024	.45266	.45714	.09936	.31933	.81405

#1	.19556	4.8473	.21495	.97385	.79258	.02419	94.293	.02490
#2	.19326	4.8309	.21586	.98250	.78742	.02421	93.812	.02464
#3	.19815	4.8578	.21300	.97985	.78563	.02416	93.742	.02504

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09765	.24189	.24226	9.8983	26.283	.51098	23.584	4.8735
Stddev	.00017	.00165	.00126	.0119	.180	.00077	.126	.0199
%RSD	.17039	.68251	.51896	.12045	.68382	.14984	.53512	.40733

#1	.09753	.24379	.24204	9.9092	26.488	.51100	23.723	4.8954
#2	.09784	.24082	.24361	9.9002	26.207	.51020	23.552	4.8566
#3	.09759	.24107	.24113	9.8856	26.153	.51174	23.477	4.8685

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51485	59.016	.24591	4.9872	.24607	.59772	.19656	8.1438
Stddev	.00049	.244	.00158	.0097	.00200	.00382	.00505	.0058
%RSD	.09589	.41343	.64262	.19371	.81130	.63914	2.5690	.07119

#1	.51527	59.289	.24664	4.9949	.24383	.59763	.19091	8.1379
#2	.51497	58.940	.24409	4.9902	.24670	.60159	.19814	8.1441
#3	.51431	58.819	.24699	4.9763	.24767	.59395	.20063	8.1495

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013805MSD Acquired: 5/5/2016 22:16:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567600-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49475	.97482	.50020	.24223	.48931	.48163	.02698
Stddev	.00066	.00209	.00293	.00147	.00170	.00036	.03812
%RSD	.13281	.21446	.58558	.60865	.34719	.07559	141.30
#1	.49456	.97694	.50358	.24213	.49126	.48164	.06056
#2	.49548	.97476	.49862	.24080	.48855	.48200	.03484
#3	.49421	.97276	.49839	.24375	.48813	.48127	-.01446

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7987.1	57059.	2679.8
Stddev	40.2	422.	43.3
%RSD	.50348	.73950	1.6158
#1	8016.0	56988.	2640.3
#2	8004.1	56678.	2672.9
#3	7941.2	57513.	2726.1

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013806 Acquired: 5/5/2016 22:20:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0041	-0.00596	.03501	.03328	.42322	.00005	77.056
Stddev	.00034	.00170	.00185	.00179	.00413	.00005	.494
%RSD	83.105	28.592	5.2720	5.3659	.97494	98.707	.64156

#1	-0.00061	-0.00484	.03456	.03473	.42719	.00011	77.543
#2	-0.00060	-0.00512	.03704	.03383	.42350	.00005	77.072
#3	-0.00002	-0.00792	.03343	.03129	.41895	.00000	76.554

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00061	.00033	.00053	.00083	14.144	1.1072	.00748
Stddev	.00016	.00009	.00084	.00139	.130	.0399	.00176
%RSD	26.491	27.237	160.10	166.73	.91692	3.6017	23.524

#1	.00045	.00023	.00094	-.00077	14.287	1.0900	.00796
#2	.00077	.00039	-.00044	.00157	14.112	1.1528	.00895
#3	.00062	.00037	.00108	.00169	14.034	1.0788	.00553

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.773	1.4099	.00213	17.334	-.00097	.23706	.00082
Stddev	.620	.0080	.00059	.149	.00086	.00631	.00321
%RSD	1.4162	.56480	27.654	.85762	88.908	2.6598	392.55

#1	44.356	1.4163	.00249	17.495	-.00038	.24291	-.00228
#2	43.843	1.4124	.00145	17.308	-.00196	.23788	.00060
#3	43.122	1.4010	.00244	17.201	-.00056	.23038	.00414

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013806 Acquired: 5/5/2016 22:20:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0047	.00443	6.9782	-0.0040	.56352	-0.00474	.00095
Stddev	.00576	.00457	.0315	.00076	.00475	.00156	.00161
%RSD	1218.5	103.22	.45190	189.03	.84306	32.867	169.13

#1	-0.00249	.00246	6.9421	-0.0013	.56862	-0.00632	.00281
#2	-0.00495	.00965	7.0006	.00018	.56270	-0.00470	-0.00004
#3	.00602	.00117	6.9917	-0.0126	.55923	-0.00320	.00008

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00058	.00094	F -.13035
Stddev	.00026	.00012	.04789
%RSD	44.319	12.653	36.735

#1	-0.00062	.00084	-.09095
#2	-0.00082	.00092	-.11646
#3	-0.00031	.00108	-.18365

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8061.3	57968.	2675.1
Stddev	25.7	268.	33.0
%RSD	.31822	.46250	1.2326

#1	8087.1	57730.	2642.9
#2	8035.8	57915.	2673.6
#3	8061.0	58258.	2708.8

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013807 Acquired: 5/5/2016 22:23:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0053	-0.00380	.01872	.02992	.20270	.00005	70.251
Stddev	.00164	.00165	.00135	.00044	.00167	.00008	.316
%RSD	307.45	43.330	7.2259	1.4674	.82247	179.28	.44991

#1	.00135	-.00201	.01981	.03004	.20369	.00012	70.481
#2	-.00154	-.00413	.01721	.03029	.20364	.00006	70.381
#3	-.00141	-.00526	.01913	.02944	.20078	-.00004	69.890

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00031	.00026	-.00049	.00034	17.279	.61620	.00515
Stddev	.00007	.00033	.00121	.00065	.021	.05472	.00265
%RSD	21.602	124.28	245.01	189.73	.12394	8.8796	51.474

#1	.00033	.00021	-.00023	.00038	17.300	.56796	.00356
#2	.00024	.00061	-.00182	.00096	17.280	.67565	.00820
#3	.00037	-.00003	.00057	-.00032	17.257	.60499	.00367

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.701	6.8763	.00433	18.427	.00003	.49052	.00187
Stddev	.312	.0200	.00011	.143	.00093	.00415	.00316
%RSD	.82742	.29021	2.5025	.77456	2972.1	.84683	169.32

#1	37.689	6.8930	.00444	18.539	-.00019	.48592	.00500
#2	38.019	6.8817	.00431	18.475	-.00077	.49164	-.00132
#3	37.396	6.8542	.00423	18.266	.00105	.49399	.00192

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013807 Acquired: 5/5/2016 22:23:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00192	.00141	6.3715	-.00003	.32985	-.00229	.00142
Stddev	.00182	.00684	.0036	.00106	.00215	.00469	.00172
%RSD	94.912	484.34	.05614	3345.3	.65083	204.50	121.17

#1	.00192	.00332	6.3755	-.00067	.33198	.00312	-.00037
#2	.00010	-.00617	6.3704	-.00062	.32989	-.00521	.00305
#3	.00373	.00709	6.3686	.00119	.32769	-.00478	.00157

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00057	.00113	F -.19550
Stddev	.00047	.00016	.07401
%RSD	82.202	13.928	37.856

#1	-.00100	.00101	-.12063
#2	-.00063	.00130	-.26861
#3	-.00007	.00107	-.19726

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8058.2	57499.	2657.2
Stddev	23.6	202.	20.4
%RSD	.29253	.35112	.76877

#1	8036.0	57349.	2635.9
#2	8083.0	57419.	2659.2
#3	8055.7	57728.	2676.6

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013808 Acquired: 5/5/2016 22:27:52 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0034	-0.00345	.01553	.07896	.34283	-0.0001	108.38
Stddev	.00183	.00396	.00148	.00141	.00501	.00002	2.10
%RSD	535.46	114.73	9.5105	1.7854	1.4609	373.04	1.9376

#1	.00014	-.00491	.01455	.08050	.34360	.00002	108.97
#2	.00120	.00103	.01482	.07866	.34740	-.00002	110.13
#3	-.00237	-.00647	.01723	.07773	.33748	-.00002	106.05

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00029	.00163	.00050	.00001	27.155	1.8005	.00647
Stddev	.00012	.00023	.00071	.00158	.443	.0336	.00375
%RSD	42.793	14.223	141.69	30213.	1.6311	1.8651	57.912

#1	.00042	.00189	.00106	.00048	27.255	1.8209	.00285
#2	.00028	.00155	.00074	.00130	27.540	1.8189	.00622
#3	.00017	.00145	-.00030	-.00176	26.671	1.7617	.01033

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.423	1.2780	.00119	28.865	.00010	.44532	.00203
Stddev	.607	.0213	.00021	.562	.00068	.00631	.00175
%RSD	2.2958	1.6637	17.782	1.9480	707.31	1.4159	86.159

#1	26.424	1.2814	.00141	28.983	-.00069	.44672	.00004
#2	27.030	1.2974	.00099	29.359	.00042	.43843	.00332
#3	25.816	1.2553	.00117	28.253	.00056	.45081	.00274

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013808 Acquired: 5/5/2016 22:27:52 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	.00720	6.1585	-.00084	.40808	-.00421	-.00023
Stddev	.00325	.00802	.0069	.00043	.00712	.00198	.00161
%RSD	1073.3	111.39	.11196	51.019	1.7450	46.935	714.59

#1	.00362	.01546	6.1576	-.00037	.40923	-.00332	-.00208
#2	-.00287	-.00054	6.1658	-.00095	.41456	-.00648	.00080
#3	.00016	.00667	6.1521	-.00120	.40046	-.00284	.00060

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00190	.00145	F -.14897
Stddev	.00085	.00011	.06862
%RSD	44.626	7.9250	46.063

#1	-.00099	.00136	-.10968
#2	-.00205	.00158	-.22821
#3	-.00267	.00140	-.10903

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			36.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8181.2	57864.	2724.4
Stddev	30.5	316.	45.6
%RSD	.37330	.54558	1.6722

#1	8173.5	57523.	2710.7
#2	8155.2	58146.	2687.3
#3	8214.8	57923.	2775.2

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013809 Acquired: 5/5/2016 22:31:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00050	-.00605	.02367	.09231	.45353	-.00003	75.689	.00045
Stddev	.00084	.00576	.00223	.00310	.00188	.00003	.265	.00007
%RSD	168.07	95.259	9.4159	3.3563	.41532	87.332	.35002	15.573

#1	.00146	-.00978	.02258	.08873	.45366	-.00006	75.645	.00051
#2	-.00010	-.00896	.02220	.09398	.45534	-.00000	75.973	.00046
#3	.00014	.00059	.02623	.09421	.45158	-.00004	75.449	.00037

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00099	.00024	.00083	10.391	.82257	.00650	28.583	2.4554
Stddev	.00014	.00118	.00047	.044	.07341	.00123	.178	.0092
%RSD	14.116	493.21	56.759	.42054	8.9249	18.897	.62261	.37436

#1	.00091	.00044	.00118	10.375	.76496	.00514	28.438	2.4562
#2	.00090	-.00103	.00101	10.440	.90523	.00684	28.782	2.4642
#3	.00115	.00131	.00029	10.357	.79753	.00753	28.529	2.4459

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00750	21.764	.00047	.13534	-.00044	-.00028	.00786	6.3540
Stddev	.00054	.119	.00160	.00256	.00301	.00247	.00120	.0007
%RSD	7.2386	.54599	338.04	1.8932	677.41	891.91	15.201	.01143

#1	.00688	21.715	.00106	.13640	-.00390	-.00253	.00747	6.3532
#2	.00779	21.899	-.00133	.13720	.00098	.00236	.00691	6.3543
#3	.00785	21.677	.00170	.13242	.00158	-.00067	.00920	6.3545

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 06, 2016

K: K Buck

Sample Name: L1605013809 Acquired: 5/5/2016 22:31:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0032	.36683	-0.00391	-0.00041	-0.00018	.00079	-0.02377
Stddev	.00031	.00029	.00447	.00146	.00100	.00010	.03290
%RSD	95.229	.07971	114.13	355.01	557.34	13.137	138.40

#1	-0.0029	.36659	.00118	-0.00168	.00077	.00080	-.02041
#2	-0.0003	.36673	-.00715	.00118	-.00122	.00089	-.05821
#3	-0.00064	.36715	-.00576	-.00073	-.00009	.00068	.00732

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	8249.8	59202.	2776.3
Stddev	3.0	143.	31.4
%RSD	.03666	.24226	1.1294

#1	8246.5	59096.	2775.6
#2	8252.3	59365.	2745.3
#3	8250.7	59144.	2808.0

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 22:35:39 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41312	10.270	.41343	.51259	1.0284	.05190	10.293
Stddev	.00015	.018	.00416	.00004	.0046	.00024	.001
%RSD	.03666	.17929	1.0060	.00752	.44896	.45356	.01396

#1	.41305	10.250	.41658	.51259	1.0237	.05180	10.292
#2	.41301	10.287	.41499	.51263	1.0329	.05217	10.294
#3	.41329	10.272	.40871	.51255	1.0288	.05174	10.294

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05213	.20940	.51433	.52422	4.1765	52.078	1.0586
Stddev	.00008	.00048	.00168	.00136	.0786	.337	.0009
%RSD	.14814	.23078	.32736	.25893	1.8829	.64748	.08605

#1	.05207	.20907	.51364	.52547	4.0868	51.880	1.0576
#2	.05222	.20995	.51625	.52442	4.2334	52.467	1.0594
#3	.05210	.20917	.51310	.52278	4.2092	51.886	1.0588

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.395	.51820	1.0461	51.948	.52125	10.300	.51721
Stddev	.042	.00542	.0013	.217	.00095	.027	.00266
%RSD	.40651	1.0466	.12094	.41852	.18215	.25845	.51367

#1	10.412	.51208	1.0471	51.802	.52145	10.330	.51917
#2	10.426	.52238	1.0465	52.198	.52022	10.294	.51826
#3	10.347	.52016	1.0447	51.844	.52209	10.278	.51418

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 06, 2016

K: K Buck

Sample Name: CCV Acquired: 5/5/2016 22:35:39 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2434	.41243	5.2029	1.0331	1.0292	1.0307	.51974
Stddev	.0052	.00285	.0039	.0026	.0058	.0140	.00384
%RSD	.41815	.69162	.07473	.24820	.55958	1.3582	.73898

#1	1.2397	.41259	5.2005	1.0332	1.0252	1.0295	.52392
#2	1.2493	.41521	5.2074	1.0356	1.0358	1.0453	.51892
#3	1.2411	.40951	5.2009	1.0305	1.0266	1.0174	.51637

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	1.0273	1.0308	F .04209
Stddev	.0021	.0006	.04877
%RSD	.20753	.05886	115.88

#1	1.0280	1.0303	.08258
#2	1.0290	1.0307	-.01205
#3	1.0249	1.0315	.05573

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7847.3	55656.	2545.0
Stddev	28.4	199.	18.9
%RSD	.36230	.35707	.74237

#1	7878.4	55494.	2547.4
#2	7822.7	55596.	2524.9
#3	7840.7	55877.	2562.5

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 22:39:14 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00159	-0.00750	.00033	.00303	.00008	.00007	.04065	.00008
Stddev	.00092	.00310	.00250	.00294	.00071	.00011	.01926	.00012
%RSD	58.001	41.279	761.21	97.024	896.38	158.72	47.380	137.41

#1	-0.00202	-0.00903	.00065	.00309	-0.00065	.00020	.01846	.00012
#2	-0.00053	-0.00953	-0.00232	.00595	.00012	-0.00001	.05042	.00018
#3	-0.00220	-0.00394	.00265	.00006	.00077	.00002	.05305	-0.00005

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00001	.00033	.00076	.00989	.21005	.00079	.02392	-.00135
Stddev	.00026	.00038	.00064	.01294	.02387	.00182	.05709	.00127
%RSD	1921.4	115.88	83.234	130.81	11.362	229.83	238.70	94.411

#1	.00021	-0.00002	.00061	-0.00046	.18882	-0.00068	.02352	-0.00047
#2	-0.00031	.00074	.00022	.02440	.23589	.00283	-.03297	-0.00076
#3	.00006	.00027	.00146	.00574	.20545	.00023	.08121	-0.00281

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00205	.10795	-0.00061	.00248	-0.00143	.00200	.00144	.00113
Stddev	.00024	.02206	.00064	.00356	.00208	.00083	.00502	.00078
%RSD	11.519	20.432	104.62	143.52	145.15	41.226	348.97	68.516

#1	.00187	.13301	-0.00111	.00258	-0.00368	.00283	.00033	.00024
#2	.00232	.09936	-0.00082	-0.00113	.00042	.00201	.00692	.00150
#3	.00195	.09148	.00011	.00598	-0.00104	.00117	-.00294	.00166

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 06, 2016

K: K Buck

Sample Name: CCB Acquired: 5/5/2016 22:39:14 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v859) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0001	.00029	-0.00130	-0.00121	-0.00078	-0.00005	.02014
Stddev	.00032	.00028	.00327	.00339	.00066	.00010	.05079
%RSD	4014.1	98.892	251.36	278.87	84.077	200.27	252.22

#1	-0.00037	.00005	-0.00207	-0.00499	-0.00003	.00003	.03145
#2	.00009	.00060	.00228	.00155	-0.00110	-0.00002	-.03535
#3	.00025	.00021	-0.00411	-0.00020	-0.00122	-0.00016	.06432

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	7824.6	56568.	2579.9
Stddev	33.8	325.	12.6
%RSD	.43239	.57500	.49009

#1	7851.0	56237.	2573.6
#2	7786.5	56887.	2571.6
#3	7836.3	56582.	2594.5

Approved: May 06, 2016

K: K Buck

2.3.2 Metals ICP-MS Data

2.3.2.1 Summary Data

Certificate of Analysis

Sample #: L16050151-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW14FF-050316	Prep Method: 3015	Prep Date: 05/05/2016 08:56
Matrix: Water	Analytical Method: 6020A	Cal Date: 05/05/2016 11:10
Workgroup #: WG567700	Analyst: JYH	Run Date: 05/05/2016 17:36
Collect Date: 05/03/2016 09:25	Dilution: 50	File ID: NI.050516.173606
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.436		0.200	0.100	0.0500

Certificate of Analysis

Sample #: L16050151-06	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW08FF-050316	Prep Method: 3015	Prep Date: 05/05/2016 08:56
Matrix: Water	Analytical Method: 6020A	Cal Date: 05/05/2016 11:10
Workgroup #: WG567700	Analyst: JYH	Run Date: 05/05/2016 16:48
Collect Date: 05/03/2016 10:45	Dilution: 1	File ID: NI.050516.164810
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0268		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #: L16050151-08	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW18FF-050316	Prep Method: 3015	Prep Date: 05/05/2016 08:56
Matrix: Water	Analytical Method: 6020A	Cal Date: 05/05/2016 11:10
Workgroup #: WG567700	Analyst: JYH	Run Date: 05/05/2016 16:51
Collect Date: 05/03/2016 13:10	Dilution: 1	File ID: NI.050516.165121
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0117		0.00400	0.00200	0.00100

Certificate of Analysis

Lab Report #: L16050151
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Sample #: L16050151-10	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW25FF-050316	Prep Method: 3015	Prep Date: 05/05/2016 08:56
Matrix: Water	Analytical Method: 6020A	Cal Date: 05/05/2016 11:10
Workgroup #: WG567700	Analyst: JYH	Run Date: 05/05/2016 16:54
Collect Date: 05/03/2016 14:40	Dilution: 1	File ID: NI.050516.165433
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0541		0.00400	0.00200	0.00100

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

Workgroup: WG567607
 Analyst: VC
 Spike Analyst: VC
 Run Date: 05/05/2016 08:56
 Method: 3015
 Balance: BAL016
 Instrument: MW-3
 Instrument Start: 05/05/2016 09:32

SOP: ME407 Revision 19
 Spike Solution: STD73427
 Spike Witness: ERP
 40 & 50 ML. DIGESTION TU_{COA}18772
 HNO₃ Lot #: COA18838
 MS Filters- fisher-Lot#RRGT35621

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG567607-02	BLANK	1	20 mL	50 mL	182.275 g	182.249 g		
2	WG567502-01	FBLK2	18	20 mL	50 mL	180.723 g	180.719 g		
3	WG567607-03	LCS	1	20 mL	50 mL	183.703 g	183.701 g	.25 mL	
4	L16050150-02	SAMP	18	20 mL	50 mL	182.316 g	182.311 g		05/09/16
5	L16050151-02	SAMP	1	20 mL	50 mL	183.976 g	183.963 g		05/13/16
6	L16050151-04	SAMP	1	20 mL	50 mL	185.884 g	185.866 g		05/13/16
7	L16050151-06	SAMP	1	20 mL	50 mL	182.383 g	182.308 g		05/13/16
8	L16050151-08	SAMP	1	20 mL	50 mL	182.365 g	182.341 g		05/13/16
9	L16050151-10	SAMP	1	20 mL	50 mL	183.514 g	183.493 g		05/13/16
10	WG567607-01	REF	2	20 mL	50 mL	181.308 g	181.289 g		
11	L16050169-01	SAMP	2	20 mL	50 mL	181.308 g	181.289 g		05/11/16
12	L16050169-02	SAMP	2	20 mL	50 mL	182.928 g	182.922 g		05/11/16
13	L16050178-01	SAMP	2	50 mL	50 mL	184.384 g	184.368 g		05/11/16
14	L16050179-01	SAMP	2	50 mL	50 mL	182.756 g	182.746 g		05/11/16
15	L16050183-01	SAMP	2	50 mL	50 mL	185.255 g	185.236 g		05/11/16
16	L16050183-02	SAMP	2	50 mL	50 mL	185.376 g	185.354 g		05/11/16
17	L16050197-01	SAMP	2	20 mL	50 mL	182.078 g	182.068 g		05/09/16
18	L16050200-06	SAMP	2	20 mL	50 mL	183.298 g	183.282 g		05/13/16
19	L16050201-01	SAMP	2	20 mL	50 mL	181.791 g	181.787 g		05/09/16
20	L16050201-03	SAMP	2	20 mL	50 mL	182.898 g	182.878 g		05/09/16
21	WG567607-04	DUP	1	20 mL	50 mL	183.467 g	183.462 g		
22	WG567607-05	MS	1	20 mL	50 mL	181.859 g	181.849 g	.25 mL	
23	WG567607-06	MSD	1	20 mL	50 mL	183.282 g	183.271 g	.25 mL	

Analyst: Veech Collier

Reviewer: Erin Pottin



TCLP Non-Volatile

Analyst(s): CPD
 Date: 5-4-16
 Filter Lot #: 9486030
 Microbac SOP: TCLP 01 Rev #: 12

Analyst / Date		Analyst / Date	
CPD	5/4/16	CPD	5/5/16
Time On	Temp On °C	Time Off	Temp Off °C
1454	22.4	0812	22.2

Agitator Speed 30 ± 2 rpm

Jug #	Sample #	Tests	Method	Fluid #	Matrix *	% Solid	Pretest pH		Int. Wt. (g)	Fluid Vol. (mL)	Final extract pH
							Initial	Final			
NA	05-0079-01	ME	1311	F1L	W	20.5	NA	NA	100	100	6.00
D	05-0061-01	|	|	F2-377	S	100	12.63	12.47	25.10	502	12.44
|	05-0062-01	|	|	L	|	|	12.54	12.45	25.08	502	12.37
|	05-0085-01	|	|	F1-175	|	|	9.74	1.71	100.45	2009	5.01
D	05-0150-01	ME	pH2 1311	F2-377	S	100	8.84	5.87	100.26	2005	4.75
L	-02	L	L 1312	SPLP F2-325	L	L	NA	NA	100.10	2002	9.48
NA	FBIX1	MF	1311	F1-175	NA	NA	NA	NA	100	100	4.88
|	FBIX2	|	pH2 L	F2-377	|	|	|	|	|	|	2.93
|	SPLPFBIX2	|	L 1312	SPLP F2-325	|	|	|	|	|	|	5.00

*Matrix Code: (S = solid, sand, soil or sludge) (P = paint) (O = organic) (W = water or aqueous waste)
 D = Disposable plastic jug
 TCLP Pretest weight will be 5.0 g (± 0.1) unless otherwise noted.
 Temperature shall be maintained at 23° ± 2 for 18 ± 2 hours unless otherwise noted.

Comments: SX 05-0061-01 and 05-0062-01 reduce volume due to matrix.

Peer Review By: [Signature]

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 050516A.REP

Analyst1: JYH Analyst2: N/A

Method: 6020/6020A/200.8 SOP: ME700A Rev: 2

Maintenance Log ID: _____

Calibration Std: STD75706 ICV Std: STD75518 Post Spike: STD73705

ICSA: STD75856 IC SAB: STD75709 Int. Std: RGT36607

CCV: STD75971 LLCV: STD75708 Tuning Sol : STD75857

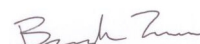
Stannous : _____ Hydroxylamine : _____

Workgroups: 567660,567472,567544,567702,567700

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.050516.105730	Blank	Blank		1		05/05/16 10:57
2	NI.050516.110042	WG567696-01	Calibration Point		1		05/05/16 11:00
3	NI.050516.110353	WG567696-02	Calibration Point		1		05/05/16 11:03
4	NI.050516.110705	WG567696-03	Calibration Point		1		05/05/16 11:07
5	NI.050516.111016	WG567696-04	Calibration Point		1		05/05/16 11:10
6	NI.050516.111329	WG567696-05	Initial Calibration Verification		1		05/05/16 11:13
7	NI.050516.111643	WG567696-06	Initial Calib Blank		1		05/05/16 11:16
8	NI.050516.111956	WG567696-07	Low Level Initial Calibration V		1		05/05/16 11:19
9	NI.050516.112307	WG567696-08	Interference Check		1		05/05/16 11:23
10	NI.050516.112618	WG567696-09	Interference Check		1		05/05/16 11:26
11	NI.050516.112932	WG567696-10	CCV		1		05/05/16 11:29
12	NI.050516.113243	WG567696-11	CCB		1		05/05/16 11:32
13	NI.050516.113556	WG567421-01	Method/Prep Blank	.25/100	1		05/05/16 11:35
14	NI.050516.113908	WG567421-02	Laboratory Control S	.25/100	1		05/05/16 11:39
15	NI.050516.114220	WG567421-03	Laboratory Control S	.25/100	1		05/05/16 11:42
16	NI.050516.114531	L16040002-01	MDL-1	.25/100	1		05/05/16 11:45
17	NI.050516.114843	L16040004-01	LOQ-1	.25/100	1		05/05/16 11:48
18	NI.050516.115154	L16040004-10	LOQ-14	.25/100	1		05/05/16 11:51
19	NI.050516.115508	WG567696-12	CCV		1		05/05/16 11:55
20	NI.050516.115819	WG567696-13	CCB		1		05/05/16 11:58
21	NI.050516.120133	L16050082-01	GS152SS042916S	.256/100	1		05/05/16 12:01
22	NI.050516.120444	L16050082-02	GS120SS042816S	.259/100	1		05/05/16 12:04
23	NI.050516.120756	WG567660-01	Post Digestion Spike		1	L16050082-02	05/05/16 12:07
24	NI.050516.121107	WG567660-02	Serial Dilution		5	L16050082-02	05/05/16 12:11
25	NI.050516.121419	WG567660-02	Serial Dilution		25	L16050082-02	05/05/16 12:14
26	NI.050516.121732	WG567696-14	CCV		1		05/05/16 12:17
27	NI.050516.122043	WG567696-15	CCB		1		05/05/16 12:20
28	NI.050516.123907	WG567312-02	Method/Prep Blank	20/50	1		05/05/16 12:39
29	NI.050516.124218	WG567312-03	Laboratory Control S	20/50	1		05/05/16 12:42
30	NI.050516.124530	WG567312-01	Reference Sample		1	L16041613-12	05/05/16 12:45
31	NI.050516.124841	WG567312-04	Matrix Spike	20/50	1	L16041613-12	05/05/16 12:48
32	NI.050516.125152	WG567312-05	Matrix Spike Duplica	20/50	1	L16041613-12	05/05/16 12:51
33	NI.050516.125504	L16041505-01	MW08	20/50	1		05/05/16 12:55
34	NI.050516.125815	L16041505-02	MW08	20/50	1		05/05/16 12:58

Page: 1 Approved: May 06, 2016




Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 050516A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 2
 Maintenance Log ID: _____
 Calibration Std: STD75706 ICV Std: STD75518 Post Spike: STD73705
 ICSA: STD75856 ICSAB: STD75709 Int. Std: RGT36607
 CCV: STD75971 LLCCV: STD75708 Tuning Sol : STD75857
 Stannous : _____ Hydroxylamine : _____

Workgroups: 567660,567472,567544,567702,567700

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	NI.050516.130127	WG567472-01	Post Digestion Spike		5	L16041505-02	05/05/16 13:01
36	NI.050516.130438	WG567472-02	Serial Dilution		25	L16041505-02	05/05/16 13:04
37	NI.050516.130750	WG567472-02	Serial Dilution		1	L16041505-02	05/05/16 13:07
38	NI.050516.131102	WG567696-16	CCV		1		05/05/16 13:11
39	NI.050516.131414	WG567696-17	CCB		1		05/05/16 13:14
40	NI.050516.131726	L16041505-03	MW12A	20/50	1		05/05/16 13:17
41	NI.050516.132038	L16041505-04	MW12A	20/50	1		05/05/16 13:20
42	NI.050516.132350	L16041613-01	MW04C	20/50	1		05/05/16 13:23
43	NI.050516.132701	L16041613-02	MW04C	20/50	1		05/05/16 13:27
44	NI.050516.133012	L16041613-03	MW10	20/50	1		05/05/16 13:30
45	NI.050516.133324	L16041613-04	MW10	20/50	1		05/05/16 13:33
46	NI.050516.133635	L16041613-05	MW11	20/50	1		05/05/16 13:36
47	NI.050516.134950	L16041613-06	MW11	20/50	1		05/05/16 13:49
48	NI.050516.135301	L16041613-07	MW13B	20/50	1		05/05/16 13:53
49	NI.050516.135613	L16041613-08	MW13B	20/50	1		05/05/16 13:56
50	NI.050516.135925	WG567696-18	CCV		1		05/05/16 13:59
51	NI.050516.140237	WG567696-19	CCB		1		05/05/16 14:02
52	NI.050516.140549	L16041613-09	MW14A	20/50	1		05/05/16 14:05
53	NI.050516.140901	L16041613-10	MW14A	20/50	1		05/05/16 14:09
54	NI.050516.141212	L16041613-11	MW15	20/50	1		05/05/16 14:12
55	NI.050516.141524	L16041613-13	DUPLICATE	20/50	1		05/05/16 14:15
56	NI.050516.141835	L16041613-14	DUPLICATE	20/50	1		05/05/16 14:18
57	NI.050516.142146	L16050082-01	GS152SS042916S	.25/100	50		05/05/16 14:21
58	NI.050516.142500	WG567696-20	CCV		1		05/05/16 14:25
59	NI.050516.142811	WG567696-21	CCB		1		05/05/16 14:28
60	NI.050516.143733	WG567644-02	Method/Prep Blank	40/50	50		05/05/16 14:37
61	NI.050516.144044	WG567644-03	Laboratory Control S	40/50	50		05/05/16 14:40
62	NI.050516.144356	WG567499-01	Fluid Blank 1		50		05/05/16 14:43
63	NI.050516.144707	WG567499-02	Fluid Blank 2		50		05/05/16 14:47
64	NI.050516.145019	WG567644-01	Reference Sample		50	L16050153-01	05/05/16 14:50
65	NI.050516.145330	WG567644-04	Matrix Spike	40/50	50	L16050153-01	05/05/16 14:53
66	NI.050516.145641	WG567644-05	Matrix Spike Duplica	40/50	50	L16050153-01	05/05/16 14:56
67	NI.050516.150057	L16050062-01	ALAN 26 BAGS	5/50	50		05/05/16 15:00
68	NI.050516.150410	L16050061-01	SAPA 10 BAGS	5/50	50		05/05/16 15:04

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Bank Zuo

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 050516A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 2
 Maintenance Log ID: _____
 Calibration Std: STD75706 ICV Std: STD75518 Post Spike: STD73705
 ICSA: STD75856 ICSAB: STD75709 Int. Std: RGT36607
 CCV: STD75971 LLCCV: STD75708 Tuning Sol : STD75857
 Stannous : _____ Hydroxylamine : _____

Workgroups: 567660,567472,567544,567702,567700Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	NI.050516.150723	WG567696-22	CCV		1		05/05/16 15:07
70	NI.050516.151035	WG567696-23	CCB		1		05/05/16 15:10
71	NI.050516.151348	WG567702-01	Post Digestion Spike		50	L16050061-01	05/05/16 15:13
72	NI.050516.151700	WG567702-02	Serial Dilution		250	L16050061-01	05/05/16 15:17
73	NI.050516.152012	L16041613-02	MW04C	20/50	50		05/05/16 15:20
74	NI.050516.152323	L16041613-04	MW10	20/50	50		05/05/16 15:23
75	NI.050516.152635	WG567312-01	Reference Sample		50	L16041613-12	05/05/16 15:26
76	NI.050516.152946	WG567312-04	Matrix Spike	20/50	50	L16041613-12	05/05/16 15:29
77	NI.050516.153258	WG567312-05	Matrix Spike Duplica	20/50	50	L16041613-12	05/05/16 15:32
78	NI.050516.153611	WG567696-24	CCV		1		05/05/16 15:36
79	NI.050516.153922	WG567696-25	CCB		1		05/05/16 15:39
80	NI.050516.160015	WG567607-02	Method/Prep Blank	20/50	1		05/05/16 16:00
81	NI.050516.160326	WG567607-03	Laboratory Control S	20/50	1		05/05/16 16:03
82	NI.050516.160638	WG567502-01	Fluid Blank 2		1		05/05/16 16:06
83	NI.050516.160949	L16050169-01	V6E0104-01		1	WG567607-01	05/05/16 16:09
84	NI.050516.161301	WG567607-04	Duplicate	20/50	1	L16050169-01	05/05/16 16:13
85	NI.050516.161612	WG567607-05	Matrix Spike	20/50	1	L16050169-01	05/05/16 16:16
86	NI.050516.161924	WG567607-06	Matrix Spike Duplica	20/50	1	L16050169-01	05/05/16 16:19
87	NI.050516.162235	L16050150-02	60500-SSP0036-SSP0036	20/50	1		05/05/16 16:22
88	NI.050516.162546	WG567700-01	Post Digestion Spike		1	L16050150-02	05/05/16 16:25
89	NI.050516.162858	WG567700-02	Serial Dilution		5	L16050150-02	05/05/16 16:28
90	NI.050516.163211	WG567696-26	CCV		1		05/05/16 16:32
91	NI.050516.163523	WG567696-27	CCB		1		05/05/16 16:35
92	NI.050516.163835	WG567700-02	Serial Dilution		25	L16050150-02	05/05/16 16:38
93	NI.050516.164147	L16050151-02	50WW13FF-050316	20/50	1		05/05/16 16:41
94	NI.050516.164458	L16050151-04	50WW14FF-050316		1		05/05/16 16:44
95	NI.050516.164810	L16050151-06	50WW08FF-050316	20/50	1		05/05/16 16:48
96	NI.050516.165121	L16050151-08	50WW18FF-050316	20/50	1		05/05/16 16:51
97	NI.050516.165433	L16050151-10	50WW25FF-050316	20/50	1		05/05/16 16:54
98	NI.050516.165744	L16050169-02	V6E0104-02	20/50	1		05/05/16 16:57
99	NI.050516.170056	L16050178-01	J6E0055-01	50/50	1		05/05/16 17:00
100	NI.050516.170407	L16050179-01	J6D0962-01	50/50	1		05/05/16 17:04
101	NI.050516.170719	L16050183-01	LRD01	50/50	1		05/05/16 17:07
102	NI.050516.171032	WG567696-28	CCV		1		05/05/16 17:10

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Bank Zuo

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 050516A.REP

Analyst1: JYH Analyst2: N/A

Method: 6020/6020A/200.8 SOP: ME700A Rev: 2

Maintenance Log ID: _____

Calibration Std: STD75706 ICV Std: STD75518 Post Spike: STD73705

ICSA: STD75856 ICSAB: STD75709 Int. Std: RGT36607

CCV: STD75971 LLCCV: STD75708 Tuning Sol : STD75857

Stannous : _____ Hydroxylamine : _____

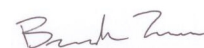
Workgroups: 567660,567472,567544,567702,567700

Comments:

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Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	NI.050516.171343	WG567696-29	CCB		1		05/05/16 17:13
104	NI.050516.171656	L16050183-02	LRD01	50/50	1		05/05/16 17:16
105	NI.050516.172008	L16050197-01	OUTFALL 097 GRAB	20/50	1		05/05/16 17:20
106	NI.050516.172319	L16050200-06	PELLETIZER	20/50	1		05/05/16 17:23
107	NI.050516.172631	L16050201-01	OUTFALL 002 COMP	20/50	1		05/05/16 17:26
108	NI.050516.172943	L16050201-03	OUTFALL 003 COMP	20/50	1		05/05/16 17:29
109	NI.050516.173254	L16050151-02	50WW13FF-050316		50		05/05/16 17:32
110	NI.050516.173606	L16050151-04	50WW14FF-050316	20/50	50		05/05/16 17:36
111	NI.050516.173917	L16050151-06	50WW08FF-050316		50		05/05/16 17:39
112	NI.050516.174229	L16050151-08	50WW18FF-050316		50		05/05/16 17:42
113	NI.050516.174540	L16050151-10	50WW25FF-050316		50		05/05/16 17:45
114	NI.050516.174853	WG567696-30	CCV		1		05/05/16 17:48
115	NI.050516.175205	WG567696-31	CCB		1		05/05/16 17:52
116	NI.050516.175518	WG567696-32	Low Level Continuing Calibra		1		05/05/16 17:55

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Microbac Laboratories Inc.

Data Checklist

Date: 05-MAY-2016
 Analyst: JYH
 Analyst: NA
 Method: 6020/6020A/200.8
 Instrument: ICP-MS2
 Curve Workgroup: 567696
 Runlog ID: 74920
 Analytical Workgroups: 567660,567472,567544,567702,567700

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	X
Case Narrative	X
Client Forms	X
Level X	
Level 3	
Level 4	0002,0004,082,150,151
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	BKT
Comments	

Primary Reviewer:

Secondary Reviewer:
09-MAY-2016



Analytical Method:6020A
 Login Number:L16050151

AAB#:WG567700

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
50WW13FF-050316	02	05/03/16					05/05/2016	2	180		05/05/16	2.4	180	
50WW14FF-050316	04	05/03/16					05/05/2016	2	180		05/05/16	2.3	180	
50WW08FF-050316	06	05/03/16					05/05/2016	1.9	180		05/05/16	2.3	180	
50WW18FF-050316	08	05/03/16					05/05/2016	1.8	180		05/05/16	2.2	180	
50WW25FF-050316	10	05/03/16					05/05/2016	1.8	180		05/05/16	2.1	180	

* = SEE PROJECT QAPP REQUIREMENTS



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG567700
 Blank File ID: NI.050516.160015 Blank Sample ID: WG567607-02
 Prep Date: 05/05/16 08:56 Instrument ID: ICP-MS2
 Analyzed Date: 05/05/16 16:00 Method: 6020A
 Analyst: JYH

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG567607-03	NI.050516.160326	05/05/16 16:03	01
DUP	WG567607-04	NI.050516.161301	05/05/16 16:13	01
50WW13FF-050316	L16050151-02	NI.050516.164147	05/05/16 16:41	01
50WW08FF-050316	L16050151-06	NI.050516.164810	05/05/16 16:48	01
50WW18FF-050316	L16050151-08	NI.050516.165121	05/05/16 16:51	01
50WW25FF-050316	L16050151-10	NI.050516.165433	05/05/16 16:54	01
50WW14FF-050316	L16050151-04	NI.050516.173606	05/05/16 17:36	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 4749880
 Report generated 05/06/2016 09:32



Login Number: L16050151 Prep Date: 05/05/16 08:56 Sample ID: WG567607-02
 Instrument ID: ICP-MS2 Run Date: 05/05/16 16:00 Prep Method: 3015
 File ID: NI.050516.160015 Analyst: JYH Method: 6020A
 Workgroup (AAB#): WG567700 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: ICP-MS - 05-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Manganese, Dissolved	0.00100	0.00400	0.00100	1	U

DL 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: 4749881
 06-MAY-2016 09:32



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567607-03
Instrument ID: ICP-MS2 Run Time: 16:03 Prep Method: 3015
File ID: NI.050516.160326 Analyst: JYH Method: 6020A
Workgroup (AAB#): WG567700 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD73427 Cal ID: ICP-MS - 05-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Manganese, Dissolved	0.125	0.130	104	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 4749882
Report generated: 05/06/2016 09:32



Loginnum: L16050151 Cal ID: ICP-MS2- Worknum: WG567700
 Instrument ID: ICP-MS2 Contract #: _____ Method: 6020A
 Parent ID: WG567607-01 File ID: NI.050516.160949 Dil: 1 Matrix: WATER
 Sample ID: WG567607-05 MS File ID: NI.050516.161612 Dil: 1 Units: mg/L
 Sample ID: WG567607-06 MSD File ID: NI.050516.161924 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Manganese	ND	0.125	0.126	101	0.125	0.125	100	0.911	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

Login: L16050151 **Worknum:** WG567700
Instrument: ICP-MS2 **Method:** 6020A
Serial Dil: WG567700-02 **File ID:** NI.050516.162858 **Dil:** 5 **Units:** ug/L
Sample: L16050150-02 **File ID:** NI.050516.162235 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Manganese	0.569	F	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: 4749877

05/06/2016 09:32



Sample Login ID: L16050151 Worknum: WG567700
 Instrument ID: ICP-MS2 Method: 6020A
 Post Spike ID: WG567700-01 File ID: NI.050516.162546 Dil: 1 Units: ug/L
 Sample ID: L16050150-02 File ID: NI.050516.162235 Dil: 1 Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MANGANESE	52.0		0.569	F	50	102.8	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



Login: L16050151 Workgroup (AAB#): WG567700
 Analytical Method: 6020A Instrument ID: ICP-MS2
 ICAL Worknum: WG567696 Initial Calibration Date: 05-MAY-2016 11:10

	WG567696-01		WG567696-02		WG567696-03		WG567696-04		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
MANGANESE	0	1070	.4	1660	50	552000	100	1100000	.999968	

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-06
Instrument ID: ICP-MS2 Run Time: 11:16 Method: 6020A
File ID: NI.050516.111643 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG567700 Cal ID: ICP-MS2 - 05-MAY-16
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MANGANESE	.4	1.6	.4	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-11
Instrument ID: ICP-MS2 Run Time: 11:32 Method: 6020A
File ID: NI.050516.113243 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4749891
Report generated 05/06/2016 09:32



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-25
Instrument ID: ICP-MS2 Run Time: 15:39 Method: 6020A
File ID: NI.050516.153922 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4749891
Report generated 05/06/2016 09:32



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-27
Instrument ID: ICP-MS2 Run Time: 16:35 Method: 6020A
File ID: NI.050516.163523 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4749891
Report generated 05/06/2016 09:32



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-29
Instrument ID: ICP-MS2 Run Time: 17:13 Method: 6020A
File ID: NI.050516.171343 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4749891
Report generated 05/06/2016 09:32



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-31
Instrument ID: ICP-MS2 Run Time: 17:52 Method: 6020A
File ID: NI.050516.175205 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4749891
Report generated 05/06/2016 09:32



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-05
Instrument ID: ICP-MS2 Run Time: 11:13 Method: 6020A
File ID: NI.050516.111329 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Manganese	50	49.8	99.6	90 - 110	

* Exceeds LIMITS Limit



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-10
Instrument ID: ICP-MS2 Run Time: 11:29 Method: 6020A
File ID: NI.050516.112932 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0493	mg/L	98.6	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 4749890
Report generated 05/06/2016 09:32



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-24
 Instrument ID: ICP-MS2 Run Time: 15:36 Method: 6020A
 File ID: NI.050516.153611 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0499	mg/L	99.7	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 4749890
 Report generated 05/06/2016 09:32



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-26
 Instrument ID: ICP-MS2 Run Time: 16:32 Method: 6020A
 File ID: NI.050516.163211 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0501	mg/L	100	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 4749890
 Report generated 05/06/2016 09:32



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-28
 Instrument ID: ICP-MS2 Run Time: 17:10 Method: 6020A
 File ID: NI.050516.171032 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0482	mg/L	96.3	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 4749890
 Report generated 05/06/2016 09:32



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-30
 Instrument ID: ICP-MS2 Run Time: 17:48 Method: 6020A
 File ID: NI.050516.174853 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0479	mg/L	95.8	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 4749890
 Report generated 05/06/2016 09:32



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-07
 Instrument ID: ICP-MS2 Run Time: 11:19 Method: 6020A
 File ID: NI.050516.111956 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.500	0.452	ug/L	90.4	70 - 130	

* Exceeds LIMITS Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567696-32
 Instrument ID: ICP-MS2 Run Time: 17:55 Method: 6020A
 File ID: NI.050516.175518 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG567700 Cal ID: ICP-MS - 05-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.500	0.473	ug/L	94.5	70 - 130	

* Exceeds LIMITS Criteria



Login number: L16050151
Instrument ID: ICP-MS2
Sol. A: WG567696-08
Sol. AB: WG567696-09

File ID: NI.050516.112307
File ID: NI.050516.112618

Workgroup (AAB#): WG567700
Method: 6020A
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Manganese	NS	0.0495	NS	100	98.0	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.



INTERNAL STANDARD REPORT

Login: L16050151 Analytical Method: 6020
 Analytical Workgroup: WG567700 Matrix: 1
 Instrument: ICP-MS2 Analyst: JYH
 ICAL Date: 05-MAY-2016 11:00

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
L16050151-02	SAMP	05-MAY-2016 16:41	89.166	88.214	90.527
L16050151-04	SAMP	05-MAY-2016 17:36	91.485	80.981	85.833
L16050151-06	SAMP	05-MAY-2016 16:48	90.263	86.564	90.875
L16050151-08	SAMP	05-MAY-2016 16:51	89.659	85.955	89.906
L16050151-10	SAMP	05-MAY-2016 16:54	89.815	84.049	89.671
WG567607-02	BLANK	05-MAY-2016 16:00	96.543	93.935	95.209
WG567607-03	LCS	05-MAY-2016 16:03	97.363	93.232	97.042
WG567696-05	ICV	05-MAY-2016 11:13	99.435	96.503	97.499
WG567696-06	ICB	05-MAY-2016 11:16	96.919	90.759	92.64
WG567696-07	LLICV	05-MAY-2016 11:19	97.991	94.713	94.796
WG567696-08	ICS	05-MAY-2016 11:23	93.734	89.19	90.098
WG567696-09	ICS	05-MAY-2016 11:26	99.884	95.407	98.827
WG567696-10	CCV	05-MAY-2016 11:29	100.843	97.641	99.024
WG567696-11	CCB	05-MAY-2016 11:32	96.993	90.687	94.337
WG567696-24	CCV	05-MAY-2016 15:36	96.198	93.835	96.835
WG567696-25	CCB	05-MAY-2016 15:39	98.234	93.751	95.812
WG567696-26	CCV	05-MAY-2016 16:32	96.388	91.452	96.27
WG567696-27	CCB	05-MAY-2016 16:35	97.48	92.715	97.038
WG567696-28	CCV	05-MAY-2016 17:10	103.004	90.749	99.448
WG567696-29	CCB	05-MAY-2016 17:13	101.541	90.335	98.346
WG567696-30	CCV	05-MAY-2016 17:48	96.666	89.291	95.862
WG567696-31	CCB	05-MAY-2016 17:52	97.595	88.568	95.865
WG567696-32	LLCCV	05-MAY-2016 17:55	94.388	84.438	91.845
WG567700-01	PSPK	05-MAY-2016 16:25	94.172	91.16	92.585
WG567700-02	SERIAL	05-MAY-2016 16:28	92.242	85.952	87.87

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: 4749885
 Report generated: 05/06/2016 09:32



INTERNAL STANDARD REPORT

Login: L16050151 Analytical Method: 6020
Analytical Workgroup: WG567700 Matrix: 18
Instrument: ICP-MS2 Analyst: JYH
ICAL Date: 05-MAY-2016 11:00

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
L16050150-02	SAMP	05-MAY-2016 16:22	92.925	91.564	92.792
WG567502-01	FBLK2	05-MAY-2016 16:06	97.762	95.073	97.249

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: 4749885
Report generated: 05/06/2016 09:32



Login Number: L16050151 Date: 01/05/2016
Instrument ID: ICP-MS2 Method: 6020A

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.



2.3.2.3 Raw Data

MassCal File Name

Mass Calibration File Name default.tun
 MassCal File Path C:\NexIONData\MassCal\default.tun
 Peak Search Window: 1.00

Sample Information

Sample Date/Time: Thursday, May 05, 2016 10:44:28

Mass Calibration and Resolution

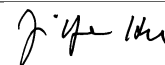
Analyte	E Mass	Meas Mass	Mass C DAC Val	Res DAC Value	Meas Peak	WCustome Res
Li	7.016	7.025	1327	2024	0.707	
Mg	23.985	23.975	4501	2020	0.693	
Co	58.933	58.925	11684	2021	0.715	
In	114.904	114.925	22865	2028	0.695	
U	238.050	238.075	47455	2043	0.700	

Relative Std. Dev.

Mass	Meas. Intens.	RSD
5.525		14.089
5.575		3.649
5.625		2.117
5.675		2.887
5.725		3.087
5.775		1.728
5.825		2.143
5.875		1.620
5.925		2.549
5.975		2.982
6.025		1.803
6.075		1.230
6.125		2.213
6.175		4.843
6.225		4.892
6.275		38.801
6.325		91.287
6.375		60.111
6.425		21.066
6.475		67.711
6.525		19.349
6.575		5.404
6.625		3.414
6.675		3.465
6.725		1.575
6.775		2.359
6.825		3.181

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6.875	2.643
6.925	2.509
6.975	2.860
7.025	0.366
7.075	1.928
7.125	3.053
7.175	2.449
7.225	3.629
7.275	2.505
7.325	9.891
7.375	24.845
7.425	47.507
7.475	33.535
7.525	35.355
7.575	46.566
7.625	52.705
7.675	46.351
7.725	40.745
7.775	71.261
7.825	81.441
7.875	59.266
7.925	86.603
7.975	100.000
8.025	37.268
8.075	74.608
8.125	73.193
8.175	60.858
8.225	136.931
8.275	47.507
8.325	78.174
8.375	55.902
8.425	81.441
8.475	82.402
22.525	
22.575	9.317
22.625	44.605
22.675	20.000
22.725	31.599
22.775	33.333
22.825	45.730
22.875	53.698
22.925	28.331
22.975	45.134
23.025	26.503
23.075	52.034
23.125	31.417
23.175	11.050

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23.225	25.705
23.275	30.051
23.325	41.780
23.375	23.077
23.425	39.802
23.475	23.743
23.525	5.952
23.575	3.885
23.625	1.365
23.675	0.886
23.725	1.568
23.775	0.787
23.825	1.238
23.875	0.695
23.925	0.822
23.975	0.835
24.025	0.686
24.075	0.791
24.125	1.409
24.175	0.587
24.225	1.351
24.275	2.488
24.325	18.088
24.375	13.258
24.425	29.572
24.475	11.503
24.525	4.192
24.575	2.241
24.625	2.864
24.675	1.543
24.725	1.210
24.775	2.817
24.825	2.211
24.875	1.130
24.925	0.931
24.975	0.444
25.025	0.846
25.075	1.205
25.125	1.647
25.175	0.888
25.225	1.632
25.275	9.201
25.325	47.380
25.375	49.496
25.425	28.295
25.475	17.201
57.525	8.667

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57.575	5.005
57.625	3.570
57.675	2.270
57.725	2.072
57.775	2.482
57.825	3.046
57.875	2.716
57.925	1.728
57.975	1.834
58.025	2.165
58.075	1.779
58.125	2.695
58.175	2.478
58.225	1.570
58.275	2.130
58.325	5.140
58.375	57.198
58.425	43.122
58.475	6.547
58.525	3.824
58.575	2.344
58.625	1.095
58.675	1.736
58.725	1.294
58.775	0.478
58.825	0.762
58.875	1.578
58.925	1.453
58.975	1.929
59.025	2.198
59.075	1.403
59.125	1.222
59.175	0.684
59.225	2.875
59.275	4.577
59.325	30.541
59.375	37.268
59.425	33.500
59.475	23.001
59.525	7.288
59.575	6.798
59.625	2.932
59.675	4.502
59.725	3.609
59.775	3.020
59.825	1.709
59.875	1.945

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59.925	2.088
59.975	3.560
60.025	3.082
60.075	3.761
60.125	3.930
60.175	2.211
60.225	3.120
60.275	12.033
60.325	48.247
60.375	72.436
60.425	68.465
60.475	55.902
113.525	7.738
113.575	1.976
113.625	1.786
113.675	2.460
113.725	3.948
113.775	1.925
113.825	2.411
113.875	2.712
113.925	1.923
113.975	2.586
114.025	2.696
114.075	3.229
114.125	1.623
114.175	3.230
114.225	3.680
114.275	14.834
114.325	29.881
114.375	39.520
114.425	9.853
114.475	5.662
114.525	5.414
114.575	2.316
114.625	1.615
114.675	0.858
114.725	1.221
114.775	1.854
114.825	3.033
114.875	1.937
114.925	3.070
114.975	2.382
115.025	2.911
115.075	1.876
115.125	3.018
115.175	3.912
115.225	3.429

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115.275	6.771
115.325	16.207
115.375	55.065
115.425	22.122
115.475	13.665
115.525	8.239
115.575	6.749
115.625	3.011
115.675	5.111
115.725	3.072
115.775	3.392
115.825	2.222
115.875	3.112
115.925	4.451
115.975	6.186
116.025	2.598
116.075	4.908
116.125	5.303
116.175	2.692
116.225	5.439
116.275	15.093
116.325	31.419
116.375	50.000
116.425	66.069
116.475	68.698
236.525	223.607
236.575	28.085
236.625	37.073
236.675	22.268
236.725	29.458
236.775	39.123
236.825	25.087
236.875	27.381
236.925	28.917
236.975	36.094
237.025	30.201
237.075	14.172
237.125	22.569
237.175	33.431
237.225	17.568
237.275	23.981
237.325	47.931
237.375	14.044
237.425	39.370
237.475	53.351
237.525	12.058
237.575	6.559

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237.625	2.737
237.675	1.019
237.725	3.683
237.775	1.590
237.825	1.656
237.875	1.518
237.925	0.819
237.975	1.672
238.025	1.158
238.075	1.674
238.125	1.064
238.175	0.991
238.225	0.817
238.275	1.003
238.325	2.163
238.375	2.189
238.425	1.640
238.475	1.481
238.525	6.818
238.575	10.037
238.625	21.872
238.675	22.139
238.725	30.195
238.775	15.658
238.825	21.859
238.875	17.999
238.925	16.574
238.975	7.918
239.025	20.306
239.075	26.178
239.125	11.912
239.175	38.586
239.225	35.241
239.275	31.872
239.325	18.373
239.375	16.495
239.425	26.716
239.475	25.471

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SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Start Time: 5/5/2016 10:49:49 AM

End Time: 5/5/2016 10:52:01 AM

Daily Performance Check - [Passed] Optimum value(s): N/A

Obtained Intensity (Be 9.0122): 5432.57

Obtained Intensity (Mg 23.985): 162111.45

Obtained Intensity (In 114.904): 87140.00

Obtained Intensity (U 238.05): 158110.72

Obtained Intensity (Bkgd 220): 0.40

Obtained Formula (CeO 155.9 / Ce 139.905): 0.019 (=5443.98 / 284961.43)

Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.007 (=1925.21 / 284961.43)

Report Date/Time: Thursday, May 05, 2016 10:52:01

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SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Optimization Status

Start Time: 5/5/2016 10:49:49 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 <= 5
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): 5432.57
Obtained Intensity (Mg 23.985): 162111.45
Obtained Intensity (In 114.904): 87140.00
Obtained Intensity (U 238.05): 158110.72
Obtained Intensity (Bkgd 220): 0.40
Obtained Formula (CeO 155.9 / ce 139.905): 0.019 (=5443.98 / 284961.43)
Obtained Formula (Ce++ 69.9527 / ce 139.905): 0.007 (=1925.21 / 284961.43)

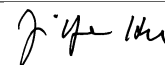
[Passed] Optimum value(s): N/A

End Time: 5/5/2016 10:52:01 AM

Report Date/Time: Thursday, May 05, 2016 10:52:01

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Method 6020 - Summary Report

Sample ID: Blank

Sample Date/Time: Thursday, May 05, 2016 10:57:30

Number of Replicates: 3

Autosampler Position: 1

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82656.6	2.0				ug/L		Standard
|	Be	9	13.3	78.1				ug/L		Standard
|	Al	27	1346.7	6.0				ug/L		Standard
|	Sc	45	42879.0	4.2				ug/L		Standard
|	Ti	47	41.3	18.3				ug/L		Standard
|	V	51	2415.7	6.1				ug/L		Standard
|	Cr	52	12474.8	2.2				ug/L		Standard
|	Cr	53	536.7	4.3				ug/L		Standard
|	Mn	55	1089.7	3.1				ug/L		Standard
|	Co	59	362.7	8.6				ug/L		Standard
|	Ni	60	399.3	10.7				ug/L		Standard
|	Cu	65	491.7	5.2				ug/L		Standard
|	Zn	66	200.7	8.9				ug/L		Standard
>	Ge	72	679875.2	2.0				ug/L		Standard
|	As	75	-84.8	80.4				ug/L		Standard
|	Se	82	29.2	42.6				ug/L		Standard
|	Se-1	77	107.3	8.7				ug/L		Standard
>	Ga	71	36.7	47.9				mg/L		Standard
|	Rb	85	23.3	65.5				ug/L		Standard
|	Y	89	562937.2	1.7				ug/L		Standard
>	Rh	103	13.3	78.1				ug/L		Standard
|	Mo	98	24.8	14.0				ug/L		Standard
|	Ag	107	114.3	13.6				ug/L		Standard
|	Cd	111	5.6	10.4				mg/L		Standard
|	Cd	114	13.8	75.7				ug/L		Standard
>	In	115	726029.6	2.2				ug/L		Standard
|	Sn	118	913.4	7.1				ug/L		Standard
|	Sb	123	307.5	20.8				ug/L		Standard
|	Ba	135	49.7	12.9				ug/L		Standard
|	Ce	140	121.7	27.4				ug/L		Standard
>	Tb	159	1169811.6	1.3				ug/L		Standard
|	Ho	165	6.7	43.3				ug/L		Standard
|	Tl	203	10.7	21.7				ug/L		Standard
|	Tl	205	8.3	69.3				ug/L		Standard
|	Pb	206	277.3	2.7				ug/L		Standard
|	Pb	207	261.7	2.5				ug/L		Standard
	Pb	208	982.0	2.3				ug/L		Standard
	U	238	8.0	37.5				ug/L		Standard
>	Bi	209	593643.4	1.7				ug/L		Standard

Sample ID: Blank

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Na	23	1.7	173.2	mg/L	Standard
Mg	24	75.0	17.6	mg/L	Standard
K	39	31.7	50.8	mg/L	Standard
Ca	43	50.0	30.0	mg/L	Standard
Fe	54	235.8	2.6	mg/L	Standard
Fe	57	351.7	16.0	mg/L	Standard
Sc-1	45	42879.0	4.2	mg/L	Standard
Cl	35	166385.0	4.2	ug/L	Standard
Kr	83	3.0	66.7	ug/L	Standard
Br	81	4320.6	8.0	ug/L	Standard
P	31	24331.2	3.5	ug/L	Standard
S	34	3788.8	4.3	ug/L	Standard
Sr	88	78.3	9.8	ug/L	Standard
C	12	110.0	41.7	mg/L	Standard
N	14	0.0		mg/L	Standard
Hg	202	3.3	173.2	mg/L	Standard
Dy	164	12.4	50.3	mg/L	Standard
Ho-1	165	6.7	43.3	mg/L	Standard
Er	166	20.0	86.6	mg/L	Standard
I	127	2570.2	3.6	mg/L	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6			
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			

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[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
[	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
[	C	12
[	N	14
[	Hg	202
[	Dy	164
[	Ho-1	165
[	Er	166
[I	127

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Thursday, May 05, 2016 11:00:42

Number of Replicates: 3

Autosampler Position: 1

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	84268.9	3.3				ug/L	82657	Standard
|	Be	9	18.3	15.7				ug/L	13	Standard
|	Al	27	1288.4	1.8				ug/L	1347	Standard
|	Sc	45	42833.9	3.8				ug/L	42879	Standard
|	Ti	47	41.7	19.2				ug/L	41	Standard
|	V	51	2373.2	5.3				ug/L	2416	Standard
|	Cr	52	12039.1	3.7				ug/L	12475	Standard
|	Cr	53	568.3	5.9				ug/L	537	Standard
|	Mn	55	1071.7	3.7				ug/L	1090	Standard
|	Co	59	337.7	4.8				ug/L	363	Standard
|	Ni	60	433.3	9.7				ug/L	399	Standard
|	Cu	65	476.3	1.8				ug/L	492	Standard
|	Zn	66	194.3	1.5				ug/L	201	Standard
>	Ge	72	662601.8	3.1				ug/L	679875	Standard
|	As	75	-137.9	3.7				ug/L	-85	Standard
|	Se	82	26.4	11.4				ug/L	29	Standard
|	Se-1	77	103.3	7.3				ug/L	107	Standard
>	Ga	71	46.7	16.4				mg/L	37	Standard
|	Rb	85	15.0	88.2				ug/L	23	Standard
|	Y	89	555407.9	3.1				ug/L	562937	Standard
>	Rh	103	6.7	114.6				ug/L	13	Standard
|	Mo	98	14.8	27.4				ug/L	25	Standard
|	Ag	107	114.3	3.9				ug/L	114	Standard
|	Cd	111	5.0	87.7				mg/L	6	Standard
|	Cd	114	25.3	73.6				ug/L	14	Standard
>	In	115	708695.2	2.7				ug/L	726030	Standard
|	Sn	118	798.4	9.4				ug/L	913	Standard
|	Sb	123	104.3	29.7				ug/L	308	Standard
|	Ba	135	49.0	5.4				ug/L	50	Standard
|	Ce	140	90.0	43.4				ug/L	122	Standard
>	Tb	159	1160219.6	2.3				ug/L	1169812	Standard
|	Ho	165	6.7	43.3				ug/L	7	Standard
|	Tl	203	11.3	13.5				ug/L	11	Standard
|	Tl	205	5.0	0.0				ug/L	8	Standard
|	Pb	206	284.3	9.8				ug/L	277	Standard
|	Pb	207	258.3	1.2				ug/L	262	Standard
	Pb	208	1001.7	2.7				ug/L	982	Standard
	U	238	6.7	82.6				ug/L	8	Standard
>	Bi	209	584722.6	2.9				ug/L	593643	Standard

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Na	23	0.0		mg/L	2	Standard
Mg	24	61.7	12.4	mg/L	75	Standard
K	39	40.0	57.3	mg/L	32	Standard
Ca	43	48.3	39.2	mg/L	50	Standard
Fe	54	223.7	35.0	mg/L	236	Standard
Fe	57	355.0	2.4	mg/L	352	Standard
Sc-1	45	42833.9	3.8	mg/L	42879	Standard
Cl	35	155650.5	3.0	ug/L	166385	Standard
Kr	83	2.0	50.0	ug/L	3	Standard
Br	81	4327.3	2.0	ug/L	4321	Standard
P	31	23563.3	3.8	ug/L	24331	Standard
S	34	3527.1	1.6	ug/L	3789	Standard
Sr	88	105.0	21.8	ug/L	78	Standard
C	12	80.0	12.5	mg/L	110	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	0.0		mg/L	3	Standard
Dy	164	22.9	111.0	mg/L	12	Standard
Ho-1	165	6.7	43.3	mg/L	7	Standard
Er	166	10.0	100.0	mg/L	20	Standard
I	127	2645.2	5.4	mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6			
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			

Sample ID: Standard 1

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[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
[	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
[	C	12
[	N	14
[	Hg	202
[	Dy	164
[	Ho-1	165
[	Er	166
[I	127

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 1

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Method 6020 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Thursday, May 05, 2016 11:03:53

Number of Replicates: 3

Autosampler Position: 2

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82953.2	2.0				ug/L	82657	Standard
|	Be	9	106.7	16.5				ug/L	13	Standard
|	Al	27	12668.6	1.2				ug/L	1347	Standard
|	Sc	45	41938.0	2.6				ug/L	42879	Standard
|	Ti	47	79.0	9.6				ug/L	41	Standard
|	V	51	2745.3	1.5				ug/L	2416	Standard
|	Cr	52	12546.5	0.6				ug/L	12475	Standard
|	Cr	53	688.3	9.2				ug/L	537	Standard
|	Mn	55	1661.8	1.6				ug/L	1090	Standard
|	Co	59	854.4	1.5				ug/L	363	Standard
|	Ni	60	568.7	5.4				ug/L	399	Standard
|	Cu	65	640.7	3.6				ug/L	492	Standard
|	Zn	66	269.7	5.2				ug/L	201	Standard
>	Ge	72	669116.2	3.0				ug/L	679875	Standard
|	As	75	-49.4	75.2				ug/L	-85	Standard
|	Se	82	44.8	11.6				ug/L	29	Standard
|	Se-1	77	110.0	8.2				ug/L	107	Standard
>	Ga	71	41.7	34.6				mg/L	37	Standard
|	Rb	85	21.7	70.5				ug/L	23	Standard
|	Y	89	550479.9	3.3				ug/L	562937	Standard
>	Rh	103	6.7	114.6				ug/L	13	Standard
|	Mo	98	419.3	4.9				ug/L	25	Standard
|	Ag	107	633.0	8.0				ug/L	114	Standard
|	Cd	111	154.3	12.0				mg/L	6	Standard
|	Cd	114	382.3	7.3				ug/L	14	Standard
>	In	115	717779.3	0.7				ug/L	726030	Standard
|	Sn	118	1218.4	8.8				ug/L	913	Standard
|	Sb	123	406.5	9.4				ug/L	308	Standard
|	Ba	135	210.7	7.7				ug/L	50	Standard
|	Ce	140	33.3	22.9				ug/L	122	Standard
>	Tb	159	1171647.0	2.1				ug/L	1169812	Standard
|	Ho	165	20.0	66.1				ug/L	7	Standard
|	Tl	203	591.7	4.5				ug/L	11	Standard
|	Tl	205	505.0	8.5				ug/L	8	Standard
|	Pb	206	616.0	3.1				ug/L	277	Standard
|	Pb	207	585.7	5.3				ug/L	262	Standard
	Pb	208	2292.7	2.7				ug/L	982	Standard
	U	238	451.3	0.8				ug/L	8	Standard
>	Bi	209	589844.8	2.1				ug/L	593643	Standard

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Na	23	0.0		mg/L	2	Standard
Mg	24	58.3	19.8	mg/L	75	Standard
K	39	43.3	46.6	mg/L	32	Standard
Ca	43	26.7	39.0	mg/L	50	Standard
Fe	54	250.6	6.4	mg/L	236	Standard
Fe	57	300.0	6.0	mg/L	352	Standard
Sc-1	45	41938.0	2.6	mg/L	42879	Standard
Cl	35	153798.2	2.2	ug/L	166385	Standard
Kr	83	3.7	31.5	ug/L	3	Standard
Br	81	3967.2	4.1	ug/L	4321	Standard
P	31	23119.3	5.1	ug/L	24331	Standard
S	34	3507.1	4.4	ug/L	3789	Standard
Sr	88	91.7	20.7	ug/L	78	Standard
C	12	60.0	60.1	mg/L	110	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	0.0		mg/L	3	Standard
Dy	164	9.4	107.0	mg/L	12	Standard
Ho-1	165	20.0	66.1	mg/L	7	Standard
Er	166	13.3	86.6	mg/L	20	Standard
I	127	2336.8	4.2	mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6			
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			

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[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
[	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
[	C	12
[	N	14
[	Hg	202
[	Dy	164
[	Ho-1	165
[	Er	166
[I	127

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 2

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Method 6020 - Summary Report

Sample ID: Standard 3

Sample Date/Time: Thursday, May 05, 2016 11:07:05

Number of Replicates: 3

Autosampler Position: 3

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	83913.4	1.2				ug/L	82657	Standard
|	Be	9	57144.3	2.8	50.0000	0.802	1.6	ug/L	13	Standard
|	Al	27	10580400.0	1.4	50.0000	0.236	0.5	ug/L	1347	Standard
|	Sc	45	41650.6	3.7				ug/L	42879	Standard
|	Ti	47	33677.1	0.9	100.0000	0.707	0.7	ug/L	41	Standard
|	V	51	497672.2	0.6	50.0000	0.564	1.1	ug/L	2416	Standard
|	Cr	52	546389.2	0.5	50.0000	0.264	0.5	ug/L	12475	Standard
|	Cr	53	66564.2	0.7	50.0000	0.337	0.7	ug/L	537	Standard
|	Mn	55	552085.9	1.4	50.0000	0.864	1.7	ug/L	1090	Standard
|	Co	59	522697.1	2.0	50.0000	1.065	2.1	ug/L	363	Standard
|	Ni	60	152192.2	0.5	50.0000	0.445	0.9	ug/L	399	Standard
|	Cu	65	149496.4	1.9	50.0000	1.099	2.2	ug/L	492	Standard
|	Zn	66	81915.2	1.9	50.0000	1.078	2.2	ug/L	201	Standard
>	Ge	72	669607.1	0.6				ug/L	679875	Standard
|	As	75	82286.7	0.6	50.0000	0.245	0.5	ug/L	-85	Standard
|	Se	82	8641.5	1.1	50.0000	0.740	1.5	ug/L	29	Standard
|	Se-1	77	5692.4	1.7	50.0000	0.710	1.4	ug/L	107	Standard
>	Ga	71	80.0	27.2				mg/L	37	Standard
|	Rb	85	1220.0	5.0				ug/L	23	Standard
|	Y	89	554201.2	1.2				ug/L	562937	Standard
>	Rh	103	53.3	19.5				ug/L	13	Standard
|	Mo	98	399304.2	1.3	100.0000	1.359	1.4	ug/L	25	Standard
|	Ag	107	494636.7	0.9	50.0000	0.838	1.7	ug/L	114	Standard
|	Cd	111	151363.0	0.8	50.0000	0.729	1.5	mg/L	6	Standard
|	Cd	114	365046.5	1.1	50.0000	1.283	2.6	ug/L	14	Standard
>	In	115	720258.9	2.3				ug/L	726030	Standard
|	Sn	118	412909.6	1.3	50.0000	1.710	3.4	ug/L	913	Standard
|	Sb	123	314875.1	0.8	50.0000	0.852	1.7	ug/L	308	Standard
|	Ba	135	154460.3	0.7	50.0000	0.941	1.9	ug/L	50	Standard
|	Ce	140	136.7	20.1				ug/L	122	Standard
>	Tb	159	1158706.2	0.4				ug/L	1169812	Standard
|	Ho	165	11.7	65.5				ug/L	7	Standard
|	Tl	203	562273.2	0.6	50.0000	0.237	0.5	ug/L	11	Standard
|	Tl	205	478173.8	1.1	50.0000	0.866	1.7	ug/L	8	Standard
|	Pb	206	347979.4	0.8	50.0000	0.648	1.3	ug/L	277	Standard
|	Pb	207	317083.9	1.2	50.0000	0.244	0.5	ug/L	262	Standard
|	Pb	208	1220562.8	0.3	50.0000	0.339	0.7	ug/L	982	Standard
	U	238	438678.0	0.6	50.0000	0.099	0.2	ug/L	8	Standard
>	Bi	209	584876.7	0.8				ug/L	593643	Standard

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Na	23	1.7	173.2	5.0000	8.652	173.0	mg/L	2	Standard
Mg	24	5662.7	1.9	5.0000	0.282	5.6	mg/L	75	Standard
K	39	1550.1	14.9	5.0000	0.951	19.0	mg/L	32	Standard
Ca	43	101.7	15.8	5.0000	0.832	16.6	mg/L	50	Standard
Fe	54	8746.7	3.1	5.0000	0.289	5.8	mg/L	236	Standard
Fe	57	2245.2	2.8	5.0000	0.208	4.2	mg/L	352	Standard
Sc-1	45	41650.6	3.7				mg/L	42879	Standard
Cl	35	171158.7	0.4				ug/L	166385	Standard
Kr	83	2.0	50.0				ug/L	3	Standard
Br	81	4160.6	8.3				ug/L	4321	Standard
P	31	25509.9	6.8				ug/L	24331	Standard
S	34	4894.1	2.3				ug/L	3789	Standard
Sr	88	93.3	21.7				ug/L	78	Standard
C	12	103.3	11.2				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	2.1	294.3				mg/L	12	Standard
Ho-1	165	11.7	65.5				mg/L	7	Standard
Er	166	26.7	21.7				mg/L	20	Standard
I	127	1983.5	4.2				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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			

Sample ID: Standard 3

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[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
[	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
[	C	12
[	N	14
[	Hg	202
[	Dy	164
[	Ho-1	165
[	Er	166
[I	127

QC Out of Limits


Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 3

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Method 6020 - Summary Report

Sample ID: Standard 4

Sample Date/Time: Thursday, May 05, 2016 11:10:16

Number of Replicates: 3

Autosampler Position: 4

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82200.8	2.5				ug/L	82657	Standard
|	Be	9	114457.7	3.3	101.1267	0.885	0.9	ug/L	13	Standard
|	Al	27	20760189.5	2.4	100.0859	1.588	1.6	ug/L	1347	Standard
|	Sc	45	41297.9	3.4				ug/L	42879	Standard
|	Ti	47	66851.2	2.1	200.9437	2.420	1.2	ug/L	41	Standard
|	V	51	987010.4	1.2	100.5067	0.085	0.1	ug/L	2416	Standard
|	Cr	52	1086425.5	1.7	101.0858	0.485	0.5	ug/L	12475	Standard
|	Cr	53	132039.7	2.5	100.6386	1.725	1.7	ug/L	537	Standard
|	Mn	55	1102600.0	0.9	100.7941	0.560	0.6	ug/L	1090	Standard
|	Co	59	1046067.5	0.8	100.8641	0.643	0.6	ug/L	363	Standard
|	Ni	60	299409.1	1.9	100.0561	0.917	0.9	ug/L	399	Standard
|	Cu	65	292897.6	1.9	99.8651	1.508	1.5	ug/L	492	Standard
|	Zn	66	161679.5	1.1	100.2124	1.217	1.2	ug/L	201	Standard
>	Ge	72	658783.7	1.3				ug/L	679875	Standard
|	As	75	164273.6	1.3	100.6824	0.295	0.3	ug/L	-85	Standard
|	Se	82	17239.4	1.5	100.7935	1.128	1.1	ug/L	29	Standard
|	Se-1	77	11343.2	2.0	101.1019	0.705	0.7	ug/L	107	Standard
>	Ga	71	80.0	25.0				mg/L	37	Standard
|	Rb	85	2450.2	6.5				ug/L	23	Standard
|	Y	89	545897.7	2.0				ug/L	562937	Standard
>	Rh	103	58.3	30.1				ug/L	13	Standard
|	Mo	98	798289.4	1.9	202.0260	3.071	1.5	ug/L	25	Standard
|	Ag	107	973922.2	1.2	100.2553	0.879	0.9	ug/L	114	Standard
|	Cd	111	301147.0	0.7	100.7714	0.966	1.0	mg/L	6	Standard
|	Cd	114	721586.2	2.6	100.4358	2.042	2.0	ug/L	14	Standard
>	In	115	705397.8	0.7				ug/L	726030	Standard
|	Sn	118	833220.3	0.9	101.5159	1.614	1.6	ug/L	913	Standard
|	Sb	123	637947.2	1.0	101.6829	0.643	0.6	ug/L	308	Standard
|	Ba	135	308239.2	1.4	100.9255	0.868	0.9	ug/L	50	Standard
|	Ce	140	278.3	49.7				ug/L	122	Standard
>	Tb	159	1159418.9	0.8				ug/L	1169812	Standard
|	Ho	165	21.7	81.0				ug/L	7	Standard
|	Tl	203	1137152.0	0.7	100.5853	1.219	1.2	ug/L	11	Standard
|	Tl	205	971225.6	2.0	100.7963	2.194	2.2	ug/L	8	Standard
|	Pb	206	700494.5	1.1	100.3711	1.856	1.8	ug/L	277	Standard
|	Pb	207	632110.3	1.2	99.8901	1.980	2.0	ug/L	262	Standard
|	Pb	208	2445632.3	0.9	100.1378	0.551	0.6	ug/L	982	Standard
	U	238	885505.4	0.7	100.4890	0.885	0.9	ug/L	8	Standard
>	Bi	209	584580.6	0.8				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	11230.8	2.9	10.0212	0.484	4.8	mg/L	75	Standard
K	39	2958.6	3.1	9.8533	0.077	0.8	mg/L	32	Standard
Ca	43	130.0	26.9	8.2135	2.627	32.0	mg/L	50	Standard
Fe	54	17209.1	1.1	10.0292	0.466	4.6	mg/L	236	Standard
Fe	57	4592.4	3.8	10.5282	0.284	2.7	mg/L	352	Standard
Sc-1	45	41297.9	3.4				mg/L	42879	Standard
Cl	35	167636.0	5.3				ug/L	166385	Standard
Kr	83	2.0	50.0				ug/L	3	Standard
Br	81	4277.3	8.1				ug/L	4321	Standard
P	31	26797.0	2.4				ug/L	24331	Standard
S	34	4900.8	5.2				ug/L	3789	Standard
Sr	88	96.7	38.8				ug/L	78	Standard
C	12	116.7	27.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	173.2				mg/L	3	Standard
Dy	164	12.1	50.3				mg/L	12	Standard
Ho-1	165	21.7	81.0				mg/L	7	Standard
Er	166	26.7	43.3				mg/L	20	Standard
I	127	5350.9	2.6				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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			

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[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
[	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
[	C	12
[	N	14
[	Hg	202
[	Dy	164
[	Ho-1	165
[	Er	166
[	I	127

QC Out of Limits

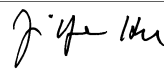
Measurement Type	Analyte	Mass	Out of Limits Message
Corr. Coef.	Na	23	Correlation coefficient < 0.998
Corr. Coef.	Ca	43	Correlation coefficient < 0.998

Sample ID: Standard 4

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Method 6020 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Thursday, May 05, 2016 11:13:29

Number of Replicates: 3

Autosampler Position: 201

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	81294.2	1.5				ug/L	82657	Standard
|	Be	9	54931.2	4.0	49.0571	1.752	3.6	ug/L	13	Standard
|	Al	27	10388809.1	0.6	50.6377	0.456	0.9	ug/L	1347	Standard
|	Sc	45	40764.8	1.1				ug/L	42879	Standard
|	Ti	47	34177.5	0.9	103.0894	0.593	0.6	ug/L	41	Standard
|	V	51	482447.0	0.7	49.2128	0.306	0.6	ug/L	2416	Standard
|	Cr	52	532067.6	1.5	49.1429	0.562	1.1	ug/L	12475	Standard
|	Cr	53	64749.8	1.7	49.3161	0.700	1.4	ug/L	537	Standard
|	Mn	55	542941.7	1.1	49.7825	0.386	0.8	ug/L	1090	Standard
|	Co	59	505192.9	1.2	48.8917	0.453	0.9	ug/L	363	Standard
|	Ni	60	145562.0	1.6	48.7724	0.616	1.3	ug/L	399	Standard
|	Cu	65	145779.7	1.0	49.8238	0.374	0.8	ug/L	492	Standard
|	Zn	66	81085.1	0.9	50.4029	0.276	0.5	ug/L	201	Standard
>	Ge	72	656103.3	0.4				ug/L	679875	Standard
|	As	75	80713.2	1.0	49.7103	0.323	0.6	ug/L	-85	Standard
|	Se	82	8396.8	1.2	49.1857	0.458	0.9	ug/L	29	Standard
|	Se-1	77	5599.7	2.9	49.6472	1.322	2.7	ug/L	107	Standard
>	Ga	71	111.7	14.4				mg/L	37	Standard
|	Rb	85	940.0	7.8				ug/L	23	Standard
|	Y	89	543550.2	2.5				ug/L	562937	Standard
>	Rh	103	40.0	37.5				ug/L	13	Standard
|	Mo	98	412900.1	1.1	104.1637	2.639	2.5	ug/L	25	Standard
|	Ag	107	486828.8	0.9	49.9442	0.931	1.9	ug/L	114	Standard
|	Cd	111	146779.3	1.6	48.9463	0.248	0.5	mg/L	6	Standard
|	Cd	114	358328.9	0.8	49.7134	0.721	1.4	ug/L	14	Standard
>	In	115	707870.3	2.1				ug/L	726030	Standard
|	Sn	118	453401.7	1.6	55.0040	0.353	0.6	ug/L	913	Standard
|	Sb	123	299637.0	1.1	47.5961	0.858	1.8	ug/L	308	Standard
|	Ba	135	149810.4	1.1	48.8825	0.787	1.6	ug/L	50	Standard
|	Ce	140	295.0	7.4				ug/L	122	Standard
>	Tb	159	1141075.8	0.5				ug/L	1169812	Standard
|	Ho	165	23.3	65.5				ug/L	7	Standard
|	Tl	203	558931.3	0.1	48.9581	0.209	0.4	ug/L	11	Standard
|	Tl	205	480406.0	2.8	49.3759	1.561	3.2	ug/L	8	Standard
|	Pb	206	351199.2	1.0	49.8130	0.671	1.3	ug/L	277	Standard
|	Pb	207	305668.3	0.7	47.8103	0.446	0.9	ug/L	262	Standard
|	Pb	208	1212552.7	0.4	49.1463	0.248	0.5	ug/L	982	Standard
	U	238	433006.6	1.4	48.6631	0.865	1.8	ug/L	8	Standard
>	Bi	209	590291.4	0.4				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	5757.8	2.6	5.1793	0.190	3.7	mg/L	75	Standard
K	39	1515.1	2.0	5.0452	0.156	3.1	mg/L	32	Standard
Ca	43	110.0	16.4	6.7582	1.435	21.2	mg/L	50	Standard
Fe	54	8448.5	1.9	4.9124	0.108	2.2	mg/L	236	Standard
Fe	57	2383.5	2.3	5.1954	0.196	3.8	mg/L	352	Standard
Sc-1	45	40764.8	1.1				mg/L	42879	Standard
Cl	35	154967.1	3.6				ug/L	166385	Standard
Kr	83	2.0	0.0				ug/L	3	Standard
Br	81	3837.2	5.3				ug/L	4321	Standard
P	31	25872.1	3.6				ug/L	24331	Standard
S	34	4375.6	1.4				ug/L	3789	Standard
Sr	88	73.3	46.4				ug/L	78	Standard
C	12	113.3	22.2				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	3	Standard
Dy	164	42.1	28.8				mg/L	12	Standard
Ho-1	165	23.3	65.5				mg/L	7	Standard
Er	166	26.7	57.3				mg/L	20	Standard
I	127	3030.3	7.9				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	98.114		
Al	27	101.275		
Sc	45			
Ti	47	103.089		
V	51	98.426		
Cr	52	98.286		
Cr	53			
Mn	55	99.565		
Co	59	97.783		
Ni	60	97.545		
Cu	65	99.648		
Zn	66	100.806		
Ge	72		96.503	
As	75	99.421		
Se	82	98.371		
Se-1	77			
Ga	71			

Sample ID: QC Std 1

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	104.164	
[Ag	107	99.888	
[Cd	111	97.893	
[Cd	114		
>	In	115		97.499
[Sn	118	110.008	
[	Sb	123	95.192	
[	Ba	135	97.765	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	97.916	
[	Tl	205		
[	Pb	206	99.626	
[	Pb	207	95.621	
[	Pb	208	98.293	
[	U	238	97.326	
>	Bi	209		99.435
[	Na	23	0.100	
[	Mg	24	103.587	
[	K	39	100.905	
[	Ca	43	135.164	
[	Fe	54	98.249	
[	Fe	57	103.908	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

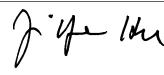
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Na	23	
QC Std 1	Ca	43	

Sample ID: QC Std 1

Report Date/Time: Thursday, May 05, 2016 11:15:46

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Method 6020 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Thursday, May 05, 2016 11:16:43

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	76119.7	6.8				ug/L	82657	Standard
|	Be	9	16.7	75.5	-0.0281	0.011	38.4	ug/L	13	Standard
|	Al	27	2016.8	18.4	-0.0001	0.001	1291.9	ug/L	1347	Standard
|	Sc	45	39138.9	4.8				ug/L	42879	Standard
|	Ti	47	32.7	10.8	-0.0283	0.016	55.1	ug/L	41	Standard
|	V	51	1774.6	10.8	-0.0329	0.011	34.1	ug/L	2416	Standard
|	Cr	52	8411.7	18.1	-0.2716	0.108	39.6	ug/L	12475	Standard
|	Cr	53	438.3	23.3	-0.1127	0.065	57.4	ug/L	537	Standard
|	Mn	55	886.0	21.2	-0.0137	0.014	99.9	ug/L	1090	Standard
|	Co	59	355.7	8.3	0.0054	0.002	37.2	ug/L	363	Standard
|	Ni	60	393.7	6.3	0.0030	0.003	85.8	ug/L	399	Standard
|	Cu	65	431.3	18.4	-0.0088	0.020	231.0	ug/L	492	Standard
|	Zn	66	233.3	9.5	0.0404	0.020	49.5	ug/L	201	Standard
>	Ge	72	617045.9	5.1				ug/L	679875	Standard
|	As	75	-114.8	24.2	0.0043	0.021	485.1	ug/L	-85	Standard
|	Se	82	18.8	35.2	-0.0923	0.035	37.7	ug/L	29	Standard
|	Se-1	77	83.7	21.5	-0.1255	0.150	119.8	ug/L	107	Standard
>	Ga	71	48.3	36.3				mg/L	37	Standard
|	Rb	85	15.0	33.3				ug/L	23	Standard
|	Y	89	508155.3	7.0				ug/L	562937	Standard
>	Rh	103	10.0	50.0				ug/L	13	Standard
|	Mo	98	185.2	60.1	0.0439	0.026	59.3	ug/L	25	Standard
|	Ag	107	145.7	15.4	0.0016	0.002	94.4	ug/L	114	Standard
|	Cd	111	15.0	30.8	0.0045	0.001	32.8	mg/L	6	Standard
|	Cd	114	52.3	11.4	0.0053	0.001	15.0	ug/L	14	Standard
>	In	115	672594.4	5.6				ug/L	726030	Standard
|	Sn	118	785.0	54.6	0.0026	0.048	1829.5	ug/L	913	Standard
|	Sb	123	1133.3	121.2	0.1680	0.213	126.8	ug/L	308	Standard
|	Ba	135	47.7	38.8	-0.0016	0.005	329.0	ug/L	50	Standard
|	Ce	140	10.0	50.0				ug/L	122	Standard
>	Tb	159	1090747.5	4.6				ug/L	1169812	Standard
|	Ho	165	6.7	86.6				ug/L	7	Standard
|	Tl	203	79.0	36.6	0.0052	0.002	45.0	ug/L	11	Standard
|	Tl	205	78.3	46.2	0.0062	0.003	56.6	ug/L	8	Standard
|	Pb	206	325.0	4.6	0.0098	0.001	11.2	ug/L	277	Standard
|	Pb	207	294.3	2.1	0.0056	0.001	12.0	ug/L	262	Standard
|	Pb	208	1138.3	8.2	0.0043	0.003	59.1	ug/L	982	Standard
	U	238	46.3	27.8	0.0045	0.001	28.3	ug/L	8	Standard
>	Bi	209	575352.0	3.5				ug/L	593643	Standard

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Na	23	1.7	173.2	11.6116	20.103	173.1	mg/L	2	Standard
Mg	24	56.7	20.4	0.0070	0.009	124.7	mg/L	75	Standard
K	39	33.3	43.3	-0.0207	0.051	245.3	mg/L	32	Standard
Ca	43	28.3	73.5	0.2394	1.707	713.1	mg/L	50	Standard
Fe	54	139.2	38.8	-0.0544	0.030	55.9	mg/L	236	Standard
Fe	57	360.0	15.8	0.2166	0.191	88.0	mg/L	352	Standard
Sc-1	45	39138.9	4.8				mg/L	42879	Standard
Cl	35	139085.4	8.8				ug/L	166385	Standard
Kr	83	2.0	50.0				ug/L	3	Standard
Br	81	3210.4	24.8				ug/L	4321	Standard
P	31	15247.4	53.1				ug/L	24331	Standard
S	34	4052.2	5.4				ug/L	3789	Standard
Sr	88	83.3	15.1				ug/L	78	Standard
C	12	116.7	17.8				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	26.2	20.5				mg/L	12	Standard
Ho-1	165	6.7	86.6				mg/L	7	Standard
Er	166	10.0	100.0				mg/L	20	Standard
I	127	1915.1	15.0				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6			
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		90.759	
As	75			
Se	82			
Se-1	77			
> Ga	71			

Sample ID: QC Std 2

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	92.640
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	96.919
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
[Kr	83	
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[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

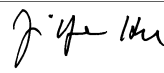
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 2	Na	23	
QC Std 2	Ca	43	
QC Std 2	Fe	57	

Sample ID: QC Std 2

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Method 6020 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Thursday, May 05, 2016 11:19:56

Number of Replicates: 3

Autosampler Position: 202

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	76630.0	0.5				ug/L	82657	Standard
|	Be	9	266.7	10.3	0.2093	0.026	12.3	ug/L	13	Standard
|	Al	27	1861.8	12.9	-0.0009	0.001	138.4	ug/L	1347	Standard
|	Sc	45	39127.1	1.9				ug/L	42879	Standard
|	Ti	47	40.0	31.9	-0.0106	0.039	368.9	ug/L	41	Standard
|	V	51	5488.6	5.4	0.3472	0.032	9.2	ug/L	2416	Standard
|	Cr	52	18425.2	0.7	0.6605	0.016	2.4	ug/L	12475	Standard
|	Cr	53	1473.4	7.0	0.6852	0.078	11.4	ug/L	537	Standard
|	Mn	55	5896.5	0.8	0.4522	0.005	1.1	ug/L	1090	Standard
|	Co	59	4184.9	1.7	0.3818	0.008	2.2	ug/L	363	Standard
|	Ni	60	4730.7	1.2	1.4821	0.015	1.0	ug/L	399	Standard
|	Cu	65	2667.2	1.7	0.7665	0.014	1.9	ug/L	492	Standard
|	Zn	66	9997.6	0.7	6.2319	0.054	0.9	ug/L	201	Standard
>	Ge	72	643932.1	0.3				ug/L	679875	Standard
|	As	75	479.9	16.8	0.3807	0.051	13.4	ug/L	-85	Standard
|	Se	82	86.9	5.6	0.3118	0.030	9.6	ug/L	29	Standard
|	Se-1	77	136.7	16.5	0.3318	0.210	63.3	ug/L	107	Standard
>	Ga	71	45.0	40.1				mg/L	37	Standard
|	Rb	85	21.7	70.5				ug/L	23	Standard
|	Y	89	520714.7	1.6				ug/L	562937	Standard
>	Rh	103	6.7	114.6				ug/L	13	Standard
|	Mo	98	108.7	21.5	0.0239	0.006	25.5	ug/L	25	Standard
|	Ag	107	3783.1	2.7	0.3851	0.010	2.5	ug/L	114	Standard
|	Cd	111	675.8	4.3	0.2310	0.009	4.0	mg/L	6	Standard
|	Cd	114	1631.7	2.4	0.2305	0.006	2.6	ug/L	14	Standard
>	In	115	688250.3	0.3				ug/L	726030	Standard
|	Sn	118	1120.0	32.9	0.0441	0.047	105.7	ug/L	913	Standard
|	Sb	123	3055.2	10.4	0.4856	0.053	11.0	ug/L	308	Standard
|	Ba	135	2187.5	1.5	0.7164	0.010	1.3	ug/L	50	Standard
|	Ce	140	21.7	70.5				ug/L	122	Standard
>	Tb	159	1110424.2	0.4				ug/L	1169812	Standard
|	Ho	165	10.0	50.0				ug/L	7	Standard
|	Tl	203	903.4	1.4	0.0784	0.001	1.3	ug/L	11	Standard
|	Tl	205	748.4	2.8	0.0760	0.002	2.7	ug/L	8	Standard
|	Pb	206	1703.4	2.9	0.2078	0.008	3.7	ug/L	277	Standard
|	Pb	207	1406.4	2.4	0.1817	0.005	2.8	ug/L	262	Standard
|	Pb	208	5724.1	2.8	0.1926	0.008	4.0	ug/L	982	Standard
	U	238	3308.4	0.9	0.3765	0.004	1.0	ug/L	8	Standard
>	Bi	209	581714.8	0.5				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	58.3	60.8	0.0089	0.033	376.7	mg/L	75	Standard
K	39	40.0	12.5	0.0033	0.020	618.6	mg/L	32	Standard
Ca	43	45.0	29.4	1.6841	1.125	66.8	mg/L	50	Standard
Fe	54	174.7	9.4	-0.0317	0.010	30.7	mg/L	236	Standard
Fe	57	315.0	4.2	0.0958	0.050	52.2	mg/L	352	Standard
Sc-1	45	39127.1	1.9				mg/L	42879	Standard
Cl	35	154759.8	1.1				ug/L	166385	Standard
Kr	83	2.3	49.5				ug/L	3	Standard
Br	81	3750.5	8.0				ug/L	4321	Standard
P	31	17980.7	3.7				ug/L	24331	Standard
S	34	4120.6	2.3				ug/L	3789	Standard
Sr	88	93.3	26.4				ug/L	78	Standard
C	12	106.7	30.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	6.0	193.9				mg/L	12	Standard
Ho-1	165	10.0	50.0				mg/L	7	Standard
Er	166	13.3	43.3				mg/L	20	Standard
I	127	2551.9	4.6				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	104.637		
Al	27	-0.091		
Sc	45			
Ti	47			
V	51	86.797		
Cr	52	82.560		
Cr	53			
Mn	55	90.435		
Co	59	95.445		
Ni	60	92.629		
Cu	65	95.813		
Zn	66	99.710		
Ge	72		94.713	
As	75	95.171		
Se	82	77.945		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98		
	Ag	107	96.285	
	Cd	111	96.249	
	Cd	114		
>	In	115		94.796
	Sn	118		
	Sb	123	121.393	
[	Ba	135	95.526	
[	Ce	140		
>	Tb	159		
[	Ho	165		
	Tl	203	98.036	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	96.284	
	U	238	94.129	
>	Bi	209		97.991
[	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		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		
	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 3	Al	27	

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Method 6020 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Thursday, May 05, 2016 11:23:07

Number of Replicates: 3

Autosampler Position: 203

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	74995.1	0.1				ug/L	82657	Standard
|	Be	9	26.7	84.5	-0.0177	0.022	123.2	ug/L	13	Standard
|	Al	27	8364825.1	1.1	44.1919	0.496	1.1	ug/L	1347	Standard
|	Sc	45	37618.3	1.2				ug/L	42879	Standard
|	Ti	47	30009.4	1.4	97.9472	1.843	1.9	ug/L	41	Standard
|	V	51	1908.9	24.5	-0.0148	0.048	327.3	ug/L	2416	Standard
|	Cr	52	9488.6	1.2	-0.1430	0.006	3.9	ug/L	12475	Standard
|	Cr	53	2021.8	4.8	1.2138	0.100	8.2	ug/L	537	Standard
|	Mn	55	1505.7	22.6	0.0495	0.031	62.9	ug/L	1090	Standard
|	Co	59	689.4	39.8	0.0408	0.027	67.2	ug/L	363	Standard
|	Ni	60	1195.7	2.7	0.2972	0.009	3.1	ug/L	399	Standard
|	Cu	65	965.0	5.8	0.1925	0.016	8.1	ug/L	492	Standard
|	Zn	66	1102.0	4.2	0.6280	0.020	3.1	ug/L	201	Standard
>	Ge	72	606381.9	1.6				ug/L	679875	Standard
|	As	75	-107.5	25.8	0.0083	0.019	233.5	ug/L	-85	Standard
|	Se	82	28.5	24.7	-0.0275	0.045	164.4	ug/L	29	Standard
|	Se-1	77	269.3	7.0	1.7071	0.204	12.0	ug/L	107	Standard
>	Ga	71	185.0	13.5				mg/L	37	Standard
|	Rb	85	1506.7	4.2				ug/L	23	Standard
|	Y	89	497981.0	1.7				ug/L	562937	Standard
>	Rh	103	18.3	41.7				ug/L	13	Standard
|	Mo	98	317907.4	0.4	86.7600	0.294	0.3	ug/L	25	Standard
|	Ag	107	559.7	83.4	0.0480	0.052	107.4	ug/L	114	Standard
|	Cd	111	-261.8	7.5	-0.0952	0.007	7.4	mg/L	6	Standard
|	Cd	114	573.2	17.3	0.0837	0.015	17.6	ug/L	14	Standard
>	In	115	654135.9	0.7				ug/L	726030	Standard
|	Sn	118	690.0	11.9	-0.0052	0.011	220.4	ug/L	913	Standard
|	Sb	123	434.5	54.9	0.0609	0.041	66.9	ug/L	308	Standard
|	Ba	135	580.0	5.7	0.1870	0.010	5.5	ug/L	50	Standard
|	Ce	140	308.3	13.1				ug/L	122	Standard
>	Tb	159	1081186.4	1.1				ug/L	1169812	Standard
|	Ho	165	11.7	65.5				ug/L	7	Standard
|	Tl	203	420.7	119.3	0.0370	0.046	124.9	ug/L	11	Standard
|	Tl	205	208.3	87.1	0.0206	0.020	94.9	ug/L	8	Standard
|	Pb	206	881.4	38.3	0.0950	0.050	52.4	ug/L	277	Standard
|	Pb	207	747.4	39.4	0.0822	0.048	58.3	ug/L	262	Standard
|	Pb	208	2611.8	20.7	0.0692	0.022	32.4	ug/L	982	Standard
	U	238	117.7	132.3	0.0132	0.018	139.7	ug/L	8	Standard
>	Bi	209	556447.7	1.0				ug/L	593643	Standard

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Na	23	6.7	114.6	45.5253	52.041	114.3	mg/L	2	Standard
Mg	24	11387.6	1.9	11.1503	0.146	1.3	mg/L	75	Standard
K	39	1303.4	8.6	4.6946	0.443	9.4	mg/L	32	Standard
Ca	43	203.3	9.9	15.6468	1.792	11.5	mg/L	50	Standard
Fe	54	17105.0	2.1	10.9456	0.251	2.3	mg/L	236	Standard
Fe	57	4665.7	1.7	11.8263	0.335	2.8	mg/L	352	Standard
Sc-1	45	37618.3	1.2				mg/L	42879	Standard
Cl	35	165224.4	2.6				ug/L	166385	Standard
Kr	83	0.7	86.6				ug/L	3	Standard
Br	81	3250.3	3.2				ug/L	4321	Standard
P	31	10767.2	10.5				ug/L	24331	Standard
S	34	3992.2	4.2				ug/L	3789	Standard
Sr	88	98.3	19.3				ug/L	78	Standard
C	12	170.0	15.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	126.7	16.4				mg/L	3	Standard
Dy	164	11.7	100.7				mg/L	12	Standard
Ho-1	165	11.7	65.5				mg/L	7	Standard
Er	166	33.3	17.3				mg/L	20	Standard
I	127	2193.5	5.4				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27	0.884		
Sc	45			
Ti	47	97.947		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		89.190	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	86.760	
[Ag	107		
[Cd	111		
[Cd	114		
>	In	115		90.098
[Sn	118		
[Sb	123		
[Ba	135		
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203		
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208		
[	U	238		
>	Bi	209		93.734
[	Na	23	364.202	
[	Mg	24	223.007	
[	K	39	93.893	
[	Ca	43	104.312	
[	Fe	54	87.565	
[	Fe	57	94.610	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

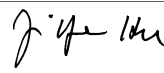
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Al	27	
QC Std 4	Na	23	
QC Std 4	Mg	24	

Sample ID: QC Std 4

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Method 6020 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Thursday, May 05, 2016 11:26:18

Number of Replicates: 3

Autosampler Position: 204

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	84052.5	1.4				ug/L	82657	Standard
|	Be	9	120272.2	1.8	103.9345	0.424	0.4	ug/L	13	Standard
|	Al	27	9884109.2	3.1	46.5846	0.782	1.7	ug/L	1347	Standard
|	Sc	45	40121.5	4.4				ug/L	42879	Standard
|	Ti	47	32609.1	2.9	99.4749	1.620	1.6	ug/L	41	Standard
|	V	51	960515.5	1.7	99.3344	0.757	0.8	ug/L	2416	Standard
|	Cr	52	1028111.1	2.1	97.1095	0.547	0.6	ug/L	12475	Standard
|	Cr	53	128250.7	2.5	99.2798	2.151	2.2	ug/L	537	Standard
|	Mn	55	1055757.7	2.0	98.0089	0.526	0.5	ug/L	1090	Standard
|	Co	59	1018117.6	1.9	99.6954	0.631	0.6	ug/L	363	Standard
|	Ni	60	285849.3	2.1	97.0154	1.149	1.2	ug/L	399	Standard
|	Cu	65	285321.6	1.1	98.8069	1.029	1.0	ug/L	492	Standard
|	Zn	66	160808.2	0.9	101.2314	0.671	0.7	ug/L	201	Standard
>	Ge	72	648648.8	1.6				ug/L	679875	Standard
|	As	75	161542.6	2.2	100.5508	0.916	0.9	ug/L	-85	Standard
|	Se	82	16819.4	2.5	99.8648	1.528	1.5	ug/L	29	Standard
|	Se-1	77	11428.3	2.9	103.4683	1.690	1.6	ug/L	107	Standard
>	Ga	71	213.3	18.2				mg/L	37	Standard
|	Rb	85	1166.7	4.9				ug/L	23	Standard
|	Y	89	548600.5	0.8				ug/L	562937	Standard
>	Rh	103	68.3	23.5				ug/L	13	Standard
|	Mo	98	366187.3	1.9	91.1049	1.366	1.5	ug/L	25	Standard
|	Ag	107	895117.4	1.5	90.5872	1.371	1.5	ug/L	114	Standard
|	Cd	111	293174.7	2.4	96.4409	1.996	2.1	mg/L	6	Standard
|	Cd	114	708739.5	1.9	96.9870	1.579	1.6	ug/L	14	Standard
>	In	115	717510.2	0.6				ug/L	726030	Standard
|	Sn	118	1438.4	7.0	0.0765	0.013	16.6	ug/L	913	Standard
|	Sb	123	611461.8	1.7	95.8144	1.364	1.4	ug/L	308	Standard
|	Ba	135	296340.8	1.6	95.3905	1.150	1.2	ug/L	50	Standard
|	Ce	140	125.0	21.2				ug/L	122	Standard
>	Tb	159	1161666.9	0.2				ug/L	1169812	Standard
|	Ho	165	16.7	69.3				ug/L	7	Standard
|	Tl	203	1112570.5	0.7	97.0191	1.147	1.2	ug/L	11	Standard
|	Tl	205	963398.4	0.4	98.5691	0.782	0.8	ug/L	8	Standard
|	Pb	206	699697.9	0.7	98.8315	0.740	0.7	ug/L	277	Standard
|	Pb	207	607510.9	0.6	94.6356	0.766	0.8	ug/L	262	Standard
|	Pb	208	2417210.4	0.5	97.5771	0.965	1.0	ug/L	982	Standard
	U	238	875438.6	0.7	97.9418	0.863	0.9	ug/L	8	Standard
>	Bi	209	592956.2	0.5				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	12735.4	2.8	11.7041	0.433	3.7	mg/L	75	Standard
K	39	1298.4	3.5	4.3837	0.344	7.8	mg/L	32	Standard
Ca	43	190.0	7.9	13.4824	1.628	12.1	mg/L	50	Standard
Fe	54	19129.2	2.0	11.4916	0.297	2.6	mg/L	236	Standard
Fe	57	5214.2	4.7	12.4561	1.141	9.2	mg/L	352	Standard
Sc-1	45	40121.5	4.4				mg/L	42879	Standard
Cl	35	177612.1	4.1				ug/L	166385	Standard
Kr	83	1.7	91.7				ug/L	3	Standard
Br	81	4410.6	9.6				ug/L	4321	Standard
P	31	23356.3	3.1				ug/L	24331	Standard
S	34	3787.1	6.3				ug/L	3789	Standard
Sr	88	101.7	24.8				ug/L	78	Standard
C	12	196.7	20.5				mg/L	110	Standard
N	14	6.7	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	12.7	93.2				mg/L	12	Standard
Ho-1	165	16.7	69.3				mg/L	7	Standard
Er	166	13.3	86.6				mg/L	20	Standard
I	127	2250.2	2.4				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	103.935		
Al	27	0.932		
Sc	45			
Ti	47	99.475		
V	51	99.334		
Cr	52	97.110		
Cr	53			
Mn	55	98.009		
Co	59	99.695		
Ni	60	97.015		
Cu	65	98.807		
Zn	66	101.231		
Ge	72		95.407	
As	75	100.551		
Se	82	99.865		
Se-1	77			
Ga	71			

Sample ID: QC Std 5

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	91.105	
[Ag	107	90.587	
[Cd	111	96.441	
[Cd	114		
>	In	115		98.827
[Sn	118		
[	Sb	123	95.814	
[	Ba	135	95.390	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	97.019	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	97.577	
[	U	238	97.942	
>	Bi	209		99.884
[	Na	23	0.040	
[	Mg	24	234.081	
[	K	39	87.673	
[	Ca	43	89.883	
[	Fe	54	91.933	
[	Fe	57	99.649	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

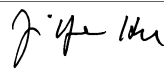
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Na	23	
QC Std 5	Mg	24	

Sample ID: QC Std 5

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 05, 2016 11:29:32

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	86097.3	1.0				ug/L	82657	Standard
|	Be	9	61283.7	1.3	51.6892	1.184	2.3	ug/L	13	Standard
|	Al	27	10677333.1	0.3	49.1391	0.463	0.9	ug/L	1347	Standard
|	Sc	45	40948.6	2.0				ug/L	42879	Standard
|	Ti	47	32515.9	1.1	96.9467	2.233	2.3	ug/L	41	Standard
|	V	51	486029.6	0.9	49.0090	1.066	2.2	ug/L	2416	Standard
|	Cr	52	528043.0	1.4	48.1943	1.304	2.7	ug/L	12475	Standard
|	Cr	53	64625.9	2.3	48.6565	1.663	3.4	ug/L	537	Standard
|	Mn	55	544142.4	1.7	49.3224	1.392	2.8	ug/L	1090	Standard
|	Co	59	521261.0	2.2	49.8728	1.626	3.3	ug/L	363	Standard
|	Ni	60	145505.3	0.4	48.1910	0.670	1.4	ug/L	399	Standard
|	Cu	65	146979.5	0.8	49.6557	0.886	1.8	ug/L	492	Standard
|	Zn	66	80414.2	2.1	49.4133	1.541	3.1	ug/L	201	Standard
>	Ge	72	663839.1	1.4				ug/L	679875	Standard
|	As	75	80347.2	1.3	48.9212	1.235	2.5	ug/L	-85	Standard
|	Se	82	8428.7	2.7	48.8103	1.832	3.8	ug/L	29	Standard
|	Se-1	77	5663.4	1.1	49.6400	1.239	2.5	ug/L	107	Standard
>	Ga	71	45.0	19.2				mg/L	37	Standard
|	Rb	85	1185.0	5.9				ug/L	23	Standard
|	Y	89	537273.2	2.9				ug/L	562937	Standard
>	Rh	103	35.0	37.8				ug/L	13	Standard
|	Mo	98	397972.6	1.5	98.8425	2.540	2.6	ug/L	25	Standard
|	Ag	107	483399.4	1.0	48.8303	1.259	2.6	ug/L	114	Standard
|	Cd	111	149484.5	0.9	49.0905	1.223	2.5	mg/L	6	Standard
|	Cd	114	367776.5	2.4	50.2491	1.957	3.9	ug/L	14	Standard
>	In	115	718943.9	1.7				ug/L	726030	Standard
|	Sn	118	408506.5	3.6	48.7915	2.025	4.2	ug/L	913	Standard
|	Sb	123	320464.1	0.1	50.1190	0.802	1.6	ug/L	308	Standard
|	Ba	135	152644.8	1.3	49.0465	1.443	2.9	ug/L	50	Standard
|	Ce	140	133.3	20.7				ug/L	122	Standard
>	Tb	159	1160236.5	0.2				ug/L	1169812	Standard
|	Ho	165	5.0	0.0				ug/L	7	Standard
|	Tl	203	569174.8	0.6	49.1624	0.662	1.3	ug/L	11	Standard
|	Tl	205	494043.2	1.5	50.0631	0.398	0.8	ug/L	8	Standard
|	Pb	206	349439.1	0.9	48.8726	0.735	1.5	ug/L	277	Standard
|	Pb	207	316633.7	0.5	48.8371	0.602	1.2	ug/L	262	Standard
|	Pb	208	1240279.1	1.0	49.5724	0.832	1.7	ug/L	982	Standard
	U	238	452724.2	0.5	50.1689	0.469	0.9	ug/L	8	Standard
>	Bi	209	598647.9	0.8				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	5727.8	5.1	5.1273	0.237	4.6	mg/L	75	Standard
K	39	1381.7	4.9	4.5654	0.160	3.5	mg/L	32	Standard
Ca	43	103.3	35.0	6.1557	2.737	44.5	mg/L	50	Standard
Fe	54	8388.9	2.6	4.8569	0.226	4.7	mg/L	236	Standard
Fe	57	2520.2	2.8	5.5081	0.269	4.9	mg/L	352	Standard
Sc-1	45	40948.6	2.0				mg/L	42879	Standard
Cl	35	156889.6	2.0				ug/L	166385	Standard
Kr	83	1.0	100.0				ug/L	3	Standard
Br	81	4330.6	9.5				ug/L	4321	Standard
P	31	24152.6	1.3				ug/L	24331	Standard
S	34	4230.6	6.3				ug/L	3789	Standard
Sr	88	78.3	9.8				ug/L	78	Standard
C	12	60.0	50.0				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	12.4	90.0				mg/L	12	Standard
Ho-1	165	5.0	0.0				mg/L	7	Standard
Er	166	20.0	50.0				mg/L	20	Standard
I	127	1993.5	5.6				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	103.378		
Al	27	98.278		
Sc	45			
Ti	47	96.947		
V	51	98.018		
Cr	52	96.389		
Cr	53			
Mn	55	98.645		
Co	59	99.746		
Ni	60	96.382		
Cu	65	99.311		
Zn	66	98.827		
Ge	72		97.641	
As	75	97.842		
Se	82	97.621		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	98.842	
[Ag	107	97.661	
[Cd	111	98.181	
[Cd	114		
>	In	115		99.024
[Sn	118	97.583	
[	Sb	123	100.238	
[	Ba	135	98.093	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	98.325	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.145	
[	U	238	100.338	
>	Bi	209		100.843
[	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		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

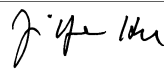
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 05, 2016 11:32:43

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	81268.1	7.3				ug/L	82657	Standard
|	Be	9	35.0	51.5	-0.0129	0.014	104.9	ug/L	13	Standard
|	Al	27	3085.3	33.7	0.0043	0.004	93.8	ug/L	1347	Standard
|	Sc	45	38988.6	7.3				ug/L	42879	Standard
|	Ti	47	38.0	9.1	-0.0111	0.015	135.9	ug/L	41	Standard
|	V	51	1894.3	10.8	-0.0197	0.012	61.7	ug/L	2416	Standard
|	Cr	52	8753.9	17.7	-0.2367	0.104	44.0	ug/L	12475	Standard
|	Cr	53	393.3	35.6	-0.1507	0.094	62.1	ug/L	537	Standard
|	Mn	55	916.4	24.4	-0.0108	0.016	152.6	ug/L	1090	Standard
|	Co	59	421.0	16.7	0.0120	0.005	39.3	ug/L	363	Standard
|	Ni	60	304.3	5.2	-0.0285	0.008	28.3	ug/L	399	Standard
|	Cu	65	437.7	18.3	-0.0064	0.021	324.8	ug/L	492	Standard
|	Zn	66	252.3	3.8	0.0532	0.015	28.8	ug/L	201	Standard
>	Ge	72	616561.3	5.7				ug/L	679875	Standard
|	As	75	-114.8	22.4	0.0041	0.020	490.1	ug/L	-85	Standard
|	Se	82	30.7	30.4	-0.0183	0.048	261.8	ug/L	29	Standard
|	Se-1	77	99.0	11.4	0.0233	0.053	227.7	ug/L	107	Standard
>	Ga	71	36.7	15.7				mg/L	37	Standard
|	Rb	85	21.7	48.0				ug/L	23	Standard
|	Y	89	507193.6	6.5				ug/L	562937	Standard
>	Rh	103	16.7	62.4				ug/L	13	Standard
|	Mo	98	244.3	74.8	0.0579	0.043	74.7	ug/L	25	Standard
|	Ag	107	238.0	34.9	0.0110	0.008	69.6	ug/L	114	Standard
|	Cd	111	37.6	43.4	0.0121	0.005	42.0	mg/L	6	Standard
|	Cd	114	95.9	62.7	0.0114	0.009	75.1	ug/L	14	Standard
>	In	115	684917.4	5.2				ug/L	726030	Standard
|	Sn	118	773.4	41.6	0.0000	0.03	186223.3	ug/L	913	Standard
|	Sb	123	704.4	99.1	0.0985	0.106	107.9	ug/L	308	Standard
|	Ba	135	66.7	13.9	0.0046	0.002	43.9	ug/L	50	Standard
|	Ce	140	21.7	35.3				ug/L	122	Standard
>	Tb	159	1103842.5	3.2				ug/L	1169812	Standard
|	Ho	165	8.3	91.7				ug/L	7	Standard
|	Tl	203	172.7	50.6	0.0135	0.007	54.1	ug/L	11	Standard
|	Tl	205	133.3	81.5	0.0118	0.011	92.3	ug/L	8	Standard
|	Pb	206	375.3	13.0	0.0170	0.005	31.5	ug/L	277	Standard
|	Pb	207	302.0	18.2	0.0066	0.007	109.0	ug/L	262	Standard
|	Pb	208	1333.0	17.6	0.0122	0.008	65.2	ug/L	982	Standard
	U	238	91.7	66.2	0.0097	0.007	68.1	ug/L	8	Standard
>	Bi	209	575794.1	3.3				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	65.0	33.5	0.0154	0.021	137.5	mg/L	75	Standard
K	39	23.3	24.7	-0.0555	0.023	41.3	mg/L	32	Standard
Ca	43	31.7	36.5	0.5907	1.043	176.6	mg/L	50	Standard
Fe	54	147.4	68.8	-0.0509	0.055	108.1	mg/L	236	Standard
Fe	57	336.7	3.7	0.1560	0.043	27.4	mg/L	352	Standard
Sc-1	45	38988.6	7.3				mg/L	42879	Standard
Cl	35	147665.6	8.6				ug/L	166385	Standard
Kr	83	2.3	49.5				ug/L	3	Standard
Br	81	3807.2	16.7				ug/L	4321	Standard
P	31	15782.8	47.2				ug/L	24331	Standard
S	34	4042.2	7.3				ug/L	3789	Standard
Sr	88	83.3	17.3				ug/L	78	Standard
C	12	76.7	41.9				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	19.4	137.1				mg/L	12	Standard
Ho-1	165	8.3	91.7				mg/L	7	Standard
Er	166	13.3	43.3				mg/L	20	Standard
I	127	1911.8	21.0				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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		90.687	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	94.337
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
[Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	96.993
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[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
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[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

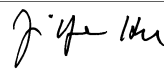
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Thursday, May 05, 2016 11:35:00

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Method 6020 - Summary Report

Sample ID: PBS M8 WG567421-01

Sample Date/Time: Thursday, May 05, 2016 11:35:56

Number of Replicates: 3

Autosampler Position: 205

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	135007.2	0.2				ug/L	82657	Standard
|	Be	9	43.3	24.0	-0.0202	0.006	27.9	ug/L	13	Standard
|	Al	27	50473.9	0.7	0.1376	0.001	0.6	ug/L	1347	Standard
|	Sc	45	42382.6	2.8				ug/L	42879	Standard
|	Ti	47	504.0	31.0	1.3615	0.468	34.3	ug/L	41	Standard
|	V	51	-668.4	220.4	-0.2941	0.149	50.6	ug/L	2416	Standard
|	Cr	52	34842.7	3.6	2.1178	0.111	5.2	ug/L	12475	Standard
|	Cr	53	131009.7	8.1	98.3922	7.589	7.7	ug/L	537	Standard
|	Mn	55	11596.4	1.5	0.9461	0.015	1.6	ug/L	1090	Standard
|	Co	59	517.3	3.1	0.0180	0.002	9.7	ug/L	363	Standard
|	Ni	60	725.0	7.4	0.1016	0.019	18.3	ug/L	399	Standard
|	Cu	65	7216.7	1.8	2.2641	0.059	2.6	ug/L	492	Standard
|	Zn	66	6509.4	0.4	3.8667	0.054	1.4	ug/L	201	Standard
>	Ge	72	668380.6	1.0				ug/L	679875	Standard
|	As	75	-966.9	31.4	-0.5025	0.177	35.3	ug/L	-85	Standard
|	Se	82	33.8	29.2	-0.0141	0.055	392.8	ug/L	29	Standard
|	Se-1	77	10207.4	4.3	89.5676	3.648	4.1	ug/L	107	Standard
>	Ga	71	440.0	16.7				mg/L	37	Standard
|	Rb	85	1480.1	6.5				ug/L	23	Standard
|	Y	89	553297.1	1.1				ug/L	562937	Standard
>	Rh	103	21.7	26.6				ug/L	13	Standard
|	Mo	98	272.6	6.4	0.0650	0.004	6.8	ug/L	25	Standard
|	Ag	107	257.7	4.1	0.0126	0.001	10.6	ug/L	114	Standard
|	Cd	111	37.5	18.6	0.0118	0.002	19.4	mg/L	6	Standard
|	Cd	114	128.0	39.5	0.0156	0.007	44.6	ug/L	14	Standard
>	In	115	702043.4	1.0				ug/L	726030	Standard
|	Sn	118	2125.2	13.5	0.1643	0.034	20.8	ug/L	913	Standard
|	Sb	123	1523.7	31.7	0.2301	0.077	33.4	ug/L	308	Standard
|	Ba	135	1516.4	3.2	0.4812	0.013	2.7	ug/L	50	Standard
|	Ce	140	3440.4	3.3				ug/L	122	Standard
>	Tb	159	1226141.0	0.5				ug/L	1169812	Standard
|	Ho	165	66.7	30.3				ug/L	7	Standard
|	Tl	203	194.3	27.7	0.0140	0.004	31.2	ug/L	11	Standard
|	Tl	205	190.0	29.9	0.0162	0.005	33.3	ug/L	8	Standard
|	Pb	206	3790.1	0.4	0.4652	0.004	0.8	ug/L	277	Standard
|	Pb	207	3248.3	0.9	0.4335	0.005	1.1	ug/L	262	Standard
|	Pb	208	12016.2	1.0	0.4125	0.006	1.4	ug/L	982	Standard
	U	238	74.0	32.3	0.0070	0.002	35.6	ug/L	8	Standard
>	Bi	209	631653.4	0.3				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	155.0	25.6	0.0894	0.037	41.4	mg/L	75	Standard
K	39	51.7	5.6	0.0307	0.013	41.9	mg/L	32	Standard
Ca	43	23.3	44.6	-0.2824	0.837	296.3	mg/L	50	Standard
Fe	54	418.7	13.9	0.1001	0.032	31.7	mg/L	236	Standard
Fe	57	343.3	8.8	0.0995	0.053	52.9	mg/L	352	Standard
Sc-1	45	42382.6	2.8				mg/L	42879	Standard
Cl	35	172193.6	0.7				ug/L	166385	Standard
Kr	83	3.7	56.8				ug/L	3	Standard
Br	81	4720.7	10.1				ug/L	4321	Standard
P	31	30018.1	4.4				ug/L	24331	Standard
S	34	4647.4	4.2				ug/L	3789	Standard
Sr	88	83.3	36.7				ug/L	78	Standard
C	12	343.3	14.7				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	86.6				mg/L	3	Standard
Dy	164	57.8	58.1				mg/L	12	Standard
Ho-1	165	66.7	30.3				mg/L	7	Standard
Er	166	46.7	53.9				mg/L	20	Standard
I	127	13005.9	29.4				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		163.335	
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		98.309	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: PBS M8 WG567421-01

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	96.696
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
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[S	34	
[Sr	88	
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[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

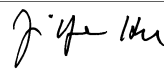
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Li 6 Int Std for sample	Li	6	Rerun sample
As 75 Lower	As	75	

Sample ID: PBS M8 WG567421-01

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Method 6020 - Summary Report

Sample ID: LCSS M8 WG567421-02

Sample Date/Time: Thursday, May 05, 2016 11:39:08

Number of Replicates: 3

Autosampler Position: 206

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	143565.8	3.5				ug/L	82657	Standard
|	Be	9	40829.9	1.0	20.6419	0.830	4.0	ug/L	13	Standard
|	Al	27	85817.6	18.0	0.2261	0.040	17.5	ug/L	1347	Standard
|	Sc	45	41687.3	3.3				ug/L	42879	Standard
|	Ti	47	2296.5	29.2	6.7176	2.061	30.7	ug/L	41	Standard
|	V	51	253019.7	4.7	25.3429	1.127	4.4	ug/L	2416	Standard
|	Cr	52	313970.6	1.1	28.1347	0.234	0.8	ug/L	12475	Standard
|	Cr	53	194794.4	1.6	147.2347	0.509	0.3	ug/L	537	Standard
|	Mn	55	288426.1	0.7	26.0350	0.257	1.0	ug/L	1090	Standard
|	Co	59	276444.7	1.1	26.3768	0.718	2.7	ug/L	363	Standard
|	Ni	60	76797.8	0.9	25.3127	0.247	1.0	ug/L	399	Standard
|	Cu	65	78492.1	0.2	26.3829	0.494	1.9	ug/L	492	Standard
|	Zn	66	43462.6	2.3	26.6002	1.071	4.0	ug/L	201	Standard
>	Ge	72	665324.7	1.7				ug/L	679875	Standard
|	As	75	40001.0	2.1	24.3420	0.733	3.0	ug/L	-85	Standard
|	Se	82	4275.8	1.6	24.6044	0.819	3.3	ug/L	29	Standard
|	Se-1	77	15257.0	0.8	134.9844	2.158	1.6	ug/L	107	Standard
>	Ga	71	463.3	9.2				mg/L	37	Standard
|	Rb	85	1615.1	5.8				ug/L	23	Standard
|	Y	89	539487.0	5.3				ug/L	562937	Standard
>	Rh	103	36.7	61.5				ug/L	13	Standard
|	Mo	98	546.8	17.6	0.1370	0.029	21.4	ug/L	25	Standard
|	Ag	107	254278.0	1.7	26.6264	0.387	1.5	ug/L	114	Standard
|	Cd	111	73293.4	1.0	24.9692	0.978	3.9	mg/L	6	Standard
|	Cd	114	175249.4	0.9	24.8302	0.767	3.1	ug/L	14	Standard
>	In	115	693369.9	3.0				ug/L	726030	Standard
|	Sn	118	1885.1	6.8	0.1378	0.014	9.9	ug/L	913	Standard
|	Sb	123	152155.9	1.0	24.6792	0.869	3.5	ug/L	308	Standard
|	Ba	135	78845.3	0.8	26.2635	0.618	2.4	ug/L	50	Standard
|	Ce	140	2810.3	0.6				ug/L	122	Standard
>	Tb	159	1212837.0	4.6				ug/L	1169812	Standard
|	Ho	165	93.3	52.9				ug/L	7	Standard
|	Tl	203	293749.2	0.3	24.2854	1.015	4.2	ug/L	11	Standard
|	Tl	205	238679.2	2.2	23.1584	1.286	5.6	ug/L	8	Standard
|	Pb	206	198361.1	1.2	26.5367	1.106	4.2	ug/L	277	Standard
|	Pb	207	171442.3	1.5	25.2932	1.199	4.7	ug/L	262	Standard
|	Pb	208	615110.1	0.6	23.5096	0.985	4.2	ug/L	982	Standard
	U	238	222446.4	0.6	23.5937	0.927	3.9	ug/L	8	Standard
>	Bi	209	626090.0	4.1				ug/L	593643	Standard

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Na	23	1.7	173.2	10.2267	17.705	173.1	mg/L	2	Standard
Mg	24	183.3	18.6	0.1167	0.033	27.9	mg/L	75	Standard
K	39	58.3	17.8	0.0557	0.034	61.3	mg/L	32	Standard
Ca	43	40.0	21.7	1.0461	0.611	58.4	mg/L	50	Standard
Fe	54	361.2	10.4	0.0703	0.015	21.9	mg/L	236	Standard
Fe	57	380.0	5.7	0.2047	0.084	41.3	mg/L	352	Standard
Sc-1	45	41687.3	3.3				mg/L	42879	Standard
Cl	35	169236.4	2.7				ug/L	166385	Standard
Kr	83	3.7	56.8				ug/L	3	Standard
Br	81	4400.6	2.6				ug/L	4321	Standard
P	31	29622.3	3.0				ug/L	24331	Standard
S	34	4629.0	1.8				ug/L	3789	Standard
Sr	88	80.0	63.4				ug/L	78	Standard
C	12	593.3	12.4				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	40.0	75.6				mg/L	12	Standard
Ho-1	165	93.3	52.9				mg/L	7	Standard
Er	166	70.0	14.3				mg/L	20	Standard
I	127	7925.4	7.3				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		173.690	
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		97.860	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: LCSS M8 WG567421-02

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.502
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	105.466
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

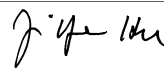
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Cr 53 Upper, S, EEE	Cr	53	
Se-1 77 Upper, S, EEE	Se-1	77	

Sample ID: LCSS M8 WG567421-02

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Method 6020 - Summary Report

Sample ID: LCSS DP WG567421-03

Sample Date/Time: Thursday, May 05, 2016 11:42:20

Number of Replicates: 3

Autosampler Position: 207

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	140390.8	1.0				ug/L	82657	Standard
|	Be	9	40579.3	2.6	20.9618	0.575	2.7	ug/L	13	Standard
|	Al	27	49848.6	3.2	0.1302	0.004	3.2	ug/L	1347	Standard
|	Sc	45	42751.9	0.5				ug/L	42879	Standard
|	Ti	47	285.3	7.2	0.7087	0.059	8.4	ug/L	41	Standard
|	V	51	252154.5	3.3	25.0316	0.806	3.2	ug/L	2416	Standard
|	Cr	52	317201.7	0.6	28.1750	0.246	0.9	ug/L	12475	Standard
|	Cr	53	185622.2	2.3	139.0469	3.358	2.4	ug/L	537	Standard
|	Mn	55	293882.9	2.5	26.2948	0.742	2.8	ug/L	1090	Standard
|	Co	59	278463.2	1.4	26.3294	0.435	1.7	ug/L	363	Standard
|	Ni	60	78307.9	1.3	25.5841	0.430	1.7	ug/L	399	Standard
|	Cu	65	79840.2	1.0	26.5974	0.366	1.4	ug/L	492	Standard
|	Zn	66	44789.8	1.4	27.1636	0.474	1.7	ug/L	201	Standard
[>	Ge	72	671210.2	0.4				ug/L	679875	Standard
|	As	75	41762.5	0.2	25.1823	0.056	0.2	ug/L	-85	Standard
|	Se	82	4435.7	0.6	25.2976	0.121	0.5	ug/L	29	Standard
|	Se-1	77	14590.7	1.4	127.8889	1.730	1.4	ug/L	107	Standard
[>	Ga	71	328.3	4.9				mg/L	37	Standard
|	Rb	85	450.0	5.1				ug/L	23	Standard
|	Y	89	557455.5	1.1				ug/L	562937	Standard
[>	Rh	103	31.7	24.1				ug/L	13	Standard
|	Mo	98	212.3	8.0	0.0492	0.005	9.9	ug/L	25	Standard
|	Ag	107	256868.3	1.2	26.2940	0.226	0.9	ug/L	114	Standard
|	Cd	111	75705.9	1.6	25.1988	0.174	0.7	mg/L	6	Standard
|	Cd	114	181164.8	0.8	25.0868	0.395	1.6	ug/L	14	Standard
[>	In	115	709109.6	1.2				ug/L	726030	Standard
|	Sn	118	1705.1	10.0	0.1110	0.023	20.9	ug/L	913	Standard
|	Sb	123	155955.4	0.9	24.7182	0.079	0.3	ug/L	308	Standard
|	Ba	135	81597.5	1.1	26.5653	0.061	0.2	ug/L	50	Standard
|	Ce	140	858.4	4.7				ug/L	122	Standard
[>	Tb	159	1240521.8	1.1				ug/L	1169812	Standard
|	Ho	165	23.3	12.4				ug/L	7	Standard
|	Tl	203	301492.5	0.6	24.4183	0.257	1.1	ug/L	11	Standard
|	Tl	205	244856.3	1.5	23.2682	0.426	1.8	ug/L	8	Standard
|	Pb	206	200950.1	0.5	26.3363	0.141	0.5	ug/L	277	Standard
|	Pb	207	175196.5	1.0	25.3176	0.127	0.5	ug/L	262	Standard
|	Pb	208	637458.2	0.5	23.8691	0.298	1.2	ug/L	982	Standard
	U	238	227324.4	0.8	23.6214	0.169	0.7	ug/L	8	Standard
[>	Bi	209	638404.3	0.9				ug/L	593643	Standard

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Na	23	3.3	86.6	20.1423	17.439	86.6	mg/L	2	Standard
Mg	24	173.3	10.1	0.1036	0.015	14.6	mg/L	75	Standard
K	39	36.7	28.4	-0.0200	0.033	167.4	mg/L	32	Standard
Ca	43	21.7	35.3	-0.4327	0.583	134.7	mg/L	50	Standard
Fe	54	289.6	21.4	0.0246	0.035	143.9	mg/L	236	Standard
Fe	57	336.7	14.1	0.0773	0.112	144.6	mg/L	352	Standard
Sc-1	45	42751.9	0.5				mg/L	42879	Standard
Cl	35	169335.7	3.5				ug/L	166385	Standard
Kr	83	4.0	25.0				ug/L	3	Standard
Br	81	5414.3	6.8				ug/L	4321	Standard
P	31	30335.5	9.6				ug/L	24331	Standard
S	34	4389.0	5.6				ug/L	3789	Standard
Sr	88	91.7	19.2				ug/L	78	Standard
C	12	423.3	17.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	20.0	86.6				mg/L	3	Standard
Dy	164	25.4	21.7				mg/L	12	Standard
Ho-1	165	23.3	12.4				mg/L	7	Standard
Er	166	26.7	43.3				mg/L	20	Standard
I	127	4355.6	3.9				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		169.848	
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		98.725	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: LCSS DP WG567421-03

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.670
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	107.540
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

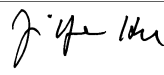
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Cr 53 Upper, S, EEE	Cr	53	
Se-1 77 Upper, S, EEE	Se-1	77	

Sample ID: LCSS DP WG567421-03

Report Date/Time: Thursday, May 05, 2016 11:44:36

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Method 6020 - Summary Report

Sample ID: L1604000201

Sample Date/Time: Thursday, May 05, 2016 11:45:31

Number of Replicates: 3

Autosampler Position: 208

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	146108.1	2.6				ug/L	82657	Standard
|	Be	9	48.3	72.7	-0.0196	0.017	88.8	ug/L	13	Standard
|	Al	27	20675.8	8.0	0.0456	0.005	10.7	ug/L	1347	Standard
|	Sc	45	42215.4	1.2				ug/L	42879	Standard
|	Ti	47	70.0	8.0	0.0757	0.019	25.7	ug/L	41	Standard
|	V	51	6678.7	102.1	0.4460	0.680	152.4	ug/L	2416	Standard
|	Cr	52	48236.3	0.9	3.3958	0.091	2.7	ug/L	12475	Standard
|	Cr	53	189268.2	4.7	143.5945	8.698	6.1	ug/L	537	Standard
|	Mn	55	6466.0	1.5	0.4881	0.014	2.9	ug/L	1090	Standard
|	Co	59	8000.4	1.1	0.7356	0.019	2.6	ug/L	363	Standard
|	Ni	60	4300.3	2.2	1.2922	0.035	2.7	ug/L	399	Standard
|	Cu	65	3642.8	2.7	1.0706	0.035	3.2	ug/L	492	Standard
|	Zn	66	8482.0	0.7	5.1143	0.070	1.4	ug/L	201	Standard
>	Ge	72	663142.7	1.4				ug/L	679875	Standard
|	As	75	-884.4	10.1	-0.4578	0.050	10.9	ug/L	-85	Standard
|	Se	82	78.1	6.0	0.2462	0.033	13.6	ug/L	29	Standard
|	Se-1	77	14029.2	0.6	124.4603	2.365	1.9	ug/L	107	Standard
>	Ga	71	323.3	14.9				mg/L	37	Standard
|	Rb	85	131.7	27.5				ug/L	23	Standard
|	Y	89	559446.2	0.2				ug/L	562937	Standard
>	Rh	103	13.3	21.7				ug/L	13	Standard
|	Mo	98	95.6	48.8	0.0199	0.012	59.4	ug/L	25	Standard
|	Ag	107	3127.3	5.4	0.3076	0.015	5.0	ug/L	114	Standard
|	Cd	111	468.8	15.6	0.1559	0.024	15.4	mg/L	6	Standard
|	Cd	114	1163.3	19.6	0.1594	0.031	19.5	ug/L	14	Standard
>	In	115	706074.9	2.2				ug/L	726030	Standard
|	Sn	118	1495.1	8.9	0.0863	0.019	21.7	ug/L	913	Standard
|	Sb	123	1843.9	21.9	0.2804	0.066	23.6	ug/L	308	Standard
|	Ba	135	1518.4	3.9	0.4791	0.021	4.4	ug/L	50	Standard
|	Ce	140	263.3	12.4				ug/L	122	Standard
>	Tb	159	1232663.2	0.6				ug/L	1169812	Standard
|	Ho	165	18.3	41.7				ug/L	7	Standard
|	Tl	203	1050.7	23.8	0.0836	0.021	24.7	ug/L	11	Standard
|	Tl	205	763.4	4.9	0.0708	0.004	5.3	ug/L	8	Standard
|	Pb	206	3063.3	4.9	0.3661	0.021	5.8	ug/L	277	Standard
|	Pb	207	2815.6	3.4	0.3674	0.015	4.2	ug/L	262	Standard
|	Pb	208	9688.9	1.1	0.3217	0.005	1.7	ug/L	982	Standard
	U	238	5098.5	2.4	0.5310	0.011	2.1	ug/L	8	Standard
>	Bi	209	636047.0	0.4				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	135.0	26.7	0.0718	0.031	43.1	mg/L	75	Standard
K	39	46.7	59.0	0.0148	0.091	612.5	mg/L	32	Standard
Ca	43	26.7	10.8	-0.0227	0.219	967.5	mg/L	50	Standard
Fe	54	297.8	10.1	0.0313	0.015	49.2	mg/L	236	Standard
Fe	57	298.3	1.0	-0.0043	0.003	60.1	mg/L	352	Standard
Sc-1	45	42215.4	1.2				mg/L	42879	Standard
Cl	35	166897.3	2.8				ug/L	166385	Standard
Kr	83	2.0	100.0				ug/L	3	Standard
Br	81	4210.6	5.3				ug/L	4321	Standard
P	31	33407.0	9.4				ug/L	24331	Standard
S	34	4382.3	3.5				ug/L	3789	Standard
Sr	88	83.3	51.0				ug/L	78	Standard
C	12	196.7	20.5				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	21.9	70.6				mg/L	12	Standard
Ho-1	165	18.3	41.7				mg/L	7	Standard
Er	166	30.0	57.7				mg/L	20	Standard
I	127	4182.2	4.6				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		176.765	
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		97.539	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604000201

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.252
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	107.143
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

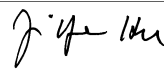
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Cr 53 Upper, S, EEE	Cr	53	
As 75 Lower	As	75	

Sample ID: L1604000201


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Method 6020 - Summary Report

Sample ID: L1604000401

Sample Date/Time: Thursday, May 05, 2016 11:48:43

Number of Replicates: 3

Autosampler Position: 209

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	149526.5	3.5				ug/L	82657	Standard
|	Be	9	33.3	43.3	-0.0275	0.006	23.2	ug/L	13	Standard
|	Al	27	48519.3	2.1	0.1181	0.002	1.5	ug/L	1347	Standard
|	Sc	45	44774.4	1.6				ug/L	42879	Standard
|	Ti	47	141.0	43.4	0.2819	0.175	62.2	ug/L	41	Standard
|	V	51	13632.5	41.2	1.1437	0.570	49.8	ug/L	2416	Standard
|	Cr	52	60179.6	0.9	4.4498	0.048	1.1	ug/L	12475	Standard
|	Cr	53	219699.9	4.3	164.8098	5.918	3.6	ug/L	537	Standard
|	Mn	55	10216.8	2.8	0.8188	0.028	3.4	ug/L	1090	Standard
|	Co	59	15383.5	0.8	1.4267	0.017	1.2	ug/L	363	Standard
|	Ni	60	7653.9	0.4	2.3793	0.030	1.2	ug/L	399	Standard
|	Cu	65	5906.2	3.3	1.8167	0.072	4.0	ug/L	492	Standard
|	Zn	66	13004.2	0.7	7.8138	0.062	0.8	ug/L	201	Standard
>	Ge	72	670491.9	1.2				ug/L	679875	Standard
|	As	75	266.5	277.6	0.2375	0.446	187.6	ug/L	-85	Standard
|	Se	82	131.2	16.3	0.5466	0.126	23.1	ug/L	29	Standard
|	Se-1	77	14952.0	1.3	131.2191	0.225	0.2	ug/L	107	Standard
>	Ga	71	393.3	6.0				mg/L	37	Standard
|	Rb	85	150.0	20.8				ug/L	23	Standard
|	Y	89	551098.5	0.3				ug/L	562937	Standard
>	Rh	103	10.0	50.0				ug/L	13	Standard
|	Mo	98	90.9	8.1	0.0186	0.002	10.8	ug/L	25	Standard
|	Ag	107	5827.1	0.4	0.5844	0.003	0.5	ug/L	114	Standard
|	Cd	111	807.5	2.4	0.2688	0.006	2.2	mg/L	6	Standard
|	Cd	114	1924.0	4.3	0.2649	0.011	4.1	ug/L	14	Standard
>	In	115	707130.1	0.7				ug/L	726030	Standard
|	Sn	118	1531.7	5.9	0.0904	0.012	13.4	ug/L	913	Standard
|	Sb	123	2126.8	7.7	0.3246	0.028	8.7	ug/L	308	Standard
|	Ba	135	2848.6	2.2	0.9130	0.027	2.9	ug/L	50	Standard
|	Ce	140	153.3	26.6				ug/L	122	Standard
>	Tb	159	1261313.4	1.0				ug/L	1169812	Standard
|	Ho	165	16.7	45.8				ug/L	7	Standard
|	Tl	203	1334.1	2.5	0.1061	0.003	3.2	ug/L	11	Standard
|	Tl	205	1110.0	7.1	0.1034	0.007	7.0	ug/L	8	Standard
|	Pb	206	5256.6	2.0	0.6517	0.011	1.7	ug/L	277	Standard
|	Pb	207	4714.1	3.1	0.6402	0.030	4.7	ug/L	262	Standard
|	Pb	208	16758.7	0.8	0.5850	0.012	2.0	ug/L	982	Standard
	U	238	9942.9	0.7	1.0316	0.017	1.7	ug/L	8	Standard
>	Bi	209	639002.7	1.2				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	130.0	6.7	0.0610	0.006	9.1	mg/L	75	Standard
K	39	40.0	33.1	-0.0149	0.041	274.3	mg/L	32	Standard
Ca	43	43.3	54.5	1.0649	1.681	157.9	mg/L	50	Standard
Fe	54	304.3	11.3	0.0252	0.020	81.0	mg/L	236	Standard
Fe	57	330.0	23.7	0.0280	0.185	662.2	mg/L	352	Standard
Sc-1	45	44774.4	1.6				mg/L	42879	Standard
Cl	35	171649.5	0.5				ug/L	166385	Standard
Kr	83	4.7	12.4				ug/L	3	Standard
Br	81	4073.9	8.8				ug/L	4321	Standard
P	31	30687.7	1.7				ug/L	24331	Standard
S	34	4665.7	1.1				ug/L	3789	Standard
Sr	88	90.0	5.6				ug/L	78	Standard
C	12	283.3	14.7				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	6.2	86.7				mg/L	12	Standard
Ho-1	165	16.7	45.8				mg/L	7	Standard
Er	166	10.0	100.0				mg/L	20	Standard
I	127	3648.8	4.3				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		180.901	
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		98.620	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604000401

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.397
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	107.641
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

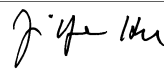
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Cr 53 Upper, S, EEE	Cr	53	
Se-1 77 Upper, S, EEE	Se-1	77	

Sample ID: L1604000401

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Method 6020 - Summary Report

Sample ID: L1604000410

Sample Date/Time: Thursday, May 05, 2016 11:51:54

Number of Replicates: 3

Autosampler Position: 210

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	150611.6	1.1				ug/L	82657	Standard
|	Be	9	60.0	8.3	-0.0146	0.003	18.3	ug/L	13	Standard
|	Al	27	73260.1	1.9	0.1822	0.005	2.5	ug/L	1347	Standard
|	Sc	45	44277.9	1.2				ug/L	42879	Standard
|	Ti	47	62.7	21.4	0.0521	0.043	82.5	ug/L	41	Standard
|	V	51	12627.2	28.8	1.0372	0.340	32.8	ug/L	2416	Standard
|	Cr	52	57443.7	1.0	4.2015	0.141	3.4	ug/L	12475	Standard
|	Cr	53	238894.2	4.3	179.4558	9.517	5.3	ug/L	537	Standard
|	Mn	55	10681.1	1.5	0.8614	0.029	3.4	ug/L	1090	Standard
|	Co	59	16024.5	1.7	1.4887	0.042	2.8	ug/L	363	Standard
|	Ni	60	7177.0	1.2	2.2247	0.078	3.5	ug/L	399	Standard
|	Cu	65	6073.6	1.2	1.8744	0.052	2.8	ug/L	492	Standard
|	Zn	66	14114.6	0.2	8.4974	0.168	2.0	ug/L	201	Standard
>	Ge	72	670126.6	2.1				ug/L	679875	Standard
|	As	75	138.2	544.8	0.1587	0.447	281.8	ug/L	-85	Standard
|	Se	82	131.8	5.4	0.5499	0.030	5.4	ug/L	29	Standard
|	Se-1	77	15233.0	1.3	133.8036	2.293	1.7	ug/L	107	Standard
>	Ga	71	365.0	8.3				mg/L	37	Standard
|	Rb	85	81.7	27.6				ug/L	23	Standard
|	Y	89	566842.8	1.2				ug/L	562937	Standard
>	Rh	103	13.3	21.7				ug/L	13	Standard
|	Mo	98	63.7	15.6	0.0116	0.002	21.0	ug/L	25	Standard
|	Ag	107	6020.2	0.6	0.5972	0.005	0.8	ug/L	114	Standard
|	Cd	111	828.2	1.8	0.2725	0.005	1.7	mg/L	6	Standard
|	Cd	114	1930.9	5.4	0.2628	0.015	5.8	ug/L	14	Standard
>	In	115	715318.8	0.3				ug/L	726030	Standard
|	Sn	118	1648.4	6.7	0.1022	0.013	12.9	ug/L	913	Standard
|	Sb	123	2045.9	6.7	0.3079	0.021	6.8	ug/L	308	Standard
|	Ba	135	3092.6	2.2	0.9810	0.019	2.0	ug/L	50	Standard
|	Ce	140	186.7	15.2				ug/L	122	Standard
>	Tb	159	1271385.6	0.7				ug/L	1169812	Standard
|	Ho	165	20.0	43.3				ug/L	7	Standard
|	Tl	203	1474.7	0.9	0.1176	0.001	1.2	ug/L	11	Standard
|	Tl	205	1200.0	9.8	0.1121	0.012	10.3	ug/L	8	Standard
|	Pb	206	5560.4	0.3	0.6925	0.004	0.6	ug/L	277	Standard
|	Pb	207	5067.2	1.1	0.6920	0.006	0.8	ug/L	262	Standard
|	Pb	208	17820.4	0.6	0.6256	0.003	0.5	ug/L	982	Standard
	U	238	10224.4	1.5	1.0621	0.016	1.5	ug/L	8	Standard
>	Bi	209	638167.1	0.3				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	175.0	4.9	0.0999	0.008	8.3	mg/L	75	Standard
K	39	53.3	44.3	0.0289	0.076	262.6	mg/L	32	Standard
Ca	43	23.3	49.5	-0.3693	0.849	229.8	mg/L	50	Standard
Fe	54	252.4	10.9	-0.0016	0.015	950.4	mg/L	236	Standard
Fe	57	290.0	10.5	-0.0572	0.061	106.7	mg/L	352	Standard
Sc-1	45	44277.9	1.2				mg/L	42879	Standard
Cl	35	179831.0	1.1				ug/L	166385	Standard
Kr	83	2.3	65.5				ug/L	3	Standard
Br	81	4130.6	3.5				ug/L	4321	Standard
P	31	32179.2	2.9				ug/L	24331	Standard
S	34	5022.5	3.8				ug/L	3789	Standard
Sr	88	118.3	24.8				ug/L	78	Standard
C	12	420.0	25.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	8.6	111.6				mg/L	12	Standard
Ho-1	165	20.0	43.3				mg/L	7	Standard
Er	166	30.0	66.7				mg/L	20	Standard
I	127	3557.1	10.9				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		182.214	
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		98.566	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604000410

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.525
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	107.500
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
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[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

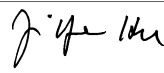
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Cr 53 Upper, S, EEE	Cr	53	
Se-1 77 Upper, S, EEE	Se-1	77	

Sample ID: L1604000410

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 05, 2016 11:55:08

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82241.0	2.5				ug/L	82657	Standard
|	Be	9	60408.8	5.8	53.3090	1.927	3.6	ug/L	13	Standard
|	Al	27	11005416.3	3.0	53.0249	1.116	2.1	ug/L	1347	Standard
|	Sc	45	44237.8	1.7				ug/L	42879	Standard
|	Ti	47	35282.0	0.8	103.1592	1.252	1.2	ug/L	41	Standard
|	V	51	514078.4	1.5	50.8339	0.237	0.5	ug/L	2416	Standard
|	Cr	52	568697.1	1.2	50.9545	0.411	0.8	ug/L	12475	Standard
|	Cr	53	74337.0	2.9	54.9222	0.646	1.2	ug/L	537	Standard
|	Mn	55	569941.1	0.5	50.6599	0.733	1.4	ug/L	1090	Standard
|	Co	59	527230.7	0.6	49.4660	1.018	2.1	ug/L	363	Standard
|	Ni	60	154779.9	0.8	50.2769	0.629	1.3	ug/L	399	Standard
|	Cu	65	152549.8	0.9	50.5410	0.544	1.1	ug/L	492	Standard
|	Zn	66	83293.7	0.7	50.1889	0.657	1.3	ug/L	201	Standard
>	Ge	72	676961.3	2.0				ug/L	679875	Standard
|	As	75	83612.5	0.9	49.9183	0.716	1.4	ug/L	-85	Standard
|	Se	82	8825.9	1.6	50.1133	0.193	0.4	ug/L	29	Standard
|	Se-1	77	6035.2	3.6	51.8941	1.037	2.0	ug/L	107	Standard
>	Ga	71	53.3	27.1				mg/L	37	Standard
|	Rb	85	1316.7	2.9				ug/L	23	Standard
|	Y	89	558766.0	2.0				ug/L	562937	Standard
>	Rh	103	33.3	22.9				ug/L	13	Standard
|	Mo	98	405410.2	1.4	98.7320	0.407	0.4	ug/L	25	Standard
|	Ag	107	500317.7	0.9	49.5581	0.536	1.1	ug/L	114	Standard
|	Cd	111	155183.9	1.0	49.9708	0.112	0.2	mg/L	6	Standard
|	Cd	114	374018.3	0.1	50.1034	0.464	0.9	ug/L	14	Standard
>	In	115	733006.5	1.0				ug/L	726030	Standard
|	Sn	118	423006.5	1.9	49.5413	0.541	1.1	ug/L	913	Standard
|	Sb	123	322960.9	1.1	49.5322	0.457	0.9	ug/L	308	Standard
|	Ba	135	157458.0	0.9	49.6074	0.377	0.8	ug/L	50	Standard
|	Ce	140	163.3	11.6				ug/L	122	Standard
>	Tb	159	1187288.0	0.8				ug/L	1169812	Standard
|	Ho	165	13.3	57.3				ug/L	7	Standard
|	Tl	203	578537.7	1.2	49.1652	0.174	0.4	ug/L	11	Standard
|	Tl	205	498116.7	1.5	49.6703	0.850	1.7	ug/L	8	Standard
|	Pb	206	355885.9	0.8	48.9730	0.227	0.5	ug/L	277	Standard
|	Pb	207	323663.2	0.7	49.1183	0.165	0.3	ug/L	262	Standard
|	Pb	208	1269565.4	0.4	49.9275	0.453	0.9	ug/L	982	Standard
	U	238	455718.2	0.1	49.6917	0.540	1.1	ug/L	8	Standard
>	Bi	209	608412.8	1.0				ug/L	593643	Standard

Sample ID: QC Std 6

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Na	23	3.3	173.2	19.2615	33.353	173.2	mg/L	2	Standard
Mg	24	5897.8	2.8	4.8843	0.060	1.2	mg/L	75	Standard
K	39	1526.7	3.3	4.6745	0.160	3.4	mg/L	32	Standard
Ca	43	101.7	31.2	5.4226	2.256	41.6	mg/L	50	Standard
Fe	54	8929.3	2.2	4.7803	0.063	1.3	mg/L	236	Standard
Fe	57	2525.2	7.2	5.0561	0.452	8.9	mg/L	352	Standard
Sc-1	45	44237.8	1.7				mg/L	42879	Standard
Cl	35	182562.0	3.3				ug/L	166385	Standard
Kr	83	2.7	78.1				ug/L	3	Standard
Br	81	4087.2	7.9				ug/L	4321	Standard
P	31	27137.6	2.2				ug/L	24331	Standard
S	34	4864.1	2.4				ug/L	3789	Standard
Sr	88	88.3	17.3				ug/L	78	Standard
C	12	106.7	35.5				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	9.4	11.8				mg/L	12	Standard
Ho-1	165	13.3	57.3				mg/L	7	Standard
Er	166	13.3	173.2				mg/L	20	Standard
I	127	2110.1	10.2				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	106.618		
Al	27	106.050		
Sc	45			
Ti	47	103.159		
V	51	101.668		
Cr	52	101.909		
Cr	53			
Mn	55	101.320		
Co	59	98.932		
Ni	60	100.554		
Cu	65	101.082		
Zn	66	100.378		
Ge	72		99.571	
As	75	99.837		
Se	82	100.227		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

Report Date/Time: Thursday, May 05, 2016 11:57:25

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	98.732	
[Ag	107	99.116	
[Cd	111	99.942	
[Cd	114		
>	In	115		100.961
[Sn	118	99.083	
[	Sb	123	99.064	
[	Ba	135	99.215	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[Tl	203	98.330	
[Tl	205		
[Pb	206		
[Pb	207		
[Pb	208	99.855	
[U	238	99.383	
>	Bi	209		102.488
[Na	23		
[Mg	24		
[K	39		
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[Cl	35		
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[C	12		
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[Ho-1	165		
[Er	166		
[I	127		

QC Out of Limits

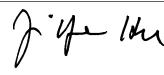
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 05, 2016 11:58:19

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 Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82197.6	3.6				ug/L	82657	Standard
|	Be	9	45.0	44.4	-0.0040	0.017	411.0	ug/L	13	Standard
|	Al	27	2758.6	31.7	0.0027	0.004	138.8	ug/L	1347	Standard
|	Sc	45	42738.5	1.6				ug/L	42879	Standard
|	Ti	47	35.3	18.8	-0.0268	0.019	69.4	ug/L	41	Standard
|	V	51	2016.0	4.1	-0.0186	0.013	67.6	ug/L	2416	Standard
|	Cr	52	10821.2	1.5	-0.0871	0.052	59.2	ug/L	12475	Standard
|	Cr	53	3778.8	5.4	2.4446	0.163	6.7	ug/L	537	Standard
|	Mn	55	1127.4	8.7	0.0039	0.005	136.7	ug/L	1090	Standard
|	Co	59	398.7	11.8	0.0075	0.003	43.0	ug/L	363	Standard
|	Ni	60	346.0	10.8	-0.0211	0.011	51.8	ug/L	399	Standard
|	Cu	65	513.3	8.2	0.0108	0.008	75.7	ug/L	492	Standard
|	Zn	66	210.0	10.8	0.0163	0.010	62.5	ug/L	201	Standard
>	Ge	72	654580.4	3.6				ug/L	679875	Standard
|	As	75	-88.0	20.6	0.0255	0.013	49.9	ug/L	-85	Standard
|	Se	82	30.1	28.6	-0.0299	0.057	189.6	ug/L	29	Standard
|	Se-1	77	245.0	14.2	1.2875	0.248	19.3	ug/L	107	Standard
>	Ga	71	35.0	14.3				mg/L	37	Standard
|	Rb	85	21.7	26.6				ug/L	23	Standard
|	Y	89	552833.6	1.8				ug/L	562937	Standard
>	Rh	103	10.0	50.0				ug/L	13	Standard
|	Mo	98	272.6	15.7	0.0623	0.010	15.8	ug/L	25	Standard
|	Ag	107	192.0	26.6	0.0050	0.005	97.9	ug/L	114	Standard
|	Cd	111	26.5	70.5	0.0078	0.006	76.4	mg/L	6	Standard
|	Cd	114	67.7	71.0	0.0068	0.006	94.1	ug/L	14	Standard
>	In	115	729935.7	0.9				ug/L	726030	Standard
|	Sn	118	1453.4	28.4	0.0755	0.050	65.8	ug/L	913	Standard
|	Sb	123	1018.6	27.5	0.1434	0.044	30.8	ug/L	308	Standard
|	Ba	135	70.3	12.3	0.0045	0.003	57.4	ug/L	50	Standard
|	Ce	140	23.3	53.9				ug/L	122	Standard
>	Tb	159	1157842.2	1.5				ug/L	1169812	Standard
|	Ho	165	10.0	86.6				ug/L	7	Standard
|	Tl	203	418.7	16.2	0.0339	0.005	15.9	ug/L	11	Standard
|	Tl	205	348.3	14.4	0.0329	0.005	14.1	ug/L	8	Standard
|	Pb	206	402.0	8.2	0.0182	0.004	21.7	ug/L	277	Standard
|	Pb	207	363.3	12.5	0.0138	0.006	46.5	ug/L	262	Standard
|	Pb	208	1446.0	9.9	0.0142	0.005	37.3	ug/L	982	Standard
	U	238	83.7	31.4	0.0084	0.003	33.0	ug/L	8	Standard
>	Bi	209	604253.8	1.1				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	70.0	28.6	0.0144	0.018	126.8	mg/L	75	Standard
K	39	41.7	48.5	-0.0038	0.065	1687.4	mg/L	32	Standard
Ca	43	28.3	36.7	0.0751	0.778	1035.7	mg/L	50	Standard
Fe	54	236.0	25.5	-0.0060	0.034	561.1	mg/L	236	Standard
Fe	57	276.7	20.2	-0.0648	0.127	196.2	mg/L	352	Standard
Sc-1	45	42738.5	1.6				mg/L	42879	Standard
Cl	35	173491.2	3.7				ug/L	166385	Standard
Kr	83	4.3	35.3				ug/L	3	Standard
Br	81	3783.8	2.6				ug/L	4321	Standard
P	31	25451.4	1.6				ug/L	24331	Standard
S	34	4620.7	5.6				ug/L	3789	Standard
Sr	88	81.7	24.7				ug/L	78	Standard
C	12	90.0	11.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	-0.3	86.6				mg/L	12	Standard
Ho-1	165	10.0	86.6				mg/L	7	Standard
Er	166	6.7	86.6				mg/L	20	Standard
I	127	2206.8	3.8				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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		96.279	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.538
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	101.787
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: L1605008201

Sample Date/Time: Thursday, May 05, 2016 12:01:33

Number of Replicates: 3

Autosampler Position: 211

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	151133.4	0.3				ug/L	82657	Standard
|	Be	9	408.3	8.2	0.1528	0.016	10.7	ug/L	13	Standard
|	Al	27	1962318.1	3.0	5.1352	0.162	3.2	ug/L	1347	Standard
|	Sc	45	47786.9	1.3				ug/L	42879	Standard
|	Ti	47	32494.1	1.3	91.0687	1.305	1.4	ug/L	41	Standard
|	V	51	157576.0	5.1	14.7787	0.727	4.9	ug/L	2416	Standard
|	Cr	52	126892.0	2.5	10.0235	0.115	1.1	ug/L	12475	Standard
|	Cr	53	176053.3	6.7	125.2606	6.867	5.5	ug/L	537	Standard
|	Mn	55	2071342.4	0.6	176.7538	1.691	1.0	ug/L	1090	Standard
|	Co	59	23547.6	0.4	2.0882	0.036	1.7	ug/L	363	Standard
|	Ni	60	19663.8	0.4	6.0029	0.075	1.3	ug/L	399	Standard
|	Cu	65	33269.8	1.2	10.4368	0.148	1.4	ug/L	492	Standard
|	Zn	66	104510.5	0.7	60.3954	0.569	0.9	ug/L	201	Standard
>	Ge	72	706075.6	1.5				ug/L	679875	Standard
|	As	75	6701.9	6.3	3.9101	0.250	6.4	ug/L	-85	Standard
|	Se	82	172.4	3.8	0.7334	0.032	4.4	ug/L	29	Standard
|	Se-1	77	13464.7	6.4	112.0295	5.799	5.2	ug/L	107	Standard
>	Ga	71	11010.7	7.7				mg/L	37	Standard
|	Rb	85	76693.6	0.7				ug/L	23	Standard
|	Y	89	674265.4	1.6				ug/L	562937	Standard
>	Rh	103	50.0	0.0				ug/L	13	Standard
|	Mo	98	5464.1	3.7	1.2996	0.054	4.1	ug/L	25	Standard
|	Ag	107	593.0	3.1	0.0435	0.002	4.7	ug/L	114	Standard
|	Cd	111	1305.7	5.4	0.4112	0.023	5.5	mg/L	6	Standard
|	Cd	114	3284.4	4.3	0.4288	0.022	5.1	ug/L	14	Standard
>	In	115	748212.1	0.8				ug/L	726030	Standard
|	Sn	118	37073.7	3.5	4.1660	0.136	3.3	ug/L	913	Standard
|	Sb	123	2735.9	4.5	0.3975	0.018	4.4	ug/L	308	Standard
|	Ba	135	127632.7	0.8	39.3921	0.567	1.4	ug/L	50	Standard
|	Ce	140	720315.0	0.6				ug/L	122	Standard
>	Tb	159	1328768.9	0.5				ug/L	1169812	Standard
|	Ho	165	6674.8	1.3				ug/L	7	Standard
|	Tl	203	1239.4	7.4	0.0934	0.007	7.5	ug/L	11	Standard
|	Tl	205	990.0	14.0	0.0874	0.013	15.1	ug/L	8	Standard
|	Pb	206	306538.2	0.6	38.1562	0.543	1.4	ug/L	277	Standard
|	Pb	207	253825.4	1.4	34.8350	0.180	0.5	ug/L	262	Standard
|	Pb	208	936933.6	0.4	33.3199	0.256	0.8	ug/L	982	Standard
	U	238	4748.7	0.7	0.4677	0.008	1.7	ug/L	8	Standard
>	Bi	209	672508.3	1.0				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	191.7	10.9	0.1020	0.016	15.3	mg/L	75	Standard
K	39	201.7	1.4	0.4492	0.016	3.6	mg/L	32	Standard
Ca	43	66.7	28.4	2.4724	1.251	50.6	mg/L	50	Standard
Fe	54	14466.6	2.2	7.2421	0.260	3.6	mg/L	236	Standard
Fe	57	3943.8	3.5	7.6290	0.347	4.5	mg/L	352	Standard
Sc-1	45	47786.9	1.3				mg/L	42879	Standard
Cl	35	184602.7	1.7				ug/L	166385	Standard
Kr	83	2.3	65.5				ug/L	3	Standard
Br	81	6441.4	4.0				ug/L	4321	Standard
P	31	32837.2	0.4				ug/L	24331	Standard
S	34	5214.2	2.3				ug/L	3789	Standard
Sr	88	111.7	10.3				ug/L	78	Standard
C	12	1860.1	3.5				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	376.7	21.5				mg/L	3	Standard
Dy	164	11361.3	2.5				mg/L	12	Standard
Ho-1	165	6674.8	1.3				mg/L	7	Standard
Er	166	6398.0	6.4				mg/L	20	Standard
I	127	39170.7	5.5				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		182.845	
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		103.854	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605008201

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	103.055
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	113.285
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

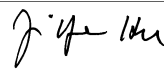
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Cr 53 Upper, S, EEE	Cr	53	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1605008202

Sample Date/Time: Thursday, May 05, 2016 12:04:44

Number of Replicates: 3

Autosampler Position: 212

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	150551.5	3.3				ug/L	82657	Standard
|	Be	9	413.3	14.9	0.1560	0.030	19.1	ug/L	13	Standard
|	Al	27	2885212.7	4.6	7.5920	0.489	6.4	ug/L	1347	Standard
|	Sc	45	47517.8	4.0				ug/L	42879	Standard
|	Ti	47	30710.8	3.4	88.3142	6.323	7.2	ug/L	41	Standard
|	V	51	113577.3	4.8	10.8527	0.313	2.9	ug/L	2416	Standard
|	Cr	52	236893.4	2.1	20.2199	1.300	6.4	ug/L	12475	Standard
|	Cr	53	199222.7	4.2	145.6421	11.840	8.1	ug/L	537	Standard
|	Mn	55	1858144.2	1.1	162.5528	6.110	3.8	ug/L	1090	Standard
|	Co	59	22666.9	0.4	2.0603	0.078	3.8	ug/L	363	Standard
|	Ni	60	18999.6	1.7	5.9487	0.358	6.0	ug/L	399	Standard
|	Cu	65	34013.8	2.0	10.9549	0.686	6.3	ug/L	492	Standard
|	Zn	66	167938.0	1.1	99.6149	5.224	5.2	ug/L	201	Standard
>	Ge	72	689315.8	4.1				ug/L	679875	Standard
|	As	75	6735.5	4.1	4.0298	0.302	7.5	ug/L	-85	Standard
|	Se	82	100.7	1.7	0.3556	0.022	6.1	ug/L	29	Standard
|	Se-1	77	13859.7	3.7	118.4741	9.393	7.9	ug/L	107	Standard
>	Ga	71	12937.2	1.9				mg/L	37	Standard
|	Rb	85	123666.2	2.8				ug/L	23	Standard
|	Y	89	645413.4	0.6				ug/L	562937	Standard
>	Rh	103	33.3	22.9				ug/L	13	Standard
|	Mo	98	3715.5	1.7	0.8861	0.025	2.8	ug/L	25	Standard
|	Ag	107	831.0	4.2	0.0670	0.005	6.8	ug/L	114	Standard
|	Cd	111	844.6	4.6	0.2669	0.014	5.3	mg/L	6	Standard
|	Cd	114	2214.5	6.3	0.2896	0.021	7.2	ug/L	14	Standard
>	In	115	745136.9	1.4				ug/L	726030	Standard
|	Sn	118	15621.4	1.9	1.7077	0.053	3.1	ug/L	913	Standard
|	Sb	123	2285.0	2.3	0.3312	0.010	3.2	ug/L	308	Standard
|	Ba	135	121385.0	1.2	37.6241	0.986	2.6	ug/L	50	Standard
|	Ce	140	735394.4	2.3				ug/L	122	Standard
>	Tb	159	1319847.9	1.7				ug/L	1169812	Standard
|	Ho	165	4850.8	1.3				ug/L	7	Standard
|	Tl	203	844.0	3.4	0.0640	0.003	4.5	ug/L	11	Standard
|	Tl	205	688.3	8.3	0.0610	0.005	8.4	ug/L	8	Standard
|	Pb	206	183308.7	1.6	23.1264	0.248	1.1	ug/L	277	Standard
|	Pb	207	152868.7	1.1	21.2643	0.169	0.8	ug/L	262	Standard
|	Pb	208	557917.2	0.1	20.1087	0.279	1.4	ug/L	982	Standard
	U	238	2974.0	1.5	0.2968	0.008	2.7	ug/L	8	Standard
>	Bi	209	663039.6	1.2				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	276.7	15.8	0.1700	0.042	25.0	mg/L	75	Standard
K	39	308.3	20.0	0.7661	0.180	23.5	mg/L	32	Standard
Ca	43	63.3	24.1	2.3122	1.250	54.0	mg/L	50	Standard
Fe	54	17563.3	0.5	8.8817	0.418	4.7	mg/L	236	Standard
Fe	57	4654.0	2.0	9.1916	0.210	2.3	mg/L	352	Standard
Sc-1	45	47517.8	4.0				mg/L	42879	Standard
Cl	35	177553.2	2.0				ug/L	166385	Standard
Kr	83	2.3	99.0				ug/L	3	Standard
Br	81	5000.8	1.4				ug/L	4321	Standard
P	31	32169.2	4.1				ug/L	24331	Standard
S	34	4822.4	2.3				ug/L	3789	Standard
Sr	88	106.7	5.4				ug/L	78	Standard
C	12	1430.1	14.8				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	180.0	24.2				mg/L	3	Standard
Dy	164	9018.6	4.6				mg/L	12	Standard
Ho-1	165	4850.8	1.3				mg/L	7	Standard
Er	166	4820.8	2.7				mg/L	20	Standard
I	127	22526.8	6.2				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		182.141	
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		101.389	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605008202

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	102.632
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[Tl	205	
[Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	111.690
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
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[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

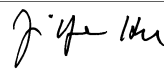
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Cr 53 Upper, S, EEE	Cr	53	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1605008202


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Method 6020 - Summary Report

Sample ID: L1605008202PS WG567660-01

Sample Date/Time: Thursday, May 05, 2016 12:07:56

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 Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	157193.2	2.4				ug/L	82657	Standard
|	Be	9	93653.6	1.4	43.2619	0.821	1.9	ug/L	13	Standard
|	Al	27	2959449.9	2.3	7.4514	0.130	1.7	ug/L	1347	Standard
|	Sc	45	49114.5	1.8				ug/L	42879	Standard
|	Ti	47	31927.6	2.6	87.5021	2.304	2.6	ug/L	41	Standard
|	V	51	712880.2	1.0	66.1634	0.546	0.8	ug/L	2416	Standard
|	Cr	52	878113.2	0.5	74.2668	0.493	0.7	ug/L	12475	Standard
|	Cr	53	286444.4	1.5	199.6929	3.035	1.5	ug/L	537	Standard
|	Mn	55	2522432.0	0.4	210.5156	1.008	0.5	ug/L	1090	Standard
|	Co	59	649509.9	1.7	57.1308	0.883	1.5	ug/L	363	Standard
|	Ni	60	193320.5	0.9	58.8975	0.506	0.9	ug/L	399	Standard
|	Cu	65	208848.7	1.3	64.9210	0.921	1.4	ug/L	492	Standard
|	Zn	66	261610.6	0.8	148.0123	1.279	0.9	ug/L	201	Standard
>	Ge	72	721943.1	0.2				ug/L	679875	Standard
|	As	75	100137.8	0.9	56.0406	0.580	1.0	ug/L	-85	Standard
|	Se	82	10026.0	1.0	53.3924	0.619	1.2	ug/L	29	Standard
|	Se-1	77	20711.8	1.5	169.0821	2.700	1.6	ug/L	107	Standard
>	Ga	71	13082.3	2.2				mg/L	37	Standard
|	Rb	85	121211.3	0.8				ug/L	23	Standard
|	Y	89	660417.7	0.1				ug/L	562937	Standard
>	Rh	103	81.7	9.4				ug/L	13	Standard
|	Mo	98	3820.3	1.3	0.9004	0.008	0.9	ug/L	25	Standard
|	Ag	107	566408.9	0.5	54.5515	0.304	0.6	ug/L	114	Standard
|	Cd	111	168675.3	0.6	52.8145	0.647	1.2	mg/L	6	Standard
|	Cd	114	411452.5	0.5	53.5929	0.702	1.3	ug/L	14	Standard
>	In	115	753880.4	0.8				ug/L	726030	Standard
|	Sn	118	16700.9	1.6	1.8095	0.016	0.9	ug/L	913	Standard
|	Sb	123	336810.1	1.1	50.2267	0.560	1.1	ug/L	308	Standard
|	Ba	135	295863.7	0.2	90.6486	0.790	0.9	ug/L	50	Standard
|	Ce	140	753520.0	0.8				ug/L	122	Standard
>	Tb	159	1333466.4	1.9				ug/L	1169812	Standard
|	Ho	165	4957.5	2.8				ug/L	7	Standard
|	Tl	203	663430.9	0.7	50.9095	0.049	0.1	ug/L	11	Standard
|	Tl	205	544711.2	2.1	49.0412	0.788	1.6	ug/L	8	Standard
|	Pb	206	629133.6	0.5	78.1957	0.282	0.4	ug/L	277	Standard
|	Pb	207	533964.4	0.3	73.1926	0.714	1.0	ug/L	262	Standard
|	Pb	208	1940138.2	1.4	68.9059	0.529	0.8	ug/L	982	Standard
	U	238	503875.9	1.0	49.6105	0.712	1.4	ug/L	8	Standard
>	Bi	209	673792.9	0.8				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	275.0	11.4	0.1606	0.022	13.7	mg/L	75	Standard
K	39	285.0	9.8	0.6709	0.093	13.8	mg/L	32	Standard
Ca	43	45.0	38.5	0.9022	1.129	125.1	mg/L	50	Standard
Fe	54	17618.5	1.6	8.6059	0.134	1.6	mg/L	236	Standard
Fe	57	4985.8	1.7	9.5510	0.339	3.5	mg/L	352	Standard
Sc-1	45	49114.5	1.8				mg/L	42879	Standard
Cl	35	188736.4	1.5				ug/L	166385	Standard
Kr	83	3.0	33.3				ug/L	3	Standard
Br	81	5044.2	4.1				ug/L	4321	Standard
P	31	35025.6	7.0				ug/L	24331	Standard
S	34	4910.8	1.4				ug/L	3789	Standard
Sr	88	91.7	12.6				ug/L	78	Standard
C	12	1260.1	4.8				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	153.3	30.8				mg/L	3	Standard
Dy	164	8715.4	3.0				mg/L	12	Standard
Ho-1	165	4957.5	2.8				mg/L	7	Standard
Er	166	4814.1	3.9				mg/L	20	Standard
I	127	26406.4	5.6				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		190.176	
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		106.188	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	103.836
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	113.501
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

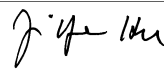
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Cr 53 Upper, S, EEE	Cr	53	
Mn 55 Upper, S, EEE	Mn	55	

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Zn 66 Upper, S, EEE	Zn	66
Se-1 77 Upper, S, EEE	Se-1	77

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Method 6020 - Summary Report

Sample ID: L1605008202SDL WG567660-02

Sample Date/Time: Thursday, May 05, 2016 12:11:07

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 Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	95178.1	1.7				ug/L	82657	Standard
|	Be	9	68.3	15.2	0.0085	0.007	82.5	ug/L	13	Standard
|	Al	27	485234.6	2.1	2.0107	0.075	3.7	ug/L	1347	Standard
|	Sc	45	41735.9	5.7				ug/L	42879	Standard
|	Ti	47	5561.4	2.2	17.1169	0.251	1.5	ug/L	41	Standard
|	V	51	20521.3	9.9	1.9351	0.232	12.0	ug/L	2416	Standard
|	Cr	52	49768.3	0.7	3.7155	0.016	0.4	ug/L	12475	Standard
|	Cr	53	49987.3	1.2	39.0075	0.259	0.7	ug/L	537	Standard
|	Mn	55	329147.0	1.0	30.9598	0.081	0.3	ug/L	1090	Standard
|	Co	59	4151.6	1.9	0.3818	0.009	2.3	ug/L	363	Standard
|	Ni	60	3620.4	0.4	1.1120	0.014	1.3	ug/L	399	Standard
|	Cu	65	6727.5	0.4	2.2041	0.010	0.4	ug/L	492	Standard
|	Zn	66	34834.7	1.4	22.1757	0.136	0.6	ug/L	201	Standard
>	Ge	72	638792.3	0.8				ug/L	679875	Standard
|	As	75	1114.6	0.8	0.7840	0.007	0.9	ug/L	-85	Standard
|	Se	82	39.6	16.8	0.0304	0.039	127.4	ug/L	29	Standard
|	Se-1	77	3164.7	2.3	28.4357	0.889	3.1	ug/L	107	Standard
>	Ga	71	2265.2	4.8				mg/L	37	Standard
|	Rb	85	22289.7	1.7				ug/L	23	Standard
|	Y	89	537733.2	1.1				ug/L	562937	Standard
>	Rh	103	15.0	57.7				ug/L	13	Standard
|	Mo	98	711.4	3.0	0.1799	0.006	3.5	ug/L	25	Standard
|	Ag	107	283.0	0.7	0.0158	0.000	0.9	ug/L	114	Standard
|	Cd	111	179.7	11.2	0.0608	0.007	11.5	mg/L	6	Standard
|	Cd	114	470.4	14.6	0.0646	0.009	14.5	ug/L	14	Standard
>	In	115	689623.8	0.6				ug/L	726030	Standard
|	Sn	118	3092.0	4.0	0.2897	0.017	5.9	ug/L	913	Standard
|	Sb	123	1868.6	27.2	0.2913	0.084	29.0	ug/L	308	Standard
|	Ba	135	22086.4	1.4	7.3808	0.092	1.2	ug/L	50	Standard
|	Ce	140	134196.7	0.6				ug/L	122	Standard
>	Tb	159	1160697.6	1.0				ug/L	1169812	Standard
|	Ho	165	875.0	6.6				ug/L	7	Standard
|	Tl	203	303.3	4.7	0.0242	0.001	5.6	ug/L	11	Standard
|	Tl	205	235.0	10.6	0.0216	0.003	11.7	ug/L	8	Standard
|	Pb	206	32741.7	1.0	4.5142	0.050	1.1	ug/L	277	Standard
|	Pb	207	27174.7	0.6	4.1249	0.044	1.1	ug/L	262	Standard
|	Pb	208	106670.6	0.4	4.1951	0.007	0.2	ug/L	982	Standard
	U	238	562.0	4.2	0.0611	0.002	4.0	ug/L	8	Standard
>	Bi	209	602698.8	0.5				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	95.0	27.9	0.0375	0.021	56.7	mg/L	75	Standard
K	39	80.0	10.8	0.1290	0.040	30.8	mg/L	32	Standard
Ca	43	48.3	11.9	1.7205	0.581	33.8	mg/L	50	Standard
Fe	54	2977.7	1.8	1.6026	0.105	6.6	mg/L	236	Standard
Fe	57	1033.4	9.6	1.7992	0.373	20.8	mg/L	352	Standard
Sc-1	45	41735.9	5.7				mg/L	42879	Standard
Cl	35	151608.8	1.3				ug/L	166385	Standard
Kr	83	6.7	31.2				ug/L	3	Standard
Br	81	3717.1	2.8				ug/L	4321	Standard
P	31	12988.9	7.5				ug/L	24331	Standard
S	34	3752.1	3.0				ug/L	3789	Standard
Sr	88	93.3	30.5				ug/L	78	Standard
C	12	303.3	24.7				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	56.7	53.9				mg/L	3	Standard
Dy	164	1619.9	10.1				mg/L	12	Standard
Ho-1	165	875.0	6.6				mg/L	7	Standard
Er	166	840.0	3.1				mg/L	20	Standard
I	127	6648.1	1.1				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		115.149	
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		93.957	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605008202SDL WG567660-02

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	94.986
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	101.525
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605008202SDL WG567660-02

Sample Date/Time: Thursday, May 05, 2016 12:14:19

Number of Replicates: 3

Autosampler Position: 215

Sample Description: 25

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	78239.8	1.1				ug/L	82657	Standard
|	Be	9	25.0	0.0	-0.0204	0.000	1.3	ug/L	13	Standard
|	Al	27	97687.3	1.0	0.4843	0.011	2.2	ug/L	1347	Standard
|	Sc	45	38542.3	0.8				ug/L	42879	Standard
|	Ti	47	1156.7	5.0	3.5873	0.152	4.2	ug/L	41	Standard
|	V	51	5499.4	2.0	0.3744	0.009	2.5	ug/L	2416	Standard
|	Cr	52	16879.7	1.1	0.5858	0.017	2.9	ug/L	12475	Standard
|	Cr	53	14203.3	2.7	11.1664	0.338	3.0	ug/L	537	Standard
|	Mn	55	68708.8	1.1	6.6256	0.078	1.2	ug/L	1090	Standard
|	Co	59	1139.0	8.5	0.0864	0.011	12.2	ug/L	363	Standard
|	Ni	60	1009.4	5.1	0.2237	0.016	7.1	ug/L	399	Standard
|	Cu	65	1868.8	4.0	0.5172	0.021	4.1	ug/L	492	Standard
|	Zn	66	8446.4	2.1	5.4925	0.168	3.1	ug/L	201	Standard
>	Ge	72	615853.8	0.9				ug/L	679875	Standard
|	As	75	63.9	84.0	0.1220	0.035	29.0	ug/L	-85	Standard
|	Se	82	21.9	38.8	-0.0717	0.052	72.7	ug/L	29	Standard
|	Se-1	77	867.4	0.9	7.4204	0.134	1.8	ug/L	107	Standard
>	Ga	71	551.7	11.5				mg/L	37	Standard
|	Rb	85	4509.0	3.8				ug/L	23	Standard
|	Y	89	506893.7	1.2				ug/L	562937	Standard
>	Rh	103	11.7	24.7				ug/L	13	Standard
|	Mo	98	184.4	6.7	0.0459	0.004	8.1	ug/L	25	Standard
|	Ag	107	180.0	35.6	0.0059	0.007	122.6	ug/L	114	Standard
|	Cd	111	57.0	25.6	0.0198	0.005	27.5	mg/L	6	Standard
|	Cd	114	160.3	46.3	0.0217	0.011	51.8	ug/L	14	Standard
>	In	115	656413.4	1.0				ug/L	726030	Standard
|	Sn	118	920.0	14.1	0.0246	0.018	72.1	ug/L	913	Standard
|	Sb	123	408.6	11.5	0.0563	0.008	14.5	ug/L	308	Standard
|	Ba	135	4652.0	1.3	1.6194	0.015	0.9	ug/L	50	Standard
|	Ce	140	27860.6	0.8				ug/L	122	Standard
>	Tb	159	1084757.5	1.2				ug/L	1169812	Standard
|	Ho	165	200.0	10.0				ug/L	7	Standard
|	Tl	203	183.3	43.3	0.0148	0.007	50.5	ug/L	11	Standard
|	Tl	205	121.7	55.8	0.0110	0.007	67.9	ug/L	8	Standard
|	Pb	206	6941.9	1.7	0.9816	0.031	3.1	ug/L	277	Standard
|	Pb	207	5807.8	1.8	0.8984	0.008	0.9	ug/L	262	Standard
|	Pb	208	23148.2	0.4	0.9280	0.012	1.2	ug/L	982	Standard
	U	238	159.0	28.9	0.0178	0.006	31.7	ug/L	8	Standard
>	Bi	209	570867.6	1.5				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	66.7	31.2	0.0177	0.020	115.6	mg/L	75	Standard
K	39	43.3	37.1	0.0172	0.058	335.8	mg/L	32	Standard
Ca	43	30.0	0.0	0.4591	0.022	4.7	mg/L	50	Standard
Fe	54	711.8	7.2	0.3096	0.031	10.1	mg/L	236	Standard
Fe	57	485.0	9.2	0.5542	0.127	23.0	mg/L	352	Standard
Sc-1	45	38542.3	0.8				mg/L	42879	Standard
Cl	35	141044.3	1.8				ug/L	166385	Standard
Kr	83	1.7	34.6				ug/L	3	Standard
Br	81	3263.7	3.0				ug/L	4321	Standard
P	31	9349.6	3.2				ug/L	24331	Standard
S	34	3432.1	5.7				ug/L	3789	Standard
Sr	88	86.7	12.0				ug/L	78	Standard
C	12	110.0	9.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	20.0	50.0				mg/L	3	Standard
Dy	164	351.1	20.5				mg/L	12	Standard
Ho-1	165	200.0	10.0				mg/L	7	Standard
Er	166	186.7	37.6				mg/L	20	Standard
I	127	3158.7	7.6				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.657	
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		90.583	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605008202SDL WG567660-02

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	90.411
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
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[Na	23	
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[Ca	43	
[Fe	54	
[Fe	57	
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[S	34	
[Sr	88	
[C	12	
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[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 05, 2016 12:17:32

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	83598.4	2.0				ug/L	82657	Standard
|	Be	9	59108.5	3.7	51.3390	1.711	3.3	ug/L	13	Standard
|	Al	27	11127609.8	2.4	52.7406	0.752	1.4	ug/L	1347	Standard
|	Sc	45	42613.2	1.7				ug/L	42879	Standard
|	Ti	47	35012.4	2.8	101.5064	1.787	1.8	ug/L	41	Standard
|	V	51	514194.6	1.8	50.4240	0.538	1.1	ug/L	2416	Standard
|	Cr	52	566675.3	1.9	50.3377	0.457	0.9	ug/L	12475	Standard
|	Cr	53	71562.1	3.8	52.4157	1.513	2.9	ug/L	537	Standard
|	Mn	55	564718.2	0.4	49.7795	0.669	1.3	ug/L	1090	Standard
|	Co	59	544062.5	1.9	50.6132	0.444	0.9	ug/L	363	Standard
|	Ni	60	154994.5	1.3	49.9260	0.224	0.4	ug/L	399	Standard
|	Cu	65	152110.7	0.5	49.9776	0.301	0.6	ug/L	492	Standard
|	Zn	66	83602.7	1.8	49.9526	0.377	0.8	ug/L	201	Standard
>	Ge	72	682532.6	1.1				ug/L	679875	Standard
|	As	75	83898.2	0.8	49.6729	0.131	0.3	ug/L	-85	Standard
|	Se	82	8861.6	1.1	49.9024	0.276	0.6	ug/L	29	Standard
|	Se-1	77	6117.9	0.7	52.1969	0.926	1.8	ug/L	107	Standard
>	Ga	71	71.7	24.5				mg/L	37	Standard
|	Rb	85	1278.4	4.1				ug/L	23	Standard
|	Y	89	568574.9	1.5				ug/L	562937	Standard
>	Rh	103	30.0	16.7				ug/L	13	Standard
|	Mo	98	411268.8	1.2	98.6894	1.756	1.8	ug/L	25	Standard
|	Ag	107	502450.6	0.8	49.0345	0.676	1.4	ug/L	114	Standard
|	Cd	111	156520.4	1.1	49.6601	0.843	1.7	mg/L	6	Standard
|	Cd	114	384128.9	1.0	50.6943	0.265	0.5	ug/L	14	Standard
>	In	115	743994.9	0.6				ug/L	726030	Standard
|	Sn	118	426396.8	0.8	49.2022	0.151	0.3	ug/L	913	Standard
|	Sb	123	326851.1	0.7	49.3903	0.639	1.3	ug/L	308	Standard
|	Ba	135	158070.4	1.5	49.0673	1.015	2.1	ug/L	50	Standard
|	Ce	140	198.3	28.1				ug/L	122	Standard
>	Tb	159	1183347.4	0.9				ug/L	1169812	Standard
|	Ho	165	20.0	66.1				ug/L	7	Standard
|	Tl	203	581211.7	1.6	49.7178	0.778	1.6	ug/L	11	Standard
|	Tl	205	500566.1	0.5	50.2411	0.442	0.9	ug/L	8	Standard
|	Pb	206	358730.4	0.5	49.6899	0.468	0.9	ug/L	277	Standard
|	Pb	207	325577.7	1.0	49.7338	0.534	1.1	ug/L	262	Standard
|	Pb	208	1278790.9	1.3	50.6190	0.652	1.3	ug/L	982	Standard
	U	238	454257.7	0.3	49.8549	0.177	0.4	ug/L	8	Standard
>	Bi	209	604437.4	0.4				ug/L	593643	Standard

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Na	23	1.7	173.2	10.0595	17.415	173.1	mg/L	2	Standard
Mg	24	5682.7	2.7	4.8858	0.071	1.4	mg/L	75	Standard
K	39	1410.1	1.5	4.4761	0.074	1.6	mg/L	32	Standard
Ca	43	95.0	36.8	5.1924	2.601	50.1	mg/L	50	Standard
Fe	54	8790.6	3.2	4.8879	0.082	1.7	mg/L	236	Standard
Fe	57	2450.2	2.9	5.0953	0.106	2.1	mg/L	352	Standard
Sc-1	45	42613.2	1.7				mg/L	42879	Standard
Cl	35	182468.9	1.0				ug/L	166385	Standard
Kr	83	3.3	17.3				ug/L	3	Standard
Br	81	4030.5	9.5				ug/L	4321	Standard
P	31	25292.8	4.7				ug/L	24331	Standard
S	34	4545.7	1.1				ug/L	3789	Standard
Sr	88	73.3	23.9				ug/L	78	Standard
C	12	113.3	45.3				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	3	Standard
Dy	164	18.7	52.1				mg/L	12	Standard
Ho-1	165	20.0	66.1				mg/L	7	Standard
Er	166	26.7	21.7				mg/L	20	Standard
I	127	2036.8	8.0				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	102.678		
Al	27	105.481		
Sc	45			
Ti	47	101.506		
V	51	100.848		
Cr	52	100.675		
Cr	53			
Mn	55	99.559		
Co	59	101.226		
Ni	60	99.852		
Cu	65	99.955		
Zn	66	99.905		
Ge	72		100.391	
As	75	99.346		
Se	82	99.805		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	98.689	
[Ag	107	98.069	
[Cd	111	99.320	
[Cd	114		
>	In	115		102.474
[Sn	118	98.404	
[	Sb	123	98.781	
[	Ba	135	98.135	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.436	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	101.238	
[	U	238	99.710	
>	Bi	209		101.818
[	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		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 05, 2016 12:20:43

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 Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

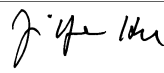
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	83325.2	2.2				ug/L	82657	Standard
|	Be	9	35.0	37.8	-0.0129	0.012	93.7	ug/L	13	Standard
|	Al	27	2565.2	19.2	0.0016	0.002	127.8	ug/L	1347	Standard
|	Sc	45	42390.9	0.4				ug/L	42879	Standard
|	Ti	47	52.0	68.5	0.0205	0.107	521.8	ug/L	41	Standard
|	V	51	1841.3	24.4	-0.0416	0.044	105.5	ug/L	2416	Standard
|	Cr	52	10986.6	1.2	-0.0982	0.008	7.8	ug/L	12475	Standard
|	Cr	53	3177.0	3.7	1.9189	0.068	3.5	ug/L	537	Standard
|	Mn	55	1094.4	4.6	-0.0015	0.004	266.5	ug/L	1090	Standard
|	Co	59	378.3	11.7	0.0046	0.004	86.6	ug/L	363	Standard
|	Ni	60	337.3	4.4	-0.0267	0.005	17.3	ug/L	399	Standard
|	Cu	65	587.3	0.4	0.0315	0.002	7.8	ug/L	492	Standard
|	Zn	66	254.0	0.4	0.0400	0.001	2.0	ug/L	201	Standard
>	Ge	72	671063.9	0.9				ug/L	679875	Standard
|	As	75	-150.3	5.1	-0.0104	0.005	51.9	ug/L	-85	Standard
|	Se	82	31.0	20.0	-0.0304	0.037	122.6	ug/L	29	Standard
|	Se-1	77	215.0	5.0	0.9727	0.104	10.7	ug/L	107	Standard
>	Ga	71	38.3	15.1				mg/L	37	Standard
|	Rb	85	21.7	35.3				ug/L	23	Standard
|	Y	89	555124.7	1.6				ug/L	562937	Standard
>	Rh	103	10.0	50.0				ug/L	13	Standard
|	Mo	98	266.7	10.6	0.0606	0.006	10.6	ug/L	25	Standard
|	Ag	107	176.7	20.3	0.0035	0.004	105.8	ug/L	114	Standard
|	Cd	111	30.1	46.6	0.0090	0.005	51.3	mg/L	6	Standard
|	Cd	114	60.1	15.0	0.0057	0.001	22.3	ug/L	14	Standard
>	In	115	733276.6	0.9				ug/L	726030	Standard
|	Sn	118	1611.8	25.6	0.0931	0.048	51.9	ug/L	913	Standard
|	Sb	123	1248.6	29.1	0.1778	0.056	31.2	ug/L	308	Standard
|	Ba	135	72.3	27.3	0.0050	0.006	124.4	ug/L	50	Standard
|	Ce	140	31.7	63.8				ug/L	122	Standard
>	Tb	159	1182592.8	1.7				ug/L	1169812	Standard
|	Ho	165	6.7	43.3				ug/L	7	Standard
|	Tl	203	347.0	7.8	0.0278	0.002	7.6	ug/L	11	Standard
|	Tl	205	306.7	5.2	0.0287	0.001	4.8	ug/L	8	Standard
|	Pb	206	394.7	9.8	0.0172	0.006	32.0	ug/L	277	Standard
|	Pb	207	349.7	2.6	0.0117	0.001	8.0	ug/L	262	Standard
|	Pb	208	1413.0	5.8	0.0129	0.003	22.0	ug/L	982	Standard
	U	238	89.0	14.6	0.0090	0.001	16.6	ug/L	8	Standard
>	Bi	209	604731.5	0.9				ug/L	593643	Standard

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Na	23	6.7	43.3	40.7506	17.720	43.5	mg/L	2	Standard
Mg	24	68.3	23.5	0.0132	0.014	105.0	mg/L	75	Standard
K	39	26.7	10.8	-0.0518	0.009	17.7	mg/L	32	Standard
Ca	43	25.0	20.0	-0.1608	0.381	236.7	mg/L	50	Standard
Fe	54	255.4	17.5	0.0062	0.025	408.1	mg/L	236	Standard
Fe	57	253.3	16.0	-0.1146	0.098	85.1	mg/L	352	Standard
Sc-1	45	42390.9	0.4				mg/L	42879	Standard
Cl	35	170768.8	2.9				ug/L	166385	Standard
Kr	83	4.0	50.0				ug/L	3	Standard
Br	81	4060.5	7.6				ug/L	4321	Standard
P	31	24548.2	2.6				ug/L	24331	Standard
S	34	4405.6	9.0				ug/L	3789	Standard
Sr	88	78.3	3.7				ug/L	78	Standard
C	12	126.7	52.6				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	29.4	60.9				mg/L	12	Standard
Ho-1	165	6.7	43.3				mg/L	7	Standard
Er	166	13.3	86.6				mg/L	20	Standard
I	127	2328.5	2.4				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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		98.704	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.998
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	101.868
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

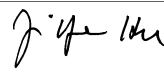
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: PBW 2T WG567312-02

Sample Date/Time: Thursday, May 05, 2016 12:39:07

Number of Replicates: 3

Autosampler Position: 320

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	85839.2	2.5				ug/L	82657	Standard
|	Be	9	30.0	16.7	-0.0182	0.004	23.1	ug/L	13	Standard
|	Al	27	9276.2	2.6	0.0323	0.001	2.2	ug/L	1347	Standard
|	Sc	45	42155.3	3.6				ug/L	42879	Standard
|	Ti	47	39.3	27.2	-0.0191	0.031	160.1	ug/L	41	Standard
|	V	51	2296.3	8.1	0.0014	0.019	1379.8	ug/L	2416	Standard
|	Cr	52	12581.9	3.5	0.0351	0.044	125.5	ug/L	12475	Standard
|	Cr	53	2181.8	5.3	1.1512	0.085	7.4	ug/L	537	Standard
|	Mn	55	2337.2	1.7	0.1076	0.003	2.5	ug/L	1090	Standard
|	Co	59	462.7	6.2	0.0121	0.003	22.8	ug/L	363	Standard
|	Ni	60	507.7	5.3	0.0272	0.009	34.5	ug/L	399	Standard
|	Cu	65	3551.4	1.0	1.0108	0.015	1.5	ug/L	492	Standard
|	Zn	66	1893.8	6.5	1.0249	0.074	7.2	ug/L	201	Standard
>	Ge	72	679326.0	0.6				ug/L	679875	Standard
|	As	75	-148.5	14.1	-0.0083	0.013	156.3	ug/L	-85	Standard
|	Se	82	37.5	9.8	0.0039	0.020	522.5	ug/L	29	Standard
|	Se-1	77	182.7	4.0	0.6674	0.070	10.5	ug/L	107	Standard
>	Ga	71	35.0	24.7				mg/L	37	Standard
|	Rb	85	118.3	14.8				ug/L	23	Standard
|	Y	89	557957.5	2.2				ug/L	562937	Standard
>	Rh	103	10.0	100.0				ug/L	13	Standard
|	Mo	98	60.5	20.5	0.0105	0.003	31.1	ug/L	25	Standard
|	Ag	107	339.7	3.5	0.0197	0.001	7.1	ug/L	114	Standard
|	Cd	111	47.9	2.1	0.0147	0.000	2.1	mg/L	6	Standard
|	Cd	114	115.8	16.4	0.0132	0.003	20.6	ug/L	14	Standard
>	In	115	732214.6	1.8				ug/L	726030	Standard
|	Sn	118	1211.7	5.7	0.0464	0.010	21.6	ug/L	913	Standard
|	Sb	123	567.5	30.3	0.0738	0.028	37.9	ug/L	308	Standard
|	Ba	135	168.7	1.4	0.0355	0.002	4.6	ug/L	50	Standard
|	Ce	140	108.3	25.4				ug/L	122	Standard
>	Tb	159	1179727.0	1.4				ug/L	1169812	Standard
|	Ho	165	16.7	91.7				ug/L	7	Standard
|	Tl	203	341.7	0.6	0.0275	0.000	1.5	ug/L	11	Standard
|	Tl	205	306.7	6.8	0.0289	0.002	7.5	ug/L	8	Standard
|	Pb	206	433.0	5.4	0.0227	0.003	11.1	ug/L	277	Standard
|	Pb	207	384.7	1.9	0.0173	0.001	8.5	ug/L	262	Standard
|	Pb	208	1412.0	2.3	0.0131	0.002	15.7	ug/L	982	Standard
	U	238	96.7	11.4	0.0099	0.001	13.9	ug/L	8	Standard
>	Bi	209	602060.2	1.6				ug/L	593643	Standard

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Na	23	1.7	173.2	10.6515	18.440	173.1	mg/L	2	Standard
Mg	24	66.7	41.3	0.0116	0.022	190.5	mg/L	75	Standard
K	39	30.0	57.7	-0.0413	0.054	129.8	mg/L	32	Standard
Ca	43	41.7	25.0	1.1690	0.914	78.2	mg/L	50	Standard
Fe	54	254.1	16.2	0.0059	0.019	318.1	mg/L	236	Standard
Fe	57	278.3	6.8	-0.0498	0.069	137.8	mg/L	352	Standard
Sc-1	45	42155.3	3.6				mg/L	42879	Standard
Cl	35	167634.0	2.7				ug/L	166385	Standard
Kr	83	2.0	86.6				ug/L	3	Standard
Br	81	4424.0	5.7				ug/L	4321	Standard
P	31	25382.9	0.9				ug/L	24331	Standard
S	34	3618.8	3.8				ug/L	3789	Standard
Sr	88	86.7	29.0				ug/L	78	Standard
C	12	120.0	28.9				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	19.5	48.8				mg/L	12	Standard
Ho-1	165	16.7	91.7				mg/L	7	Standard
Er	166	10.0	100.0				mg/L	20	Standard
I	127	2571.9	4.9				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.850	
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		99.919	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: PBW 2T WG567312-02

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.852
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
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[Pb	206	
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>	Bi	209	101.418
[Na	23	
[Mg	24	
[K	39	
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[Fe	57	
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[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: PBW 2T WG567312-02

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Method 6020 - Summary Report

Sample ID: LCSW 2T WG567312-03

Sample Date/Time: Thursday, May 05, 2016 12:42:18

Number of Replicates: 3

Autosampler Position: 321

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	85525.8	1.8				ug/L	82657	Standard
|	Be	9	60974.1	1.0	51.7698	0.543	1.0	ug/L	13	Standard
|	Al	27	9588.0	1.9	0.0339	0.000	1.3	ug/L	1347	Standard
|	Sc	45	43077.8	1.1				ug/L	42879	Standard
|	Ti	47	49.7	18.2	0.0113	0.027	238.7	ug/L	41	Standard
|	V	51	512733.9	0.8	50.5186	0.187	0.4	ug/L	2416	Standard
|	Cr	52	568332.6	1.4	50.7317	0.445	0.9	ug/L	12475	Standard
|	Cr	53	71682.5	2.0	52.7588	0.654	1.2	ug/L	537	Standard
|	Mn	55	581706.3	1.2	51.5156	0.353	0.7	ug/L	1090	Standard
|	Co	59	547339.7	1.8	51.1577	0.513	1.0	ug/L	363	Standard
|	Ni	60	158062.4	2.0	51.1552	0.784	1.5	ug/L	399	Standard
|	Cu	65	156868.3	1.6	51.7853	0.647	1.2	ug/L	492	Standard
|	Zn	66	85777.5	2.3	51.4955	0.878	1.7	ug/L	201	Standard
>	Ge	72	679346.5	0.8				ug/L	679875	Standard
|	As	75	82102.5	2.1	48.8365	0.806	1.7	ug/L	-85	Standard
|	Se	82	8844.7	0.4	50.0426	0.400	0.8	ug/L	29	Standard
|	Se-1	77	5941.2	2.1	50.9005	1.184	2.3	ug/L	107	Standard
>	Ga	71	90.0	19.2				mg/L	37	Standard
|	Rb	85	118.3	10.6				ug/L	23	Standard
|	Y	89	567221.3	1.0				ug/L	562937	Standard
>	Rh	103	36.7	47.9				ug/L	13	Standard
|	Mo	98	167.0	7.5	0.0358	0.003	8.7	ug/L	25	Standard
|	Ag	107	520780.0	1.8	50.9232	0.865	1.7	ug/L	114	Standard
|	Cd	111	158205.0	0.6	50.2923	0.124	0.2	mg/L	6	Standard
|	Cd	114	381066.2	0.8	50.3927	0.445	0.9	ug/L	14	Standard
>	In	115	742494.9	0.3				ug/L	726030	Standard
|	Sn	118	1268.4	8.6	0.0510	0.013	25.6	ug/L	913	Standard
|	Sb	123	316817.3	1.4	47.9670	0.523	1.1	ug/L	308	Standard
|	Ba	135	160601.0	0.4	49.9505	0.258	0.5	ug/L	50	Standard
|	Ce	140	136.7	18.8				ug/L	122	Standard
>	Tb	159	1187527.5	1.6				ug/L	1169812	Standard
|	Ho	165	13.3	108.3				ug/L	7	Standard
|	Tl	203	589897.2	1.1	49.9704	0.630	1.3	ug/L	11	Standard
|	Tl	205	503631.7	1.7	50.0510	0.229	0.5	ug/L	8	Standard
|	Pb	206	371870.6	0.7	51.0098	0.576	1.1	ug/L	277	Standard
|	Pb	207	323878.6	1.1	48.9903	0.321	0.7	ug/L	262	Standard
|	Pb	208	1278463.8	1.5	50.1098	0.261	0.5	ug/L	982	Standard
	U	238	446164.8	1.3	48.4882	0.400	0.8	ug/L	8	Standard
>	Bi	209	610433.0	1.6				ug/L	593643	Standard

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Na	23	1.7	173.2	10.0961	17.478	173.1	mg/L	2	Standard
Mg	24	88.3	22.9	0.0296	0.018	60.9	mg/L	75	Standard
K	39	28.3	56.7	-0.0480	0.052	107.4	mg/L	32	Standard
Ca	43	16.7	17.3	-0.8248	0.229	27.7	mg/L	50	Standard
Fe	54	240.1	21.1	-0.0045	0.030	664.3	mg/L	236	Standard
Fe	57	281.7	22.2	-0.0587	0.140	238.4	mg/L	352	Standard
Sc-1	45	43077.8	1.1				mg/L	42879	Standard
Cl	35	164224.8	2.3				ug/L	166385	Standard
Kr	83	2.0	0.0				ug/L	3	Standard
Br	81	4297.3	4.0				ug/L	4321	Standard
P	31	24070.8	2.2				ug/L	24331	Standard
S	34	3618.8	2.2				ug/L	3789	Standard
Sr	88	93.3	44.6				ug/L	78	Standard
C	12	126.7	35.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	29.4	34.1				mg/L	12	Standard
Ho-1	165	13.3	108.3				mg/L	7	Standard
Er	166	13.3	43.3				mg/L	20	Standard
I	127	2201.8	4.8				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.471	
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		99.922	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: LCSW 2T WG567312-03

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	102.268
[Sn	118	
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[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
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[Sr	88	
[C	12	
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[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: LCSW 2T WG567312-03

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Method 6020 - Summary Report

Sample ID: L1604161312 WG567312-01

Sample Date/Time: Thursday, May 05, 2016 12:45:30

Number of Replicates: 3

Autosampler Position: 322

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	87470.2	2.8				ug/L	82657	Standard
|	Be	9	38.3	27.2	-0.0116	0.009	81.9	ug/L	13	Standard
|	Al	27	17052273.1	0.5	77.2797	1.779	2.3	ug/L	1347	Standard
|	Sc	45	42518.0	3.5				ug/L	42879	Standard
|	Ti	47	139.0	8.8	0.2875	0.037	12.7	ug/L	41	Standard
|	V	51	2901.4	5.7	0.0723	0.017	23.4	ug/L	2416	Standard
|	Cr	52	12983.2	0.5	0.1175	0.005	4.5	ug/L	12475	Standard
|	Cr	53	2265.2	9.6	1.2784	0.169	13.2	ug/L	537	Standard
|	Mn	55	64741.7	1.1	5.8676	0.069	1.2	ug/L	1090	Standard
|	Co	59	1423.1	1.9	0.1071	0.003	2.4	ug/L	363	Standard
|	Ni	60	8659.1	0.2	2.7815	0.007	0.3	ug/L	399	Standard
|	Cu	65	1176.0	2.6	0.2392	0.011	4.4	ug/L	492	Standard
|	Zn	66	1827.4	0.6	1.0275	0.006	0.6	ug/L	201	Standard
>	Ge	72	653992.1	0.1				ug/L	679875	Standard
|	As	75	2661.6	4.1	1.7218	0.066	3.8	ug/L	-85	Standard
|	Se	82	1163.0	3.0	6.6546	0.203	3.1	ug/L	29	Standard
|	Se-1	77	248.3	1.5	1.3240	0.035	2.7	ug/L	107	Standard
>	Ga	71	41.7	42.1				mg/L	37	Standard
|	Rb	85	17286.5	1.1				ug/L	23	Standard
|	Y	89	546115.4	1.3				ug/L	562937	Standard
>	Rh	103	581.7	13.7				ug/L	13	Standard
|	Mo	98	1004.3	1.3	0.2504	0.005	1.8	ug/L	25	Standard
|	Ag	107	157.3	13.2	0.0022	0.002	100.9	ug/L	114	Standard
|	Cd	111	31.8	33.2	0.0099	0.004	36.5	mg/L	6	Standard
|	Cd	114	93.7	63.7	0.0108	0.008	77.8	ug/L	14	Standard
>	In	115	703871.8	0.7				ug/L	726030	Standard
|	Sn	118	918.4	11.9	0.0162	0.013	81.0	ug/L	913	Standard
|	Sb	123	3743.1	28.1	0.5837	0.165	28.3	ug/L	308	Standard
|	Ba	135	425031.1	0.4	139.4863	1.592	1.1	ug/L	50	Standard
|	Ce	140	225.0	15.6				ug/L	122	Standard
>	Tb	159	1140123.1	1.0				ug/L	1169812	Standard
|	Ho	165	40.0	21.7				ug/L	7	Standard
|	Tl	203	617.3	4.4	0.0547	0.002	3.8	ug/L	11	Standard
|	Tl	205	526.7	2.4	0.0546	0.001	1.4	ug/L	8	Standard
|	Pb	206	457.0	5.4	0.0304	0.004	13.5	ug/L	277	Standard
|	Pb	207	423.7	7.5	0.0277	0.005	19.6	ug/L	262	Standard
|	Pb	208	1644.4	4.6	0.0267	0.003	10.8	ug/L	982	Standard
	U	238	1029.7	4.4	0.1203	0.006	4.6	ug/L	8	Standard
>	Bi	209	564093.5	1.0				ug/L	593643	Standard

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Na	23	1.7	173.2	10.4234	18.045	173.1	mg/L	2	Standard
Mg	24	104692.2	1.5	91.1296	4.328	4.7	mg/L	75	Standard
K	39	318.3	15.7	0.9018	0.125	13.9	mg/L	32	Standard
Ca	43	276.7	15.0	19.2449	3.036	15.8	mg/L	50	Standard
Fe	54	251.8	4.3	0.0040	0.011	265.0	mg/L	236	Standard
Fe	57	461.7	9.0	0.3822	0.136	35.5	mg/L	352	Standard
Sc-1	45	42518.0	3.5				mg/L	42879	Standard
Cl	35	214534.9	0.9				ug/L	166385	Standard
Kr	83	2.0	100.0				ug/L	3	Standard
Br	81	212243.1	1.5				ug/L	4321	Standard
P	31	30826.4	4.0				ug/L	24331	Standard
S	34	4512.3	1.1				ug/L	3789	Standard
Sr	88	1806.8	10.7				ug/L	78	Standard
C	12	260.0	3.8				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	67.8	53.7				mg/L	12	Standard
Ho-1	165	40.0	21.7				mg/L	7	Standard
Er	166	46.7	32.7				mg/L	20	Standard
I	127	407440.2	2.9				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		105.824	
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		96.193	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604161312 WG567312-01

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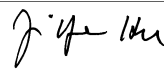
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[Ce	140	
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[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1604161312 WG567312-01
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Method 6020 - Summary Report

Sample ID: L1604161312S WG567312-04

Sample Date/Time: Thursday, May 05, 2016 12:48:41

Number of Replicates: 3

Autosampler Position: 323

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	88554.7	0.6				ug/L	82657	Standard
|	Be	9	61211.8	3.3	50.1834	1.432	2.9	ug/L	13	Standard
|	Al	27	18215414.5	1.2	81.5068	0.932	1.1	ug/L	1347	Standard
|	Sc	45	41169.2	2.3				ug/L	42879	Standard
|	Ti	47	146.0	9.0	0.3149	0.039	12.3	ug/L	41	Standard
|	V	51	482295.5	1.4	50.0627	0.438	0.9	ug/L	2416	Standard
|	Cr	52	523683.9	1.2	49.2189	0.374	0.8	ug/L	12475	Standard
|	Cr	53	64718.0	2.0	50.1632	0.765	1.5	ug/L	537	Standard
|	Mn	55	584594.5	1.5	54.5505	0.532	1.0	ug/L	1090	Standard
|	Co	59	503646.6	2.6	49.5946	1.060	2.1	ug/L	363	Standard
|	Ni	60	148614.4	1.6	50.6742	0.600	1.2	ug/L	399	Standard
|	Cu	65	139715.3	1.2	48.5840	0.370	0.8	ug/L	492	Standard
|	Zn	66	79565.4	1.4	50.3248	0.480	1.0	ug/L	201	Standard
>	Ge	72	644792.0	0.5				ug/L	679875	Standard
|	As	75	83938.7	1.3	52.5989	0.469	0.9	ug/L	-85	Standard
|	Se	82	9507.9	1.5	56.7018	0.602	1.1	ug/L	29	Standard
|	Se-1	77	5833.5	3.1	52.6807	1.380	2.6	ug/L	107	Standard
>	Ga	71	80.0	10.8				mg/L	37	Standard
|	Rb	85	17933.9	1.6				ug/L	23	Standard
|	Y	89	527432.3	2.1				ug/L	562937	Standard
>	Rh	103	643.3	5.8				ug/L	13	Standard
|	Mo	98	1197.6	1.1	0.3053	0.007	2.4	ug/L	25	Standard
|	Ag	107	395739.0	1.3	41.6053	0.221	0.5	ug/L	114	Standard
|	Cd	111	145322.9	1.1	49.6731	0.113	0.2	mg/L	6	Standard
|	Cd	114	350347.2	0.5	49.8181	0.395	0.8	ug/L	14	Standard
>	In	115	690552.5	1.3				ug/L	726030	Standard
|	Sn	118	1035.0	9.7	0.0330	0.014	41.6	ug/L	913	Standard
|	Sb	123	309095.6	1.3	50.3196	0.042	0.1	ug/L	308	Standard
|	Ba	135	592005.6	0.2	198.0487	2.504	1.3	ug/L	50	Standard
|	Ce	140	275.0	3.6				ug/L	122	Standard
>	Tb	159	1135658.7	0.4				ug/L	1169812	Standard
|	Ho	165	40.0	12.5				ug/L	7	Standard
|	Tl	203	531013.4	0.5	49.6842	0.169	0.3	ug/L	11	Standard
|	Tl	205	460220.5	1.2	50.5216	0.315	0.6	ug/L	8	Standard
|	Pb	206	337780.7	0.6	51.1761	0.167	0.3	ug/L	277	Standard
|	Pb	207	293992.7	1.1	49.1191	0.316	0.6	ug/L	262	Standard
|	Pb	208	1167800.3	1.2	50.5602	0.452	0.9	ug/L	982	Standard
	U	238	424027.8	0.8	50.9010	0.145	0.3	ug/L	8	Standard
>	Bi	209	552609.1	0.5				ug/L	593643	Standard

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Na	23	6.7	114.6	42.1330	48.905	116.1	mg/L	2	Standard
Mg	24	110991.7	0.8	99.6971	1.537	1.5	mg/L	75	Standard
K	39	313.3	13.6	0.9215	0.138	15.0	mg/L	32	Standard
Ca	43	333.3	4.6	24.4885	1.447	5.9	mg/L	50	Standard
Fe	54	257.0	10.7	0.0118	0.019	160.5	mg/L	236	Standard
Fe	57	515.0	13.7	0.5440	0.145	26.6	mg/L	352	Standard
Sc-1	45	41169.2	2.3				mg/L	42879	Standard
Cl	35	217274.9	1.3				ug/L	166385	Standard
Kr	83	2.7	57.3				ug/L	3	Standard
Br	81	225218.4	1.3				ug/L	4321	Standard
P	31	30091.5	0.8				ug/L	24331	Standard
S	34	4500.7	3.9				ug/L	3789	Standard
Sr	88	1990.1	3.3				ug/L	78	Standard
C	12	350.0	9.9				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	67.3	29.4				mg/L	12	Standard
Ho-1	165	40.0	12.5				mg/L	7	Standard
Er	166	56.7	10.2				mg/L	20	Standard
I	127	531542.9	1.6				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		107.136	
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		94.840	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604161312S WG567312-04

Report Date/Time: Thursday, May 05, 2016 12:50:58

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.114
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
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[Fe	57	
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[Sr	88	
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QC Out of Limits

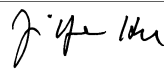
Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1604161312S WG567312-04

Report Date/Time: Thursday, May 05, 2016 12:50:58

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Method 6020 - Summary Report

Sample ID: L1604161312SD WG567312-05

Sample Date/Time: Thursday, May 05, 2016 12:51:52

Number of Replicates: 3

Autosampler Position: 324

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	88886.6	0.6				ug/L	82657	Standard
|	Be	9	61789.2	3.2	50.4692	1.494	3.0	ug/L	13	Standard
|	Al	27	18220240.4	0.4	81.2251	0.564	0.7	ug/L	1347	Standard
|	Sc	45	41983.1	2.4				ug/L	42879	Standard
|	Ti	47	127.7	16.1	0.2612	0.062	23.6	ug/L	41	Standard
|	V	51	477935.5	0.9	49.9596	0.663	1.3	ug/L	2416	Standard
|	Cr	52	530961.2	0.3	50.2768	0.322	0.6	ug/L	12475	Standard
|	Cr	53	66557.6	1.4	51.9690	0.730	1.4	ug/L	537	Standard
|	Mn	55	586388.2	1.3	55.1011	0.426	0.8	ug/L	1090	Standard
|	Co	59	507688.2	0.8	50.3456	0.282	0.6	ug/L	363	Standard
|	Ni	60	151083.2	0.4	51.8821	0.498	1.0	ug/L	399	Standard
|	Cu	65	140290.2	0.7	49.1279	0.346	0.7	ug/L	492	Standard
|	Zn	66	80580.7	0.2	51.3277	0.332	0.6	ug/L	201	Standard
>	Ge	72	640322.7	0.5				ug/L	679875	Standard
|	As	75	83911.5	0.9	52.9489	0.239	0.5	ug/L	-85	Standard
|	Se	82	9501.6	1.4	57.0613	0.503	0.9	ug/L	29	Standard
|	Se-1	77	5696.4	0.6	51.7931	0.590	1.1	ug/L	107	Standard
>	Ga	71	80.0	10.8				mg/L	37	Standard
|	Rb	85	17521.8	2.6				ug/L	23	Standard
|	Y	89	536513.8	1.7				ug/L	562937	Standard
>	Rh	103	606.7	6.1				ug/L	13	Standard
|	Mo	98	1162.3	2.9	0.2969	0.010	3.5	ug/L	25	Standard
|	Ag	107	405385.5	0.9	42.7170	0.747	1.7	ug/L	114	Standard
|	Cd	111	145728.7	1.2	49.9226	0.736	1.5	mg/L	6	Standard
|	Cd	114	346098.5	1.1	49.3226	0.842	1.7	ug/L	14	Standard
>	In	115	689043.4	0.9				ug/L	726030	Standard
|	Sn	118	1145.0	1.2	0.0469	0.002	5.0	ug/L	913	Standard
|	Sb	123	308358.7	1.0	50.3125	0.713	1.4	ug/L	308	Standard
|	Ba	135	585977.2	0.6	196.4448	1.112	0.6	ug/L	50	Standard
|	Ce	140	261.7	12.4				ug/L	122	Standard
>	Tb	159	1139010.2	1.5				ug/L	1169812	Standard
|	Ho	165	48.3	21.5				ug/L	7	Standard
|	Tl	203	532781.8	0.3	49.8194	0.224	0.4	ug/L	11	Standard
|	Tl	205	462673.5	1.1	50.7634	0.806	1.6	ug/L	8	Standard
|	Pb	206	339224.4	0.4	51.3649	0.482	0.9	ug/L	277	Standard
|	Pb	207	294701.8	0.4	49.2090	0.319	0.6	ug/L	262	Standard
|	Pb	208	1173659.0	0.6	50.7853	0.547	1.1	ug/L	982	Standard
	U	238	426801.3	1.2	51.2063	0.911	1.8	ug/L	8	Standard
>	Bi	209	552951.0	0.6				ug/L	593643	Standard

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Na	23	3.3	173.2	20.6866	35.822	173.2	mg/L	2	Standard
Mg	24	109808.2	1.2	96.7471	3.229	3.3	mg/L	75	Standard
K	39	295.0	12.8	0.8429	0.148	17.6	mg/L	32	Standard
Ca	43	301.7	7.7	21.4894	1.796	8.4	mg/L	50	Standard
Fe	54	261.8	18.8	0.0116	0.030	258.5	mg/L	236	Standard
Fe	57	505.0	3.0	0.4981	0.054	10.8	mg/L	352	Standard
Sc-1	45	41983.1	2.4				mg/L	42879	Standard
Cl	35	220336.5	2.4				ug/L	166385	Standard
Kr	83	1.7	34.6				ug/L	3	Standard
Br	81	219627.3	1.8				ug/L	4321	Standard
P	31	30251.9	3.5				ug/L	24331	Standard
S	34	4359.0	2.6				ug/L	3789	Standard
Sr	88	1813.4	10.1				ug/L	78	Standard
C	12	226.7	22.2				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	48.2	62.7				mg/L	12	Standard
Ho-1	165	48.3	21.5				mg/L	7	Standard
Er	166	36.7	56.8				mg/L	20	Standard
I	127	471014.4	3.4				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		107.537	
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		94.182	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604161312SD WG567312-05

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	94.906
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	93.145
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1604161312SD WG567312-05
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Method 6020 - Summary Report

Sample ID: L1604150501

Sample Date/Time: Thursday, May 05, 2016 12:55:04

Number of Replicates: 3

Autosampler Position: 325

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	89983.1	1.5				ug/L	82657	Standard
|	Be	9	48.3	21.5	-0.0045	0.009	203.4	ug/L	13	Standard
|	Al	27	12825813.3	1.1	56.4813	0.776	1.4	ug/L	1347	Standard
|	Sc	45	41623.8	0.9				ug/L	42879	Standard
|	Ti	47	229.7	22.9	0.5517	0.162	29.3	ug/L	41	Standard
|	V	51	3462.4	2.4	0.1242	0.005	3.9	ug/L	2416	Standard
|	Cr	52	14291.4	0.8	0.2196	0.004	1.6	ug/L	12475	Standard
|	Cr	53	2465.2	2.6	1.4021	0.054	3.9	ug/L	537	Standard
|	Mn	55	6799.9	2.4	0.5168	0.009	1.8	ug/L	1090	Standard
|	Co	59	982.0	6.1	0.0627	0.005	7.6	ug/L	363	Standard
|	Ni	60	2918.6	3.5	0.8303	0.025	3.0	ug/L	399	Standard
|	Cu	65	1481.1	2.2	0.3359	0.012	3.6	ug/L	492	Standard
|	Zn	66	3583.4	0.7	2.0890	0.006	0.3	ug/L	201	Standard
>	Ge	72	664716.9	1.0				ug/L	679875	Standard
|	As	75	54.1	97.2	0.1126	0.032	28.1	ug/L	-85	Standard
|	Se	82	63.6	16.4	0.1602	0.057	35.5	ug/L	29	Standard
|	Se-1	77	189.7	8.2	0.7641	0.127	16.7	ug/L	107	Standard
>	Ga	71	101.7	24.8				mg/L	37	Standard
|	Rb	85	6996.6	1.5				ug/L	23	Standard
|	Y	89	550376.2	0.3				ug/L	562937	Standard
>	Rh	103	55.0	15.7				ug/L	13	Standard
|	Mo	98	1650.8	2.0	0.4044	0.007	1.7	ug/L	25	Standard
|	Ag	107	165.7	14.0	0.0026	0.002	87.1	ug/L	114	Standard
|	Cd	111	44.7	22.4	0.0139	0.003	23.7	mg/L	6	Standard
|	Cd	114	115.7	26.1	0.0135	0.004	30.8	ug/L	14	Standard
>	In	115	721098.9	0.4				ug/L	726030	Standard
|	Sn	118	966.7	6.8	0.0193	0.007	38.0	ug/L	913	Standard
|	Sb	123	783.1	23.2	0.1085	0.029	26.5	ug/L	308	Standard
|	Ba	135	22795.5	0.8	7.2852	0.077	1.1	ug/L	50	Standard
|	Ce	140	1041.7	9.4				ug/L	122	Standard
>	Tb	159	1164728.5	0.7				ug/L	1169812	Standard
|	Ho	165	48.3	15.8				ug/L	7	Standard
|	Tl	203	457.7	4.1	0.0381	0.002	4.0	ug/L	11	Standard
|	Tl	205	420.0	12.1	0.0410	0.005	12.2	ug/L	8	Standard
|	Pb	206	643.7	3.2	0.0536	0.003	6.2	ug/L	277	Standard
|	Pb	207	553.0	3.3	0.0446	0.003	6.9	ug/L	262	Standard
|	Pb	208	2281.1	3.0	0.0492	0.003	6.3	ug/L	982	Standard
	U	238	11215.5	1.4	1.2562	0.012	1.0	ug/L	8	Standard
>	Bi	209	591884.1	0.5				ug/L	593643	Standard

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Na	23	5.0	100.0	31.2309	31.413	100.6	mg/L	2	Standard
Mg	24	13005.6	3.9	11.5105	0.420	3.6	mg/L	75	Standard
K	39	125.0	14.4	0.2792	0.059	21.1	mg/L	32	Standard
Ca	43	365.0	1.4	26.6831	0.308	1.2	mg/L	50	Standard
Fe	54	246.9	11.1	0.0040	0.016	395.8	mg/L	236	Standard
Fe	57	470.0	11.3	0.4225	0.121	28.8	mg/L	352	Standard
Sc-1	45	41623.8	0.9				mg/L	42879	Standard
Cl	35	209798.7	1.3				ug/L	166385	Standard
Kr	83	2.7	108.3				ug/L	3	Standard
Br	81	7825.4	12.1				ug/L	4321	Standard
P	31	30428.9	3.0				ug/L	24331	Standard
S	34	4307.3	1.6				ug/L	3789	Standard
Sr	88	221.7	12.8				ug/L	78	Standard
C	12	276.7	27.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	54.1	27.0				mg/L	12	Standard
Ho-1	165	48.3	15.8				mg/L	7	Standard
Er	166	53.3	28.6				mg/L	20	Standard
I	127	25631.7	6.4				mg/L	2570	Standard

QC Calculated Values

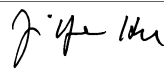
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.864	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		97.770	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604150501

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.321
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
[Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	99.704
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
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>	Sc-1	45	
[Cl	35	
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[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

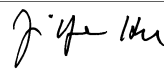
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604150501

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Method 6020 - Summary Report

Sample ID: L1604150502

Sample Date/Time: Thursday, May 05, 2016 12:58:15

Number of Replicates: 3

Autosampler Position: 326

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	92343.9	1.7				ug/L	82657	Standard
|	Be	9	50.0	62.5	-0.0040	0.025	618.3	ug/L	13	Standard
|	Al	27	13409590.1	0.4	57.5470	0.927	1.6	ug/L	1347	Standard
|	Sc	45	43388.7	1.2				ug/L	42879	Standard
|	Ti	47	110.0	6.4	0.1944	0.022	11.5	ug/L	41	Standard
|	V	51	3231.6	2.1	0.1010	0.008	8.0	ug/L	2416	Standard
|	Cr	52	14251.0	1.7	0.2160	0.018	8.2	ug/L	12475	Standard
|	Cr	53	1805.1	9.7	0.9007	0.126	14.0	ug/L	537	Standard
|	Mn	55	6292.0	1.5	0.4709	0.011	2.4	ug/L	1090	Standard
|	Co	59	2951.6	3.4	0.2510	0.011	4.4	ug/L	363	Standard
|	Ni	60	3238.7	2.0	0.9368	0.026	2.8	ug/L	399	Standard
|	Cu	65	1830.1	2.7	0.4541	0.016	3.4	ug/L	492	Standard
|	Zn	66	3119.0	1.2	1.8036	0.022	1.2	ug/L	201	Standard
>	Ge	72	664631.0	0.5				ug/L	679875	Standard
|	As	75	-7.6	969.7	0.0752	0.045	59.3	ug/L	-85	Standard
|	Se	82	48.9	15.1	0.0753	0.043	56.5	ug/L	29	Standard
|	Se-1	77	158.0	6.7	0.4828	0.101	20.9	ug/L	107	Standard
>	Ga	71	51.7	24.4				mg/L	37	Standard
|	Rb	85	6624.8	3.3				ug/L	23	Standard
|	Y	89	545963.3	1.2				ug/L	562937	Standard
>	Rh	103	85.0	32.8				ug/L	13	Standard
|	Mo	98	1739.3	0.1	0.4266	0.004	0.9	ug/L	25	Standard
|	Ag	107	148.3	36.7	0.0009	0.006	598.8	ug/L	114	Standard
|	Cd	111	50.2	20.7	0.0157	0.004	22.6	mg/L	6	Standard
|	Cd	114	156.6	3.4	0.0190	0.001	4.7	ug/L	14	Standard
>	In	115	720573.3	0.9				ug/L	726030	Standard
|	Sn	118	998.4	2.3	0.0232	0.004	16.3	ug/L	913	Standard
|	Sb	123	1071.4	15.1	0.1537	0.027	17.5	ug/L	308	Standard
|	Ba	135	23120.3	1.2	7.3953	0.148	2.0	ug/L	50	Standard
|	Ce	140	211.7	13.8				ug/L	122	Standard
>	Tb	159	1147628.7	0.9				ug/L	1169812	Standard
|	Ho	165	36.7	34.3				ug/L	7	Standard
|	Tl	203	190.3	29.3	0.0149	0.005	34.1	ug/L	11	Standard
|	Tl	205	205.0	68.0	0.0192	0.015	76.2	ug/L	8	Standard
|	Pb	206	544.3	2.9	0.0399	0.003	6.9	ug/L	277	Standard
|	Pb	207	481.0	8.2	0.0337	0.007	20.2	ug/L	262	Standard
|	Pb	208	1963.7	7.4	0.0367	0.007	18.0	ug/L	982	Standard
	U	238	11450.0	0.3	1.2883	0.015	1.1	ug/L	8	Standard
>	Bi	209	589294.8	0.9				ug/L	593643	Standard

Sample ID: L1604150502

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Na	23	13.3	21.7	79.7189	18.011	22.6	mg/L	2	Standard
Mg	24	13134.0	4.9	11.1549	0.670	6.0	mg/L	75	Standard
K	39	131.7	21.6	0.2843	0.095	33.3	mg/L	32	Standard
Ca	43	273.3	28.6	18.6135	6.046	32.5	mg/L	50	Standard
Fe	54	211.4	17.7	-0.0217	0.022	102.4	mg/L	236	Standard
Fe	57	543.3	2.1	0.5473	0.017	3.1	mg/L	352	Standard
Sc-1	45	43388.7	1.2				mg/L	42879	Standard
Cl	35	215406.5	1.3				ug/L	166385	Standard
Kr	83	3.3	105.4				ug/L	3	Standard
Br	81	6288.0	9.7				ug/L	4321	Standard
P	31	30343.7	4.1				ug/L	24331	Standard
S	34	4739.1	4.1				ug/L	3789	Standard
Sr	88	260.0	12.6				ug/L	78	Standard
C	12	270.0	19.2				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	65.5	43.6				mg/L	12	Standard
Ho-1	165	36.7	34.3				mg/L	7	Standard
Er	166	23.3	89.2				mg/L	20	Standard
I	127	24075.8	6.3				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		111.720	
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		97.758	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604150502

Report Date/Time: Thursday, May 05, 2016 13:00:32

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.248
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
[Pb	206	
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[U	238	
>	Bi	209	99.267
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
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[S	34	
[Sr	88	
[C	12	
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[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

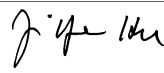
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604150502

Report Date/Time: Thursday, May 05, 2016 13:00:32

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Method 6020 - Summary Report

Sample ID: L1604150502PS WG567472-01

Sample Date/Time: Thursday, May 05, 2016 13:01:27

Number of Replicates: 3

Autosampler Position: 327

Sample Description: 5

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

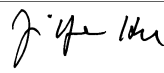
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	89709.9	2.8				ug/L	82657	Standard
|	Be	9	67953.8	2.2	55.0114	0.974	1.8	ug/L	13	Standard
|	Al	27	12846275.4	2.1	56.7552	1.377	2.4	ug/L	1347	Standard
|	Sc	45	43482.3	1.0				ug/L	42879	Standard
|	Ti	47	127.0	34.1	0.2447	0.129	52.9	ug/L	41	Standard
|	V	51	522046.1	1.6	52.5236	0.366	0.7	ug/L	2416	Standard
|	Cr	52	574362.0	0.2	52.3875	0.608	1.2	ug/L	12475	Standard
|	Cr	53	70190.6	2.2	52.7463	0.883	1.7	ug/L	537	Standard
|	Mn	55	579437.2	1.3	52.3961	0.646	1.2	ug/L	1090	Standard
|	Co	59	550628.3	0.6	52.5550	0.855	1.6	ug/L	363	Standard
|	Ni	60	156996.9	0.7	51.8823	0.180	0.3	ug/L	399	Standard
|	Cu	65	154313.2	0.7	52.0144	0.218	0.4	ug/L	492	Standard
|	Zn	66	88202.3	0.9	54.0727	0.118	0.2	ug/L	201	Standard
>	Ge	72	665376.8	1.1				ug/L	679875	Standard
|	As	75	86766.1	0.9	52.6902	0.148	0.3	ug/L	-85	Standard
|	Se	82	8990.9	1.7	51.9422	0.354	0.7	ug/L	29	Standard
|	Se-1	77	6117.2	2.1	53.5498	0.588	1.1	ug/L	107	Standard
>	Ga	71	50.0	34.6				mg/L	37	Standard
|	Rb	85	6398.0	4.4				ug/L	23	Standard
|	Y	89	556225.5	1.5				ug/L	562937	Standard
>	Rh	103	91.7	47.7				ug/L	13	Standard
|	Mo	98	1741.4	2.9	0.4247	0.007	1.6	ug/L	25	Standard
|	Ag	107	506365.3	1.1	50.7391	0.552	1.1	ug/L	114	Standard
|	Cd	111	158483.2	1.2	51.6250	0.236	0.5	mg/L	6	Standard
|	Cd	114	390434.7	2.2	52.9048	0.845	1.6	ug/L	14	Standard
>	In	115	724626.7	1.5				ug/L	726030	Standard
|	Sn	118	1210.0	4.1	0.0477	0.008	16.0	ug/L	913	Standard
|	Sb	123	328455.2	0.9	50.9614	0.516	1.0	ug/L	308	Standard
|	Ba	135	179326.1	1.4	57.1531	0.323	0.6	ug/L	50	Standard
|	Ce	140	191.7	10.9				ug/L	122	Standard
>	Tb	159	1159799.0	2.0				ug/L	1169812	Standard
|	Ho	165	51.7	24.4				ug/L	7	Standard
|	Tl	203	591238.7	0.6	51.7252	0.782	1.5	ug/L	11	Standard
|	Tl	205	518647.5	0.2	53.2357	0.437	0.8	ug/L	8	Standard
|	Pb	206	367665.1	0.5	52.0831	0.464	0.9	ug/L	277	Standard
|	Pb	207	320097.3	0.2	50.0057	0.436	0.9	ug/L	262	Standard
|	Pb	208	1298557.8	1.2	52.5679	0.618	1.2	ug/L	982	Standard
	U	238	479129.9	0.6	53.7778	0.627	1.2	ug/L	8	Standard
>	Bi	209	591060.4	1.0				ug/L	593643	Standard

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Na	23	5.0	0.0	29.7847	0.314	1.1	mg/L	2	Standard
Mg	24	13499.3	2.3	11.4361	0.170	1.5	mg/L	75	Standard
K	39	136.7	17.3	0.2992	0.078	26.1	mg/L	32	Standard
Ca	43	406.7	5.0	28.5922	1.297	4.5	mg/L	50	Standard
Fe	54	246.7	25.1	-0.0022	0.035	1559.9	mg/L	236	Standard
Fe	57	526.7	4.0	0.5063	0.062	12.1	mg/L	352	Standard
Sc-1	45	43482.3	1.0				mg/L	42879	Standard
Cl	35	226998.2	2.0				ug/L	166385	Standard
Kr	83	1.7	91.7				ug/L	3	Standard
Br	81	5791.1	3.5				ug/L	4321	Standard
P	31	30365.4	1.3				ug/L	24331	Standard
S	34	4854.1	3.1				ug/L	3789	Standard
Sr	88	250.0	10.6				ug/L	78	Standard
C	12	223.3	10.3				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	38.4	53.3				mg/L	12	Standard
Ho-1	165	51.7	24.4				mg/L	7	Standard
Er	166	33.3	45.8				mg/L	20	Standard
I	127	23191.1	0.3				mg/L	2570	Standard

QC Calculated Values

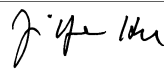
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.533	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		97.867	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604150502PS WG567472-01

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.807
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.565
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604150502PS WG567472-01

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Method 6020 - Summary Report

Sample ID: L1604150502SDL WG567472-02

Sample Date/Time: Thursday, May 05, 2016 13:04:38

Number of Replicates: 3

Autosampler Position: 328

Sample Description: 25 5

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	81379.8	2.9				ug/L	82657	Standard
|	Be	9	41.7	59.2	-0.0063	0.022	348.4	ug/L	13	Standard
|	Al	27	2385187.1	0.2	11.6117	0.364	3.1	ug/L	1347	Standard
|	Sc	45	38707.7	1.7				ug/L	42879	Standard
|	Ti	47	45.0	9.7	0.0095	0.015	153.0	ug/L	41	Standard
|	V	51	2680.6	1.9	0.0634	0.005	7.8	ug/L	2416	Standard
|	Cr	52	10719.5	1.1	-0.0462	0.015	32.5	ug/L	12475	Standard
|	Cr	53	1248.4	3.1	0.5422	0.035	6.5	ug/L	537	Standard
|	Mn	55	1711.8	10.3	0.0659	0.018	27.0	ug/L	1090	Standard
|	Co	59	812.7	7.7	0.0518	0.007	13.1	ug/L	363	Standard
|	Ni	60	875.4	2.6	0.1723	0.010	5.6	ug/L	399	Standard
|	Cu	65	865.0	2.9	0.1471	0.011	7.2	ug/L	492	Standard
|	Zn	66	1366.7	1.4	0.7823	0.016	2.0	ug/L	201	Standard
>	Ge	72	622858.8	0.5				ug/L	679875	Standard
|	As	75	-87.8	3.3	0.0231	0.002	6.8	ug/L	-85	Standard
|	Se	82	35.8	28.4	0.0133	0.064	481.4	ug/L	29	Standard
|	Se-1	77	126.7	3.6	0.2789	0.043	15.5	ug/L	107	Standard
>	Ga	71	31.7	36.5				mg/L	37	Standard
|	Rb	85	1191.7	3.5				ug/L	23	Standard
|	Y	89	501396.7	1.0				ug/L	562937	Standard
>	Rh	103	13.3	78.1				ug/L	13	Standard
|	Mo	98	302.1	5.0	0.0757	0.004	5.7	ug/L	25	Standard
|	Ag	107	173.0	44.9	0.0046	0.008	183.3	ug/L	114	Standard
|	Cd	111	25.7	37.3	0.0083	0.003	40.8	mg/L	6	Standard
|	Cd	114	97.1	88.1	0.0119	0.013	106.0	ug/L	14	Standard
>	In	115	674069.6	1.1				ug/L	726030	Standard
|	Sn	118	480.0	11.0	-0.0347	0.007	21.1	ug/L	913	Standard
|	Sb	123	1483.4	32.7	0.2343	0.083	35.4	ug/L	308	Standard
|	Ba	135	4381.6	0.7	1.4840	0.020	1.3	ug/L	50	Standard
|	Ce	140	46.7	6.2				ug/L	122	Standard
>	Tb	159	1097431.0	0.7				ug/L	1169812	Standard
|	Ho	165	11.7	65.5				ug/L	7	Standard
|	Tl	203	207.3	39.5	0.0169	0.008	44.9	ug/L	11	Standard
|	Tl	205	176.7	37.7	0.0167	0.007	43.2	ug/L	8	Standard
|	Pb	206	414.7	10.3	0.0232	0.007	29.6	ug/L	277	Standard
|	Pb	207	321.3	12.5	0.0102	0.007	65.8	ug/L	262	Standard
|	Pb	208	1397.4	17.9	0.0154	0.011	71.6	ug/L	982	Standard
|	U	238	2098.1	7.1	0.2424	0.019	7.7	ug/L	8	Standard
>	Bi	209	572582.8	1.4				ug/L	593643	Standard

Sample ID: L1604150502SDL WG567472-02

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	2420.2	9.8	2.2685	0.254	11.2	mg/L	75	Standard
K	39	53.3	10.8	0.0528	0.023	42.8	mg/L	32	Standard
Ca	43	98.3	24.0	6.2495	2.062	33.0	mg/L	50	Standard
Fe	54	111.8	36.8	-0.0705	0.024	34.7	mg/L	236	Standard
Fe	57	321.7	10.3	0.1225	0.100	81.8	mg/L	352	Standard
Sc-1	45	38707.7	1.7				mg/L	42879	Standard
Cl	35	198046.7	0.8				ug/L	166385	Standard
Kr	83	4.3	35.3				ug/L	3	Standard
Br	81	4130.6	10.3				ug/L	4321	Standard
P	31	13534.4	5.2				ug/L	24331	Standard
S	34	4680.7	2.1				ug/L	3789	Standard
Sr	88	118.3	34.4				ug/L	78	Standard
C	12	123.3	20.4				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	3	Standard
Dy	164	15.9	97.6				mg/L	12	Standard
Ho-1	165	11.7	65.5				mg/L	7	Standard
Er	166	16.7	34.6				mg/L	20	Standard
I	127	7125.0	2.7				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		98.455	
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		91.614	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604150502SDL WG567472-02

Report Date/Time: Thursday, May 05, 2016 13:06:55

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	92.843
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.452
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604150502SDL WG567472-02

Report Date/Time: Thursday, May 05, 2016 13:06:55

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Method 6020 - Summary Report

Sample ID: L1604150502SDL WG567472-02

Sample Date/Time: Thursday, May 05, 2016 13:07:50

Number of Replicates: 3

Autosampler Position: 329

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Sample Description: 4

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	76630.0	1.9				ug/L	82657	Standard
|	Be	9	26.7	96.2	-0.0182	0.025	136.1	ug/L	13	Standard
|	Al	27	480063.0	2.5	2.4733	0.102	4.1	ug/L	1347	Standard
|	Sc	45	35961.0	1.8				ug/L	42879	Standard
|	Ti	47	26.0	50.9	-0.0479	0.041	86.4	ug/L	41	Standard
|	V	51	2542.9	4.7	0.0610	0.013	21.2	ug/L	2416	Standard
|	Cr	52	10172.7	0.8	-0.0542	0.041	76.4	ug/L	12475	Standard
|	Cr	53	1135.0	7.5	0.4921	0.072	14.7	ug/L	537	Standard
|	Mn	55	966.7	15.9	-0.0021	0.015	717.0	ug/L	1090	Standard
|	Co	59	556.0	22.0	0.0281	0.013	44.6	ug/L	363	Standard
|	Ni	60	406.3	8.8	0.0131	0.018	137.9	ug/L	399	Standard
|	Cu	65	458.0	7.9	0.0079	0.019	243.9	ug/L	492	Standard
|	Zn	66	1206.4	7.0	0.7141	0.079	11.1	ug/L	201	Standard
>	Ge	72	596002.8	3.1				ug/L	679875	Standard
|	As	75	-97.7	32.2	0.0142	0.019	136.2	ug/L	-85	Standard
|	Se	82	31.4	29.4	-0.0042	0.067	1601.4	ug/L	29	Standard
|	Se-1	77	109.0	10.6	0.1590	0.128	80.7	ug/L	107	Standard
>	Ga	71	30.0	76.4				mg/L	37	Standard
|	Rb	85	253.3	6.9				ug/L	23	Standard
|	Y	89	481680.1	2.6				ug/L	562937	Standard
>	Rh	103	10.0	50.0				ug/L	13	Standard
|	Mo	98	76.0	15.2	0.0168	0.004	21.5	ug/L	25	Standard
|	Ag	107	219.0	38.4	0.0107	0.010	91.8	ug/L	114	Standard
|	Cd	111	33.5	119.8	0.0119	0.016	130.2	mg/L	6	Standard
|	Cd	114	63.5	122.0	0.0077	0.012	161.7	ug/L	14	Standard
>	In	115	645279.0	3.8				ug/L	726030	Standard
|	Sn	118	366.7	13.7	-0.0472	0.006	12.0	ug/L	913	Standard
|	Sb	123	378.9	10.1	0.0526	0.009	17.8	ug/L	308	Standard
|	Ba	135	971.4	13.2	0.3315	0.060	18.2	ug/L	50	Standard
|	Ce	140	28.3	50.9				ug/L	122	Standard
>	Tb	159	1042798.8	1.8				ug/L	1169812	Standard
|	Ho	165	18.3	31.5				ug/L	7	Standard
|	Tl	203	206.7	56.8	0.0175	0.011	65.8	ug/L	11	Standard
|	Tl	205	238.3	44.9	0.0240	0.012	49.4	ug/L	8	Standard
|	Pb	206	403.3	27.3	0.0231	0.016	70.7	ug/L	277	Standard
|	Pb	207	364.3	26.4	0.0187	0.016	85.2	ug/L	262	Standard
|	Pb	208	1392.0	20.3	0.0167	0.012	70.9	ug/L	982	Standard
|	U	238	526.0	20.5	0.0618	0.013	20.6	ug/L	8	Standard
>	Bi	209	557928.0	2.6				ug/L	593643	Standard

Sample ID: L1604150502SDL WG567472-02

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	583.3	4.3	0.5541	0.037	6.6	mg/L	75	Standard
K	39	28.3	44.4	-0.0291	0.051	173.7	mg/L	32	Standard
Ca	43	33.3	52.7	0.9638	1.656	171.8	mg/L	50	Standard
Fe	54	83.5	11.6	-0.0840	0.006	6.8	mg/L	236	Standard
Fe	57	300.0	4.4	0.1251	0.049	38.9	mg/L	352	Standard
Sc-1	45	35961.0	1.8				mg/L	42879	Standard
Cl	35	189023.8	0.6				ug/L	166385	Standard
Kr	83	3.3	75.5				ug/L	3	Standard
Br	81	3690.5	5.6				ug/L	4321	Standard
P	31	9771.5	1.8				ug/L	24331	Standard
S	34	4650.7	1.6				ug/L	3789	Standard
Sr	88	88.3	40.9				ug/L	78	Standard
C	12	86.7	46.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	19.5	50.0				mg/L	12	Standard
Ho-1	165	18.3	31.5				mg/L	7	Standard
Er	166	10.0	100.0				mg/L	20	Standard
I	127	3647.1	4.8				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		92.709	
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		87.664	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604150502SDL WG567472-02

Report Date/Time: Thursday, May 05, 2016 13:10:07

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	88.878
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
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[Pb	208	
[U	238	
>	Bi	209	93.984
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
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[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604150502SDL WG567472-02
 Report Date/Time: Thursday, May 05, 2016 13:10:07
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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 05, 2016 13:11:02

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 Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	87773.8	4.4				ug/L	82657	Standard
|	Be	9	62947.2	1.2	52.1565	2.956	5.7	ug/L	13	Standard
|	Al	27	10985036.9	2.3	49.6181	1.090	2.2	ug/L	1347	Standard
|	Sc	45	41737.4	0.7				ug/L	42879	Standard
|	Ti	47	34216.9	0.3	102.2455	1.738	1.7	ug/L	41	Standard
|	V	51	505749.9	1.3	51.1136	0.811	1.6	ug/L	2416	Standard
|	Cr	52	551037.6	0.7	50.4490	0.805	1.6	ug/L	12475	Standard
|	Cr	53	67439.8	1.3	50.8944	0.284	0.6	ug/L	537	Standard
|	Mn	55	555893.8	1.7	50.4933	0.983	1.9	ug/L	1090	Standard
|	Co	59	535105.6	0.8	51.3016	0.561	1.1	ug/L	363	Standard
|	Ni	60	151384.9	0.5	50.2529	0.579	1.2	ug/L	399	Standard
|	Cu	65	150492.0	0.4	50.9567	0.679	1.3	ug/L	492	Standard
|	Zn	66	82097.5	1.2	50.5508	0.374	0.7	ug/L	201	Standard
>	Ge	72	662406.9	1.7				ug/L	679875	Standard
|	As	75	82097.5	0.8	50.0874	0.536	1.1	ug/L	-85	Standard
|	Se	82	8644.0	2.1	50.1538	0.281	0.6	ug/L	29	Standard
|	Se-1	77	5816.1	0.8	51.1141	0.973	1.9	ug/L	107	Standard
>	Ga	71	63.3	16.4				mg/L	37	Standard
|	Rb	85	1233.4	7.0				ug/L	23	Standard
|	Y	89	552726.4	1.8				ug/L	562937	Standard
>	Rh	103	40.0	12.5				ug/L	13	Standard
|	Mo	98	400008.9	0.6	98.5461	0.969	1.0	ug/L	25	Standard
|	Ag	107	496109.7	0.8	49.7138	1.122	2.3	ug/L	114	Standard
|	Cd	111	152846.6	1.2	49.7844	0.199	0.4	mg/L	6	Standard
|	Cd	114	373387.6	1.7	50.5907	0.541	1.1	ug/L	14	Standard
>	In	115	724694.7	1.5				ug/L	726030	Standard
|	Sn	118	422850.2	4.0	50.0826	1.249	2.5	ug/L	913	Standard
|	Sb	123	320023.2	1.3	49.6506	0.906	1.8	ug/L	308	Standard
|	Ba	135	155130.8	0.3	49.4404	0.652	1.3	ug/L	50	Standard
|	Ce	140	106.7	28.3				ug/L	122	Standard
>	Tb	159	1151549.8	2.0				ug/L	1169812	Standard
|	Ho	165	5.0	100.0				ug/L	7	Standard
|	Tl	203	573264.8	1.2	49.9356	0.674	1.4	ug/L	11	Standard
|	Tl	205	499675.2	1.5	51.0677	0.783	1.5	ug/L	8	Standard
|	Pb	206	350344.3	0.7	49.4139	0.234	0.5	ug/L	277	Standard
|	Pb	207	317314.2	1.1	49.3565	0.469	1.0	ug/L	262	Standard
|	Pb	208	1262082.3	0.9	50.8713	0.458	0.9	ug/L	982	Standard
	U	238	458974.2	0.7	51.2931	0.297	0.6	ug/L	8	Standard
>	Bi	209	593583.3	0.3				ug/L	593643	Standard

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Na	23	1.7	173.2	10.3396	17.900	173.1	mg/L	2	Standard
Mg	24	5669.4	2.0	4.9776	0.067	1.3	mg/L	75	Standard
K	39	1445.1	7.6	4.6878	0.333	7.1	mg/L	32	Standard
Ca	43	86.7	23.3	4.7131	1.543	32.7	mg/L	50	Standard
Fe	54	8857.4	2.9	5.0326	0.115	2.3	mg/L	236	Standard
Fe	57	2531.9	1.5	5.4155	0.048	0.9	mg/L	352	Standard
Sc-1	45	41737.4	0.7				mg/L	42879	Standard
Cl	35	203466.6	3.1				ug/L	166385	Standard
Kr	83	1.7	34.6				ug/L	3	Standard
Br	81	4240.6	6.3				ug/L	4321	Standard
P	31	29467.0	2.9				ug/L	24331	Standard
S	34	5579.4	1.4				ug/L	3789	Standard
Sr	88	68.3	44.1				ug/L	78	Standard
C	12	113.3	5.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	9.2	113.9				mg/L	12	Standard
Ho-1	165	5.0	100.0				mg/L	7	Standard
Er	166	16.7	69.3				mg/L	20	Standard
I	127	2290.2	4.6				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	104.313		
Al	27	99.236		
Sc	45			
Ti	47	102.245		
V	51	102.227		
Cr	52	100.898		
Cr	53			
Mn	55	100.987		
Co	59	102.603		
Ni	60	100.506		
Cu	65	101.913		
Zn	66	101.102		
Ge	72		97.431	
As	75	100.175		
Se	82	100.308		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	98.546	
[Ag	107	99.428	
[Cd	111	99.569	
[Cd	114		
>	In	115		99.816
[Sn	118	100.165	
[	Sb	123	99.301	
[	Ba	135	98.881	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.871	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	101.743	
[	U	238	102.586	
>	Bi	209		99.990
[	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		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

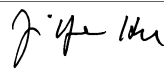
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 05, 2016 13:14:14

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	88573.4	4.2				ug/L	82657	Standard
|	Be	9	40.0	33.1	-0.0105	0.012	116.9	ug/L	13	Standard
|	Al	27	3540.4	32.6	0.0054	0.006	105.8	ug/L	1347	Standard
|	Sc	45	42349.1	1.9				ug/L	42879	Standard
|	Ti	47	36.3	9.7	-0.0258	0.009	36.0	ug/L	41	Standard
|	V	51	2138.3	1.7	-0.0105	0.003	28.4	ug/L	2416	Standard
|	Cr	52	10893.9	2.0	-0.1009	0.028	27.8	ug/L	12475	Standard
|	Cr	53	1148.4	9.5	0.3994	0.086	21.4	ug/L	537	Standard
|	Mn	55	1039.7	3.0	-0.0059	0.004	60.4	ug/L	1090	Standard
|	Co	59	370.0	6.3	0.0041	0.002	56.1	ug/L	363	Standard
|	Ni	60	315.0	4.6	-0.0335	0.004	12.6	ug/L	399	Standard
|	Cu	65	453.3	3.2	-0.0126	0.005	37.2	ug/L	492	Standard
|	Zn	66	245.0	4.3	0.0354	0.006	16.7	ug/L	201	Standard
>	Ge	72	667305.5	1.0				ug/L	679875	Standard
|	As	75	-179.2	15.5	-0.0283	0.016	57.2	ug/L	-85	Standard
|	Se	82	24.0	17.4	-0.0703	0.023	33.3	ug/L	29	Standard
|	Se-1	77	131.7	10.6	0.2422	0.112	46.4	ug/L	107	Standard
>	Ga	71	31.7	9.1				mg/L	37	Standard
|	Rb	85	28.3	36.7				ug/L	23	Standard
|	Y	89	552100.6	2.3				ug/L	562937	Standard
>	Rh	103	3.3	173.2				ug/L	13	Standard
|	Mo	98	268.3	12.6	0.0615	0.008	13.0	ug/L	25	Standard
|	Ag	107	196.3	15.7	0.0056	0.003	58.6	ug/L	114	Standard
|	Cd	111	26.2	38.1	0.0078	0.003	43.2	mg/L	6	Standard
|	Cd	114	70.9	17.9	0.0072	0.002	20.8	ug/L	14	Standard
>	In	115	727694.4	2.4				ug/L	726030	Standard
|	Sn	118	1395.1	23.7	0.0686	0.037	54.3	ug/L	913	Standard
|	Sb	123	1194.1	34.7	0.1700	0.060	35.4	ug/L	308	Standard
|	Ba	135	132.0	22.4	0.0241	0.009	39.2	ug/L	50	Standard
|	Ce	140	26.7	28.6				ug/L	122	Standard
>	Tb	159	1157492.7	2.2				ug/L	1169812	Standard
|	Ho	165	5.0	100.0				ug/L	7	Standard
|	Tl	203	177.0	14.2	0.0132	0.002	16.3	ug/L	11	Standard
|	Tl	205	176.7	32.2	0.0157	0.006	36.7	ug/L	8	Standard
|	Pb	206	381.7	7.3	0.0153	0.004	27.9	ug/L	277	Standard
|	Pb	207	314.3	4.0	0.0062	0.002	29.2	ug/L	262	Standard
|	Pb	208	1258.4	8.4	0.0067	0.004	62.8	ug/L	982	Standard
	U	238	89.3	39.8	0.0090	0.004	43.7	ug/L	8	Standard
>	Bi	209	605760.8	1.1				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	51.7	11.2	-0.0012	0.006	498.0	mg/L	75	Standard
K	39	28.3	56.7	-0.0467	0.052	111.0	mg/L	32	Standard
Ca	43	18.3	15.7	-0.6764	0.208	30.7	mg/L	50	Standard
Fe	54	202.5	5.6	-0.0240	0.006	26.3	mg/L	236	Standard
Fe	57	296.7	17.0	-0.0100	0.126	1257.0	mg/L	352	Standard
Sc-1	45	42349.1	1.9				mg/L	42879	Standard
Cl	35	202917.8	0.6				ug/L	166385	Standard
Kr	83	2.3	24.7				ug/L	3	Standard
Br	81	4434.0	11.7				ug/L	4321	Standard
P	31	28122.8	3.4				ug/L	24331	Standard
S	34	5589.4	0.8				ug/L	3789	Standard
Sr	88	85.0	17.6				ug/L	78	Standard
C	12	83.3	54.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	16.0	32.6				mg/L	12	Standard
Ho-1	165	5.0	100.0				mg/L	7	Standard
Er	166	13.3	86.6				mg/L	20	Standard
I	127	2398.5	6.2				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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		98.151	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 7

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.229
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	102.041
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Thursday, May 05, 2016 13:16:31

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Method 6020 - Summary Report

Sample ID: L1604150503

Sample Date/Time: Thursday, May 05, 2016 13:17:26

Number of Replicates: 3

Autosampler Position: 330

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	87456.7	0.5				ug/L	82657	Standard
|	Be	9	45.0	11.1	-0.0062	0.004	64.4	ug/L	13	Standard
|	Al	27	13013791.7	3.6	58.9541	1.882	3.2	ug/L	1347	Standard
|	Sc	45	43447.2	1.3				ug/L	42879	Standard
|	Ti	47	754.0	16.7	2.1085	0.378	17.9	ug/L	41	Standard
|	V	51	3822.8	3.5	0.1596	0.010	6.6	ug/L	2416	Standard
|	Cr	52	14669.1	1.9	0.2515	0.047	18.8	ug/L	12475	Standard
|	Cr	53	2198.5	6.9	1.1964	0.143	11.9	ug/L	537	Standard
|	Mn	55	1026602.3	1.7	92.7341	0.059	0.1	ug/L	1090	Standard
|	Co	59	2045.1	2.3	0.1638	0.001	0.9	ug/L	363	Standard
|	Ni	60	2990.3	0.5	0.8516	0.019	2.3	ug/L	399	Standard
|	Cu	65	1521.7	0.8	0.3483	0.011	3.1	ug/L	492	Standard
|	Zn	66	2564.6	1.4	1.4580	0.009	0.6	ug/L	201	Standard
>	Ge	72	666607.5	1.7				ug/L	679875	Standard
|	As	75	575.8	7.3	0.4287	0.029	6.7	ug/L	-85	Standard
|	Se	82	274.6	7.2	1.3820	0.132	9.5	ug/L	29	Standard
|	Se-1	77	153.7	14.2	0.4417	0.214	48.4	ug/L	107	Standard
>	Ga	71	223.3	28.0				mg/L	37	Standard
|	Rb	85	5269.3	5.9				ug/L	23	Standard
|	Y	89	550942.4	1.3				ug/L	562937	Standard
>	Rh	103	45.0	22.2				ug/L	13	Standard
|	Mo	98	113.9	3.2	0.0236	0.001	5.8	ug/L	25	Standard
|	Ag	107	138.3	22.7	-0.0002	0.003	1394.4	ug/L	114	Standard
|	Cd	111	39.1	63.5	0.0120	0.008	69.0	mg/L	6	Standard
|	Cd	114	127.0	75.5	0.0149	0.013	88.7	ug/L	14	Standard
>	In	115	729829.3	1.8				ug/L	726030	Standard
|	Sn	118	1168.4	18.1	0.0420	0.027	64.5	ug/L	913	Standard
|	Sb	123	550.8	42.7	0.0716	0.038	52.7	ug/L	308	Standard
|	Ba	135	22565.1	0.7	7.1268	0.174	2.4	ug/L	50	Standard
|	Ce	140	4520.7	3.0				ug/L	122	Standard
>	Tb	159	1164518.5	0.8				ug/L	1169812	Standard
|	Ho	165	135.0	12.8				ug/L	7	Standard
|	Tl	203	348.0	17.2	0.0283	0.005	18.7	ug/L	11	Standard
|	Tl	205	258.3	14.3	0.0243	0.004	15.7	ug/L	8	Standard
|	Pb	206	844.7	4.4	0.0812	0.005	6.2	ug/L	277	Standard
|	Pb	207	718.0	8.2	0.0696	0.010	14.0	ug/L	262	Standard
|	Pb	208	2969.4	0.8	0.0762	0.002	2.3	ug/L	982	Standard
	U	238	112.3	11.3	0.0117	0.001	12.5	ug/L	8	Standard
>	Bi	209	596037.8	0.7				ug/L	593643	Standard

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Na	23	3.3	86.6	19.7399	17.091	86.6	mg/L	2	Standard
Mg	24	12707.0	3.3	10.7729	0.385	3.6	mg/L	75	Standard
K	39	86.7	23.3	0.1382	0.062	44.6	mg/L	32	Standard
Ca	43	131.7	20.9	7.8684	2.209	28.1	mg/L	50	Standard
Fe	54	367.3	2.2	0.0655	0.007	10.6	mg/L	236	Standard
Fe	57	456.7	8.8	0.3438	0.090	26.2	mg/L	352	Standard
Sc-1	45	43447.2	1.3				mg/L	42879	Standard
Cl	35	253049.0	0.7				ug/L	166385	Standard
Kr	83	1.0	0.0				ug/L	3	Standard
Br	81	48480.8	2.8				ug/L	4321	Standard
P	31	31116.9	2.7				ug/L	24331	Standard
S	34	4874.1	5.1				ug/L	3789	Standard
Sr	88	231.7	18.6				ug/L	78	Standard
C	12	193.3	28.5				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	3	Standard
Dy	164	222.5	16.2				mg/L	12	Standard
Ho-1	165	135.0	12.8				mg/L	7	Standard
Er	166	226.7	24.3				mg/L	20	Standard
I	127	172009.7	2.7				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		105.807	
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		98.049	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.523
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
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[U	238	
>	Bi	209	100.403
[Na	23	
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[K	39	
[Ca	43	
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[Sr	88	
[C	12	
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[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

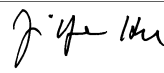
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604150503

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Method 6020 - Summary Report

Sample ID: L1604150504

Sample Date/Time: Thursday, May 05, 2016 13:20:38

Number of Replicates: 3

Autosampler Position: 331

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	91389.9	2.3				ug/L	82657	Standard
|	Be	9	43.3	35.3	-0.0091	0.012	133.4	ug/L	13	Standard
|	Al	27	12960940.4	1.2	56.2027	0.750	1.3	ug/L	1347	Standard
|	Sc	45	42063.4	3.8				ug/L	42879	Standard
|	Ti	47	110.7	3.4	0.1986	0.013	6.7	ug/L	41	Standard
|	V	51	2660.6	4.0	0.0451	0.013	28.4	ug/L	2416	Standard
|	Cr	52	14113.2	1.4	0.2122	0.008	3.8	ug/L	12475	Standard
|	Cr	53	2005.1	1.1	1.0634	0.007	0.7	ug/L	537	Standard
|	Mn	55	6910.2	1.2	0.5312	0.004	0.8	ug/L	1090	Standard
|	Co	59	2636.2	1.6	0.2226	0.006	2.8	ug/L	363	Standard
|	Ni	60	4405.3	0.4	1.3338	0.018	1.3	ug/L	399	Standard
|	Cu	65	1633.8	1.0	0.3915	0.006	1.5	ug/L	492	Standard
|	Zn	66	4032.9	2.1	2.3831	0.071	3.0	ug/L	201	Standard
>	Ge	72	660098.1	0.8				ug/L	679875	Standard
|	As	75	487.9	10.1	0.3783	0.032	8.5	ug/L	-85	Standard
|	Se	82	252.3	7.3	1.2669	0.118	9.3	ug/L	29	Standard
|	Se-1	77	157.0	8.8	0.4832	0.122	25.3	ug/L	107	Standard
>	Ga	71	23.3	32.7				mg/L	37	Standard
|	Rb	85	2430.2	3.7				ug/L	23	Standard
|	Y	89	544779.0	1.5				ug/L	562937	Standard
>	Rh	103	58.3	42.3				ug/L	13	Standard
|	Mo	98	74.9	18.7	0.0141	0.004	25.8	ug/L	25	Standard
|	Ag	107	122.0	7.1	-0.0019	0.001	51.4	ug/L	114	Standard
|	Cd	111	53.2	13.6	0.0165	0.002	13.9	mg/L	6	Standard
|	Cd	114	140.0	4.3	0.0165	0.001	3.6	ug/L	14	Standard
>	In	115	729300.5	1.1				ug/L	726030	Standard
|	Sn	118	1055.0	13.3	0.0286	0.018	62.4	ug/L	913	Standard
|	Sb	123	826.0	13.6	0.1138	0.019	16.4	ug/L	308	Standard
|	Ba	135	14575.7	1.3	4.5996	0.085	1.8	ug/L	50	Standard
|	Ce	140	216.7	20.9				ug/L	122	Standard
>	Tb	159	1161566.6	0.9				ug/L	1169812	Standard
|	Ho	165	76.7	27.2				ug/L	7	Standard
|	Tl	203	426.3	5.3	0.0353	0.002	6.6	ug/L	11	Standard
|	Tl	205	368.3	11.0	0.0356	0.004	10.6	ug/L	8	Standard
|	Pb	206	501.0	2.9	0.0332	0.002	5.3	ug/L	277	Standard
|	Pb	207	440.7	6.3	0.0269	0.005	18.3	ug/L	262	Standard
|	Pb	208	1742.0	1.2	0.0272	0.001	4.9	ug/L	982	Standard
	U	238	122.3	9.8	0.0129	0.001	11.4	ug/L	8	Standard
>	Bi	209	593981.8	1.0				ug/L	593643	Standard

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Na	23	1.7	173.2	9.8300	17.017	173.1	mg/L	2	Standard
Mg	24	12700.3	1.7	11.1365	0.591	5.3	mg/L	75	Standard
K	39	100.0	27.8	0.1942	0.102	52.4	mg/L	32	Standard
Ca	43	140.0	10.7	8.8631	1.523	17.2	mg/L	50	Standard
Fe	54	231.5	9.8	-0.0063	0.014	224.0	mg/L	236	Standard
Fe	57	368.3	3.4	0.1673	0.043	25.8	mg/L	352	Standard
Sc-1	45	42063.4	3.8				mg/L	42879	Standard
Cl	35	251019.1	1.0				ug/L	166385	Standard
Kr	83	2.7	142.0				ug/L	3	Standard
Br	81	47253.7	5.0				ug/L	4321	Standard
P	31	30053.1	1.2				ug/L	24331	Standard
S	34	4617.4	0.9				ug/L	3789	Standard
Sr	88	215.0	12.3				ug/L	78	Standard
C	12	180.0	11.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	95.5	50.6				mg/L	12	Standard
Ho-1	165	76.7	27.2				mg/L	7	Standard
Er	166	93.3	60.9				mg/L	20	Standard
I	127	164110.7	1.3				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		110.566	
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		97.091	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.451
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	100.057
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits


Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1604161301

Sample Date/Time: Thursday, May 05, 2016 13:23:50

Number of Replicates: 3

Autosampler Position: 332

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	90821.4	1.6				ug/L	82657	Standard
|	Be	9	48.3	21.5	-0.0048	0.009	187.6	ug/L	13	Standard
|	Al	27	20049751.6	0.5	87.4872	1.064	1.2	ug/L	1347	Standard
|	Sc	45	40708.0	2.5				ug/L	42879	Standard
|	Ti	47	654.0	12.0	1.8889	0.243	12.8	ug/L	41	Standard
|	V	51	4365.4	1.2	0.2321	0.006	2.6	ug/L	2416	Standard
|	Cr	52	14904.0	2.7	0.3287	0.037	11.3	ug/L	12475	Standard
|	Cr	53	2538.5	4.7	1.5297	0.095	6.2	ug/L	537	Standard
|	Mn	55	69497.4	0.7	6.4384	0.050	0.8	ug/L	1090	Standard
|	Co	59	1414.7	5.5	0.1091	0.008	7.2	ug/L	363	Standard
|	Ni	60	7381.8	2.5	2.4024	0.065	2.7	ug/L	399	Standard
|	Cu	65	2324.5	0.6	0.6508	0.004	0.7	ug/L	492	Standard
|	Zn	66	6802.9	1.2	4.2253	0.058	1.4	ug/L	201	Standard
>	Ge	72	640742.3	0.1				ug/L	679875	Standard
|	As	75	2336.7	3.5	1.5513	0.053	3.4	ug/L	-85	Standard
|	Se	82	982.8	4.5	5.7111	0.273	4.8	ug/L	29	Standard
|	Se-1	77	233.3	6.3	1.2317	0.133	10.8	ug/L	107	Standard
>	Ga	71	155.0	5.6				mg/L	37	Standard
|	Rb	85	43465.6	0.6				ug/L	23	Standard
|	Y	89	529562.3	0.6				ug/L	562937	Standard
>	Rh	103	831.7	11.3				ug/L	13	Standard
|	Mo	98	7283.8	0.7	1.8571	0.027	1.5	ug/L	25	Standard
|	Ag	107	169.3	44.9	0.0035	0.008	219.8	ug/L	114	Standard
|	Cd	111	58.2	24.7	0.0189	0.005	24.9	mg/L	6	Standard
|	Cd	114	158.9	42.5	0.0200	0.009	46.6	ug/L	14	Standard
>	In	115	698640.0	0.8				ug/L	726030	Standard
|	Sn	118	1285.1	6.4	0.0622	0.010	16.2	ug/L	913	Standard
|	Sb	123	579.7	18.4	0.0795	0.017	20.9	ug/L	308	Standard
|	Ba	135	845810.1	0.9	279.6825	4.619	1.7	ug/L	50	Standard
|	Ce	140	4960.8	3.6				ug/L	122	Standard
>	Tb	159	1138911.0	0.8				ug/L	1169812	Standard
|	Ho	165	75.0	37.1				ug/L	7	Standard
|	Tl	203	587.0	13.8	0.0515	0.007	14.5	ug/L	11	Standard
|	Tl	205	488.3	9.3	0.0500	0.005	9.7	ug/L	8	Standard
|	Pb	206	1316.4	3.9	0.1563	0.007	4.3	ug/L	277	Standard
|	Pb	207	1084.7	9.0	0.1344	0.016	11.7	ug/L	262	Standard
|	Pb	208	4461.3	4.6	0.1447	0.009	6.4	ug/L	982	Standard
	U	238	6619.1	1.5	0.7710	0.017	2.2	ug/L	8	Standard
>	Bi	209	569054.5	1.0				ug/L	593643	Standard

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Na	23	3.3	173.2	20.6272	35.719	173.2	mg/L	2	Standard
Mg	24	81969.5	1.3	74.4806	2.835	3.8	mg/L	75	Standard
K	39	678.3	6.1	2.1856	0.156	7.1	mg/L	32	Standard
Ca	43	286.7	11.3	21.0667	3.171	15.1	mg/L	50	Standard
Fe	54	380.5	5.1	0.0873	0.009	10.8	mg/L	236	Standard
Fe	57	545.0	16.0	0.6349	0.216	34.1	mg/L	352	Standard
Sc-1	45	40708.0	2.5				mg/L	42879	Standard
Cl	35	226282.0	1.1				ug/L	166385	Standard
Kr	83	0.7	86.6				ug/L	3	Standard
Br	81	174900.9	2.9				ug/L	4321	Standard
P	31	31208.8	3.0				ug/L	24331	Standard
S	34	4697.4	2.6				ug/L	3789	Standard
Sr	88	2476.9	3.5				ug/L	78	Standard
C	12	320.0	11.3				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	13.3	114.6				mg/L	3	Standard
Dy	164	117.4	47.8				mg/L	12	Standard
Ho-1	165	75.0	37.1				mg/L	7	Standard
Er	166	123.3	36.6				mg/L	20	Standard
I	127	442762.5	3.4				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		109.878	
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		94.244	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	96.227
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	95.858
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

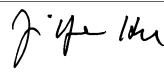
Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1604161301

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Method 6020 - Summary Report

Sample ID: L1604161302

Sample Date/Time: Thursday, May 05, 2016 13:27:01

Number of Replicates: 3

Autosampler Position: 333

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	93729.1	2.1				ug/L	82657	Standard
|	Be	9	13.3	78.1	-0.0333	0.008	23.9	ug/L	13	Standard
|	Al	27	19269502.7	2.0	81.4722	1.447	1.8	ug/L	1347	Standard
|	Sc	45	41538.5	1.0				ug/L	42879	Standard
|	Ti	47	132.7	16.7	0.2759	0.067	24.2	ug/L	41	Standard
|	V	51	3507.4	1.1	0.1416	0.002	1.3	ug/L	2416	Standard
|	Cr	52	13638.8	1.2	0.2045	0.013	6.4	ug/L	12475	Standard
|	Cr	53	2448.5	2.0	1.4560	0.030	2.0	ug/L	537	Standard
|	Mn	55	56142.5	1.8	5.1744	0.069	1.3	ug/L	1090	Standard
|	Co	59	1459.1	2.8	0.1133	0.004	3.4	ug/L	363	Standard
|	Ni	60	7509.2	3.2	2.4425	0.078	3.2	ug/L	399	Standard
|	Cu	65	1572.1	0.8	0.3858	0.003	0.8	ug/L	492	Standard
|	Zn	66	5693.7	0.2	3.5127	0.024	0.7	ug/L	201	Standard
>	Ge	72	641635.6	0.6				ug/L	679875	Standard
|	As	75	2229.2	1.6	1.4818	0.029	2.0	ug/L	-85	Standard
|	Se	82	970.4	2.4	5.6287	0.164	2.9	ug/L	29	Standard
|	Se-1	77	233.3	5.8	1.2286	0.121	9.9	ug/L	107	Standard
>	Ga	71	26.7	60.3				mg/L	37	Standard
|	Rb	85	45285.9	1.3				ug/L	23	Standard
|	Y	89	525406.0	1.6				ug/L	562937	Standard
>	Rh	103	730.0	7.9				ug/L	13	Standard
|	Mo	98	9261.4	0.7	2.3661	0.047	2.0	ug/L	25	Standard
|	Ag	107	122.3	38.9	-0.0013	0.005	356.0	ug/L	114	Standard
|	Cd	111	40.5	19.6	0.0130	0.003	20.3	mg/L	6	Standard
|	Cd	114	148.5	27.8	0.0185	0.006	29.9	ug/L	14	Standard
>	In	115	697635.5	1.3				ug/L	726030	Standard
|	Sn	118	1236.7	12.5	0.0566	0.021	36.9	ug/L	913	Standard
|	Sb	123	863.3	10.1	0.1255	0.015	11.9	ug/L	308	Standard
|	Ba	135	852641.0	0.5	282.3454	2.792	1.0	ug/L	50	Standard
|	Ce	140	213.3	19.5				ug/L	122	Standard
>	Tb	159	1132404.0	1.1				ug/L	1169812	Standard
|	Ho	165	28.3	40.8				ug/L	7	Standard
|	Tl	203	502.0	11.4	0.0445	0.005	10.9	ug/L	11	Standard
|	Tl	205	430.0	15.1	0.0446	0.007	15.0	ug/L	8	Standard
|	Pb	206	660.0	5.8	0.0614	0.005	7.8	ug/L	277	Standard
|	Pb	207	562.3	0.7	0.0512	0.001	1.5	ug/L	262	Standard
|	Pb	208	2225.4	3.5	0.0522	0.002	4.6	ug/L	982	Standard
	U	238	8039.8	0.8	0.9534	0.017	1.8	ug/L	8	Standard
>	Bi	209	559024.6	1.0				ug/L	593643	Standard

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Na	23	15.0	88.2	94.0549	83.870	89.2	mg/L	2	Standard
Mg	24	88606.7	1.4	78.8540	0.755	1.0	mg/L	75	Standard
K	39	778.4	14.0	2.4730	0.352	14.2	mg/L	32	Standard
Ca	43	308.3	9.2	22.2660	2.237	10.0	mg/L	50	Standard
Fe	54	270.3	12.2	0.0180	0.019	107.7	mg/L	236	Standard
Fe	57	513.3	3.1	0.5310	0.047	8.8	mg/L	352	Standard
Sc-1	45	41538.5	1.0				mg/L	42879	Standard
Cl	35	232977.1	1.3				ug/L	166385	Standard
Kr	83	3.3	45.8				ug/L	3	Standard
Br	81	177895.2	2.0				ug/L	4321	Standard
P	31	32097.3	2.7				ug/L	24331	Standard
S	34	4652.4	3.8				ug/L	3789	Standard
Sr	88	2468.5	2.7				ug/L	78	Standard
C	12	270.0	20.6				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	44.8	26.8				mg/L	12	Standard
Ho-1	165	28.3	40.8				mg/L	7	Standard
Er	166	40.0	43.3				mg/L	20	Standard
I	127	401421.9	2.5				mg/L	2570	Standard

QC Calculated Values

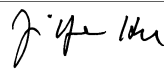
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		113.396	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		94.375	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604161302

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	96.089
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	94.168
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

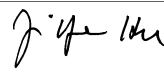
Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1604161302

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Method 6020 - Summary Report

Sample ID: L1604161303

Sample Date/Time: Thursday, May 05, 2016 13:30:12

Number of Replicates: 3

Autosampler Position: 334

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

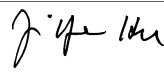
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	90231.2	1.4				ug/L	82657	Standard
|	Be	9	38.3	39.8	-0.0126	0.013	101.8	ug/L	13	Standard
|	Al	27	13182369.7	2.6	57.9078	2.303	4.0	ug/L	1347	Standard
|	Sc	45	41453.3	1.0				ug/L	42879	Standard
|	Ti	47	1743.1	24.2	5.2010	1.207	23.2	ug/L	41	Standard
|	V	51	4997.5	1.2	0.2947	0.017	5.7	ug/L	2416	Standard
|	Cr	52	16996.9	1.2	0.5193	0.049	9.4	ug/L	12475	Standard
|	Cr	53	2153.5	1.6	1.2138	0.020	1.6	ug/L	537	Standard
|	Mn	55	627331.8	0.6	58.4883	1.418	2.4	ug/L	1090	Standard
|	Co	59	1515.7	1.6	0.1181	0.005	4.5	ug/L	363	Standard
|	Ni	60	2727.6	2.9	0.7941	0.033	4.2	ug/L	399	Standard
|	Cu	65	2225.8	1.9	0.6105	0.026	4.3	ug/L	492	Standard
|	Zn	66	2911.9	2.2	1.7299	0.078	4.5	ug/L	201	Standard
>	Ge	72	645648.9	2.0				ug/L	679875	Standard
|	As	75	272.3	11.3	0.2499	0.016	6.5	ug/L	-85	Standard
|	Se	82	166.7	4.4	0.7877	0.034	4.3	ug/L	29	Standard
|	Se-1	77	172.3	7.2	0.6544	0.084	12.8	ug/L	107	Standard
>	Ga	71	508.3	18.8				mg/L	37	Standard
|	Rb	85	13399.3	3.2				ug/L	23	Standard
|	Y	89	536207.0	1.9				ug/L	562937	Standard
>	Rh	103	323.3	9.4				ug/L	13	Standard
|	Mo	98	2200.0	1.1	0.5505	0.009	1.7	ug/L	25	Standard
|	Ag	107	108.7	11.8	-0.0029	0.001	49.1	ug/L	114	Standard
|	Cd	111	11.4	18.7	0.0030	0.001	25.5	mg/L	6	Standard
|	Cd	114	22.6	29.9	0.0008	0.001	114.8	ug/L	14	Standard
>	In	115	708128.2	2.3				ug/L	726030	Standard
|	Sn	118	1020.0	9.6	0.0278	0.009	34.1	ug/L	913	Standard
|	Sb	123	181.0	29.0	0.0149	0.008	52.5	ug/L	308	Standard
|	Ba	135	446437.8	1.4	145.7042	5.285	3.6	ug/L	50	Standard
|	Ce	140	30195.1	1.6				ug/L	122	Standard
>	Tb	159	1138189.8	2.7				ug/L	1169812	Standard
|	Ho	165	201.7	15.7				ug/L	7	Standard
|	Tl	203	261.3	3.9	0.0219	0.001	6.1	ug/L	11	Standard
|	Tl	205	183.3	16.7	0.0176	0.003	18.4	ug/L	8	Standard
|	Pb	206	1277.1	9.2	0.1511	0.021	13.7	ug/L	277	Standard
|	Pb	207	1012.0	1.3	0.1229	0.004	3.1	ug/L	262	Standard
|	Pb	208	4101.5	0.9	0.1298	0.002	1.2	ug/L	982	Standard
	U	238	1863.4	2.2	0.2169	0.008	3.6	ug/L	8	Standard
>	Bi	209	568068.4	1.7				ug/L	593643	Standard

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Na	23	3.3	86.6	20.9460	18.136	86.6	mg/L	2	Standard
Mg	24	54417.6	1.5	48.5149	1.042	2.1	mg/L	75	Standard
K	39	138.3	19.9	0.3261	0.094	28.8	mg/L	32	Standard
Ca	43	243.3	7.8	17.1775	1.649	9.6	mg/L	50	Standard
Fe	54	1000.3	5.0	0.4479	0.034	7.6	mg/L	236	Standard
Fe	57	641.7	16.8	0.8481	0.278	32.8	mg/L	352	Standard
Sc-1	45	41453.3	1.0				mg/L	42879	Standard
Cl	35	226091.7	0.1				ug/L	166385	Standard
Kr	83	3.3	96.4				ug/L	3	Standard
Br	81	26840.4	3.3				ug/L	4321	Standard
P	31	29755.9	0.3				ug/L	24331	Standard
S	34	4750.7	1.3				ug/L	3789	Standard
Sr	88	1126.7	3.1				ug/L	78	Standard
C	12	280.0	31.7				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	399.6	34.4				mg/L	12	Standard
Ho-1	165	201.7	15.7				mg/L	7	Standard
Er	166	146.7	14.2				mg/L	20	Standard
I	127	85261.0	2.3				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		109.164	
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		94.966	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.534
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	95.692
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

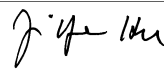
Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1604161303

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Method 6020 - Summary Report

Sample ID: L1604161304

Sample Date/Time: Thursday, May 05, 2016 13:33:24

Number of Replicates: 3

Autosampler Position: 335

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	90442.6	2.4				ug/L	82657	Standard
|	Be	9	26.7	71.0	-0.0224	0.015	66.5	ug/L	13	Standard
|	Al	27	14779214.0	0.3	64.7754	1.729	2.7	ug/L	1347	Standard
|	Sc	45	41363.1	4.7				ug/L	42879	Standard
|	Ti	47	183.0	26.9	0.4378	0.162	37.0	ug/L	41	Standard
|	V	51	2792.2	4.7	0.0689	0.012	17.5	ug/L	2416	Standard
|	Cr	52	14160.6	2.1	0.2658	0.028	10.7	ug/L	12475	Standard
|	Cr	53	1976.8	9.5	1.0963	0.124	11.3	ug/L	537	Standard
|	Mn	55	434263.8	1.4	41.0218	0.155	0.4	ug/L	1090	Standard
|	Co	59	2067.5	3.8	0.1752	0.007	4.0	ug/L	363	Standard
|	Ni	60	2627.6	1.5	0.7727	0.030	3.8	ug/L	399	Standard
|	Cu	65	1280.1	2.6	0.2870	0.006	2.1	ug/L	492	Standard
|	Zn	66	2355.5	3.0	1.3976	0.019	1.4	ug/L	201	Standard
>	Ge	72	636612.2	1.8				ug/L	679875	Standard
|	As	75	197.1	13.7	0.2047	0.015	7.3	ug/L	-85	Standard
|	Se	82	151.0	6.0	0.7065	0.042	5.9	ug/L	29	Standard
|	Se-1	77	178.7	10.4	0.7385	0.193	26.1	ug/L	107	Standard
>	Ga	71	103.3	40.3				mg/L	37	Standard
|	Rb	85	6539.7	5.6				ug/L	23	Standard
|	Y	89	536710.8	0.7				ug/L	562937	Standard
>	Rh	103	366.7	11.6				ug/L	13	Standard
|	Mo	98	2576.5	0.8	0.6500	0.001	0.2	ug/L	25	Standard
|	Ag	107	117.0	7.3	-0.0020	0.001	47.6	ug/L	114	Standard
|	Cd	111	44.3	17.1	0.0141	0.002	16.9	mg/L	6	Standard
|	Cd	114	98.3	7.5	0.0114	0.001	7.8	ug/L	14	Standard
>	In	115	703031.9	1.0				ug/L	726030	Standard
|	Sn	118	1368.4	3.6	0.0714	0.004	6.2	ug/L	913	Standard
|	Sb	123	817.3	2.0	0.1170	0.001	1.2	ug/L	308	Standard
|	Ba	135	397610.5	1.3	130.6549	2.995	2.3	ug/L	50	Standard
|	Ce	140	1018.4	9.2				ug/L	122	Standard
>	Tb	159	1131670.0	0.6				ug/L	1169812	Standard
|	Ho	165	25.0	40.0				ug/L	7	Standard
|	Tl	203	293.7	7.0	0.0246	0.002	8.7	ug/L	11	Standard
|	Tl	205	313.3	25.0	0.0312	0.009	27.7	ug/L	8	Standard
|	Pb	206	470.7	5.5	0.0313	0.005	14.8	ug/L	277	Standard
|	Pb	207	420.7	2.5	0.0260	0.002	7.2	ug/L	262	Standard
|	Pb	208	1676.4	2.3	0.0269	0.002	5.8	ug/L	982	Standard
	U	238	3192.0	2.0	0.3684	0.010	2.6	ug/L	8	Standard
>	Bi	209	573723.5	1.2				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	50684.7	2.6	45.3387	2.275	5.0	mg/L	75	Standard
K	39	151.7	15.2	0.3732	0.087	23.2	mg/L	32	Standard
Ca	43	240.0	4.2	16.9586	0.701	4.1	mg/L	50	Standard
Fe	54	615.3	4.1	0.2230	0.031	14.1	mg/L	236	Standard
Fe	57	505.0	7.9	0.5164	0.091	17.7	mg/L	352	Standard
Sc-1	45	41363.1	4.7				mg/L	42879	Standard
Cl	35	232404.2	0.7				ug/L	166385	Standard
Kr	83	0.3	173.2				ug/L	3	Standard
Br	81	22229.6	0.8				ug/L	4321	Standard
P	31	30148.3	1.8				ug/L	24331	Standard
S	34	5095.9	5.0				ug/L	3789	Standard
Sr	88	1065.0	11.8				ug/L	78	Standard
C	12	183.3	22.0				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	19.0	48.8				mg/L	12	Standard
Ho-1	165	25.0	40.0				mg/L	7	Standard
Er	166	20.0	86.6				mg/L	20	Standard
I	127	110162.7	3.4				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		109.420	
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		93.637	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	96.832
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.644
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

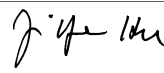
Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1604161304

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Method 6020 - Summary Report

Sample ID: L1604161305

Sample Date/Time: Thursday, May 05, 2016 13:36:35

Number of Replicates: 3

Autosampler Position: 336

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	90670.5	1.9				ug/L	82657	Standard
|	Be	9	35.0	24.7	-0.0154	0.008	48.7	ug/L	13	Standard
|	Al	27	6405467.7	1.4	27.9899	0.459	1.6	ug/L	1347	Standard
|	Sc	45	40753.1	3.9				ug/L	42879	Standard
|	Ti	47	1304.1	9.7	3.8892	0.305	7.8	ug/L	41	Standard
|	V	51	5318.0	3.3	0.3315	0.023	6.9	ug/L	2416	Standard
|	Cr	52	14960.1	3.4	0.3320	0.035	10.6	ug/L	12475	Standard
|	Cr	53	1753.4	5.6	0.9105	0.095	10.4	ug/L	537	Standard
|	Mn	55	80689.0	1.6	7.4809	0.055	0.7	ug/L	1090	Standard
|	Co	59	1267.7	3.4	0.0945	0.007	7.3	ug/L	363	Standard
|	Ni	60	3117.0	3.9	0.9332	0.024	2.6	ug/L	399	Standard
|	Cu	65	1456.7	4.7	0.3455	0.026	7.6	ug/L	492	Standard
|	Zn	66	3886.5	0.8	2.3616	0.032	1.4	ug/L	201	Standard
>	Ge	72	641668.7	2.1				ug/L	679875	Standard
|	As	75	208.8	2.9	0.2113	0.006	2.8	ug/L	-85	Standard
|	Se	82	119.4	5.8	0.5096	0.043	8.5	ug/L	29	Standard
|	Se-1	77	135.3	8.6	0.3247	0.122	37.5	ug/L	107	Standard
>	Ga	71	373.3	6.3				mg/L	37	Standard
|	Rb	85	6591.4	1.5				ug/L	23	Standard
|	Y	89	517726.4	1.5				ug/L	562937	Standard
>	Rh	103	35.0	49.5				ug/L	13	Standard
|	Mo	98	127.6	8.2	0.0277	0.002	7.9	ug/L	25	Standard
|	Ag	107	110.3	19.6	-0.0028	0.002	71.1	ug/L	114	Standard
|	Cd	111	89.1	10.4	0.0289	0.004	12.6	mg/L	6	Standard
|	Cd	114	213.7	13.6	0.0272	0.004	15.5	ug/L	14	Standard
>	In	115	710825.4	1.9				ug/L	726030	Standard
|	Sn	118	1166.7	14.0	0.0453	0.020	45.2	ug/L	913	Standard
|	Sb	123	180.8	19.4	0.0150	0.006	39.4	ug/L	308	Standard
|	Ba	135	47711.3	0.3	15.4914	0.259	1.7	ug/L	50	Standard
|	Ce	140	6611.5	9.8				ug/L	122	Standard
>	Tb	159	1127429.5	2.8				ug/L	1169812	Standard
|	Ho	165	183.3	22.2				ug/L	7	Standard
|	Tl	203	255.3	8.1	0.0206	0.002	10.1	ug/L	11	Standard
|	Tl	205	220.0	24.6	0.0207	0.006	28.2	ug/L	8	Standard
|	Pb	206	1052.7	2.0	0.1125	0.004	3.3	ug/L	277	Standard
|	Pb	207	851.0	3.0	0.0920	0.003	2.9	ug/L	262	Standard
|	Pb	208	3436.2	0.6	0.0969	0.002	2.0	ug/L	982	Standard
	U	238	197.3	0.8	0.0215	0.001	2.5	ug/L	8	Standard
>	Bi	209	588093.2	1.8				ug/L	593643	Standard

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Na	23	1.7	173.2	10.8064	18.709	173.1	mg/L	2	Standard
Mg	24	8961.0	2.0	8.0990	0.469	5.8	mg/L	75	Standard
K	39	80.0	43.3	0.1358	0.124	91.6	mg/L	32	Standard
Ca	43	85.0	35.8	4.6943	2.138	45.5	mg/L	50	Standard
Fe	54	426.7	9.9	0.1155	0.034	29.3	mg/L	236	Standard
Fe	57	381.7	5.5	0.2295	0.074	32.2	mg/L	352	Standard
Sc-1	45	40753.1	3.9				mg/L	42879	Standard
Cl	35	227252.1	4.1				ug/L	166385	Standard
Kr	83	1.7	34.6				ug/L	3	Standard
Br	81	17640.3	2.4				ug/L	4321	Standard
P	31	35403.0	0.3				ug/L	24331	Standard
S	34	4639.0	3.8				ug/L	3789	Standard
Sr	88	161.7	18.1				ug/L	78	Standard
C	12	200.0	5.0				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	212.0	17.6				mg/L	12	Standard
Ho-1	165	183.3	22.2				mg/L	7	Standard
Er	166	166.7	24.2				mg/L	20	Standard
I	127	13160.7	3.2				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		109.696	
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		94.380	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.906
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
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[Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	99.065
[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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits


Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604161305

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Method 6020 - Summary Report

Sample ID: L1604161306

Sample Date/Time: Thursday, May 05, 2016 13:49:50

Number of Replicates: 3

Autosampler Position: 337

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	93003.0	2.4				ug/L	82657	Standard
|	Be	9	35.0	24.7	-0.0162	0.007	42.9	ug/L	13	Standard
|	Al	27	6590674.7	1.5	28.0912	1.109	3.9	ug/L	1347	Standard
|	Sc	45	42116.8	1.9				ug/L	42879	Standard
|	Ti	47	248.7	2.7	0.6106	0.020	3.3	ug/L	41	Standard
|	V	51	2776.3	6.5	0.0560	0.019	33.3	ug/L	2416	Standard
|	Cr	52	13059.0	1.7	0.1095	0.020	18.6	ug/L	12475	Standard
|	Cr	53	1650.1	6.3	0.7884	0.082	10.4	ug/L	537	Standard
|	Mn	55	56679.8	0.2	5.0606	0.024	0.5	ug/L	1090	Standard
|	Co	59	3290.4	1.6	0.2846	0.006	1.9	ug/L	363	Standard
|	Ni	60	2779.9	1.9	0.7881	0.016	2.1	ug/L	399	Standard
|	Cu	65	1292.4	3.8	0.2737	0.016	5.7	ug/L	492	Standard
|	Zn	66	2835.6	1.2	1.6360	0.025	1.5	ug/L	201	Standard
>	Ge	72	662093.9	0.2				ug/L	679875	Standard
|	As	75	146.8	3.3	0.1694	0.003	1.6	ug/L	-85	Standard
|	Se	82	124.0	9.5	0.5140	0.067	13.1	ug/L	29	Standard
|	Se-1	77	140.0	13.2	0.3265	0.163	49.9	ug/L	107	Standard
>	Ga	71	56.7	10.2				mg/L	37	Standard
|	Rb	85	1423.4	6.6				ug/L	23	Standard
|	Y	89	550347.7	2.0				ug/L	562937	Standard
>	Rh	103	40.0	21.7				ug/L	13	Standard
|	Mo	98	110.9	13.2	0.0226	0.004	15.9	ug/L	25	Standard
|	Ag	107	111.0	11.8	-0.0031	0.001	37.2	ug/L	114	Standard
|	Cd	111	60.1	11.1	0.0186	0.002	13.1	mg/L	6	Standard
|	Cd	114	186.3	7.8	0.0226	0.002	10.4	ug/L	14	Standard
>	In	115	736279.6	1.7				ug/L	726030	Standard
|	Sn	118	1070.0	7.8	0.0289	0.008	27.0	ug/L	913	Standard
|	Sb	123	978.8	7.6	0.1357	0.010	7.1	ug/L	308	Standard
|	Ba	135	47095.7	0.5	14.7610	0.190	1.3	ug/L	50	Standard
|	Ce	140	726.7	16.6				ug/L	122	Standard
>	Tb	159	1171840.9	0.4				ug/L	1169812	Standard
|	Ho	165	58.3	4.9				ug/L	7	Standard
|	Tl	203	128.7	8.6	0.0092	0.001	10.1	ug/L	11	Standard
|	Tl	205	116.7	23.6	0.0098	0.003	27.9	ug/L	8	Standard
|	Pb	206	425.0	1.7	0.0218	0.002	7.0	ug/L	277	Standard
|	Pb	207	345.7	4.1	0.0115	0.002	21.4	ug/L	262	Standard
|	Pb	208	1424.4	0.1	0.0137	0.001	4.4	ug/L	982	Standard
	U	238	76.7	11.1	0.0077	0.001	13.1	ug/L	8	Standard
>	Bi	209	600444.4	0.9				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	9277.8	1.8	8.1033	0.190	2.3	mg/L	75	Standard
K	39	68.3	40.3	0.0876	0.095	108.2	mg/L	32	Standard
Ca	43	100.0	18.0	5.6992	1.406	24.7	mg/L	50	Standard
Fe	54	225.5	16.3	-0.0103	0.019	184.8	mg/L	236	Standard
Fe	57	316.7	21.3	0.0409	0.157	383.2	mg/L	352	Standard
Sc-1	45	42116.8	1.9				mg/L	42879	Standard
Cl	35	230938.8	1.0				ug/L	166385	Standard
Kr	83	1.0	100.0				ug/L	3	Standard
Br	81	19132.1	0.9				ug/L	4321	Standard
P	31	36164.8	2.7				ug/L	24331	Standard
S	34	4597.4	0.2				ug/L	3789	Standard
Sr	88	153.3	18.0				ug/L	78	Standard
C	12	196.7	32.3				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	101.6	38.6				mg/L	12	Standard
Ho-1	165	58.3	4.9				mg/L	7	Standard
Er	166	36.7	83.3				mg/L	20	Standard
I	127	11911.4	6.2				mg/L	2570	Standard

QC Calculated Values

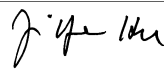
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		112.517	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		97.385	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	101.412
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	101.146
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

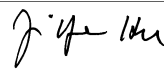
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1604161307

Sample Date/Time: Thursday, May 05, 2016 13:53:01

Number of Replicates: 3

Autosampler Position: 338

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	92934.2	1.9				ug/L	82657	Standard
|	Be	9	31.7	24.1	-0.0189	0.006	29.1	ug/L	13	Standard
|	Al	27	2158490.6	2.5	9.1932	0.054	0.6	ug/L	1347	Standard
|	Sc	45	39986.1	2.9				ug/L	42879	Standard
|	Ti	47	421.7	29.3	1.1547	0.380	32.9	ug/L	41	Standard
|	V	51	3237.3	1.4	0.1096	0.001	0.8	ug/L	2416	Standard
|	Cr	52	13778.6	1.8	0.2034	0.017	8.2	ug/L	12475	Standard
|	Cr	53	2003.5	3.3	1.0891	0.058	5.3	ug/L	537	Standard
|	Mn	55	162465.9	1.9	14.9946	0.099	0.7	ug/L	1090	Standard
|	Co	59	712.4	5.2	0.0386	0.003	7.7	ug/L	363	Standard
|	Ni	60	976.7	3.9	0.1943	0.011	5.5	ug/L	399	Standard
|	Cu	65	1163.7	1.8	0.2382	0.007	2.8	ug/L	492	Standard
|	Zn	66	2630.9	0.5	1.5432	0.028	1.8	ug/L	201	Standard
>	Ge	72	648775.5	1.2				ug/L	679875	Standard
|	As	75	959.5	3.7	0.6766	0.020	3.0	ug/L	-85	Standard
|	Se	82	97.9	4.1	0.3733	0.019	5.0	ug/L	29	Standard
|	Se-1	77	152.0	8.6	0.4627	0.128	27.8	ug/L	107	Standard
>	Ga	71	180.0	19.4				mg/L	37	Standard
|	Rb	85	5320.9	2.6				ug/L	23	Standard
|	Y	89	535067.0	1.6				ug/L	562937	Standard
>	Rh	103	121.7	12.6				ug/L	13	Standard
|	Mo	98	26238.2	1.7	6.5825	0.070	1.1	ug/L	25	Standard
|	Ag	107	132.3	30.5	-0.0005	0.004	744.5	ug/L	114	Standard
|	Cd	111	32.7	73.3	0.0101	0.008	78.1	mg/L	6	Standard
|	Cd	114	191.7	14.5	0.0241	0.004	15.1	ug/L	14	Standard
>	In	115	711112.3	0.6				ug/L	726030	Standard
|	Sn	118	991.7	17.0	0.0239	0.020	81.8	ug/L	913	Standard
|	Sb	123	214.5	17.9	0.0202	0.006	30.1	ug/L	308	Standard
|	Ba	135	99825.1	1.1	32.4109	0.142	0.4	ug/L	50	Standard
|	Ce	140	3242.0	35.8				ug/L	122	Standard
>	Tb	159	1147697.3	0.5				ug/L	1169812	Standard
|	Ho	165	76.7	32.2				ug/L	7	Standard
|	Tl	203	286.0	13.1	0.0243	0.004	14.8	ug/L	11	Standard
|	Tl	205	231.7	6.2	0.0228	0.002	7.5	ug/L	8	Standard
|	Pb	206	598.7	8.2	0.0511	0.007	14.1	ug/L	277	Standard
|	Pb	207	529.3	7.0	0.0447	0.007	15.0	ug/L	262	Standard
|	Pb	208	2048.7	4.1	0.0436	0.004	9.4	ug/L	982	Standard
	U	238	4918.5	1.4	0.5757	0.010	1.7	ug/L	8	Standard
>	Bi	209	566075.4	0.8				ug/L	593643	Standard

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Na	23	1.7	173.2	10.9981	19.041	173.1	mg/L	2	Standard
Mg	24	109288.0	3.1	101.0732	3.077	3.0	mg/L	75	Standard
K	39	126.7	38.3	0.3050	0.179	58.7	mg/L	32	Standard
Ca	43	58.3	26.2	2.7116	1.349	49.7	mg/L	50	Standard
Fe	54	343.7	18.9	0.0697	0.045	64.1	mg/L	236	Standard
Fe	57	305.0	4.3	0.0524	0.027	51.5	mg/L	352	Standard
Sc-1	45	39986.1	2.9				mg/L	42879	Standard
Cl	35	243433.9	3.1				ug/L	166385	Standard
Kr	83	1.3	114.6				ug/L	3	Standard
Br	81	16572.4	2.0				ug/L	4321	Standard
P	31	29588.9	0.8				ug/L	24331	Standard
S	34	4672.4	3.9				ug/L	3789	Standard
Sr	88	370.0	14.0				ug/L	78	Standard
C	12	260.0	16.8				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	3	Standard
Dy	164	120.0	25.6				mg/L	12	Standard
Ho-1	165	76.7	32.2				mg/L	7	Standard
Er	166	70.0	51.5				mg/L	20	Standard
I	127	28752.3	2.8				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		112.434	
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		95.426	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.945
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	95.356
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
[Kr	83	
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[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

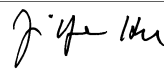
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1604161308

Sample Date/Time: Thursday, May 05, 2016 13:56:13

Number of Replicates: 3

Autosampler Position: 339

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	91562.6	2.4				ug/L	82657	Standard
|	Be	9	55.0	36.4	0.0003	0.017	4929.2	ug/L	13	Standard
|	Al	27	2049589.2	2.3	8.8621	0.204	2.3	ug/L	1347	Standard
|	Sc	45	39322.6	1.9				ug/L	42879	Standard
|	Ti	47	107.0	19.4	0.1983	0.068	34.5	ug/L	41	Standard
|	V	51	2757.2	6.2	0.0637	0.011	17.8	ug/L	2416	Standard
|	Cr	52	12504.8	1.7	0.0989	0.032	32.0	ug/L	12475	Standard
|	Cr	53	1743.4	1.7	0.9061	0.034	3.8	ug/L	537	Standard
|	Mn	55	118230.2	1.1	11.0422	0.137	1.2	ug/L	1090	Standard
|	Co	59	741.4	17.7	0.0426	0.014	32.9	ug/L	363	Standard
|	Ni	60	740.4	4.2	0.1175	0.005	4.0	ug/L	399	Standard
|	Cu	65	862.7	3.0	0.1380	0.006	4.4	ug/L	492	Standard
|	Zn	66	2270.2	0.6	1.3365	0.042	3.1	ug/L	201	Standard
>	Ge	72	639763.5	2.3				ug/L	679875	Standard
|	As	75	903.6	2.9	0.6501	0.025	3.9	ug/L	-85	Standard
|	Se	82	88.9	2.6	0.3273	0.015	4.5	ug/L	29	Standard
|	Se-1	77	164.0	2.7	0.5940	0.075	12.6	ug/L	107	Standard
>	Ga	71	91.7	24.6				mg/L	37	Standard
|	Rb	85	3755.5	2.6				ug/L	23	Standard
|	Y	89	527582.5	3.2				ug/L	562937	Standard
>	Rh	103	80.0	22.5				ug/L	13	Standard
|	Mo	98	25760.6	1.2	6.5992	0.117	1.8	ug/L	25	Standard
|	Ag	107	165.0	71.0	0.0032	0.012	385.7	ug/L	114	Standard
|	Cd	111	26.2	19.2	0.0081	0.002	19.8	mg/L	6	Standard
|	Cd	114	160.7	8.2	0.0203	0.002	8.8	ug/L	14	Standard
>	In	115	696533.3	1.5				ug/L	726030	Standard
|	Sn	118	906.7	7.7	0.0160	0.009	54.8	ug/L	913	Standard
|	Sb	123	275.5	50.8	0.0309	0.023	74.0	ug/L	308	Standard
|	Ba	135	90847.6	1.6	30.1142	0.394	1.3	ug/L	50	Standard
|	Ce	140	373.3	6.9				ug/L	122	Standard
>	Tb	159	1124323.3	2.0				ug/L	1169812	Standard
|	Ho	165	51.7	14.8				ug/L	7	Standard
|	Tl	203	324.0	14.6	0.0280	0.005	16.1	ug/L	11	Standard
|	Tl	205	295.0	35.3	0.0299	0.011	38.3	ug/L	8	Standard
|	Pb	206	502.0	18.1	0.0375	0.014	37.4	ug/L	277	Standard
|	Pb	207	426.7	24.5	0.0286	0.018	61.4	ug/L	262	Standard
|	Pb	208	1622.4	12.6	0.0262	0.009	34.9	ug/L	982	Standard
	U	238	4899.5	1.6	0.5784	0.007	1.2	ug/L	8	Standard
>	Bi	209	561152.7	0.6				ug/L	593643	Standard

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Na	23	1.7	173.2	10.7821	18.666	173.1	mg/L	2	Standard
Mg	24	106313.4	1.2	99.9645	0.786	0.8	mg/L	75	Standard
K	39	118.3	20.8	0.2813	0.094	33.4	mg/L	32	Standard
Ca	43	51.7	11.2	2.2226	0.548	24.6	mg/L	50	Standard
Fe	54	262.2	1.0	0.0220	0.002	8.7	mg/L	236	Standard
Fe	57	295.0	9.0	0.0406	0.081	199.5	mg/L	352	Standard
Sc-1	45	39322.6	1.9				mg/L	42879	Standard
Cl	35	236498.8	3.3				ug/L	166385	Standard
Kr	83	3.0	88.2				ug/L	3	Standard
Br	81	15307.7	1.5				ug/L	4321	Standard
P	31	27979.2	2.1				ug/L	24331	Standard
S	34	4502.3	6.4				ug/L	3789	Standard
Sr	88	401.7	20.2				ug/L	78	Standard
C	12	236.7	6.5				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	3	Standard
Dy	164	63.8	40.1				mg/L	12	Standard
Ho-1	165	51.7	14.8				mg/L	7	Standard
Er	166	60.0	44.1				mg/L	20	Standard
I	127	19464.2	0.8				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		110.775	
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		94.100	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.937
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
[Pb	206	
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[Pb	208	
[U	238	
>	Bi	209	94.527
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
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[Br	81	
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[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

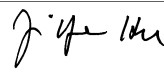
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604161308

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 05, 2016 13:59:25

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	90113.9	1.5				ug/L	82657	Standard
|	Be	9	62744.7	1.7	50.5573	0.845	1.7	ug/L	13	Standard
|	Al	27	10966284.5	1.1	48.2251	1.031	2.1	ug/L	1347	Standard
|	Sc	45	39145.5	0.8				ug/L	42879	Standard
|	Ti	47	32585.7	1.4	99.8872	1.042	1.0	ug/L	41	Standard
|	V	51	497891.8	0.2	51.6284	0.136	0.3	ug/L	2416	Standard
|	Cr	52	533461.9	0.5	50.0985	0.195	0.4	ug/L	12475	Standard
|	Cr	53	65345.6	0.8	50.5962	0.502	1.0	ug/L	537	Standard
|	Mn	55	536674.3	1.1	50.0114	0.421	0.8	ug/L	1090	Standard
|	Co	59	531489.9	1.5	52.2783	0.723	1.4	ug/L	363	Standard
|	Ni	60	146448.1	1.0	49.8744	0.388	0.8	ug/L	399	Standard
|	Cu	65	146315.8	0.8	50.8281	0.575	1.1	ug/L	492	Standard
|	Zn	66	81022.1	1.0	51.1887	0.556	1.1	ug/L	201	Standard
[>	Ge	72	645566.8	0.3				ug/L	679875	Standard
|	As	75	80317.4	0.2	50.2744	0.219	0.4	ug/L	-85	Standard
|	Se	82	8491.4	0.5	50.5581	0.161	0.3	ug/L	29	Standard
|	Se-1	77	5697.1	0.8	51.3683	0.255	0.5	ug/L	107	Standard
[>	Ga	71	70.0	12.4				mg/L	37	Standard
|	Rb	85	1190.0	10.9				ug/L	23	Standard
|	Y	89	531803.8	2.5				ug/L	562937	Standard
[>	Rh	103	40.0	54.5				ug/L	13	Standard
|	Mo	98	399102.0	0.9	98.4641	1.087	1.1	ug/L	25	Standard
|	Ag	107	488282.1	0.4	48.9925	0.095	0.2	ug/L	114	Standard
|	Cd	111	153319.9	0.1	50.0130	0.179	0.4	mg/L	6	Standard
|	Cd	114	374739.5	3.1	50.8467	1.410	2.8	ug/L	14	Standard
[>	In	115	723598.5	0.5				ug/L	726030	Standard
|	Sn	118	420572.3	0.6	49.9002	0.362	0.7	ug/L	913	Standard
|	Sb	123	318063.5	0.9	49.4162	0.614	1.2	ug/L	308	Standard
|	Ba	135	154444.2	0.9	49.2903	0.504	1.0	ug/L	50	Standard
|	Ce	140	113.3	6.7				ug/L	122	Standard
[>	Tb	159	1153046.0	1.6				ug/L	1169812	Standard
|	Ho	165	20.0	75.0				ug/L	7	Standard
|	Tl	203	577970.8	0.4	50.2943	0.442	0.9	ug/L	11	Standard
|	Tl	205	506237.7	2.3	51.6968	1.776	3.4	ug/L	8	Standard
|	Pb	206	351567.1	0.5	49.5386	0.658	1.3	ug/L	277	Standard
|	Pb	207	319253.7	0.3	49.6120	0.773	1.6	ug/L	262	Standard
|	Pb	208	1267750.2	0.5	51.0522	0.864	1.7	ug/L	982	Standard
	U	238	468300.4	0.4	52.2866	0.860	1.6	ug/L	8	Standard
[>	Bi	209	594219.9	1.2				ug/L	593643	Standard

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Na	23	3.3	86.6	22.1177	19.151	86.6	mg/L	2	Standard
Mg	24	5884.5	4.3	5.5139	0.238	4.3	mg/L	75	Standard
K	39	1353.4	4.8	4.6837	0.263	5.6	mg/L	32	Standard
Ca	43	101.7	24.3	6.4387	2.142	33.3	mg/L	50	Standard
Fe	54	8708.9	3.0	5.2842	0.201	3.8	mg/L	236	Standard
Fe	57	2411.9	2.2	5.5123	0.157	2.8	mg/L	352	Standard
Sc-1	45	39145.5	0.8				mg/L	42879	Standard
Cl	35	195859.8	0.8				ug/L	166385	Standard
Kr	83	1.0	100.0				ug/L	3	Standard
Br	81	4417.3	4.4				ug/L	4321	Standard
P	31	28700.5	1.9				ug/L	24331	Standard
S	34	5339.3	5.7				ug/L	3789	Standard
Sr	88	71.7	17.6				ug/L	78	Standard
C	12	90.0	50.9				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	19.2	52.1				mg/L	12	Standard
Ho-1	165	20.0	75.0				mg/L	7	Standard
Er	166	16.7	34.6				mg/L	20	Standard
I	127	1993.5	13.1				mg/L	2570	Standard

QC Calculated Values

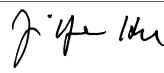
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	101.115		
Al	27	96.450		
Sc	45			
Ti	47	99.887		
V	51	103.257		
Cr	52	100.197		
Cr	53			
Mn	55	100.023		
Co	59	104.557		
Ni	60	99.749		
Cu	65	101.656		
Zn	66	102.377		
Ge	72		94.954	
As	75	100.549		
Se	82	101.116		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	98.464	
[Ag	107	97.985	
[Cd	111	100.026	
[Cd	114		
>	In	115		99.665
[Sn	118	99.800	
[	Sb	123	98.832	
[	Ba	135	98.581	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.589	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	102.104	
[U	238	104.573	
>	Bi	209		100.097
[Na	23		
[Mg	24		
[K	39		
[Ca	43		
[Fe	54		
[Fe	57		
>	Sc-1	45		
[Cl	35		
[Kr	83		
[Br	81		
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[S	34		
[Sr	88		
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[Ho-1	165		
[Er	166		
[I	127		

QC Out of Limits

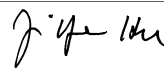
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 05, 2016 14:02:37

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	89310.9	2.0				ug/L	82657	Standard
|	Be	9	46.7	69.7	-0.0059	0.026	431.4	ug/L	13	Standard
|	Al	27	9659.4	80.3	0.0319	0.033	104.7	ug/L	1347	Standard
|	Sc	45	39473.1	3.8				ug/L	42879	Standard
|	Ti	47	36.0	21.0	-0.0239	0.022	91.3	ug/L	41	Standard
|	V	51	2332.8	13.5	0.0156	0.030	190.7	ug/L	2416	Standard
|	Cr	52	10610.4	2.8	-0.0992	0.017	17.4	ug/L	12475	Standard
|	Cr	53	996.7	11.6	0.3055	0.081	26.4	ug/L	537	Standard
|	Mn	55	1379.4	39.7	0.0280	0.049	175.6	ug/L	1090	Standard
|	Co	59	541.7	59.5	0.0217	0.031	141.9	ug/L	363	Standard
|	Ni	60	322.7	10.1	-0.0280	0.010	35.9	ug/L	399	Standard
|	Cu	65	483.0	10.9	0.0020	0.016	808.8	ug/L	492	Standard
|	Zn	66	274.0	5.2	0.0579	0.008	13.1	ug/L	201	Standard
>	Ge	72	648635.2	1.2				ug/L	679875	Standard
|	As	75	-144.7	20.9	-0.0101	0.019	191.8	ug/L	-85	Standard
|	Se	82	26.8	18.7	-0.0490	0.031	63.9	ug/L	29	Standard
|	Se-1	77	110.0	17.9	0.0775	0.168	216.8	ug/L	107	Standard
>	Ga	71	31.7	36.5				mg/L	37	Standard
|	Rb	85	28.3	10.2				ug/L	23	Standard
|	Y	89	539191.7	0.8				ug/L	562937	Standard
>	Rh	103	13.3	108.3				ug/L	13	Standard
|	Mo	98	398.0	51.9	0.0940	0.050	53.5	ug/L	25	Standard
|	Ag	107	360.3	80.2	0.0221	0.029	129.9	ug/L	114	Standard
|	Cd	111	44.8	52.4	0.0139	0.008	54.7	mg/L	6	Standard
|	Cd	114	83.1	71.4	0.0090	0.008	89.1	ug/L	14	Standard
>	In	115	720903.0	0.7				ug/L	726030	Standard
|	Sn	118	1560.1	17.3	0.0903	0.033	36.8	ug/L	913	Standard
|	Sb	123	885.7	4.4	0.1244	0.006	4.7	ug/L	308	Standard
|	Ba	135	205.3	41.4	0.0480	0.027	56.2	ug/L	50	Standard
|	Ce	140	28.3	27.0				ug/L	122	Standard
>	Tb	159	1139944.0	1.0				ug/L	1169812	Standard
|	Ho	165	11.7	65.5				ug/L	7	Standard
|	Tl	203	206.7	46.2	0.0160	0.008	51.1	ug/L	11	Standard
|	Tl	205	248.3	85.3	0.0232	0.021	92.4	ug/L	8	Standard
|	Pb	206	533.0	53.0	0.0373	0.039	105.3	ug/L	277	Standard
|	Pb	207	482.3	54.8	0.0330	0.041	123.2	ug/L	262	Standard
|	Pb	208	1634.4	39.2	0.0225	0.025	112.8	ug/L	982	Standard
	U	238	215.3	79.4	0.0232	0.019	81.7	ug/L	8	Standard
>	Bi	209	595555.7	0.9				ug/L	593643	Standard

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Na	23	1.7	173.2	10.5240	18.219	173.1	mg/L	2	Standard
Mg	24	105.0	59.5	0.0510	0.055	106.9	mg/L	75	Standard
K	39	26.7	60.3	-0.0439	0.061	138.5	mg/L	32	Standard
Ca	43	33.3	37.7	0.6666	0.990	148.6	mg/L	50	Standard
Fe	54	229.1	7.9	0.0008	0.006	784.4	mg/L	236	Standard
Fe	57	246.7	16.5	-0.0843	0.123	145.7	mg/L	352	Standard
Sc-1	45	39473.1	3.8				mg/L	42879	Standard
Cl	35	190852.3	2.4				ug/L	166385	Standard
Kr	83	2.0	86.6				ug/L	3	Standard
Br	81	4450.7	11.0				ug/L	4321	Standard
P	31	26847.1	2.9				ug/L	24331	Standard
S	34	5030.8	5.5				ug/L	3789	Standard
Sr	88	78.3	16.1				ug/L	78	Standard
C	12	110.0	50.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	2.7	219.6				mg/L	12	Standard
Ho-1	165	11.7	65.5				mg/L	7	Standard
Er	166	13.3	43.3				mg/L	20	Standard
I	127	2061.8	5.0				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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		95.405	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.294
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	100.322
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

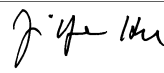
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Thursday, May 05, 2016 14:04:54

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Method 6020 - Summary Report

Sample ID: L1604161309

Sample Date/Time: Thursday, May 05, 2016 14:05:49

Number of Replicates: 3

Autosampler Position: 340

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	89329.3	2.5				ug/L	82657	Standard
|	Be	9	25.0	0.0	-0.0232	0.001	2.2	ug/L	13	Standard
|	Al	27	1211339.5	1.1	5.3653	0.127	2.4	ug/L	1347	Standard
|	Sc	45	40129.8	1.7				ug/L	42879	Standard
|	Ti	47	419.7	10.4	1.1999	0.139	11.6	ug/L	41	Standard
|	V	51	4405.5	3.5	0.2491	0.017	6.7	ug/L	2416	Standard
|	Cr	52	13054.6	2.4	0.1845	0.031	16.9	ug/L	12475	Standard
|	Cr	53	3700.5	7.3	2.5247	0.221	8.8	ug/L	537	Standard
|	Mn	55	31163.7	0.4	2.9126	0.011	0.4	ug/L	1090	Standard
|	Co	59	749.0	1.8	0.0452	0.001	2.9	ug/L	363	Standard
|	Ni	60	8045.8	0.6	2.7069	0.015	0.6	ug/L	399	Standard
|	Cu	65	1366.4	0.4	0.3276	0.002	0.7	ug/L	492	Standard
|	Zn	66	1966.8	2.4	1.1746	0.032	2.7	ug/L	201	Standard
>	Ge	72	623594.6	0.1				ug/L	679875	Standard
|	As	75	3658.6	1.9	2.4469	0.047	1.9	ug/L	-85	Standard
|	Se	82	656.7	3.3	3.8559	0.136	3.5	ug/L	29	Standard
|	Se-1	77	245.7	9.7	1.4084	0.228	16.2	ug/L	107	Standard
>	Ga	71	203.3	22.8				mg/L	37	Standard
|	Rb	85	6756.5	1.5				ug/L	23	Standard
|	Y	89	521227.0	2.4				ug/L	562937	Standard
>	Rh	103	150.0	41.8				ug/L	13	Standard
|	Mo	98	33369.8	0.8	8.6745	0.118	1.4	ug/L	25	Standard
|	Ag	107	110.3	10.5	-0.0024	0.001	60.5	ug/L	114	Standard
|	Cd	111	1.2	786.1	-0.0003	0.003	1083.6	mg/L	6	Standard
|	Cd	114	143.5	7.2	0.0182	0.002	10.0	ug/L	14	Standard
>	In	115	686532.5	1.8				ug/L	726030	Standard
|	Sn	118	1360.1	6.1	0.0745	0.011	15.2	ug/L	913	Standard
|	Sb	123	498.8	12.8	0.0679	0.009	13.1	ug/L	308	Standard
|	Ba	135	202280.0	0.1	68.0632	1.258	1.8	ug/L	50	Standard
|	Ce	140	4622.4	11.6				ug/L	122	Standard
>	Tb	159	1091625.4	0.2				ug/L	1169812	Standard
|	Ho	165	121.7	31.1				ug/L	7	Standard
|	Tl	203	438.0	4.8	0.0401	0.002	6.0	ug/L	11	Standard
|	Tl	205	386.7	18.8	0.0414	0.008	19.0	ug/L	8	Standard
|	Pb	206	731.7	2.8	0.0761	0.004	4.9	ug/L	277	Standard
|	Pb	207	655.0	2.7	0.0705	0.004	5.9	ug/L	262	Standard
|	Pb	208	2611.4	0.8	0.0728	0.002	2.4	ug/L	982	Standard
	U	238	2605.9	2.5	0.3196	0.009	2.8	ug/L	8	Standard
>	Bi	209	539671.8	1.0				ug/L	593643	Standard

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Na	23	3.3	86.6	21.3588	18.497	86.6	mg/L	2	Standard
Mg	24	189590.5	1.0	174.7315	3.094	1.8	mg/L	75	Standard
K	39	116.7	10.8	0.2665	0.050	18.9	mg/L	32	Standard
Ca	43	61.7	26.1	2.9338	1.219	41.5	mg/L	50	Standard
Fe	54	280.1	8.0	0.0297	0.015	52.1	mg/L	236	Standard
Fe	57	330.0	18.6	0.1127	0.156	138.4	mg/L	352	Standard
Sc-1	45	40129.8	1.7				mg/L	42879	Standard
Cl	35	228925.8	0.6				ug/L	166385	Standard
Kr	83	2.3	99.0				ug/L	3	Standard
Br	81	121394.5	2.1				ug/L	4321	Standard
P	31	29206.5	3.2				ug/L	24331	Standard
S	34	4625.7	4.6				ug/L	3789	Standard
Sr	88	405.0	7.5				ug/L	78	Standard
C	12	250.0	25.0				mg/L	110	Standard
N	14	6.7	86.6				mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	181.1	6.0				mg/L	12	Standard
Ho-1	165	121.7	31.1				mg/L	7	Standard
Er	166	186.7	21.7				mg/L	20	Standard
I	127	399213.3	5.2				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.073	
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		91.722	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604161309

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	94.560
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
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[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
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[S	34	
[Sr	88	
[C	12	
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[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

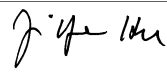
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Sample ID: L1604161309

Report Date/Time: Thursday, May 05, 2016 14:08:06

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Method 6020 - Summary Report

Sample ID: L1604161310

Sample Date/Time: Thursday, May 05, 2016 14:09:01

Number of Replicates: 3

Autosampler Position: 341

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	89877.5	0.6				ug/L	82657	Standard
|	Be	9	35.0	62.3	-0.0153	0.018	116.0	ug/L	13	Standard
|	Al	27	1191173.0	1.8	5.2417	0.093	1.8	ug/L	1347	Standard
|	Sc	45	40089.6	1.8				ug/L	42879	Standard
|	Ti	47	171.7	8.8	0.4091	0.046	11.2	ug/L	41	Standard
|	V	51	3623.9	7.4	0.1631	0.032	19.7	ug/L	2416	Standard
|	Cr	52	12212.6	2.0	0.0949	0.015	15.7	ug/L	12475	Standard
|	Cr	53	3542.1	2.1	2.3829	0.075	3.1	ug/L	537	Standard
|	Mn	55	31639.7	0.2	2.9440	0.022	0.7	ug/L	1090	Standard
|	Co	59	607.0	1.7	0.0304	0.001	2.9	ug/L	363	Standard
|	Ni	60	8350.3	1.8	2.8002	0.026	0.9	ug/L	399	Standard
|	Cu	65	1197.7	4.5	0.2646	0.019	7.2	ug/L	492	Standard
|	Zn	66	1935.8	2.2	1.1480	0.019	1.6	ug/L	201	Standard
>	Ge	72	626615.4	0.9				ug/L	679875	Standard
|	As	75	3888.7	3.1	2.5838	0.080	3.1	ug/L	-85	Standard
|	Se	82	661.0	7.0	3.8634	0.295	7.6	ug/L	29	Standard
|	Se-1	77	276.3	10.8	1.6887	0.301	17.8	ug/L	107	Standard
>	Ga	71	66.7	21.7				mg/L	37	Standard
|	Rb	85	5359.3	0.2				ug/L	23	Standard
|	Y	89	516303.5	1.2				ug/L	562937	Standard
>	Rh	103	190.0	9.5				ug/L	13	Standard
|	Mo	98	38840.6	1.0	10.0450	0.137	1.4	ug/L	25	Standard
|	Ag	107	92.7	18.1	-0.0043	0.002	38.3	ug/L	114	Standard
|	Cd	111	-13.4	37.8	-0.0053	0.002	31.3	mg/L	6	Standard
|	Cd	114	153.3	26.5	0.0195	0.006	28.3	ug/L	14	Standard
>	In	115	690049.1	1.1				ug/L	726030	Standard
|	Sn	118	2921.9	7.2	0.2683	0.028	10.6	ug/L	913	Standard
|	Sb	123	542.8	6.9	0.0748	0.007	9.4	ug/L	308	Standard
|	Ba	135	205010.0	0.6	68.6178	0.419	0.6	ug/L	50	Standard
|	Ce	140	1120.0	3.2				ug/L	122	Standard
>	Tb	159	1112154.7	0.5				ug/L	1169812	Standard
|	Ho	165	88.3	3.3				ug/L	7	Standard
|	Tl	203	413.3	7.2	0.0377	0.003	7.4	ug/L	11	Standard
|	Tl	205	383.3	11.4	0.0410	0.005	11.7	ug/L	8	Standard
|	Pb	206	436.3	4.2	0.0301	0.003	8.9	ug/L	277	Standard
|	Pb	207	376.7	7.5	0.0227	0.005	21.0	ug/L	262	Standard
|	Pb	208	1525.4	6.1	0.0245	0.004	17.2	ug/L	982	Standard
	U	238	2696.9	1.3	0.3303	0.004	1.1	ug/L	8	Standard
>	Bi	209	540381.3	0.3				ug/L	593643	Standard

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Na	23	1.7	173.2	11.0051	19.053	173.1	mg/L	2	Standard
Mg	24	206298.3	0.5	190.3277	3.024	1.6	mg/L	75	Standard
K	39	86.7	17.6	0.1614	0.048	30.0	mg/L	32	Standard
Ca	43	55.0	24.1	2.3948	1.012	42.3	mg/L	50	Standard
Fe	54	247.1	6.2	0.0097	0.009	95.6	mg/L	236	Standard
Fe	57	346.7	20.7	0.1534	0.167	108.8	mg/L	352	Standard
Sc-1	45	40089.6	1.8				mg/L	42879	Standard
Cl	35	238604.8	2.5				ug/L	166385	Standard
Kr	83	4.0	50.0				ug/L	3	Standard
Br	81	121908.6	1.7				ug/L	4321	Standard
P	31	30816.4	4.6				ug/L	24331	Standard
S	34	4525.7	2.4				ug/L	3789	Standard
Sr	88	411.7	11.3				ug/L	78	Standard
C	12	263.3	34.2				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	121.3	27.5				mg/L	12	Standard
Ho-1	165	88.3	3.3				mg/L	7	Standard
Er	166	43.3	93.3				mg/L	20	Standard
I	127	445485.3	2.6				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.736	
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		92.166	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604161310

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.044
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	91.028
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

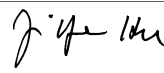
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1604161311

Sample Date/Time: Thursday, May 05, 2016 14:12:12

Number of Replicates: 3

Autosampler Position: 342

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	94488.9	2.9				ug/L	82657	Standard
|	Be	9	46.7	6.2	-0.0077	0.001	15.0	ug/L	13	Standard
|	Al	27	18363420.1	1.3	77.0378	1.714	2.2	ug/L	1347	Standard
|	Sc	45	40890.1	1.9				ug/L	42879	Standard
|	Ti	47	137.0	3.6	0.2840	0.024	8.5	ug/L	41	Standard
|	V	51	2887.9	3.6	0.0725	0.005	6.5	ug/L	2416	Standard
|	Cr	52	13055.0	0.5	0.1314	0.034	26.1	ug/L	12475	Standard
|	Cr	53	2646.9	5.2	1.5840	0.105	6.6	ug/L	537	Standard
|	Mn	55	64422.7	1.2	5.8731	0.202	3.4	ug/L	1090	Standard
|	Co	59	976.7	3.1	0.0643	0.005	7.0	ug/L	363	Standard
|	Ni	60	8621.5	0.9	2.7861	0.107	3.8	ug/L	399	Standard
|	Cu	65	927.4	2.4	0.1555	0.012	7.5	ug/L	492	Standard
|	Zn	66	1999.1	0.4	1.1421	0.038	3.3	ug/L	201	Standard
>	Ge	72	650560.3	2.8				ug/L	679875	Standard
|	As	75	2499.4	2.1	1.6303	0.026	1.6	ug/L	-85	Standard
|	Se	82	1089.5	1.0	6.2573	0.119	1.9	ug/L	29	Standard
|	Se-1	77	214.0	9.3	1.0256	0.210	20.5	ug/L	107	Standard
>	Ga	71	58.3	17.8				mg/L	37	Standard
|	Rb	85	17451.7	3.2				ug/L	23	Standard
|	Y	89	535996.3	3.8				ug/L	562937	Standard
>	Rh	103	608.3	8.7				ug/L	13	Standard
|	Mo	98	1105.9	1.7	0.2735	0.016	5.7	ug/L	25	Standard
|	Ag	107	109.3	16.3	-0.0029	0.002	59.9	ug/L	114	Standard
|	Cd	111	34.1	19.3	0.0105	0.002	16.4	mg/L	6	Standard
|	Cd	114	91.4	62.5	0.0103	0.008	78.6	ug/L	14	Standard
>	In	115	711879.0	4.4				ug/L	726030	Standard
|	Sn	118	941.7	3.2	0.0180	0.008	45.6	ug/L	913	Standard
|	Sb	123	158.6	20.6	0.0114	0.005	46.7	ug/L	308	Standard
|	Ba	135	458590.6	0.2	148.9799	6.200	4.2	ug/L	50	Standard
|	Ce	140	281.7	6.2				ug/L	122	Standard
>	Tb	159	1149931.2	4.0				ug/L	1169812	Standard
|	Ho	165	30.0	33.3				ug/L	7	Standard
|	Tl	203	506.3	2.9	0.0445	0.000	0.1	ug/L	11	Standard
|	Tl	205	358.3	6.4	0.0365	0.003	8.4	ug/L	8	Standard
|	Pb	206	439.3	4.0	0.0276	0.001	3.8	ug/L	277	Standard
|	Pb	207	392.3	4.3	0.0224	0.001	6.7	ug/L	262	Standard
|	Pb	208	1597.7	1.6	0.0247	0.003	11.5	ug/L	982	Standard
	U	238	1049.7	4.3	0.1225	0.007	5.8	ug/L	8	Standard
>	Bi	209	565122.1	3.0				ug/L	593643	Standard

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Na	23	5.0	100.0	31.3327	30.977	98.9	mg/L	2	Standard
Mg	24	112237.5	1.0	101.4996	1.704	1.7	mg/L	75	Standard
K	39	293.3	9.7	0.8601	0.078	9.0	mg/L	32	Standard
Ca	43	266.7	8.5	19.2913	1.437	7.4	mg/L	50	Standard
Fe	54	243.8	8.3	0.0049	0.014	292.4	mg/L	236	Standard
Fe	57	453.3	9.4	0.4020	0.102	25.3	mg/L	352	Standard
Sc-1	45	40890.1	1.9				mg/L	42879	Standard
Cl	35	236259.8	0.4				ug/L	166385	Standard
Kr	83	1.3	86.6				ug/L	3	Standard
Br	81	206619.3	0.9				ug/L	4321	Standard
P	31	32521.5	1.9				ug/L	24331	Standard
S	34	4762.4	1.5				ug/L	3789	Standard
Sr	88	2128.5	1.4				ug/L	78	Standard
C	12	236.7	17.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	37.4	93.5				mg/L	12	Standard
Ho-1	165	30.0	33.3				mg/L	7	Standard
Er	166	53.3	43.3				mg/L	20	Standard
I	127	483564.0	2.0				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		114.315	
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		95.688	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604161311

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.051
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	95.196
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
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[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

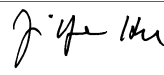
Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1604161311

Report Date/Time: Thursday, May 05, 2016 14:14:29

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Method 6020 - Summary Report

Sample ID: L1604161313

Sample Date/Time: Thursday, May 05, 2016 14:15:24

Number of Replicates: 3

Autosampler Position: 343

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	91731.9	0.5				ug/L	82657	Standard
|	Be	9	33.3	69.3	-0.0172	0.018	105.2	ug/L	13	Standard
|	Al	27	1180687.4	0.7	5.0902	0.015	0.3	ug/L	1347	Standard
|	Sc	45	40572.6	1.2				ug/L	42879	Standard
|	Ti	47	360.7	15.9	1.0061	0.182	18.0	ug/L	41	Standard
|	V	51	4379.4	9.1	0.2437	0.043	17.7	ug/L	2416	Standard
|	Cr	52	13263.8	2.8	0.1981	0.037	18.6	ug/L	12475	Standard
|	Cr	53	2556.9	2.2	1.5881	0.048	3.0	ug/L	537	Standard
|	Mn	55	34600.1	1.4	3.2265	0.052	1.6	ug/L	1090	Standard
|	Co	59	704.0	4.3	0.0402	0.003	7.9	ug/L	363	Standard
|	Ni	60	15452.5	1.2	5.2955	0.072	1.4	ug/L	399	Standard
|	Cu	65	4966.1	1.1	1.6165	0.022	1.3	ug/L	492	Standard
|	Zn	66	2074.5	0.4	1.2377	0.004	0.3	ug/L	201	Standard
>	Ge	72	627044.4	0.2				ug/L	679875	Standard
|	As	75	3915.7	1.9	2.5993	0.045	1.7	ug/L	-85	Standard
|	Se	82	683.5	2.7	3.9979	0.107	2.7	ug/L	29	Standard
|	Se-1	77	228.7	6.4	1.2348	0.139	11.3	ug/L	107	Standard
>	Ga	71	155.0	3.2				mg/L	37	Standard
|	Rb	85	6573.1	4.2				ug/L	23	Standard
|	Y	89	517773.8	2.0				ug/L	562937	Standard
>	Rh	103	115.0	21.7				ug/L	13	Standard
|	Mo	98	36573.0	1.8	9.4257	0.127	1.3	ug/L	25	Standard
|	Ag	107	95.3	12.6	-0.0040	0.001	32.8	ug/L	114	Standard
|	Cd	111	-13.6	81.5	-0.0054	0.004	69.7	mg/L	6	Standard
|	Cd	114	112.9	7.1	0.0137	0.001	7.9	ug/L	14	Standard
>	In	115	692358.5	0.6				ug/L	726030	Standard
|	Sn	118	948.4	9.8	0.0218	0.011	49.9	ug/L	913	Standard
|	Sb	123	371.9	6.6	0.0467	0.004	8.0	ug/L	308	Standard
|	Ba	135	198916.1	1.5	66.3509	0.737	1.1	ug/L	50	Standard
|	Ce	140	4155.6	2.2				ug/L	122	Standard
>	Tb	159	1113711.7	1.1				ug/L	1169812	Standard
|	Ho	165	113.3	17.8				ug/L	7	Standard
|	Tl	203	370.3	7.3	0.0330	0.003	8.0	ug/L	11	Standard
|	Tl	205	355.0	2.8	0.0372	0.001	2.9	ug/L	8	Standard
|	Pb	206	694.3	1.7	0.0685	0.001	1.7	ug/L	277	Standard
|	Pb	207	548.7	4.0	0.0506	0.003	5.4	ug/L	262	Standard
|	Pb	208	2317.4	0.8	0.0580	0.001	1.5	ug/L	982	Standard
	U	238	2636.2	1.6	0.3179	0.007	2.3	ug/L	8	Standard
>	Bi	209	548923.9	1.0				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	196246.2	1.3	178.8679	1.935	1.1	mg/L	75	Standard
K	39	108.3	14.8	0.2332	0.058	25.1	mg/L	32	Standard
Ca	43	33.3	22.9	0.6045	0.643	106.3	mg/L	50	Standard
Fe	54	266.9	10.5	0.0199	0.018	92.7	mg/L	236	Standard
Fe	57	320.0	16.5	0.0778	0.124	159.7	mg/L	352	Standard
Sc-1	45	40572.6	1.2				mg/L	42879	Standard
Cl	35	241795.2	1.9				ug/L	166385	Standard
Kr	83	2.3	24.7				ug/L	3	Standard
Br	81	123471.4	3.4				ug/L	4321	Standard
P	31	30046.4	1.9				ug/L	24331	Standard
S	34	4719.1	2.9				ug/L	3789	Standard
Sr	88	403.3	8.7				ug/L	78	Standard
C	12	323.3	6.4				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	181.7	16.4				mg/L	12	Standard
Ho-1	165	113.3	17.8				mg/L	7	Standard
Er	166	103.3	14.8				mg/L	20	Standard
I	127	388900.4	1.7				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		110.979	
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		92.229	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604161313

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.362
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
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[Tl	205	
[Pb	206	
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[U	238	
>	Bi	209	92.467
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
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[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604161313

Report Date/Time: Thursday, May 05, 2016 14:17:40

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Method 6020 - Summary Report

Sample ID: L1604161314

Sample Date/Time: Thursday, May 05, 2016 14:18:35

Number of Replicates: 3

Autosampler Position: 344

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	87632.8	2.7				ug/L	82657	Standard
|	Be	9	33.3	34.6	-0.0158	0.010	64.1	ug/L	13	Standard
|	Al	27	1039244.7	1.8	4.6902	0.069	1.5	ug/L	1347	Standard
|	Sc	45	37954.2	2.0				ug/L	42879	Standard
|	Ti	47	129.7	20.4	0.2939	0.081	27.7	ug/L	41	Standard
|	V	51	3655.0	2.7	0.1838	0.013	7.1	ug/L	2416	Standard
|	Cr	52	12364.7	1.1	0.1649	0.020	12.0	ug/L	12475	Standard
|	Cr	53	2440.2	2.0	1.5835	0.039	2.5	ug/L	537	Standard
|	Mn	55	26570.6	1.0	2.5707	0.024	0.9	ug/L	1090	Standard
|	Co	59	1122.4	0.6	0.0878	0.002	2.8	ug/L	363	Standard
|	Ni	60	7469.5	1.0	2.6083	0.045	1.7	ug/L	399	Standard
|	Cu	65	1428.1	1.9	0.3703	0.008	2.1	ug/L	492	Standard
|	Zn	66	2945.0	1.9	1.8930	0.067	3.5	ug/L	201	Standard
>	Ge	72	599803.3	1.6				ug/L	679875	Standard
|	As	75	3492.4	2.1	2.4289	0.012	0.5	ug/L	-85	Standard
|	Se	82	610.8	3.2	3.7210	0.100	2.7	ug/L	29	Standard
|	Se-1	77	215.3	9.1	1.2035	0.228	19.0	ug/L	107	Standard
>	Ga	71	63.3	4.6				mg/L	37	Standard
|	Rb	85	4450.7	2.4				ug/L	23	Standard
|	Y	89	493765.8	1.3				ug/L	562937	Standard
>	Rh	103	105.0	40.7				ug/L	13	Standard
|	Mo	98	33319.7	1.5	9.1231	0.102	1.1	ug/L	25	Standard
|	Ag	107	92.0	6.6	-0.0038	0.001	15.0	ug/L	114	Standard
|	Cd	111	-7.4	135.6	-0.0034	0.004	105.1	mg/L	6	Standard
|	Cd	114	138.5	2.3	0.0186	0.001	3.3	ug/L	14	Standard
>	In	115	651717.0	1.2				ug/L	726030	Standard
|	Sn	118	1733.4	6.8	0.1328	0.015	11.3	ug/L	913	Standard
|	Sb	123	862.3	6.3	0.1351	0.010	7.3	ug/L	308	Standard
|	Ba	135	178087.8	0.4	63.1136	0.664	1.1	ug/L	50	Standard
|	Ce	140	900.0	18.3				ug/L	122	Standard
>	Tb	159	1056668.5	1.3				ug/L	1169812	Standard
|	Ho	165	88.3	19.9				ug/L	7	Standard
|	Tl	203	369.7	7.2	0.0346	0.003	8.5	ug/L	11	Standard
|	Tl	205	361.7	16.0	0.0399	0.007	16.8	ug/L	8	Standard
|	Pb	206	592.7	4.3	0.0573	0.005	7.9	ug/L	277	Standard
|	Pb	207	481.0	6.9	0.0432	0.006	14.8	ug/L	262	Standard
|	Pb	208	2044.1	1.4	0.0504	0.002	4.1	ug/L	982	Standard
	U	238	2387.2	1.5	0.3016	0.007	2.3	ug/L	8	Standard
>	Bi	209	523748.7	0.9				ug/L	593643	Standard

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Na	23	1.7	173.2	11.6273	20.130	173.1	mg/L	2	Standard
Mg	24	180735.3	2.4	176.0794	0.700	0.4	mg/L	75	Standard
K	39	106.7	7.2	0.2528	0.035	13.8	mg/L	32	Standard
Ca	43	50.0	43.6	2.2506	1.947	86.5	mg/L	50	Standard
Fe	54	190.4	31.5	-0.0188	0.036	192.7	mg/L	236	Standard
Fe	57	301.7	13.4	0.0864	0.125	144.1	mg/L	352	Standard
Sc-1	45	37954.2	2.0				mg/L	42879	Standard
Cl	35	222642.3	2.1				ug/L	166385	Standard
Kr	83	2.0	0.0				ug/L	3	Standard
Br	81	114494.3	0.5				ug/L	4321	Standard
P	31	27892.3	3.6				ug/L	24331	Standard
S	34	4359.0	4.5				ug/L	3789	Standard
Sr	88	355.0	10.2				ug/L	78	Standard
C	12	376.7	18.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	87.6	29.5				mg/L	12	Standard
Ho-1	165	88.3	19.9				mg/L	7	Standard
Er	166	50.0	52.9				mg/L	20	Standard
I	127	358725.9	1.5				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		106.020	
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		88.223	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	89.765
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	88.226
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

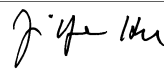
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604161314

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Method 6020 - Summary Report

Sample ID: L1605008201

Sample Date/Time: Thursday, May 05, 2016 14:21:46

Number of Replicates: 3

Autosampler Position: 345

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	77804.3	1.7				ug/L	82657	Standard
|	Be	9	11.7	24.7	-0.0327	0.003	7.7	ug/L	13	Standard
|	Al	27	23875.5	5.8	0.1111	0.008	7.2	ug/L	1347	Standard
|	Sc	45	35025.5	2.3				ug/L	42879	Standard
|	Ti	47	317.7	9.0	0.9573	0.103	10.7	ug/L	41	Standard
|	V	51	2827.7	2.0	0.1034	0.005	4.5	ug/L	2416	Standard
|	Cr	52	9796.2	2.9	-0.0609	0.034	55.9	ug/L	12475	Standard
|	Cr	53	991.7	5.4	0.3976	0.043	10.8	ug/L	537	Standard
|	Mn	55	25389.6	0.9	2.5518	0.022	0.9	ug/L	1090	Standard
|	Co	59	523.0	1.8	0.0264	0.001	3.4	ug/L	363	Standard
|	Ni	60	559.7	4.0	0.0762	0.008	9.9	ug/L	399	Standard
|	Cu	65	815.4	2.1	0.1524	0.006	3.8	ug/L	492	Standard
|	Zn	66	4078.9	0.7	2.7742	0.038	1.4	ug/L	201	Standard
>	Ge	72	577186.9	0.6				ug/L	679875	Standard
|	As	75	13.5	209.3	0.0893	0.020	22.0	ug/L	-85	Standard
|	Se	82	39.3	18.2	0.0539	0.046	85.8	ug/L	29	Standard
|	Se-1	77	116.7	12.2	0.2716	0.147	54.0	ug/L	107	Standard
>	Ga	71	158.3	22.8				mg/L	37	Standard
|	Rb	85	1060.0	13.2				ug/L	23	Standard
|	Y	89	467133.0	2.5				ug/L	562937	Standard
>	Rh	103	20.0	43.3				ug/L	13	Standard
|	Mo	98	80.5	25.3	0.0183	0.006	30.7	ug/L	25	Standard
|	Ag	107	89.3	4.5	-0.0038	0.000	10.7	ug/L	114	Standard
|	Cd	111	23.2	34.8	0.0079	0.003	37.7	mg/L	6	Standard
|	Cd	114	58.1	41.1	0.0067	0.004	56.2	ug/L	14	Standard
>	In	115	636204.4	0.5				ug/L	726030	Standard
|	Sn	118	383.3	7.5	-0.0442	0.004	8.2	ug/L	913	Standard
|	Sb	123	44.2	30.5	-0.0059	0.002	40.0	ug/L	308	Standard
|	Ba	135	1544.1	1.1	0.5429	0.007	1.4	ug/L	50	Standard
|	Ce	140	9266.2	0.7				ug/L	122	Standard
>	Tb	159	1022147.6	2.0				ug/L	1169812	Standard
|	Ho	165	66.7	34.6				ug/L	7	Standard
|	Tl	203	75.3	12.5	0.0053	0.001	18.6	ug/L	11	Standard
|	Tl	205	88.3	37.7	0.0078	0.004	48.7	ug/L	8	Standard
|	Pb	206	2789.3	0.7	0.3898	0.006	1.5	ug/L	277	Standard
|	Pb	207	2309.8	1.1	0.3486	0.001	0.2	ug/L	262	Standard
|	Pb	208	9423.8	2.0	0.3696	0.012	3.2	ug/L	982	Standard
	U	238	55.0	16.7	0.0059	0.001	18.1	ug/L	8	Standard
>	Bi	209	546896.0	1.2				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	100.0	32.8	0.0588	0.033	55.3	mg/L	75	Standard
K	39	23.3	12.4	-0.0465	0.013	27.8	mg/L	32	Standard
Ca	43	33.3	17.3	1.0233	0.491	47.9	mg/L	50	Standard
Fe	54	209.0	7.3	0.0047	0.008	161.1	mg/L	236	Standard
Fe	57	311.7	12.0	0.1828	0.130	71.0	mg/L	352	Standard
Sc-1	45	35025.5	2.3				mg/L	42879	Standard
Cl	35	175231.0	1.6				ug/L	166385	Standard
Kr	83	2.0	50.0				ug/L	3	Standard
Br	81	4794.1	6.4				ug/L	4321	Standard
P	31	9294.5	3.3				ug/L	24331	Standard
S	34	4462.3	3.4				ug/L	3789	Standard
Sr	88	80.0	21.7				ug/L	78	Standard
C	12	103.3	43.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	100.0	29.3				mg/L	12	Standard
Ho-1	165	66.7	34.6				mg/L	7	Standard
Er	166	70.0	51.5				mg/L	20	Standard
I	127	6354.7	19.9				mg/L	2570	Standard

QC Calculated Values

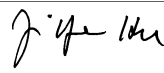
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.130	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		84.896	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	87.628
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	92.125
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
[Kr	83	
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[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

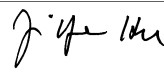
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605008201

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 05, 2016 14:25:00

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	86980.7	2.3				ug/L	82657	Standard
|	Be	9	63400.8	4.0	52.9610	2.960	5.6	ug/L	13	Standard
|	Al	27	10661159.2	0.9	48.5876	1.557	3.2	ug/L	1347	Standard
|	Sc	45	40863.4	3.6				ug/L	42879	Standard
|	Ti	47	32363.5	2.0	98.5683	3.669	3.7	ug/L	41	Standard
|	V	51	475497.9	0.8	48.9710	1.286	2.6	ug/L	2416	Standard
|	Cr	52	523255.4	2.6	48.7970	2.080	4.3	ug/L	12475	Standard
|	Cr	53	64537.2	1.9	49.6381	1.818	3.7	ug/L	537	Standard
|	Mn	55	521238.3	1.8	48.2525	1.522	3.2	ug/L	1090	Standard
|	Co	59	514968.3	1.0	50.3205	1.348	2.7	ug/L	363	Standard
|	Ni	60	144447.8	1.8	48.8718	1.655	3.4	ug/L	399	Standard
|	Cu	65	143860.3	2.4	49.6487	1.962	4.0	ug/L	492	Standard
|	Zn	66	78888.5	1.0	49.5035	0.929	1.9	ug/L	201	Standard
>	Ge	72	650039.8	1.9				ug/L	679875	Standard
|	As	75	79449.1	2.2	49.4099	1.813	3.7	ug/L	-85	Standard
|	Se	82	8359.6	2.3	49.4473	1.900	3.8	ug/L	29	Standard
|	Se-1	77	5670.4	4.0	50.7907	2.646	5.2	ug/L	107	Standard
>	Ga	71	58.3	13.1				mg/L	37	Standard
|	Rb	85	1183.4	13.9				ug/L	23	Standard
|	Y	89	528936.9	2.2				ug/L	562937	Standard
>	Rh	103	41.7	13.9				ug/L	13	Standard
|	Mo	98	388281.2	1.6	96.0648	2.179	2.3	ug/L	25	Standard
|	Ag	107	480398.6	1.8	48.3366	1.062	2.2	ug/L	114	Standard
|	Cd	111	149740.5	2.4	48.9822	1.303	2.7	mg/L	6	Standard
|	Cd	114	367062.9	3.0	49.9418	1.306	2.6	ug/L	14	Standard
>	In	115	721626.3	0.9				ug/L	726030	Standard
|	Sn	118	415910.0	1.2	49.4866	1.047	2.1	ug/L	913	Standard
|	Sb	123	312053.8	2.0	48.6156	1.028	2.1	ug/L	308	Standard
|	Ba	135	150937.5	1.2	48.3067	0.940	1.9	ug/L	50	Standard
|	Ce	140	113.3	18.4				ug/L	122	Standard
>	Tb	159	1128170.0	1.3				ug/L	1169812	Standard
|	Ho	165	8.3	69.3				ug/L	7	Standard
|	Tl	203	555934.1	1.9	48.9844	1.171	2.4	ug/L	11	Standard
|	Tl	205	493959.3	1.8	51.0660	1.108	2.2	ug/L	8	Standard
|	Pb	206	338964.2	1.5	48.3601	0.954	2.0	ug/L	277	Standard
|	Pb	207	307090.3	0.9	48.3162	0.648	1.3	ug/L	262	Standard
|	Pb	208	1233181.8	1.5	50.2797	1.017	2.0	ug/L	982	Standard
	U	238	450308.7	1.5	50.9055	1.003	2.0	ug/L	8	Standard
>	Bi	209	586848.2	0.5				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	5869.5	3.2	5.2716	0.271	5.1	mg/L	75	Standard
K	39	1258.4	2.6	4.1578	0.135	3.3	mg/L	32	Standard
Ca	43	91.7	22.7	5.2822	1.780	33.7	mg/L	50	Standard
Fe	54	8536.9	4.1	4.9598	0.343	6.9	mg/L	236	Standard
Fe	57	2471.9	4.1	5.4094	0.458	8.5	mg/L	352	Standard
Sc-1	45	40863.4	3.6				mg/L	42879	Standard
Cl	35	203168.8	3.4				ug/L	166385	Standard
Kr	83	3.3	17.3				ug/L	3	Standard
Br	81	4864.1	8.0				ug/L	4321	Standard
P	31	29313.3	1.5				ug/L	24331	Standard
S	34	5706.1	3.5				ug/L	3789	Standard
Sr	88	78.3	14.7				ug/L	78	Standard
C	12	133.3	21.7				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	10.0					mg/L	3	Standard
Dy	164	6.2	86.7				mg/L	12	Standard
Ho-1	165	8.3	69.3				mg/L	7	Standard
Er	166	10.0	100.0				mg/L	20	Standard
I	127	3623.8	12.5				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	105.922		
Al	27	97.175		
Sc	45			
Ti	47	98.568		
V	51	97.942		
Cr	52	97.594		
Cr	53			
Mn	55	96.505		
Co	59	100.641		
Ni	60	97.744		
Cu	65	99.297		
Zn	66	99.007		
Ge	72		95.612	
As	75	98.820		
Se	82	98.895		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	96.065	
[Ag	107	96.673	
[Cd	111	97.964	
[Cd	114		
>	In	115		99.394
[Sn	118	98.973	
[	Sb	123	97.231	
[	Ba	135	96.613	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	97.969	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.559	
[	U	238	101.811	
>	Bi	209		98.855
[	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		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

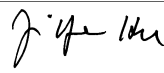
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

Report Date/Time: Thursday, May 05, 2016 14:27:16

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 05, 2016 14:28:11

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	83717.3	0.8				ug/L	82657	Standard
|	Be	9	26.7	28.6	-0.0204	0.007	31.9	ug/L	13	Standard
|	Al	27	1848.4	19.6	-0.0018	0.002	100.3	ug/L	1347	Standard
|	Sc	45	39056.9	0.2				ug/L	42879	Standard
|	Ti	47	27.3	9.2	-0.0467	0.009	19.0	ug/L	41	Standard
|	V	51	1950.9	6.7	-0.0155	0.010	66.6	ug/L	2416	Standard
|	Cr	52	10307.2	2.1	-0.0871	0.041	46.5	ug/L	12475	Standard
|	Cr	53	948.4	4.4	0.2987	0.023	7.7	ug/L	537	Standard
|	Mn	55	944.0	1.7	-0.0085	0.003	32.3	ug/L	1090	Standard
|	Co	59	294.3	10.7	-0.0011	0.004	314.5	ug/L	363	Standard
|	Ni	60	346.0	2.5	-0.0151	0.001	8.8	ug/L	399	Standard
|	Cu	65	436.3	2.3	-0.0078	0.003	42.1	ug/L	492	Standard
|	Zn	66	243.7	2.3	0.0452	0.005	10.5	ug/L	201	Standard
>	Ge	72	623070.1	1.9				ug/L	679875	Standard
|	As	75	-144.1	20.5	-0.0136	0.021	152.4	ug/L	-85	Standard
|	Se	82	33.1	7.0	-0.0035	0.017	469.9	ug/L	29	Standard
|	Se-1	77	116.7	2.8	0.1837	0.039	21.2	ug/L	107	Standard
>	Ga	71	36.7	7.9				mg/L	37	Standard
|	Rb	85	16.7	96.4				ug/L	23	Standard
|	Y	89	506795.4	2.8				ug/L	562937	Standard
>	Rh	103	6.7	43.3				ug/L	13	Standard
|	Mo	98	213.3	11.0	0.0501	0.006	11.0	ug/L	25	Standard
|	Ag	107	134.3	12.3	-0.0001	0.002	1659.1	ug/L	114	Standard
|	Cd	111	11.3	36.0	0.0030	0.001	44.4	mg/L	6	Standard
|	Cd	114	37.9	97.1	0.0029	0.005	170.4	ug/L	14	Standard
>	In	115	699488.0	2.4				ug/L	726030	Standard
|	Sn	118	1446.7	26.5	0.0819	0.048	58.3	ug/L	913	Standard
|	Sb	123	743.4	28.3	0.1058	0.034	32.2	ug/L	308	Standard
|	Ba	135	111.7	5.8	0.0191	0.001	6.9	ug/L	50	Standard
|	Ce	140	25.0	20.0				ug/L	122	Standard
>	Tb	159	1102421.9	3.4				ug/L	1169812	Standard
|	Ho	165	6.7	114.6				ug/L	7	Standard
|	Tl	203	77.3	30.4	0.0052	0.002	42.3	ug/L	11	Standard
|	Tl	205	60.0	30.0	0.0044	0.002	46.3	ug/L	8	Standard
|	Pb	206	315.0	5.0	0.0088	0.002	22.6	ug/L	277	Standard
|	Pb	207	271.0	4.5	0.0022	0.003	115.4	ug/L	262	Standard
|	Pb	208	1084.0	6.5	0.0025	0.004	150.5	ug/L	982	Standard
	U	238	39.7	5.2	0.0038	0.000	7.7	ug/L	8	Standard
>	Bi	209	570046.2	2.1				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	63.3	19.9	0.0136	0.012	88.1	mg/L	75	Standard
K	39	33.3	31.2	-0.0205	0.037	182.3	mg/L	32	Standard
Ca	43	21.7	35.3	-0.2741	0.645	235.3	mg/L	50	Standard
Fe	54	168.9	17.8	-0.0352	0.019	52.8	mg/L	236	Standard
Fe	57	290.0	9.1	0.0319	0.070	218.8	mg/L	352	Standard
Sc-1	45	39056.9	0.2				mg/L	42879	Standard
Cl	35	195731.7	1.7				ug/L	166385	Standard
Kr	83	3.0	33.3				ug/L	3	Standard
Br	81	4634.0	3.4				ug/L	4321	Standard
P	31	27636.9	4.6				ug/L	24331	Standard
S	34	5294.3	2.5				ug/L	3789	Standard
Sr	88	93.3	6.2				ug/L	78	Standard
C	12	100.0	34.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	15.9	130.0				mg/L	12	Standard
Ho-1	165	6.7	114.6				mg/L	7	Standard
Er	166	16.7	34.6				mg/L	20	Standard
I	127	2870.3	2.2				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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		91.645	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 7

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	96.344
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.025
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

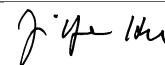
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: PBW 82 WG567644-02

Sample Date/Time: Thursday, May 05, 2016 14:37:33

Number of Replicates: 3

Autosampler Position: 216

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	85448.6	1.1				ug/L	82657	Standard
|	Be	9	25.0	52.9	-0.0222	0.011	51.4	ug/L	13	Standard
|	Al	27	4137.3	33.7	0.0087	0.007	76.6	ug/L	1347	Standard
|	Sc	45	39448.0	1.4				ug/L	42879	Standard
|	Ti	47	33.7	14.0	-0.0293	0.014	48.7	ug/L	41	Standard
|	V	51	1427.1	14.5	-0.0758	0.022	29.2	ug/L	2416	Standard
|	Cr	52	11531.7	0.7	0.0055	0.007	120.2	ug/L	12475	Standard
|	Cr	53	14038.2	5.4	10.6160	0.668	6.3	ug/L	537	Standard
|	Mn	55	1265.1	5.4	0.0195	0.006	29.7	ug/L	1090	Standard
|	Co	59	294.7	19.7	-0.0019	0.006	293.0	ug/L	363	Standard
|	Ni	60	383.0	4.3	-0.0055	0.005	85.3	ug/L	399	Standard
|	Cu	65	548.7	8.0	0.0278	0.017	60.7	ug/L	492	Standard
|	Zn	66	1612.1	2.8	0.9164	0.021	2.3	ug/L	201	Standard
>	Ge	72	639044.1	0.9				ug/L	679875	Standard
|	As	75	-183.4	34.4	-0.0360	0.040	112.3	ug/L	-85	Standard
|	Se	82	26.0	27.3	-0.0521	0.042	80.3	ug/L	29	Standard
|	Se-1	77	631.7	3.4	4.9323	0.232	4.7	ug/L	107	Standard
>	Ga	71	45.0	77.8				mg/L	37	Standard
|	Rb	85	23.3	53.9				ug/L	23	Standard
|	Y	89	527959.8	1.9				ug/L	562937	Standard
>	Rh	103	10.0					ug/L	13	Standard
|	Mo	98	77.3	76.8	0.0152	0.015	97.3	ug/L	25	Standard
|	Ag	107	116.7	25.1	-0.0020	0.003	143.1	ug/L	114	Standard
|	Cd	111	13.2	89.9	0.0037	0.004	107.3	mg/L	6	Standard
|	Cd	114	46.0	65.5	0.0041	0.004	101.2	ug/L	14	Standard
>	In	115	704257.2	1.0				ug/L	726030	Standard
|	Sn	118	955.0	17.2	0.0206	0.020	96.7	ug/L	913	Standard
|	Sb	123	280.2	32.2	0.0310	0.014	46.2	ug/L	308	Standard
|	Ba	135	99.0	47.3	0.0146	0.015	102.7	ug/L	50	Standard
|	Ce	140	21.7	13.3				ug/L	122	Standard
>	Tb	159	1112964.2	1.3				ug/L	1169812	Standard
|	Ho	165	8.3	34.6				ug/L	7	Standard
|	Tl	203	242.3	13.5	0.0199	0.003	15.2	ug/L	11	Standard
|	Tl	205	208.3	47.2	0.0199	0.010	52.4	ug/L	8	Standard
|	Pb	206	544.7	13.3	0.0417	0.011	25.9	ug/L	277	Standard
|	Pb	207	446.3	3.8	0.0298	0.003	9.5	ug/L	262	Standard
|	Pb	208	1803.0	8.5	0.0318	0.007	20.9	ug/L	982	Standard
	U	238	41.3	127.1	0.0040	0.006	151.9	ug/L	8	Standard
>	Bi	209	576609.4	0.4				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	93.3	34.0	0.0410	0.029	70.2	mg/L	75	Standard
K	39	31.7	32.9	-0.0279	0.035	127.0	mg/L	32	Standard
Ca	43	18.3	15.7	-0.5723	0.221	38.6	mg/L	50	Standard
Fe	54	222.4	27.0	-0.0032	0.036	1133.4	mg/L	236	Standard
Fe	57	253.3	12.8	-0.0693	0.086	123.6	mg/L	352	Standard
Sc-1	45	39448.0	1.4				mg/L	42879	Standard
Cl	35	199925.9	1.6				ug/L	166385	Standard
Kr	83	1.0	100.0				ug/L	3	Standard
Br	81	4590.7	8.8				ug/L	4321	Standard
P	31	26913.9	3.5				ug/L	24331	Standard
S	34	4855.8	5.2				ug/L	3789	Standard
Sr	88	98.3	28.0				ug/L	78	Standard
C	12	96.7	26.0				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	9.7	5.7				mg/L	12	Standard
Ho-1	165	8.3	34.6				mg/L	7	Standard
Er	166	6.7	173.2				mg/L	20	Standard
I	127	5057.5	4.8				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.378	
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		93.994	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: PBW 82 WG567644-02

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.001
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.131
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: PBW 82 WG567644-02

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Method 6020 - Summary Report

Sample ID: LCSW 82 WG567644-03

Sample Date/Time: Thursday, May 05, 2016 14:40:44

Number of Replicates: 3

Autosampler Position: 217

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	90751.0	2.1				ug/L	82657	Standard
|	Be	9	598.3	5.0	0.4358	0.029	6.6	ug/L	13	Standard
|	Al	27	221588.6	0.6	0.9575	0.026	2.7	ug/L	1347	Standard
|	Sc	45	40975.3	1.2				ug/L	42879	Standard
|	Ti	47	3355.4	3.7	10.1491	0.403	4.0	ug/L	41	Standard
|	V	51	96066.4	1.0	9.7623	0.099	1.0	ug/L	2416	Standard
|	Cr	52	63575.8	1.3	4.9802	0.092	1.8	ug/L	12475	Standard
|	Cr	53	35852.4	4.4	27.4990	1.159	4.2	ug/L	537	Standard
|	Mn	55	54246.6	1.9	4.9571	0.108	2.2	ug/L	1090	Standard
|	Co	59	20660.1	1.9	1.9989	0.043	2.2	ug/L	363	Standard
|	Ni	60	14871.0	1.3	4.9325	0.076	1.5	ug/L	399	Standard
|	Cu	65	14985.7	1.9	5.0486	0.110	2.2	ug/L	492	Standard
|	Zn	66	17054.6	1.2	10.6661	0.137	1.3	ug/L	201	Standard
>	Ge	72	646654.4	0.2				ug/L	679875	Standard
|	As	75	6144.4	2.2	3.9135	0.090	2.3	ug/L	-85	Standard
|	Se	82	689.9	1.9	3.9093	0.088	2.3	ug/L	29	Standard
|	Se-1	77	1638.8	3.8	14.0905	0.536	3.8	ug/L	107	Standard
>	Ga	71	51.7	36.6				mg/L	37	Standard
|	Rb	85	138.3	33.6				ug/L	23	Standard
|	Y	89	518308.9	2.2				ug/L	562937	Standard
>	Rh	103	23.3	53.9				ug/L	13	Standard
|	Mo	98	38541.7	1.7	9.7368	0.097	1.0	ug/L	25	Standard
|	Ag	107	38665.3	1.1	3.9614	0.014	0.4	ug/L	114	Standard
|	Cd	111	1489.5	5.9	0.4970	0.030	6.0	mg/L	6	Standard
|	Cd	114	4010.6	3.1	0.5552	0.013	2.3	ug/L	14	Standard
>	In	115	706348.9	1.3				ug/L	726030	Standard
|	Sn	118	80915.6	2.4	9.7569	0.128	1.3	ug/L	913	Standard
|	Sb	123	75491.5	1.6	12.0045	0.114	0.9	ug/L	308	Standard
|	Ba	135	29891.5	1.8	9.7579	0.067	0.7	ug/L	50	Standard
|	Ce	140	40.0	54.5				ug/L	122	Standard
>	Tb	159	1115700.0	2.1				ug/L	1169812	Standard
|	Ho	165	16.7	45.8				ug/L	7	Standard
|	Tl	203	55148.5	1.3	4.8630	0.041	0.8	ug/L	11	Standard
|	Tl	205	48826.9	2.8	5.0519	0.141	2.8	ug/L	8	Standard
|	Pb	206	34969.3	0.4	4.9612	0.012	0.2	ug/L	277	Standard
|	Pb	207	31766.6	0.4	4.9667	0.048	1.0	ug/L	262	Standard
|	Pb	208	124861.5	1.1	5.0580	0.040	0.8	ug/L	982	Standard
	U	238	5.0	60.0	-0.0002	0.000	169.2	ug/L	8	Standard
>	Bi	209	586135.1	0.6				ug/L	593643	Standard

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Na	23	3.3	86.6	21.0603	18.239	86.6	mg/L	2	Standard
Mg	24	621.7	1.9	0.5150	0.017	3.2	mg/L	75	Standard
K	39	145.0	13.8	0.3543	0.071	20.1	mg/L	32	Standard
Ca	43	28.3	10.2	0.1758	0.256	145.5	mg/L	50	Standard
Fe	54	294.7	11.8	0.0346	0.018	53.4	mg/L	236	Standard
Fe	57	255.0	11.9	-0.0891	0.082	91.7	mg/L	352	Standard
Sc-1	45	40975.3	1.2				mg/L	42879	Standard
Cl	35	201742.7	2.4				ug/L	166385	Standard
Kr	83	3.0	33.3				ug/L	3	Standard
Br	81	4754.1	5.0				ug/L	4321	Standard
P	31	27586.8	3.0				ug/L	24331	Standard
S	34	5064.2	3.1				ug/L	3789	Standard
Sr	88	116.7	4.9				ug/L	78	Standard
C	12	80.0	43.3				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	9.2	6.0				mg/L	12	Standard
Ho-1	165	16.7	45.8				mg/L	7	Standard
Er	166	16.7	69.3				mg/L	20	Standard
I	127	2768.6	7.4				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		109.793	
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		95.114	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: LCSW 82 WG567644-03

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.289
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
[Pb	206	
[Pb	207	
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[U	238	
>	Bi	209	98.735
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
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[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: LCSW 82 WG567644-03

Report Date/Time: Thursday, May 05, 2016 14:43:01

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Method 6020 - Summary Report

Sample ID: F BLANK WG567499-01

Sample Date/Time: Thursday, May 05, 2016 14:43:56

Number of Replicates: 3

Autosampler Position: 218

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	87750.1	1.3				ug/L	82657	Standard
|	Be	9	21.7	81.0	-0.0257	0.014	56.1	ug/L	13	Standard
|	Al	27	1686.8	6.9	-0.0029	0.001	21.4	ug/L	1347	Standard
|	Sc	45	38893.2	1.7				ug/L	42879	Standard
|	Ti	47	59.0	98.4	0.0497	0.182	366.9	ug/L	41	Standard
|	V	51	1506.0	22.0	-0.0686	0.033	48.0	ug/L	2416	Standard
|	Cr	52	12097.8	1.5	0.0539	0.034	63.3	ug/L	12475	Standard
|	Cr	53	16972.8	0.6	12.8554	0.326	2.5	ug/L	537	Standard
|	Mn	55	1065.7	2.3	0.0001	0.000	315.7	ug/L	1090	Standard
|	Co	59	262.0	5.8	-0.0053	0.001	19.1	ug/L	363	Standard
|	Ni	60	370.7	3.9	-0.0105	0.003	29.1	ug/L	399	Standard
|	Cu	65	582.0	5.5	0.0385	0.014	36.9	ug/L	492	Standard
|	Zn	66	1491.1	1.6	0.8336	0.007	0.9	ug/L	201	Standard
>	Ge	72	642817.2	2.0				ug/L	679875	Standard
|	As	75	-180.1	55.3	-0.0338	0.064	188.9	ug/L	-85	Standard
|	Se	82	35.7	24.5	0.0049	0.048	981.3	ug/L	29	Standard
|	Se-1	77	785.4	9.4	6.3196	0.764	12.1	ug/L	107	Standard
>	Ga	71	56.7	20.4				mg/L	37	Standard
|	Rb	85	31.7	50.8				ug/L	23	Standard
|	Y	89	523890.0	1.7				ug/L	562937	Standard
>	Rh	103	13.3	21.7				ug/L	13	Standard
|	Mo	98	51.3	14.4	0.0087	0.002	21.5	ug/L	25	Standard
|	Ag	107	117.3	13.7	-0.0019	0.002	87.5	ug/L	114	Standard
|	Cd	111	3.2	77.9	0.0003	0.001	252.7	mg/L	6	Standard
|	Cd	114	20.9	68.4	0.0006	0.002	322.1	ug/L	14	Standard
>	In	115	701311.8	0.1				ug/L	726030	Standard
|	Sn	118	896.7	8.6	0.0140	0.010	68.0	ug/L	913	Standard
|	Sb	123	167.5	32.5	0.0132	0.009	66.5	ug/L	308	Standard
|	Ba	135	68.3	1.7	0.0047	0.000	8.1	ug/L	50	Standard
|	Ce	140	13.3	43.3				ug/L	122	Standard
>	Tb	159	1107877.8	1.0				ug/L	1169812	Standard
|	Ho	165	8.3	34.6				ug/L	7	Standard
|	Tl	203	182.7	22.4	0.0143	0.003	24.3	ug/L	11	Standard
|	Tl	205	160.0	18.8	0.0147	0.003	20.3	ug/L	8	Standard
|	Pb	206	490.0	0.7	0.0331	0.000	0.7	ug/L	277	Standard
|	Pb	207	449.7	5.8	0.0297	0.004	13.8	ug/L	262	Standard
|	Pb	208	1745.4	3.7	0.0287	0.002	7.1	ug/L	982	Standard
	U	238	9.0	44.4	0.0003	0.000	178.6	ug/L	8	Standard
>	Bi	209	581723.3	1.0				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	3167.0	2.2	2.9663	0.095	3.2	mg/L	75	Standard
K	39	33.3	45.8	-0.0200	0.054	272.0	mg/L	32	Standard
Ca	43	18.3	56.8	-0.5493	0.869	158.3	mg/L	50	Standard
Fe	54	187.2	21.7	-0.0235	0.024	100.6	mg/L	236	Standard
Fe	57	258.3	1.1	-0.0471	0.017	37.1	mg/L	352	Standard
Sc-1	45	38893.2	1.7				mg/L	42879	Standard
Cl	35	196261.8	1.5				ug/L	166385	Standard
Kr	83	2.0	0.0				ug/L	3	Standard
Br	81	4140.6	2.8				ug/L	4321	Standard
P	31	26429.7	3.6				ug/L	24331	Standard
S	34	5039.2	6.3				ug/L	3789	Standard
Sr	88	86.7	13.3				ug/L	78	Standard
C	12	130.0	42.8				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	19.2	49.6				mg/L	12	Standard
Ho-1	165	8.3	34.6				mg/L	7	Standard
Er	166	16.7	69.3				mg/L	20	Standard
I	127	2500.2	3.1				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		106.162	
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		94.549	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	96.595
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.992
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: F BLANK WG567499-02

Sample Date/Time: Thursday, May 05, 2016 14:47:07

Number of Replicates: 3

Autosampler Position: 219

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	87259.0	2.5				ug/L	82657	Standard
|	Be	9	25.0	34.6	-0.0229	0.007	28.9	ug/L	13	Standard
|	Al	27	1635.1	10.9	-0.0031	0.001	31.4	ug/L	1347	Standard
|	Sc	45	39742.1	3.4				ug/L	42879	Standard
|	Ti	47	27.3	24.9	-0.0486	0.022	45.4	ug/L	41	Standard
|	V	51	1584.9	30.8	-0.0590	0.051	86.8	ug/L	2416	Standard
|	Cr	52	12387.4	0.5	0.0910	0.012	13.7	ug/L	12475	Standard
|	Cr	53	16428.9	4.6	12.5282	0.631	5.0	ug/L	537	Standard
|	Mn	55	1245.4	2.1	0.0179	0.004	19.7	ug/L	1090	Standard
|	Co	59	272.7	3.1	-0.0040	0.001	29.1	ug/L	363	Standard
|	Ni	60	338.7	3.0	-0.0205	0.004	19.5	ug/L	399	Standard
|	Cu	65	540.7	8.6	0.0253	0.015	61.0	ug/L	492	Standard
|	Zn	66	1466.1	4.0	0.8251	0.038	4.6	ug/L	201	Standard
>	Ge	72	637749.8	1.2				ug/L	679875	Standard
|	As	75	-153.2	12.2	-0.0168	0.011	63.0	ug/L	-85	Standard
|	Se	82	36.2	32.8	0.0094	0.069	736.2	ug/L	29	Standard
|	Se-1	77	736.0	0.8	5.9129	0.035	0.6	ug/L	107	Standard
>	Ga	71	51.7	40.3				mg/L	37	Standard
|	Rb	85	16.7	75.5				ug/L	23	Standard
|	Y	89	521643.6	1.2				ug/L	562937	Standard
>	Rh	103	20.0	66.1				ug/L	13	Standard
|	Mo	98	30.6	33.1	0.0034	0.003	76.3	ug/L	25	Standard
|	Ag	107	95.0	9.2	-0.0043	0.001	16.3	ug/L	114	Standard
|	Cd	111	2.6	79.7	0.0001	0.001	627.7	mg/L	6	Standard
|	Cd	114	23.6	80.8	0.0009	0.003	275.5	ug/L	14	Standard
>	In	115	708592.3	1.9				ug/L	726030	Standard
|	Sn	118	736.7	2.2	-0.0065	0.003	48.2	ug/L	913	Standard
|	Sb	123	76.5	32.5	-0.0016	0.004	249.9	ug/L	308	Standard
|	Ba	135	54.3	3.8	-0.0001	0.001	826.6	ug/L	50	Standard
|	Ce	140	20.0	50.0				ug/L	122	Standard
>	Tb	159	1122602.1	2.3				ug/L	1169812	Standard
|	Ho	165	5.0	0.0				ug/L	7	Standard
|	Tl	203	145.7	8.6	0.0109	0.001	12.0	ug/L	11	Standard
|	Tl	205	125.0	4.0	0.0109	0.001	7.1	ug/L	8	Standard
|	Pb	206	517.3	2.8	0.0360	0.001	2.4	ug/L	277	Standard
|	Pb	207	443.7	3.4	0.0278	0.003	9.7	ug/L	262	Standard
|	Pb	208	1845.4	2.9	0.0319	0.004	11.4	ug/L	982	Standard
	U	238	6.7	48.2	-0.0000	0.000	1589.5	ug/L	8	Standard
>	Bi	209	589858.6	2.1				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	60.0	30.0	0.0092	0.015	161.7	mg/L	75	Standard
K	39	23.3	24.7	-0.0580	0.018	30.4	mg/L	32	Standard
Ca	43	28.3	27.0	0.2551	0.672	263.4	mg/L	50	Standard
Fe	54	223.9	14.0	-0.0032	0.019	581.9	mg/L	236	Standard
Fe	57	256.7	22.6	-0.0675	0.137	203.1	mg/L	352	Standard
Sc-1	45	39742.1	3.4				mg/L	42879	Standard
Cl	35	192142.9	1.8				ug/L	166385	Standard
Kr	83	1.3	86.6				ug/L	3	Standard
Br	81	4087.2	6.3				ug/L	4321	Standard
P	31	26473.1	3.9				ug/L	24331	Standard
S	34	4999.2	1.6				ug/L	3789	Standard
Sr	88	101.7	32.0				ug/L	78	Standard
C	12	180.0	20.0				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	22.5	70.4				mg/L	12	Standard
Ho-1	165	5.0	0.0				mg/L	7	Standard
Er	166	16.7	91.7				mg/L	20	Standard
I	127	2286.8	2.1				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		105.568	
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		93.804	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.598
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.362
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: F BLANK WG567499-02

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Method 6020 - Summary Report

Sample ID: L1605015301 WG567644-01

Sample Date/Time: Thursday, May 05, 2016 14:50:19

Number of Replicates: 3

Autosampler Position: 220

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	87775.2	2.0				ug/L	82657	Standard
|	Be	9	16.7	17.3	-0.0297	0.003	9.1	ug/L	13	Standard
|	Al	27	587852.8	1.9	2.6446	0.089	3.4	ug/L	1347	Standard
|	Sc	45	39920.9	2.3				ug/L	42879	Standard
|	Ti	47	25.0	8.0	-0.0578	0.004	7.7	ug/L	41	Standard
|	V	51	1718.1	14.9	-0.0485	0.029	60.4	ug/L	2416	Standard
|	Cr	52	11686.8	0.8	-0.0026	0.020	782.3	ug/L	12475	Standard
|	Cr	53	15114.2	2.5	11.2220	0.476	4.2	ug/L	537	Standard
|	Mn	55	20634.4	0.7	1.8071	0.048	2.7	ug/L	1090	Standard
|	Co	59	303.7	8.1	-0.0016	0.003	173.1	ug/L	363	Standard
|	Ni	60	420.0	4.1	0.0043	0.003	62.5	ug/L	399	Standard
|	Cu	65	523.0	2.0	0.0150	0.008	50.3	ug/L	492	Standard
|	Zn	66	1429.7	0.6	0.7813	0.024	3.0	ug/L	201	Standard
>	Ge	72	652526.9	2.3				ug/L	679875	Standard
|	As	75	-256.7	7.3	-0.0789	0.014	18.4	ug/L	-85	Standard
|	Se	82	26.0	12.9	-0.0556	0.016	29.0	ug/L	29	Standard
|	Se-1	77	718.4	4.5	5.6039	0.435	7.8	ug/L	107	Standard
>	Ga	71	45.0	19.2				mg/L	37	Standard
|	Rb	85	455.0	5.7				ug/L	23	Standard
|	Y	89	526661.0	4.0				ug/L	562937	Standard
>	Rh	103	8.3	34.6				ug/L	13	Standard
|	Mo	98	40.6	16.8	0.0058	0.002	30.5	ug/L	25	Standard
|	Ag	107	110.0	4.0	-0.0028	0.001	20.6	ug/L	114	Standard
|	Cd	111	6.6	8.5	0.0014	0.000	11.8	mg/L	6	Standard
|	Cd	114	23.7	23.9	0.0009	0.001	77.9	ug/L	14	Standard
>	In	115	713850.9	1.9				ug/L	726030	Standard
|	Sn	118	795.0	21.2	-0.0004	0.018	4418.7	ug/L	913	Standard
|	Sb	123	73.6	45.0	-0.0022	0.005	230.8	ug/L	308	Standard
|	Ba	135	457.7	2.0	0.1304	0.006	4.4	ug/L	50	Standard
|	Ce	140	21.7	74.2				ug/L	122	Standard
>	Tb	159	1137663.4	2.6				ug/L	1169812	Standard
|	Ho	165	16.7	75.5				ug/L	7	Standard
|	Tl	203	140.0	0.7	0.0104	0.000	2.7	ug/L	11	Standard
|	Tl	205	125.0	34.2	0.0109	0.005	41.8	ug/L	8	Standard
|	Pb	206	544.7	5.4	0.0398	0.005	13.5	ug/L	277	Standard
|	Pb	207	455.0	1.0	0.0294	0.002	5.9	ug/L	262	Standard
|	Pb	208	1903.4	3.1	0.0340	0.002	4.6	ug/L	982	Standard
	U	238	48.3	1.2	0.0047	0.000	3.0	ug/L	8	Standard
>	Bi	209	590977.3	1.7				ug/L	593643	Standard

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Na	23	1.7	173.2	11.0192	19.077	173.1	mg/L	2	Standard
Mg	24	395.0	2.2	0.3198	0.013	4.1	mg/L	75	Standard
K	39	25.0	20.0	-0.0521	0.018	35.1	mg/L	32	Standard
Ca	43	36.7	51.6	0.9437	1.608	170.4	mg/L	50	Standard
Fe	54	220.9	20.5	-0.0060	0.025	410.1	mg/L	236	Standard
Fe	57	246.7	18.8	-0.0936	0.122	130.0	mg/L	352	Standard
Sc-1	45	39920.9	2.3				mg/L	42879	Standard
Cl	35	193145.1	2.4				ug/L	166385	Standard
Kr	83	3.3	45.8				ug/L	3	Standard
Br	81	4347.3	5.9				ug/L	4321	Standard
P	31	26404.7	4.3				ug/L	24331	Standard
S	34	4740.7	2.3				ug/L	3789	Standard
Sr	88	98.3	12.8				ug/L	78	Standard
C	12	136.7	16.9				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	19.0	91.0				mg/L	12	Standard
Ho-1	165	16.7	75.5				mg/L	7	Standard
Er	166	20.0	0.0				mg/L	20	Standard
I	127	3235.3	3.3				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		106.193	
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		95.977	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605015301 WG567644-01

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.323
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.551
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605015301 WG567644-01

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Method 6020 - Summary Report

Sample ID: L1605015302S WG567644-04

Sample Date/Time: Thursday, May 05, 2016 14:53:30

Number of Replicates: 3

Autosampler Position: 221

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	92352.3	0.2				ug/L	82657	Standard
|	Be	9	595.0	14.7	0.4247	0.070	16.4	ug/L	13	Standard
|	Al	27	853931.9	2.3	3.6537	0.078	2.1	ug/L	1347	Standard
|	Sc	45	39013.5	1.2				ug/L	42879	Standard
|	Ti	47	3333.0	0.3	10.1261	0.084	0.8	ug/L	41	Standard
|	V	51	95877.2	0.9	9.7882	0.180	1.8	ug/L	2416	Standard
|	Cr	52	63717.4	1.4	5.0207	0.029	0.6	ug/L	12475	Standard
|	Cr	53	34925.2	0.6	26.9021	0.465	1.7	ug/L	537	Standard
|	Mn	55	75371.7	0.9	6.9577	0.061	0.9	ug/L	1090	Standard
|	Co	59	21087.0	1.0	2.0501	0.018	0.9	ug/L	363	Standard
|	Ni	60	14846.9	0.6	4.9469	0.026	0.5	ug/L	399	Standard
|	Cu	65	15008.1	0.9	5.0796	0.020	0.4	ug/L	492	Standard
|	Zn	66	17292.2	0.9	10.8651	0.029	0.3	ug/L	201	Standard
>	Ge	72	643786.7	1.1				ug/L	679875	Standard
|	As	75	5919.2	2.3	3.7902	0.122	3.2	ug/L	-85	Standard
|	Se	82	681.2	1.6	3.8758	0.102	2.6	ug/L	29	Standard
|	Se-1	77	1875.4	2.8	16.3396	0.599	3.7	ug/L	107	Standard
>	Ga	71	58.3	13.1				mg/L	37	Standard
|	Rb	85	590.0	14.0				ug/L	23	Standard
|	Y	89	528879.5	1.1				ug/L	562937	Standard
>	Rh	103	23.3	44.6				ug/L	13	Standard
|	Mo	98	38845.3	0.7	9.8653	0.012	0.1	ug/L	25	Standard
|	Ag	107	38586.7	1.1	3.9742	0.041	1.0	ug/L	114	Standard
|	Cd	111	1449.2	1.2	0.4861	0.006	1.1	mg/L	6	Standard
|	Cd	114	4048.5	1.6	0.5634	0.005	0.8	ug/L	14	Standard
>	In	115	702653.1	0.8				ug/L	726030	Standard
|	Sn	118	79380.8	1.9	9.6211	0.117	1.2	ug/L	913	Standard
|	Sb	123	75698.7	0.9	12.1008	0.049	0.4	ug/L	308	Standard
|	Ba	135	30369.7	0.4	9.9671	0.036	0.4	ug/L	50	Standard
|	Ce	140	50.0	10.0				ug/L	122	Standard
>	Tb	159	1126499.4	2.2				ug/L	1169812	Standard
|	Ho	165	20.0	50.0				ug/L	7	Standard
|	Tl	203	55499.8	1.2	4.8577	0.065	1.3	ug/L	11	Standard
|	Tl	205	48632.9	0.7	4.9943	0.040	0.8	ug/L	8	Standard
|	Pb	206	35259.3	0.4	4.9651	0.024	0.5	ug/L	277	Standard
|	Pb	207	31796.3	0.5	4.9339	0.028	0.6	ug/L	262	Standard
|	Pb	208	126017.6	0.5	5.0669	0.023	0.5	ug/L	982	Standard
	U	238	65.3	11.1	0.0066	0.001	12.4	ug/L	8	Standard
>	Bi	209	590530.0	0.1				ug/L	593643	Standard

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Na	23	3.3	86.6	22.2231	19.244	86.6	mg/L	2	Standard
Mg	24	953.4	2.9	0.8576	0.030	3.5	mg/L	75	Standard
K	39	171.7	11.8	0.4739	0.068	14.3	mg/L	32	Standard
Ca	43	35.0	24.7	0.8514	0.742	87.2	mg/L	50	Standard
Fe	54	246.8	15.4	0.0138	0.026	185.5	mg/L	236	Standard
Fe	57	293.3	11.3	0.0407	0.078	191.2	mg/L	352	Standard
Sc-1	45	39013.5	1.2				mg/L	42879	Standard
Cl	35	194379.8	1.8				ug/L	166385	Standard
Kr	83	3.0	33.3				ug/L	3	Standard
Br	81	4340.6	7.7				ug/L	4321	Standard
P	31	26548.3	2.8				ug/L	24331	Standard
S	34	4940.8	2.1				ug/L	3789	Standard
Sr	88	98.3	40.8				ug/L	78	Standard
C	12	110.0	18.2				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	3.0	187.1				mg/L	12	Standard
Ho-1	165	20.0	50.0				mg/L	7	Standard
Er	166	6.7	86.6				mg/L	20	Standard
I	127	3413.7	3.2				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		111.730	
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		94.692	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	96.780
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.476
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605015303SD WG567644-05

Sample Date/Time: Thursday, May 05, 2016 14:56:41

Number of Replicates: 3

Autosampler Position: 222

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	93895.1	1.3				ug/L	82657	Standard
|	Be	9	678.3	6.6	0.4813	0.032	6.6	ug/L	13	Standard
|	Al	27	857293.9	1.4	3.6079	0.040	1.1	ug/L	1347	Standard
|	Sc	45	39085.4	0.8				ug/L	42879	Standard
|	Ti	47	3221.0	0.1	9.8043	0.069	0.7	ug/L	41	Standard
|	V	51	96032.6	1.7	9.8274	0.208	2.1	ug/L	2416	Standard
|	Cr	52	63057.0	1.1	4.9720	0.104	2.1	ug/L	12475	Standard
|	Cr	53	35937.6	2.0	27.7612	0.736	2.7	ug/L	537	Standard
|	Mn	55	75840.0	1.1	7.0185	0.119	1.7	ug/L	1090	Standard
|	Co	59	20735.2	0.9	2.0202	0.031	1.5	ug/L	363	Standard
|	Ni	60	14725.2	1.4	4.9173	0.102	2.1	ug/L	399	Standard
|	Cu	65	14955.7	1.4	5.0739	0.104	2.1	ug/L	492	Standard
|	Zn	66	17357.3	0.8	10.9328	0.158	1.4	ug/L	201	Standard
>	Ge	72	642277.3	0.6				ug/L	679875	Standard
|	As	75	5966.1	3.0	3.8273	0.095	2.5	ug/L	-85	Standard
|	Se	82	669.0	2.3	3.8108	0.070	1.8	ug/L	29	Standard
|	Se-1	77	1854.1	2.9	16.1809	0.518	3.2	ug/L	107	Standard
>	Ga	71	46.7	32.7				mg/L	37	Standard
|	Rb	85	656.7	5.0				ug/L	23	Standard
|	Y	89	526210.1	0.4				ug/L	562937	Standard
>	Rh	103	16.7	17.3				ug/L	13	Standard
|	Mo	98	38494.4	0.4	9.7425	0.074	0.8	ug/L	25	Standard
|	Ag	107	38004.3	1.5	3.9003	0.045	1.1	ug/L	114	Standard
|	Cd	111	1397.7	2.4	0.4672	0.013	2.8	mg/L	6	Standard
|	Cd	114	3810.9	6.7	0.5283	0.033	6.3	ug/L	14	Standard
>	In	115	705094.8	0.6				ug/L	726030	Standard
|	Sn	118	79347.3	2.9	9.5832	0.234	2.4	ug/L	913	Standard
|	Sb	123	75039.3	1.0	11.9535	0.048	0.4	ug/L	308	Standard
|	Ba	135	30124.9	1.8	9.8517	0.122	1.2	ug/L	50	Standard
|	Ce	140	38.3	32.8				ug/L	122	Standard
>	Tb	159	1125541.0	1.0				ug/L	1169812	Standard
|	Ho	165	10.0	50.0				ug/L	7	Standard
|	Tl	203	55458.0	0.7	4.8350	0.039	0.8	ug/L	11	Standard
|	Tl	205	48390.5	2.4	4.9496	0.099	2.0	ug/L	8	Standard
|	Pb	206	34660.6	1.4	4.8616	0.121	2.5	ug/L	277	Standard
|	Pb	207	31460.3	1.0	4.8624	0.090	1.9	ug/L	262	Standard
|	Pb	208	124255.4	0.4	4.9759	0.054	1.1	ug/L	982	Standard
	U	238	79.7	33.1	0.0081	0.003	35.9	ug/L	8	Standard
>	Bi	209	592894.6	1.5				ug/L	593643	Standard

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Na	23	1.7	173.2	11.1475	19.299	173.1	mg/L	2	Standard
Mg	24	1070.0	1.9	0.9663	0.019	2.0	mg/L	75	Standard
K	39	151.7	13.3	0.4020	0.076	18.9	mg/L	32	Standard
Ca	43	43.3	58.1	1.5440	2.107	136.4	mg/L	50	Standard
Fe	54	298.8	16.1	0.0457	0.029	63.6	mg/L	236	Standard
Fe	57	295.0	13.9	0.0446	0.110	246.1	mg/L	352	Standard
Sc-1	45	39085.4	0.8				mg/L	42879	Standard
Cl	35	187759.3	2.3				ug/L	166385	Standard
Kr	83	1.7	34.6				ug/L	3	Standard
Br	81	4070.5	4.7				ug/L	4321	Standard
P	31	27271.3	8.1				ug/L	24331	Standard
S	34	4634.0	5.1				ug/L	3789	Standard
Sr	88	105.0	25.2				ug/L	78	Standard
C	12	90.0	33.3				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	6.0	93.6				mg/L	12	Standard
Ho-1	165	10.0	50.0				mg/L	7	Standard
Er	166	13.3	43.3				mg/L	20	Standard
I	127	3242.0	0.9				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		113.597	
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		94.470	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605015303SD WG567644-05

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.117
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.874
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605015303SD WG567644-05

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Method 6020 - Summary Report

Sample ID: L1605006201

Sample Date/Time: Thursday, May 05, 2016 15:00:57

Number of Replicates: 3

Autosampler Position: 226

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	89341.1	2.5				ug/L	82657	Standard
|	Be	9	10.0		-0.0354	0.000	0.6	ug/L	13	Standard
|	Al	27	2676.9	5.1	0.0013	0.001	50.2	ug/L	1347	Standard
|	Sc	45	39919.2	2.8				ug/L	42879	Standard
|	Ti	47	24.0	11.0	-0.0604	0.009	14.5	ug/L	41	Standard
|	V	51	2371.5	18.7	0.0197	0.047	237.2	ug/L	2416	Standard
|	Cr	52	12692.0	1.8	0.0988	0.036	36.8	ug/L	12475	Standard
|	Cr	53	9988.3	5.5	7.2883	0.341	4.7	ug/L	537	Standard
|	Mn	55	1322.7	2.5	0.0230	0.003	15.1	ug/L	1090	Standard
|	Co	59	422.7	1.4	0.0102	0.000	2.4	ug/L	363	Standard
|	Ni	60	1112.0	2.2	0.2401	0.015	6.1	ug/L	399	Standard
|	Cu	65	1311.7	2.5	0.2890	0.007	2.3	ug/L	492	Standard
|	Zn	66	10507.6	1.8	6.5021	0.226	3.5	ug/L	201	Standard
>	Ge	72	649391.5	1.8				ug/L	679875	Standard
|	As	75	-136.9	54.4	-0.0050	0.046	936.6	ug/L	-85	Standard
|	Se	82	212.9	5.1	1.0562	0.054	5.1	ug/L	29	Standard
|	Se-1	77	843.0	2.6	6.7702	0.321	4.7	ug/L	107	Standard
>	Ga	71	75.0	17.6				mg/L	37	Standard
|	Rb	85	24337.9	1.1				ug/L	23	Standard
|	Y	89	530000.3	3.8				ug/L	562937	Standard
>	Rh	103	13.3	21.7				ug/L	13	Standard
|	Mo	98	745.0	4.8	0.1834	0.005	2.8	ug/L	25	Standard
|	Ag	107	100.0	1.0	-0.0038	0.000	9.9	ug/L	114	Standard
|	Cd	111	6.0	24.3	0.0012	0.000	34.1	mg/L	6	Standard
|	Cd	114	9.7	144.5	-0.0010	0.002	204.4	ug/L	14	Standard
>	In	115	708488.4	3.0				ug/L	726030	Standard
|	Sn	118	880.0	8.6	0.0109	0.010	92.5	ug/L	913	Standard
|	Sb	123	136.2	27.1	0.0080	0.006	78.4	ug/L	308	Standard
|	Ba	135	10776.2	1.6	3.4991	0.158	4.5	ug/L	50	Standard
|	Ce	140	16.7	34.6				ug/L	122	Standard
>	Tb	159	1130406.3	1.6				ug/L	1169812	Standard
|	Ho	165	8.3	34.6				ug/L	7	Standard
|	Tl	203	198.3	4.2	0.0157	0.001	3.6	ug/L	11	Standard
|	Tl	205	175.0	13.1	0.0161	0.002	12.9	ug/L	8	Standard
|	Pb	206	7194.0	1.1	0.9929	0.014	1.4	ug/L	277	Standard
|	Pb	207	6121.9	0.8	0.9255	0.024	2.6	ug/L	262	Standard
|	Pb	208	24581.5	1.5	0.9633	0.026	2.7	ug/L	982	Standard
	U	238	6.7	31.2	-0.0000	0.000	1673.1	ug/L	8	Standard
>	Bi	209	585044.1	1.8				ug/L	593643	Standard

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Na	23	3.3	173.2	21.6051	37.413	173.2	mg/L	2	Standard
Mg	24	7655.3	1.5	7.0484	0.088	1.2	mg/L	75	Standard
K	39	1373.4	3.4	4.6637	0.276	5.9	mg/L	32	Standard
Ca	43	148.3	16.6	10.0741	1.788	17.7	mg/L	50	Standard
Fe	54	207.3	24.0	-0.0136	0.033	243.3	mg/L	236	Standard
Fe	57	338.3	8.7	0.1398	0.096	68.6	mg/L	352	Standard
Sc-1	45	39919.2	2.8				mg/L	42879	Standard
Cl	35	194188.6	1.3				ug/L	166385	Standard
Kr	83	2.3	24.7				ug/L	3	Standard
Br	81	5441.0	1.1				ug/L	4321	Standard
P	31	26017.4	5.7				ug/L	24331	Standard
S	34	4800.8	3.7				ug/L	3789	Standard
Sr	88	103.3	26.6				ug/L	78	Standard
C	12	183.3	19.2				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	12.4	122.3				mg/L	12	Standard
Ho-1	165	8.3	34.6				mg/L	7	Standard
Er	166	20.0	86.6				mg/L	20	Standard
I	127	29607.3	3.9				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.087	
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		95.516	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605006201

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.584
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	98.551
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

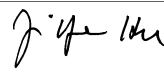
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605006201

Report Date/Time: Thursday, May 05, 2016 15:03:14

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Method 6020 - Summary Report

Sample ID: L1605006101

Sample Date/Time: Thursday, May 05, 2016 15:04:10

Number of Replicates: 3

Autosampler Position: 223

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	87907.7	1.8				ug/L	82657	Standard
|	Be	9	13.3	94.4	-0.0326	0.010	31.5	ug/L	13	Standard
|	Al	27	4791.1	81.3	0.0109	0.017	157.0	ug/L	1347	Standard
|	Sc	45	38500.5	0.3				ug/L	42879	Standard
|	Ti	47	32.7	55.6	-0.0328	0.055	168.7	ug/L	41	Standard
|	V	51	2107.6	22.6	-0.0044	0.050	1133.3	ug/L	2416	Standard
|	Cr	52	13210.8	0.3	0.1669	0.010	6.1	ug/L	12475	Standard
|	Cr	53	10135.1	0.9	7.5224	0.030	0.4	ug/L	537	Standard
|	Mn	55	1386.4	3.2	0.0308	0.003	9.6	ug/L	1090	Standard
|	Co	59	424.7	7.7	0.0110	0.003	26.2	ug/L	363	Standard
|	Ni	60	1066.4	6.2	0.2299	0.023	10.0	ug/L	399	Standard
|	Cu	65	782.0	11.4	0.1095	0.030	27.6	ug/L	492	Standard
|	Zn	66	4156.9	2.6	2.5409	0.051	2.0	ug/L	201	Standard
>	Ge	72	639804.6	0.9				ug/L	679875	Standard
|	As	75	-144.1	21.5	-0.0108	0.019	174.7	ug/L	-85	Standard
|	Se	82	109.6	2.4	0.4526	0.022	4.8	ug/L	29	Standard
|	Se-1	77	784.7	0.9	6.3422	0.118	1.9	ug/L	107	Standard
>	Ga	71	53.3	53.3				mg/L	37	Standard
|	Rb	85	22905.6	1.7				ug/L	23	Standard
|	Y	89	521489.2	1.7				ug/L	562937	Standard
>	Rh	103	11.7	24.7				ug/L	13	Standard
|	Mo	98	513.3	4.2	0.1279	0.005	3.6	ug/L	25	Standard
|	Ag	107	117.3	27.1	-0.0017	0.003	188.5	ug/L	114	Standard
|	Cd	111	9.3	98.6	0.0024	0.003	129.1	mg/L	6	Standard
|	Cd	114	26.7	53.4	0.0015	0.002	136.5	ug/L	14	Standard
>	In	115	692823.0	1.2				ug/L	726030	Standard
|	Sn	118	1055.0	9.4	0.0351	0.013	38.3	ug/L	913	Standard
|	Sb	123	109.1	25.4	0.0040	0.004	111.1	ug/L	308	Standard
|	Ba	135	24715.5	0.7	8.2244	0.149	1.8	ug/L	50	Standard
|	Ce	140	18.3	68.6				ug/L	122	Standard
>	Tb	159	1123018.8	1.0				ug/L	1169812	Standard
|	Ho	165	10.0	86.6				ug/L	7	Standard
|	Tl	203	201.7	22.5	0.0156	0.004	24.3	ug/L	11	Standard
|	Tl	205	171.7	8.9	0.0155	0.001	9.1	ug/L	8	Standard
|	Pb	206	5491.0	1.7	0.7361	0.009	1.2	ug/L	277	Standard
|	Pb	207	4559.0	3.0	0.6667	0.018	2.7	ug/L	262	Standard
|	Pb	208	18638.1	1.0	0.7074	0.004	0.6	ug/L	982	Standard
	U	238	16.0	106.6	0.0010	0.002	187.4	ug/L	8	Standard
>	Bi	209	594682.3	0.8				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	7917.1	0.8	7.5598	0.073	1.0	mg/L	75	Standard
K	39	1233.4	8.0	4.3278	0.341	7.9	mg/L	32	Standard
Ca	43	118.3	42.3	7.9840	4.241	53.1	mg/L	50	Standard
Fe	54	213.9	29.3	-0.0051	0.040	774.1	mg/L	236	Standard
Fe	57	351.7	4.3	0.2046	0.037	18.3	mg/L	352	Standard
Sc-1	45	38500.5	0.3				mg/L	42879	Standard
Cl	35	197735.4	1.3				ug/L	166385	Standard
Kr	83	0.7	173.2				ug/L	3	Standard
Br	81	5267.6	2.2				ug/L	4321	Standard
P	31	26181.0	4.5				ug/L	24331	Standard
S	34	4647.4	1.0				ug/L	3789	Standard
Sr	88	103.3	26.6				ug/L	78	Standard
C	12	233.3	2.5				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	13.3	43.3				mg/L	3	Standard
Dy	164	16.0	75.6				mg/L	12	Standard
Ho-1	165	10.0	86.6				mg/L	7	Standard
Er	166	13.3	114.6				mg/L	20	Standard
I	127	13279.2	5.9				mg/L	2570	Standard

QC Calculated Values

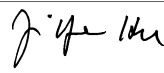
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		106.353	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		94.106	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.426
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	100.175
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

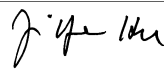
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 05, 2016 15:07:23

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	84997.8	1.3				ug/L	82657	Standard
|	Be	9	58949.5	2.7	50.3532	1.112	2.2	ug/L	13	Standard
|	Al	27	10207035.5	0.8	47.5837	0.628	1.3	ug/L	1347	Standard
|	Sc	45	39015.2	1.8				ug/L	42879	Standard
|	Ti	47	31717.8	0.7	99.1467	1.703	1.7	ug/L	41	Standard
|	V	51	475310.1	1.2	50.2547	1.108	2.2	ug/L	2416	Standard
|	Cr	52	518279.9	1.3	49.6218	0.956	1.9	ug/L	12475	Standard
|	Cr	53	63604.9	2.5	50.2143	1.413	2.8	ug/L	537	Standard
|	Mn	55	523407.5	0.9	49.7356	0.688	1.4	ug/L	1090	Standard
|	Co	59	503170.0	1.7	50.4671	1.036	2.1	ug/L	363	Standard
|	Ni	60	142675.4	1.8	49.5503	1.315	2.7	ug/L	399	Standard
|	Cu	65	143398.9	2.0	50.7973	1.320	2.6	ug/L	492	Standard
|	Zn	66	78386.6	1.7	50.5017	1.335	2.6	ug/L	201	Standard
>	Ge	72	633148.4	1.1				ug/L	679875	Standard
|	As	75	77949.0	1.3	49.7575	1.173	2.4	ug/L	-85	Standard
|	Se	82	8107.8	1.2	49.2214	0.989	2.0	ug/L	29	Standard
|	Se-1	77	5563.4	1.0	51.1496	0.995	1.9	ug/L	107	Standard
>	Ga	71	51.7	20.1				mg/L	37	Standard
|	Rb	85	1105.0	8.2				ug/L	23	Standard
|	Y	89	514927.2	0.4				ug/L	562937	Standard
>	Rh	103	25.0	20.0				ug/L	13	Standard
|	Mo	98	383967.1	1.2	99.1370	2.868	2.9	ug/L	25	Standard
|	Ag	107	468826.2	0.4	49.2256	1.049	2.1	ug/L	114	Standard
|	Cd	111	145721.4	1.3	49.7434	1.311	2.6	mg/L	6	Standard
|	Cd	114	352767.1	2.0	50.0992	1.783	3.6	ug/L	14	Standard
>	In	115	691678.6	2.1				ug/L	726030	Standard
|	Sn	118	404789.5	0.9	50.2532	0.669	1.3	ug/L	913	Standard
|	Sb	123	304936.3	0.8	49.5732	0.903	1.8	ug/L	308	Standard
|	Ba	135	146693.5	1.3	48.9822	0.497	1.0	ug/L	50	Standard
|	Ce	140	135.0	18.5				ug/L	122	Standard
>	Tb	159	1115674.8	2.1				ug/L	1169812	Standard
|	Ho	165	13.3	21.7				ug/L	7	Standard
|	Tl	203	547234.5	0.8	50.0106	0.712	1.4	ug/L	11	Standard
|	Tl	205	475016.9	1.2	50.9341	0.841	1.7	ug/L	8	Standard
|	Pb	206	336460.2	0.8	49.7890	0.687	1.4	ug/L	277	Standard
|	Pb	207	306124.0	0.8	49.9576	0.682	1.4	ug/L	262	Standard
|	Pb	208	1222068.8	0.6	51.6797	0.563	1.1	ug/L	982	Standard
	U	238	441837.3	0.9	51.8057	0.762	1.5	ug/L	8	Standard
>	Bi	209	565802.7	0.6				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	5634.4	1.3	5.2958	0.054	1.0	mg/L	75	Standard
K	39	1295.1	1.3	4.4907	0.077	1.7	mg/L	32	Standard
Ca	43	51.7	48.7	2.2751	2.175	95.6	mg/L	50	Standard
Fe	54	8089.7	2.8	4.9142	0.083	1.7	mg/L	236	Standard
Fe	57	2378.5	3.5	5.4451	0.108	2.0	mg/L	352	Standard
Sc-1	45	39015.2	1.8				mg/L	42879	Standard
Cl	35	182024.3	1.1				ug/L	166385	Standard
Kr	83	1.7	69.3				ug/L	3	Standard
Br	81	3830.5	8.1				ug/L	4321	Standard
P	31	28082.7	1.2				ug/L	24331	Standard
S	34	5109.2	4.3				ug/L	3789	Standard
Sr	88	85.0	41.2				ug/L	78	Standard
C	12	106.7	43.3				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	3	Standard
Dy	164	16.2	68.8				mg/L	12	Standard
Ho-1	165	13.3	21.7				mg/L	7	Standard
Er	166	10.0	100.0				mg/L	20	Standard
I	127	1945.1	12.4				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	100.706		
Al	27	95.167		
Sc	45			
Ti	47	99.147		
V	51	100.509		
Cr	52	99.244		
Cr	53			
Mn	55	99.471		
Co	59	100.934		
Ni	60	99.101		
Cu	65	101.595		
Zn	66	101.003		
Ge	72		93.127	
As	75	99.515		
Se	82	98.443		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	99.137	
[Ag	107	98.451	
[Cd	111	99.487	
[Cd	114		
>	In	115		95.269
[Sn	118	100.506	
[	Sb	123	99.146	
[	Ba	135	97.964	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.021	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	103.359	
[	U	238	103.611	
>	Bi	209		95.310
[	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		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

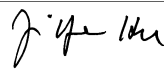
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 05, 2016 15:10:35

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	83685.5	1.1				ug/L	82657	Standard
|	Be	9	28.3	36.7	-0.0190	0.009	46.1	ug/L	13	Standard
|	Al	27	2600.2	30.8	0.0018	0.004	209.0	ug/L	1347	Standard
|	Sc	45	39722.0	2.2				ug/L	42879	Standard
|	Ti	47	30.7	22.9	-0.0391	0.022	55.7	ug/L	41	Standard
|	V	51	1974.0	10.2	-0.0195	0.021	108.6	ug/L	2416	Standard
|	Cr	52	10395.9	1.1	-0.1104	0.014	12.6	ug/L	12475	Standard
|	Cr	53	995.0	5.6	0.3120	0.044	14.2	ug/L	537	Standard
|	Mn	55	1004.0	9.4	-0.0057	0.008	146.9	ug/L	1090	Standard
|	Co	59	342.0	4.6	0.0026	0.001	53.0	ug/L	363	Standard
|	Ni	60	332.3	5.7	-0.0236	0.007	28.9	ug/L	399	Standard
|	Cu	65	438.0	8.3	-0.0121	0.012	98.6	ug/L	492	Standard
|	Zn	66	270.7	5.6	0.0574	0.010	17.1	ug/L	201	Standard
>	Ge	72	642762.8	0.5				ug/L	679875	Standard
|	As	75	-158.5	26.1	-0.0194	0.026	131.6	ug/L	-85	Standard
|	Se	82	29.5	11.3	-0.0319	0.021	65.6	ug/L	29	Standard
|	Se-1	77	124.0	2.4	0.2169	0.023	10.4	ug/L	107	Standard
>	Ga	71	28.3	44.4				mg/L	37	Standard
|	Rb	85	13.3	94.4				ug/L	23	Standard
|	Y	89	519653.5	1.2				ug/L	562937	Standard
>	Rh	103	15.0	57.7				ug/L	13	Standard
|	Mo	98	242.3	9.6	0.0572	0.006	10.3	ug/L	25	Standard
|	Ag	107	170.0	15.6	0.0035	0.003	78.0	ug/L	114	Standard
|	Cd	111	18.9	49.7	0.0056	0.003	56.3	mg/L	6	Standard
|	Cd	114	61.6	54.4	0.0063	0.005	74.2	ug/L	14	Standard
>	In	115	703349.1	0.6				ug/L	726030	Standard
|	Sn	118	1370.1	18.8	0.0716	0.032	44.1	ug/L	913	Standard
|	Sb	123	750.1	26.9	0.1063	0.033	30.8	ug/L	308	Standard
|	Ba	135	125.3	7.4	0.0234	0.003	12.3	ug/L	50	Standard
|	Ce	140	21.7	13.3				ug/L	122	Standard
>	Tb	159	1116548.2	1.1				ug/L	1169812	Standard
|	Ho	165	11.7	89.2				ug/L	7	Standard
|	TI	203	129.7	34.3	0.0097	0.004	39.4	ug/L	11	Standard
|	TI	205	103.3	24.4	0.0088	0.002	28.3	ug/L	8	Standard
|	Pb	206	342.7	8.9	0.0119	0.004	33.9	ug/L	277	Standard
|	Pb	207	277.7	14.5	0.0024	0.006	238.5	ug/L	262	Standard
|	Pb	208	1225.0	7.0	0.0074	0.003	40.6	ug/L	982	Standard
	U	238	62.7	33.1	0.0064	0.002	35.6	ug/L	8	Standard
>	Bi	209	580588.4	1.5				ug/L	593643	Standard

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Na	23	3.3	86.6	21.8552	18.935	86.6	mg/L	2	Standard
Mg	24	51.7	20.1	0.0019	0.011	561.3	mg/L	75	Standard
K	39	20.0	43.3	-0.0688	0.032	47.0	mg/L	32	Standard
Ca	43	28.3	40.8	0.2321	0.915	394.2	mg/L	50	Standard
Fe	54	224.2	19.9	-0.0026	0.031	1190.2	mg/L	236	Standard
Fe	57	263.3	4.0	-0.0485	0.025	50.7	mg/L	352	Standard
Sc-1	45	39722.0	2.2				mg/L	42879	Standard
Cl	35	194414.7	0.3				ug/L	166385	Standard
Kr	83	3.0	88.2				ug/L	3	Standard
Br	81	4100.6	7.2				ug/L	4321	Standard
P	31	27588.4	1.4				ug/L	24331	Standard
S	34	5461.0	1.9				ug/L	3789	Standard
Sr	88	88.3	17.3				ug/L	78	Standard
C	12	100.0	30.0				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	12.1	50.8				mg/L	12	Standard
Ho-1	165	11.7	89.2				mg/L	7	Standard
Er	166	26.7	78.1				mg/L	20	Standard
I	127	1956.8	6.5				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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		94.541	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	96.876
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
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[Pb	206	
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[Pb	208	
[U	238	
>	Bi	209	97.801
[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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: L1605006101PS WG567702-01

Sample Date/Time: Thursday, May 05, 2016 15:13:48

Number of Replicates: 3

Autosampler Position: 224

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	86818.0	1.0				ug/L	82657	Standard
|	Be	9	60597.7	3.1	50.6890	1.983	3.9	ug/L	13	Standard
|	Al	27	3108.7	5.8	0.0037	0.001	20.3	ug/L	1347	Standard
|	Sc	45	39902.5	4.0				ug/L	42879	Standard
|	Ti	47	35.0	29.7	-0.0257	0.032	125.9	ug/L	41	Standard
|	V	51	487736.0	0.2	50.8195	0.256	0.5	ug/L	2416	Standard
|	Cr	52	533080.9	0.7	50.3119	0.195	0.4	ug/L	12475	Standard
|	Cr	53	69343.4	2.3	53.9862	1.342	2.5	ug/L	537	Standard
|	Mn	55	538593.7	1.5	50.4380	0.817	1.6	ug/L	1090	Standard
|	Co	59	516108.0	1.1	51.0144	0.673	1.3	ug/L	363	Standard
|	Ni	60	146853.3	1.3	50.2587	0.652	1.3	ug/L	399	Standard
|	Cu	65	147919.9	0.7	51.6385	0.399	0.8	ug/L	492	Standard
|	Zn	66	84110.2	0.9	53.4043	0.476	0.9	ug/L	201	Standard
>	Ge	72	642423.7	0.3				ug/L	679875	Standard
|	As	75	79672.8	0.6	50.1143	0.183	0.4	ug/L	-85	Standard
|	Se	82	8390.6	1.4	50.2014	0.780	1.6	ug/L	29	Standard
|	Se-1	77	6281.3	1.6	57.0123	0.784	1.4	ug/L	107	Standard
>	Ga	71	66.7	31.2				mg/L	37	Standard
|	Rb	85	23049.2	1.5				ug/L	23	Standard
|	Y	89	527029.6	0.6				ug/L	562937	Standard
>	Rh	103	31.7	63.8				ug/L	13	Standard
|	Mo	98	558.9	1.9	0.1367	0.003	2.1	ug/L	25	Standard
|	Ag	107	477887.3	1.1	49.0346	0.670	1.4	ug/L	114	Standard
|	Cd	111	150291.7	0.6	50.1336	0.424	0.8	mg/L	6	Standard
|	Cd	114	364532.7	2.3	50.5850	1.274	2.5	ug/L	14	Standard
>	In	115	707604.2	0.3				ug/L	726030	Standard
|	Sn	118	1150.0	5.0	0.0438	0.007	15.0	ug/L	913	Standard
|	Sb	123	308408.0	2.2	48.9999	1.234	2.5	ug/L	308	Standard
|	Ba	135	172768.5	0.6	56.3870	0.470	0.8	ug/L	50	Standard
|	Ce	140	35.0	57.1				ug/L	122	Standard
>	Tb	159	1123479.3	1.3				ug/L	1169812	Standard
|	Ho	165	6.7	86.6				ug/L	7	Standard
|	Tl	203	559874.8	0.6	48.1754	0.084	0.2	ug/L	11	Standard
|	Tl	205	494628.5	1.5	49.9417	1.075	2.2	ug/L	8	Standard
|	Pb	206	355578.2	0.8	49.5449	0.616	1.2	ug/L	277	Standard
|	Pb	207	312136.8	0.6	47.9628	0.617	1.3	ug/L	262	Standard
|	Pb	208	1265404.5	0.3	50.3864	0.450	0.9	ug/L	982	Standard
	U	238	443802.6	0.3	48.9962	0.377	0.8	ug/L	8	Standard
>	Bi	209	600890.6	0.7				ug/L	593643	Standard

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Na	23	1.7	173.2	11.1216	19.255	173.1	mg/L	2	Standard
Mg	24	7638.6	3.5	7.0355	0.069	1.0	mg/L	75	Standard
K	39	1286.7	5.5	4.3692	0.419	9.6	mg/L	32	Standard
Ca	43	140.0	10.7	9.4274	1.292	13.7	mg/L	50	Standard
Fe	54	200.4	10.0	-0.0182	0.011	58.4	mg/L	236	Standard
Fe	57	336.7	6.7	0.1362	0.085	62.1	mg/L	352	Standard
Sc-1	45	39902.5	4.0				mg/L	42879	Standard
Cl	35	202821.9	1.0				ug/L	166385	Standard
Kr	83	3.7	31.5				ug/L	3	Standard
Br	81	5310.9	3.7				ug/L	4321	Standard
P	31	27950.8	1.7				ug/L	24331	Standard
S	34	5327.6	5.5				ug/L	3789	Standard
Sr	88	100.0	13.2				ug/L	78	Standard
C	12	206.7	35.7				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	2.1	295.2				mg/L	12	Standard
Ho-1	165	6.7	86.6				mg/L	7	Standard
Er	166	26.7	43.3				mg/L	20	Standard
I	127	13194.1	5.9				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		105.035	
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		94.491	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.462
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	101.221
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605006101SDL WG567702-02

Sample Date/Time: Thursday, May 05, 2016 15:17:00

Number of Replicates: 3

Autosampler Position: 225

Sample Description: 250

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	77114.1	1.4				ug/L	82657	Standard
|	Be	9	26.7	39.0	-0.0185	0.010	53.2	ug/L	13	Standard
|	Al	27	1535.1	9.2	-0.0027	0.001	26.3	ug/L	1347	Standard
|	Sc	45	35558.4	2.4				ug/L	42879	Standard
|	Ti	47	24.3	2.4	-0.0520	0.002	4.6	ug/L	41	Standard
|	V	51	1806.0	3.1	-0.0203	0.008	37.9	ug/L	2416	Standard
|	Cr	52	9284.2	1.3	-0.1387	0.015	10.6	ug/L	12475	Standard
|	Cr	53	2691.9	8.1	1.8310	0.203	11.1	ug/L	537	Standard
|	Mn	55	851.0	4.9	-0.0130	0.004	33.4	ug/L	1090	Standard
|	Co	59	351.3	5.8	0.0066	0.002	31.4	ug/L	363	Standard
|	Ni	60	425.3	2.0	0.0212	0.002	9.2	ug/L	399	Standard
|	Cu	65	471.0	7.2	0.0140	0.013	89.8	ug/L	492	Standard
|	Zn	66	2286.8	3.4	1.4677	0.043	2.9	ug/L	201	Standard
>	Ge	72	590689.5	0.8				ug/L	679875	Standard
|	As	75	-98.3	52.4	0.0129	0.035	273.9	ug/L	-85	Standard
|	Se	82	45.4	16.1	0.0881	0.049	56.0	ug/L	29	Standard
|	Se-1	77	226.7	3.7	1.3479	0.087	6.5	ug/L	107	Standard
>	Ga	71	30.0	88.2				mg/L	37	Standard
|	Rb	85	4183.9	5.8				ug/L	23	Standard
|	Y	89	476484.3	1.7				ug/L	562937	Standard
>	Rh	103	15.0	88.2				ug/L	13	Standard
|	Mo	98	132.6	5.4	0.0326	0.002	6.0	ug/L	25	Standard
|	Ag	107	232.3	22.4	0.0123	0.006	48.2	ug/L	114	Standard
|	Cd	111	29.1	66.0	0.0100	0.007	71.0	mg/L	6	Standard
|	Cd	114	95.1	46.3	0.0122	0.007	55.2	ug/L	14	Standard
>	In	115	641682.6	0.1				ug/L	726030	Standard
|	Sn	118	493.3	11.7	-0.0299	0.008	26.1	ug/L	913	Standard
|	Sb	123	1286.1	30.4	0.2116	0.068	32.3	ug/L	308	Standard
|	Ba	135	4440.7	2.0	1.5809	0.033	2.1	ug/L	50	Standard
|	Ce	140	10.0	86.6				ug/L	122	Standard
>	Tb	159	1034507.5	0.9				ug/L	1169812	Standard
|	Ho	165	11.7	107.9				ug/L	7	Standard
|	Tl	203	279.7	16.4	0.0244	0.004	17.7	ug/L	11	Standard
|	Tl	205	235.0	19.5	0.0239	0.005	21.3	ug/L	8	Standard
|	Pb	206	1366.1	4.2	0.1704	0.008	4.9	ug/L	277	Standard
|	Pb	207	1190.4	7.5	0.1581	0.015	9.5	ug/L	262	Standard
|	Pb	208	4756.3	1.0	0.1638	0.003	1.5	ug/L	982	Standard
	U	238	70.3	9.0	0.0077	0.001	10.0	ug/L	8	Standard
>	Bi	209	550530.7	0.3				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	1388.4	0.9	1.3982	0.026	1.8	mg/L	75	Standard
K	39	273.3	12.8	0.9346	0.157	16.8	mg/L	32	Standard
Ca	43	31.7	48.2	0.8494	1.463	172.2	mg/L	50	Standard
Fe	54	121.0	6.3	-0.0577	0.003	5.8	mg/L	236	Standard
Fe	57	286.7	10.1	0.0953	0.062	65.3	mg/L	352	Standard
Sc-1	45	35558.4	2.4				mg/L	42879	Standard
Cl	35	179904.4	0.4				ug/L	166385	Standard
Kr	83	2.3	65.5				ug/L	3	Standard
Br	81	3533.7	2.6				ug/L	4321	Standard
P	31	12663.6	2.2				ug/L	24331	Standard
S	34	4759.1	5.3				ug/L	3789	Standard
Sr	88	95.0	32.0				ug/L	78	Standard
C	12	126.7	16.4				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	22.5	178.7				mg/L	12	Standard
Ho-1	165	11.7	107.9				mg/L	7	Standard
Er	166	16.7	34.6				mg/L	20	Standard
I	127	4629.0	1.7				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		93.295	
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		86.882	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	88.382
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	92.738
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1604161302

Sample Date/Time: Thursday, May 05, 2016 15:20:12

Number of Replicates: 3

Autosampler Position: 227

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	74323.7	4.1				ug/L	82657	Standard
|	Be	9	13.3	43.3	-0.0306	0.005	17.1	ug/L	13	Standard
|	Al	27	312338.5	1.3	1.6562	0.049	2.9	ug/L	1347	Standard
|	Sc	45	34338.9	0.8				ug/L	42879	Standard
|	Ti	47	26.7	9.4	-0.0427	0.009	20.1	ug/L	41	Standard
|	V	51	2015.8	5.5	0.0073	0.013	178.5	ug/L	2416	Standard
|	Cr	52	8291.9	0.7	-0.2285	0.006	2.8	ug/L	12475	Standard
|	Cr	53	871.7	10.1	0.2877	0.076	26.4	ug/L	537	Standard
|	Mn	55	1690.8	0.4	0.0756	0.001	1.0	ug/L	1090	Standard
|	Co	59	301.7	5.2	0.0018	0.002	94.6	ug/L	363	Standard
|	Ni	60	412.7	2.5	0.0190	0.004	21.2	ug/L	399	Standard
|	Cu	65	361.3	10.5	-0.0255	0.015	57.6	ug/L	492	Standard
|	Zn	66	1638.4	3.7	1.0378	0.043	4.1	ug/L	201	Standard
>	Ge	72	581122.9	0.1				ug/L	679875	Standard
|	As	75	-42.1	72.0	0.0507	0.021	41.5	ug/L	-85	Standard
|	Se	82	50.9	22.6	0.1293	0.077	59.3	ug/L	29	Standard
|	Se-1	77	118.0	18.4	0.2770	0.220	79.5	ug/L	107	Standard
>	Ga	71	25.0	72.1				mg/L	37	Standard
|	Rb	85	728.4	9.8				ug/L	23	Standard
|	Y	89	469373.0	2.1				ug/L	562937	Standard
>	Rh	103	23.3	32.7				ug/L	13	Standard
|	Mo	98	146.1	15.1	0.0370	0.006	17.3	ug/L	25	Standard
|	Ag	107	106.7	6.9	-0.0018	0.001	45.7	ug/L	114	Standard
|	Cd	111	12.7	49.0	0.0040	0.002	58.7	mg/L	6	Standard
|	Cd	114	48.2	23.5	0.0052	0.002	33.5	ug/L	14	Standard
>	In	115	631056.8	0.4				ug/L	726030	Standard
|	Sn	118	315.0	11.1	-0.0531	0.005	9.3	ug/L	913	Standard
|	Sb	123	245.8	26.4	0.0301	0.011	38.0	ug/L	308	Standard
|	Ba	135	14989.1	1.8	5.4696	0.122	2.2	ug/L	50	Standard
|	Ce	140	16.7	34.6				ug/L	122	Standard
>	Tb	159	1031134.1	1.0				ug/L	1169812	Standard
|	Ho	165	5.0	100.0				ug/L	7	Standard
|	Tl	203	186.7	19.9	0.0160	0.004	22.6	ug/L	11	Standard
|	Tl	205	183.3	29.9	0.0185	0.006	33.5	ug/L	8	Standard
|	Pb	206	316.0	12.8	0.0114	0.006	56.6	ug/L	277	Standard
|	Pb	207	267.3	6.3	0.0039	0.003	77.8	ug/L	262	Standard
|	Pb	208	1019.0	5.9	0.0020	0.003	140.2	ug/L	982	Standard
	U	238	133.3	13.3	0.0156	0.002	14.3	ug/L	8	Standard
>	Bi	209	541574.5	0.4				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	1451.7	6.5	1.5172	0.096	6.3	mg/L	75	Standard
K	39	55.0	24.1	0.0836	0.052	62.3	mg/L	32	Standard
Ca	43	38.3	49.4	1.5631	1.787	114.3	mg/L	50	Standard
Fe	54	77.7	24.2	-0.0855	0.013	15.2	mg/L	236	Standard
Fe	57	286.7	16.5	0.1248	0.135	108.5	mg/L	352	Standard
Sc-1	45	34338.9	0.8				mg/L	42879	Standard
Cl	35	172408.1	0.9				ug/L	166385	Standard
Kr	83	2.7	78.1				ug/L	3	Standard
Br	81	5897.8	1.9				ug/L	4321	Standard
P	31	9516.3	0.8				ug/L	24331	Standard
S	34	4667.4	1.7				ug/L	3789	Standard
Sr	88	128.3	15.7				ug/L	78	Standard
C	12	43.3	13.3				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	19.4	1.4				mg/L	12	Standard
Ho-1	165	5.0	100.0				mg/L	7	Standard
Er	166	13.3	43.3				mg/L	20	Standard
I	127	8889.3	5.5				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		89.919	
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		85.475	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604161302

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	86.919
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	91.229
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

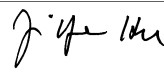
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604161302

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Method 6020 - Summary Report

Sample ID: L1604161304

Sample Date/Time: Thursday, May 05, 2016 15:23:23

Number of Replicates: 3

Autosampler Position: 228

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71111.6	3.8				ug/L	82657	Standard
|	Be	9	30.0	28.9	-0.0129	0.009	67.0	ug/L	13	Standard
|	Al	27	246730.2	2.5	1.3661	0.073	5.3	ug/L	1347	Standard
|	Sc	45	33595.5	2.0				ug/L	42879	Standard
|	Ti	47	32.3	14.3	-0.0200	0.018	88.4	ug/L	41	Standard
|	V	51	2016.3	4.6	0.0141	0.008	54.0	ug/L	2416	Standard
|	Cr	52	8304.3	0.3	-0.2012	0.026	12.9	ug/L	12475	Standard
|	Cr	53	765.0	3.5	0.2148	0.034	16.1	ug/L	537	Standard
|	Mn	55	8063.8	1.2	0.7611	0.013	1.7	ug/L	1090	Standard
|	Co	59	364.3	16.5	0.0097	0.006	59.5	ug/L	363	Standard
|	Ni	60	325.0	3.8	-0.0107	0.005	45.9	ug/L	399	Standard
|	Cu	65	357.3	6.9	-0.0230	0.009	39.5	ug/L	492	Standard
|	Zn	66	1628.8	1.8	1.0643	0.010	0.9	ug/L	201	Standard
>	Ge	72	564785.0	2.6				ug/L	679875	Standard
|	As	75	-100.8	22.0	0.0081	0.015	181.4	ug/L	-85	Standard
|	Se	82	26.1	8.4	-0.0303	0.013	42.5	ug/L	29	Standard
|	Se-1	77	100.3	7.2	0.1256	0.049	39.2	ug/L	107	Standard
>	Ga	71	18.3	31.5				mg/L	37	Standard
|	Rb	85	141.7	24.0				ug/L	23	Standard
|	Y	89	453008.5	3.2				ug/L	562937	Standard
>	Rh	103	15.0	33.3				ug/L	13	Standard
|	Mo	98	73.3	13.4	0.0169	0.002	14.3	ug/L	25	Standard
|	Ag	107	156.0	20.0	0.0043	0.003	76.6	ug/L	114	Standard
|	Cd	111	23.9	42.4	0.0083	0.004	44.3	mg/L	6	Standard
|	Cd	114	91.8	46.2	0.0122	0.006	53.0	ug/L	14	Standard
>	In	115	616130.3	2.4				ug/L	726030	Standard
|	Sn	118	366.7	9.1	-0.0448	0.004	8.8	ug/L	913	Standard
|	Sb	123	202.6	21.7	0.0233	0.008	35.9	ug/L	308	Standard
|	Ba	135	7031.3	1.1	2.6192	0.046	1.8	ug/L	50	Standard
|	Ce	140	25.0	34.6				ug/L	122	Standard
>	Tb	159	990230.1	1.9				ug/L	1169812	Standard
|	Ho	165	16.7	34.6				ug/L	7	Standard
|	Tl	203	160.7	20.9	0.0138	0.003	22.0	ug/L	11	Standard
|	Tl	205	153.3	61.4	0.0155	0.011	68.7	ug/L	8	Standard
|	Pb	206	308.7	9.5	0.0115	0.004	38.9	ug/L	277	Standard
|	Pb	207	269.0	1.9	0.0054	0.001	16.8	ug/L	262	Standard
|	Pb	208	1104.0	11.8	0.0070	0.005	78.1	ug/L	982	Standard
	U	238	107.0	36.8	0.0127	0.005	38.6	ug/L	8	Standard
>	Bi	209	527391.4	2.0				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	846.7	8.0	0.8858	0.071	8.0	mg/L	75	Standard
K	39	25.0	34.6	-0.0362	0.034	95.1	mg/L	32	Standard
Ca	43	35.0	37.8	1.3256	1.291	97.4	mg/L	50	Standard
Fe	54	79.2	33.5	-0.0833	0.018	21.9	mg/L	236	Standard
Fe	57	256.7	8.1	0.0546	0.078	143.6	mg/L	352	Standard
Sc-1	45	33595.5	2.0				mg/L	42879	Standard
Cl	35	170465.0	1.5				ug/L	166385	Standard
Kr	83	1.3	43.3				ug/L	3	Standard
Br	81	3300.4	6.9				ug/L	4321	Standard
P	31	9121.1	1.1				ug/L	24331	Standard
S	34	4590.7	3.4				ug/L	3789	Standard
Sr	88	91.7	11.4				ug/L	78	Standard
C	12	80.0	25.0				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	6.0	193.9				mg/L	12	Standard
Ho-1	165	16.7	34.6				mg/L	7	Standard
Er	166	13.3	43.3				mg/L	20	Standard
I	127	3938.8	9.0				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		86.033	
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		83.072	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	84.863
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	88.840
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

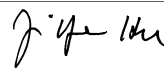
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1604161312 WG567312-01

Sample Date/Time: Thursday, May 05, 2016 15:26:35

Number of Replicates: 3

Autosampler Position: 229

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	73789.3	1.8				ug/L	82657	Standard
|	Be	9	20.0	43.3	-0.0239	0.009	36.1	ug/L	13	Standard
|	Al	27	302501.9	3.2	1.6147	0.068	4.2	ug/L	1347	Standard
|	Sc	45	35702.0	2.6				ug/L	42879	Standard
|	Ti	47	26.7	12.1	-0.0449	0.010	21.5	ug/L	41	Standard
|	V	51	2136.8	7.3	0.0157	0.020	130.2	ug/L	2416	Standard
|	Cr	52	8475.4	0.8	-0.2298	0.020	8.6	ug/L	12475	Standard
|	Cr	53	706.7	11.3	0.1317	0.084	64.1	ug/L	537	Standard
|	Mn	55	1839.8	8.3	0.0869	0.020	23.5	ug/L	1090	Standard
|	Co	59	365.3	24.6	0.0080	0.011	131.6	ug/L	363	Standard
|	Ni	60	460.0	3.8	0.0330	0.010	31.6	ug/L	399	Standard
|	Cu	65	903.0	3.4	0.1764	0.021	12.1	ug/L	492	Standard
|	Zn	66	1604.8	1.4	0.9886	0.046	4.7	ug/L	201	Standard
>	Ge	72	595064.5	3.0				ug/L	679875	Standard
|	As	75	-51.5	99.7	0.0447	0.036	80.2	ug/L	-85	Standard
|	Se	82	49.9	9.6	0.1143	0.027	23.5	ug/L	29	Standard
|	Se-1	77	107.0	12.4	0.1426	0.162	113.4	ug/L	107	Standard
>	Ga	71	33.3	22.9				mg/L	37	Standard
|	Rb	85	315.0	9.7				ug/L	23	Standard
|	Y	89	470067.4	2.1				ug/L	562937	Standard
>	Rh	103	10.0	86.6				ug/L	13	Standard
|	Mo	98	73.8	64.8	0.0164	0.013	82.4	ug/L	25	Standard
|	Ag	107	238.3	81.4	0.0132	0.022	169.3	ug/L	114	Standard
|	Cd	111	19.9	67.4	0.0066	0.005	75.3	mg/L	6	Standard
|	Cd	114	39.1	96.6	0.0037	0.006	156.5	ug/L	14	Standard
>	In	115	638416.6	0.7				ug/L	726030	Standard
|	Sn	118	343.3	5.9	-0.0497	0.003	6.1	ug/L	913	Standard
|	Sb	123	243.5	45.9	0.0293	0.020	68.2	ug/L	308	Standard
|	Ba	135	7590.9	2.3	2.7294	0.082	3.0	ug/L	50	Standard
|	Ce	140	25.0	52.9				ug/L	122	Standard
>	Tb	159	1016893.1	1.8				ug/L	1169812	Standard
|	Ho	165	11.7	65.5				ug/L	7	Standard
|	Tl	203	215.7	65.1	0.0185	0.013	71.5	ug/L	11	Standard
|	Tl	205	131.7	31.8	0.0126	0.005	36.7	ug/L	8	Standard
|	Pb	206	379.3	40.4	0.0206	0.023	113.3	ug/L	277	Standard
|	Pb	207	321.3	36.1	0.0126	0.019	154.8	ug/L	262	Standard
|	Pb	208	1100.0	12.4	0.0051	0.006	115.5	ug/L	982	Standard
	U	238	66.7	50.6	0.0073	0.004	55.7	ug/L	8	Standard
>	Bi	209	546628.5	0.2				ug/L	593643	Standard

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Na	23	1.7	173.2	12.3257	21.340	173.1	mg/L	2	Standard
Mg	24	1968.5	4.8	1.9926	0.066	3.3	mg/L	75	Standard
K	39	23.3	68.9	-0.0485	0.063	129.8	mg/L	32	Standard
Ca	43	28.3	44.4	0.5046	1.157	229.3	mg/L	50	Standard
Fe	54	77.5	10.4	-0.0876	0.006	6.5	mg/L	236	Standard
Fe	57	255.0	14.8	0.0041	0.115	2807.7	mg/L	352	Standard
Sc-1	45	35702.0	2.6				mg/L	42879	Standard
Cl	35	178123.6	0.6				ug/L	166385	Standard
Kr	83	3.0	33.3				ug/L	3	Standard
Br	81	6454.7	1.6				ug/L	4321	Standard
P	31	9841.5	1.0				ug/L	24331	Standard
S	34	4965.8	1.5				ug/L	3789	Standard
Sr	88	130.0	26.6				ug/L	78	Standard
C	12	80.0	78.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	12.4	124.8				mg/L	12	Standard
Ho-1	165	11.7	65.5				mg/L	7	Standard
Er	166	20.0	50.0				mg/L	20	Standard
I	127	9471.3	1.0				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		89.272	
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		87.526	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	87.933
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	92.080
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604161312 WG567312-01

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Method 6020 - Summary Report

Sample ID: L1604161312S WG567312-04

Sample Date/Time: Thursday, May 05, 2016 15:29:46

Number of Replicates: 3

Autosampler Position: 230

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	72834.7	1.5				ug/L	82657	Standard
|	Be	9	1116.7	8.2	1.0700	0.079	7.3	ug/L	13	Standard
|	Al	27	316280.6	1.2	1.7108	0.043	2.5	ug/L	1347	Standard
|	Sc	45	34497.6	1.4				ug/L	42879	Standard
|	Ti	47	25.3	20.3	-0.0481	0.017	36.3	ug/L	41	Standard
|	V	51	10022.7	0.8	0.9220	0.006	0.7	ug/L	2416	Standard
|	Cr	52	17008.9	1.2	0.6828	0.026	3.8	ug/L	12475	Standard
|	Cr	53	1783.4	6.0	1.0635	0.089	8.3	ug/L	537	Standard
|	Mn	55	10993.3	1.1	1.0290	0.009	0.9	ug/L	1090	Standard
|	Co	59	8959.0	0.6	0.9385	0.005	0.6	ug/L	363	Standard
|	Ni	60	3036.0	1.9	1.0026	0.021	2.1	ug/L	399	Standard
|	Cu	65	2954.3	1.8	0.9669	0.024	2.5	ug/L	492	Standard
|	Zn	66	3272.7	2.8	2.1643	0.071	3.3	ug/L	201	Standard
>	Ge	72	587037.9	0.4				ug/L	679875	Standard
|	As	75	1506.8	5.4	1.1154	0.053	4.7	ug/L	-85	Standard
|	Se	82	226.6	6.8	1.2810	0.095	7.4	ug/L	29	Standard
|	Se-1	77	223.3	2.1	1.3284	0.055	4.1	ug/L	107	Standard
>	Ga	71	18.3	15.7				mg/L	37	Standard
|	Rb	85	326.7	19.9				ug/L	23	Standard
|	Y	89	462692.4	1.1				ug/L	562937	Standard
>	Rh	103	23.3	24.7				ug/L	13	Standard
|	Mo	98	31.4	22.6	0.0045	0.002	44.1	ug/L	25	Standard
|	Ag	107	7048.3	1.0	0.7922	0.009	1.1	ug/L	114	Standard
|	Cd	111	2797.2	1.4	1.0392	0.018	1.7	mg/L	6	Standard
|	Cd	114	6805.1	1.2	1.0501	0.015	1.5	ug/L	14	Standard
>	In	115	634941.3	0.6				ug/L	726030	Standard
|	Sn	118	363.3	17.0	-0.0467	0.009	18.5	ug/L	913	Standard
|	Sb	123	5772.9	1.4	1.0087	0.017	1.7	ug/L	308	Standard
|	Ba	135	10791.2	1.3	3.9086	0.069	1.8	ug/L	50	Standard
|	Ce	140	21.7	48.0				ug/L	122	Standard
>	Tb	159	1021290.3	0.6				ug/L	1169812	Standard
|	Ho	165	11.7	65.5				ug/L	7	Standard
|	Tl	203	7826.7	4.0	0.7409	0.024	3.2	ug/L	11	Standard
|	Tl	205	6908.2	3.6	0.7673	0.025	3.2	ug/L	8	Standard
|	Pb	206	6423.0	2.7	0.9503	0.019	2.0	ug/L	277	Standard
|	Pb	207	5651.4	2.0	0.9171	0.026	2.9	ug/L	262	Standard
|	Pb	208	22872.5	0.2	0.9624	0.007	0.8	ug/L	982	Standard
	U	238	7148.7	2.2	0.8697	0.013	1.4	ug/L	8	Standard
>	Bi	209	544728.6	0.8				ug/L	593643	Standard

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Na	23	3.3	86.6	24.8293	21.498	86.6	mg/L	2	Standard
Mg	24	1903.5	5.0	1.9953	0.121	6.1	mg/L	75	Standard
K	39	38.3	45.8	0.0156	0.071	454.5	mg/L	32	Standard
Ca	43	33.3	60.6	1.0721	1.898	177.1	mg/L	50	Standard
Fe	54	82.0	30.2	-0.0828	0.017	20.3	mg/L	236	Standard
Fe	57	298.3	21.2	0.1573	0.199	126.4	mg/L	352	Standard
Sc-1	45	34497.6	1.4				mg/L	42879	Standard
Cl	35	179313.6	1.4				ug/L	166385	Standard
Kr	83	3.0	33.3				ug/L	3	Standard
Br	81	7025.0	2.1				ug/L	4321	Standard
P	31	9669.8	1.3				ug/L	24331	Standard
S	34	4864.1	5.3				ug/L	3789	Standard
Sr	88	128.3	8.1				ug/L	78	Standard
C	12	80.0	50.0				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	19.2	1.4				mg/L	12	Standard
Ho-1	165	11.7	65.5				mg/L	7	Standard
Er	166	16.7	34.6				mg/L	20	Standard
I	127	12078.2	4.8				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		88.117	
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		86.345	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604161312S WG567312-04

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	87.454
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
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[U	238	
>	Bi	209	91.760
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[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	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604161312S WG567312-04

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Method 6020 - Summary Report

Sample ID: L1604161312SD WG567312-05

Sample Date/Time: Thursday, May 05, 2016 15:32:58

Number of Replicates: 3

Autosampler Position: 231

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	72645.5	2.3				ug/L	82657	Standard
|	Be	9	1133.4	8.5	1.0891	0.071	6.5	ug/L	13	Standard
|	Al	27	316437.1	0.9	1.7165	0.055	3.2	ug/L	1347	Standard
|	Sc	45	34647.9	0.9				ug/L	42879	Standard
|	Ti	47	23.7	29.7	-0.0533	0.025	46.3	ug/L	41	Standard
|	V	51	9865.4	1.3	0.9082	0.008	0.8	ug/L	2416	Standard
|	Cr	52	17009.9	0.5	0.6898	0.013	1.9	ug/L	12475	Standard
|	Cr	53	1778.4	5.9	1.0647	0.079	7.4	ug/L	537	Standard
|	Mn	55	10598.7	1.5	0.9926	0.015	1.5	ug/L	1090	Standard
|	Co	59	8890.3	1.4	0.9349	0.025	2.6	ug/L	363	Standard
|	Ni	60	3009.0	0.6	0.9968	0.014	1.4	ug/L	399	Standard
|	Cu	65	2884.6	2.7	0.9442	0.017	1.8	ug/L	492	Standard
|	Zn	66	3127.7	1.5	2.0716	0.043	2.1	ug/L	201	Standard
>	Ge	72	584835.4	1.2				ug/L	679875	Standard
|	As	75	1468.3	3.3	1.0931	0.040	3.6	ug/L	-85	Standard
|	Se	82	216.7	5.0	1.2219	0.086	7.0	ug/L	29	Standard
|	Se-1	77	219.3	5.0	1.2968	0.126	9.8	ug/L	107	Standard
>	Ga	71	35.0	65.5				mg/L	37	Standard
|	Rb	85	331.7	13.5				ug/L	23	Standard
|	Y	89	461042.8	0.4				ug/L	562937	Standard
>	Rh	103	26.7	47.2				ug/L	13	Standard
|	Mo	98	36.5	14.8	0.0060	0.001	23.0	ug/L	25	Standard
|	Ag	107	7290.1	1.2	0.8266	0.009	1.1	ug/L	114	Standard
|	Cd	111	2800.9	3.2	1.0494	0.049	4.7	mg/L	6	Standard
|	Cd	114	6727.9	3.4	1.0464	0.023	2.2	ug/L	14	Standard
>	In	115	629870.7	1.7				ug/L	726030	Standard
|	Sn	118	320.0	29.7	-0.0523	0.013	25.1	ug/L	913	Standard
|	Sb	123	5661.0	0.4	0.9972	0.019	1.9	ug/L	308	Standard
|	Ba	135	10452.3	1.1	3.8161	0.045	1.2	ug/L	50	Standard
|	Ce	140	13.3	78.1				ug/L	122	Standard
>	Tb	159	1014429.0	1.5				ug/L	1169812	Standard
|	Ho	165	8.3	124.9				ug/L	7	Standard
|	Tl	203	6818.9	6.9	0.6546	0.042	6.4	ug/L	11	Standard
|	Tl	205	5827.8	7.8	0.6562	0.046	7.0	ug/L	8	Standard
|	Pb	206	6432.4	1.6	0.9662	0.007	0.8	ug/L	277	Standard
|	Pb	207	5574.7	2.8	0.9176	0.018	1.9	ug/L	262	Standard
|	Pb	208	22487.2	0.9	0.9598	0.002	0.2	ug/L	982	Standard
	U	238	6891.9	1.4	0.8507	0.007	0.8	ug/L	8	Standard
>	Bi	209	536945.5	1.0				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	1950.1	4.1	2.0355	0.086	4.2	mg/L	75	Standard
K	39	31.7	32.9	-0.0118	0.043	362.6	mg/L	32	Standard
Ca	43	18.3	15.7	-0.3595	0.269	74.7	mg/L	50	Standard
Fe	54	58.5	29.9	-0.0995	0.012	12.0	mg/L	236	Standard
Fe	57	311.7	14.6	0.1905	0.131	68.9	mg/L	352	Standard
Sc-1	45	34647.9	0.9				mg/L	42879	Standard
Cl	35	176038.8	0.5				ug/L	166385	Standard
Kr	83	4.0	66.1				ug/L	3	Standard
Br	81	6538.1	6.1				ug/L	4321	Standard
P	31	9581.4	1.7				ug/L	24331	Standard
S	34	4800.8	1.7				ug/L	3789	Standard
Sr	88	113.3	25.9				ug/L	78	Standard
C	12	93.3	30.9				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	9.4	3.0				mg/L	12	Standard
Ho-1	165	8.3	124.9				mg/L	7	Standard
Er	166	13.3	43.3				mg/L	20	Standard
I	127	10568.7	3.9				mg/L	2570	Standard

QC Calculated Values

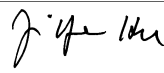
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		87.888	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		86.021	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1604161312SD WG567312-05

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	86.756
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
[Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	90.449
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[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	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1604161312SD WG567312-05

Report Date/Time: Thursday, May 05, 2016 15:35:14

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 05, 2016 15:36:11

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 Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82725.3	1.6				ug/L	82657	Standard
|	Be	9	58583.2	4.1	51.4214	2.069	4.0	ug/L	13	Standard
|	Al	27	10428271.7	0.9	49.9590	1.220	2.4	ug/L	1347	Standard
|	Sc	45	39339.3	1.5				ug/L	42879	Standard
|	Ti	47	31907.6	0.7	98.9743	0.244	0.2	ug/L	41	Standard
|	V	51	475181.5	0.9	49.8528	0.379	0.8	ug/L	2416	Standard
|	Cr	52	527600.8	0.7	50.1410	0.567	1.1	ug/L	12475	Standard
|	Cr	53	63717.1	2.1	49.9155	0.984	2.0	ug/L	537	Standard
|	Mn	55	528815.1	1.6	49.8661	0.675	1.4	ug/L	1090	Standard
|	Co	59	507625.1	1.7	50.5255	0.843	1.7	ug/L	363	Standard
|	Ni	60	145900.4	0.4	50.2824	0.309	0.6	ug/L	399	Standard
|	Cu	65	144660.0	1.1	50.8499	0.338	0.7	ug/L	492	Standard
|	Zn	66	78537.4	0.7	50.2072	0.173	0.3	ug/L	201	Standard
>	Ge	72	637963.2	0.5				ug/L	679875	Standard
|	As	75	78899.3	1.0	49.9758	0.478	1.0	ug/L	-85	Standard
|	Se	82	8193.5	2.7	49.3616	1.343	2.7	ug/L	29	Standard
|	Se-1	77	5657.1	2.5	51.6242	1.485	2.9	ug/L	107	Standard
>	Ga	71	65.0	13.3				mg/L	37	Standard
|	Rb	85	1205.0	10.2				ug/L	23	Standard
|	Y	89	528687.4	0.4				ug/L	562937	Standard
>	Rh	103	36.7	20.8				ug/L	13	Standard
|	Mo	98	386731.1	1.3	98.2125	1.944	2.0	ug/L	25	Standard
|	Ag	107	473301.9	1.5	48.8797	0.655	1.3	ug/L	114	Standard
|	Cd	111	148062.0	1.0	49.7115	0.407	0.8	mg/L	6	Standard
|	Cd	114	364693.1	3.1	50.9316	1.330	2.6	ug/L	14	Standard
>	In	115	703050.7	1.4				ug/L	726030	Standard
|	Sn	118	404967.4	0.7	49.4610	1.013	2.0	ug/L	913	Standard
|	Sb	123	307452.0	1.3	49.1685	0.945	1.9	ug/L	308	Standard
|	Ba	135	148912.2	0.1	48.9190	0.662	1.4	ug/L	50	Standard
|	Ce	140	111.7	11.3				ug/L	122	Standard
>	Tb	159	1113982.8	1.1				ug/L	1169812	Standard
|	Ho	165	11.7	24.7				ug/L	7	Standard
|	Tl	203	552335.3	0.3	50.0111	0.577	1.2	ug/L	11	Standard
|	Tl	205	483221.7	0.8	51.3326	0.045	0.1	ug/L	8	Standard
|	Pb	206	336619.3	0.6	49.3527	0.608	1.2	ug/L	277	Standard
|	Pb	207	306286.6	0.8	49.5234	0.749	1.5	ug/L	262	Standard
|	Pb	208	1228111.1	0.9	51.4540	0.324	0.6	ug/L	982	Standard
	U	238	438626.1	0.3	50.9531	0.308	0.6	ug/L	8	Standard
>	Bi	209	571075.3	0.9				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	5504.3	2.8	5.1289	0.117	2.3	mg/L	75	Standard
K	39	1266.7	1.6	4.3518	0.069	1.6	mg/L	32	Standard
Ca	43	63.3	29.9	3.1886	1.585	49.7	mg/L	50	Standard
Fe	54	8336.2	3.2	5.0280	0.243	4.8	mg/L	236	Standard
Fe	57	2328.5	8.0	5.2632	0.395	7.5	mg/L	352	Standard
Sc-1	45	39339.3	1.5				mg/L	42879	Standard
Cl	35	195567.0	3.5				ug/L	166385	Standard
Kr	83	1.7	34.6				ug/L	3	Standard
Br	81	4090.6	6.6				ug/L	4321	Standard
P	31	28371.6	3.1				ug/L	24331	Standard
S	34	5657.7	1.3				ug/L	3789	Standard
Sr	88	81.7	9.4				ug/L	78	Standard
C	12	90.0	33.3				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	114.6				mg/L	3	Standard
Dy	164	5.5	109.4				mg/L	12	Standard
Ho-1	165	11.7	24.7				mg/L	7	Standard
Er	166	23.3	49.5				mg/L	20	Standard
I	127	1636.8	4.3				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	102.843		
Al	27	99.918		
Sc	45			
Ti	47	98.974		
V	51	99.706		
Cr	52	100.282		
Cr	53			
Mn	55	99.732		
Co	59	101.051		
Ni	60	100.565		
Cu	65	101.700		
Zn	66	100.414		
Ge	72		93.835	
As	75	99.952		
Se	82	98.723		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	98.212	
[Ag	107	97.759	
[Cd	111	99.423	
[Cd	114		
>	In	115		96.835
[Sn	118	98.922	
[	Sb	123	98.337	
[	Ba	135	97.838	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.022	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	102.908	
[	U	238	101.906	
>	Bi	209		96.198
[	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		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits


Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 05, 2016 15:39:22

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82338.1	1.3				ug/L	82657	Standard
|	Be	9	20.0	25.0	-0.0260	0.004	16.5	ug/L	13	Standard
|	Al	27	3613.8	14.6	0.0069	0.003	39.0	ug/L	1347	Standard
|	Sc	45	38448.7	2.3				ug/L	42879	Standard
|	Ti	47	39.3	19.7	-0.0117	0.022	186.8	ug/L	41	Standard
|	V	51	1928.0	2.7	-0.0225	0.006	25.9	ug/L	2416	Standard
|	Cr	52	10301.2	1.8	-0.1108	0.034	30.9	ug/L	12475	Standard
|	Cr	53	770.0	4.1	0.1408	0.034	24.0	ug/L	537	Standard
|	Mn	55	1085.4	2.9	0.0028	0.003	108.9	ug/L	1090	Standard
|	Co	59	399.0	6.6	0.0086	0.003	33.4	ug/L	363	Standard
|	Ni	60	338.0	3.1	-0.0206	0.005	26.1	ug/L	399	Standard
|	Cu	65	443.0	9.2	-0.0091	0.013	146.3	ug/L	492	Standard
|	Zn	66	283.7	6.2	0.0673	0.012	17.6	ug/L	201	Standard
>	Ge	72	637389.1	1.8				ug/L	679875	Standard
|	As	75	-117.0	16.5	0.0059	0.013	213.5	ug/L	-85	Standard
|	Se	82	35.4	12.1	0.0055	0.028	508.4	ug/L	29	Standard
|	Se-1	77	111.0	10.2	0.1051	0.095	90.0	ug/L	107	Standard
>	Ga	71	28.3	36.7				mg/L	37	Standard
|	Rb	85	23.3	75.3				ug/L	23	Standard
|	Y	89	520236.0	0.9				ug/L	562937	Standard
>	Rh	103	6.7	43.3				ug/L	13	Standard
|	Mo	98	279.3	13.3	0.0674	0.010	14.3	ug/L	25	Standard
|	Ag	107	208.7	10.8	0.0077	0.002	30.8	ug/L	114	Standard
|	Cd	111	34.8	43.9	0.0111	0.005	46.9	mg/L	6	Standard
|	Cd	114	109.4	21.3	0.0131	0.003	25.2	ug/L	14	Standard
>	In	115	695622.3	0.2				ug/L	726030	Standard
|	Sn	118	1451.7	15.9	0.0835	0.029	34.6	ug/L	913	Standard
|	Sb	123	1006.4	32.6	0.1490	0.053	35.7	ug/L	308	Standard
|	Ba	135	125.0	3.5	0.0237	0.001	5.8	ug/L	50	Standard
|	Ce	140	23.3	24.7				ug/L	122	Standard
>	Tb	159	1108977.7	1.1				ug/L	1169812	Standard
|	Ho	165	20.0	43.3				ug/L	7	Standard
|	Tl	203	187.3	11.2	0.0148	0.002	13.3	ug/L	11	Standard
|	Tl	205	188.3	17.7	0.0176	0.003	19.3	ug/L	8	Standard
|	Pb	206	381.3	4.2	0.0173	0.002	12.2	ug/L	277	Standard
|	Pb	207	330.0	3.1	0.0106	0.002	16.7	ug/L	262	Standard
|	Pb	208	1363.4	5.2	0.0129	0.003	26.0	ug/L	982	Standard
	U	238	125.7	24.2	0.0135	0.004	26.3	ug/L	8	Standard
>	Bi	209	583159.8	0.9				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	60.0	14.4	0.0115	0.010	84.9	mg/L	75	Standard
K	39	25.0	52.9	-0.0494	0.046	93.2	mg/L	32	Standard
Ca	43	31.7	39.7	0.6219	1.139	183.1	mg/L	50	Standard
Fe	54	222.6	15.1	0.0006	0.021	3640.0	mg/L	236	Standard
Fe	57	271.7	5.9	-0.0036	0.060	1666.9	mg/L	352	Standard
Sc-1	45	38448.7	2.3				mg/L	42879	Standard
Cl	35	194368.1	0.5				ug/L	166385	Standard
Kr	83	2.0	50.0				ug/L	3	Standard
Br	81	4130.6	13.4				ug/L	4321	Standard
P	31	28680.5	4.3				ug/L	24331	Standard
S	34	5484.3	3.8				ug/L	3789	Standard
Sr	88	75.0	6.7				ug/L	78	Standard
C	12	90.0	19.2				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	3	Standard
Dy	164	6.0	100.4				mg/L	12	Standard
Ho-1	165	20.0	43.3				mg/L	7	Standard
Er	166	13.3	43.3				mg/L	20	Standard
I	127	1753.4	5.6				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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		93.751	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 7

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.812
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	98.234
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits


Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: PBW 41 WG567607-02

Sample Date/Time: Thursday, May 05, 2016 16:00:15

Number of Replicates: 3

Autosampler Position: 301

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	83450.9	2.4				ug/L	82657	Standard
|	Be	9	11.7	65.5	-0.0335	0.006	19.1	ug/L	13	Standard
|	Al	27	14995.8	5.5	0.0606	0.002	3.9	ug/L	1347	Standard
|	Sc	45	40604.3	1.6				ug/L	42879	Standard
|	Ti	47	34.3	11.8	-0.0271	0.013	48.5	ug/L	41	Standard
|	V	51	2163.5	2.0	0.0019	0.009	440.8	ug/L	2416	Standard
|	Cr	52	12437.4	3.4	0.0940	0.029	30.6	ug/L	12475	Standard
|	Cr	53	1173.4	3.6	0.4577	0.016	3.5	ug/L	537	Standard
|	Mn	55	1599.8	4.1	0.0512	0.007	12.8	ug/L	1090	Standard
|	Co	59	339.0	7.7	0.0026	0.003	98.6	ug/L	363	Standard
|	Ni	60	582.7	4.0	0.0635	0.006	8.7	ug/L	399	Standard
|	Cu	65	486.7	4.6	0.0060	0.006	105.6	ug/L	492	Standard
|	Zn	66	1581.4	3.1	0.8976	0.027	3.0	ug/L	201	Standard
>	Ge	72	638639.4	2.1				ug/L	679875	Standard
|	As	75	-136.6	24.6	-0.0066	0.023	344.2	ug/L	-85	Standard
|	Se	82	35.0	15.6	0.0026	0.029	1140.4	ug/L	29	Standard
|	Se-1	77	118.0	17.5	0.1691	0.192	113.4	ug/L	107	Standard
>	Ga	71	56.7	41.7				mg/L	37	Standard
|	Rb	85	75.0	11.5				ug/L	23	Standard
|	Y	89	518963.7	4.0				ug/L	562937	Standard
>	Rh	103	15.0	33.3				ug/L	13	Standard
|	Mo	98	39.2	4.0	0.0058	0.000	2.8	ug/L	25	Standard
|	Ag	107	111.7	7.0	-0.0023	0.001	42.4	ug/L	114	Standard
|	Cd	111	19.3	26.7	0.0058	0.002	27.8	mg/L	6	Standard
|	Cd	114	69.0	64.1	0.0076	0.007	86.5	ug/L	14	Standard
>	In	115	691242.3	2.5				ug/L	726030	Standard
|	Sn	118	1156.7	4.8	0.0479	0.003	7.3	ug/L	913	Standard
|	Sb	123	473.8	27.0	0.0636	0.022	34.9	ug/L	308	Standard
|	Ba	135	199.0	6.0	0.0487	0.002	5.1	ug/L	50	Standard
|	Ce	140	70689.6	2.1				ug/L	122	Standard
>	Tb	159	1100706.2	2.3				ug/L	1169812	Standard
|	Ho	165	13.3	43.3				ug/L	7	Standard
|	Tl	203	105.0	10.0	0.0076	0.001	12.3	ug/L	11	Standard
|	Tl	205	118.3	35.9	0.0104	0.004	40.2	ug/L	8	Standard
|	Pb	206	535.3	3.3	0.0408	0.002	6.1	ug/L	277	Standard
|	Pb	207	470.7	5.4	0.0342	0.004	11.5	ug/L	262	Standard
|	Pb	208	1945.4	8.6	0.0381	0.005	12.2	ug/L	982	Standard
	U	238	41.3	52.0	0.0040	0.002	60.1	ug/L	8	Standard
>	Bi	209	573123.0	3.2				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	75.0	17.6	0.0220	0.012	54.6	mg/L	75	Standard
K	39	36.7	7.9	-0.0136	0.010	72.3	mg/L	32	Standard
Ca	43	26.7	60.3	0.0740	1.343	1814.7	mg/L	50	Standard
Fe	54	170.7	24.8	-0.0383	0.025	64.4	mg/L	236	Standard
Fe	57	300.0	11.5	0.0284	0.089	312.7	mg/L	352	Standard
Sc-1	45	40604.3	1.6				mg/L	42879	Standard
Cl	35	203878.1	1.7				ug/L	166385	Standard
Kr	83	2.3	49.5				ug/L	3	Standard
Br	81	5781.1	2.3				ug/L	4321	Standard
P	31	27909.1	4.9				ug/L	24331	Standard
S	34	5130.9	2.0				ug/L	3789	Standard
Sr	88	71.7	10.7				ug/L	78	Standard
C	12	103.3	53.3				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	19.2	51.1				mg/L	12	Standard
Ho-1	165	13.3	43.3				mg/L	7	Standard
Er	166	16.7	124.9				mg/L	20	Standard
I	127	2438.5	8.6				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		100.961	
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		93.935	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: PBW 41 WG567607-02

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.209
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.543
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: PBW 41 WG567607-02

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Method 6020 - Summary Report

Sample ID: LCSW 41 WG567607-03

Sample Date/Time: Thursday, May 05, 2016 16:03:26

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 Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82358.4	3.6				ug/L	82657	Standard
|	Be	9	60445.3	1.0	53.3463	2.404	4.5	ug/L	13	Standard
|	Al	27	16764.3	3.9	0.0701	0.001	1.4	ug/L	1347	Standard
|	Sc	45	39252.5	1.8				ug/L	42879	Standard
|	Ti	47	37.7	10.1	-0.0159	0.012	73.3	ug/L	41	Standard
|	V	51	472297.2	1.6	49.8720	0.632	1.3	ug/L	2416	Standard
|	Cr	52	537087.1	1.3	51.3988	0.188	0.4	ug/L	12475	Standard
|	Cr	53	62994.1	3.2	49.6665	1.460	2.9	ug/L	537	Standard
|	Mn	55	547983.1	1.9	52.0110	0.534	1.0	ug/L	1090	Standard
|	Co	59	514608.1	1.0	51.5561	0.612	1.2	ug/L	363	Standard
|	Ni	60	147222.8	0.6	51.0708	0.368	0.7	ug/L	399	Standard
|	Cu	65	147299.9	1.1	52.1201	0.516	1.0	ug/L	492	Standard
|	Zn	66	80852.5	1.6	52.0249	0.221	0.4	ug/L	201	Standard
>	Ge	72	633860.7	1.2				ug/L	679875	Standard
|	As	75	79783.0	0.9	50.8620	0.162	0.3	ug/L	-85	Standard
|	Se	82	8269.4	1.1	50.1493	0.856	1.7	ug/L	29	Standard
|	Se-1	77	5594.0	2.0	51.3698	0.613	1.2	ug/L	107	Standard
>	Ga	71	58.3	24.7				mg/L	37	Standard
|	Rb	85	48.3	43.1				ug/L	23	Standard
|	Y	89	527103.8	0.6				ug/L	562937	Standard
>	Rh	103	23.3	24.7				ug/L	13	Standard
|	Mo	98	141.7	13.9	0.0316	0.005	15.9	ug/L	25	Standard
|	Ag	107	485798.0	2.1	50.0611	1.087	2.2	ug/L	114	Standard
|	Cd	111	148903.6	1.1	49.8851	0.636	1.3	mg/L	6	Standard
|	Cd	114	360231.3	0.7	50.2025	0.394	0.8	ug/L	14	Standard
>	In	115	704556.6	0.1				ug/L	726030	Standard
|	Sn	118	1048.4	9.7	0.0320	0.012	38.5	ug/L	913	Standard
|	Sb	123	305209.1	1.8	48.6995	0.918	1.9	ug/L	308	Standard
|	Ba	135	151366.4	1.5	49.6134	0.803	1.6	ug/L	50	Standard
|	Ce	140	251.7	8.3				ug/L	122	Standard
>	Tb	159	1113208.6	0.7				ug/L	1169812	Standard
|	Ho	165	16.7	62.4				ug/L	7	Standard
|	Tl	203	560010.4	1.6	50.0957	0.716	1.4	ug/L	11	Standard
|	Tl	205	490331.1	0.5	51.4652	0.329	0.6	ug/L	8	Standard
|	Pb	206	354164.2	1.3	51.3026	0.692	1.3	ug/L	277	Standard
|	Pb	207	308035.3	1.1	49.2062	0.483	1.0	ug/L	262	Standard
|	Pb	208	1246067.7	1.2	51.5807	0.480	0.9	ug/L	982	Standard
	U	238	437263.2	0.4	50.1854	0.062	0.1	ug/L	8	Standard
>	Bi	209	577988.0	0.3				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	80.0	10.8	0.0291	0.009	32.3	mg/L	75	Standard
K	39	31.7	63.8	-0.0273	0.072	263.9	mg/L	32	Standard
Ca	43	40.0	33.1	1.2562	1.137	90.5	mg/L	50	Standard
Fe	54	239.3	19.6	0.0077	0.026	339.8	mg/L	236	Standard
Fe	57	216.7	11.8	-0.1607	0.068	42.2	mg/L	352	Standard
Sc-1	45	39252.5	1.8				mg/L	42879	Standard
Cl	35	196219.3	3.4				ug/L	166385	Standard
Kr	83	3.3	45.8				ug/L	3	Standard
Br	81	4260.6	6.7				ug/L	4321	Standard
P	31	27015.7	2.4				ug/L	24331	Standard
S	34	4972.5	4.0				ug/L	3789	Standard
Sr	88	85.0	11.8				ug/L	78	Standard
C	12	113.3	33.4				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	22.5	66.2				mg/L	12	Standard
Ho-1	165	16.7	62.4				mg/L	7	Standard
Er	166	16.7	91.7				mg/L	20	Standard
I	127	1766.8	5.4				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		99.639	
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		93.232	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.042
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.363
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: F BLANK WG567502-01

Sample Date/Time: Thursday, May 05, 2016 16:06:38

Number of Replicates: 3

Autosampler Position: 303

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	83033.7	2.4				ug/L	82657	Standard
|	Be	9	38.3	45.8	-0.0100	0.015	152.1	ug/L	13	Standard
|	Al	27	15276.0	1.6	0.0624	0.002	3.7	ug/L	1347	Standard
|	Sc	45	38884.8	0.8				ug/L	42879	Standard
|	Ti	47	35.3	14.2	-0.0255	0.013	52.7	ug/L	41	Standard
|	V	51	2150.0	9.0	-0.0025	0.016	628.7	ug/L	2416	Standard
|	Cr	52	12865.8	2.7	0.1212	0.044	36.2	ug/L	12475	Standard
|	Cr	53	1208.4	5.8	0.4744	0.058	12.3	ug/L	537	Standard
|	Mn	55	1957.5	4.0	0.0827	0.006	7.2	ug/L	1090	Standard
|	Co	59	424.7	16.7	0.0105	0.006	60.0	ug/L	363	Standard
|	Ni	60	641.0	4.9	0.0811	0.009	11.1	ug/L	399	Standard
|	Cu	65	3860.8	1.0	1.1787	0.019	1.6	ug/L	492	Standard
|	Zn	66	5404.0	1.5	3.3034	0.052	1.6	ug/L	201	Standard
>	Ge	72	646374.5	2.3				ug/L	679875	Standard
|	As	75	-71.2	68.0	0.0352	0.031	87.5	ug/L	-85	Standard
|	Se	82	44.9	24.5	0.0587	0.062	106.4	ug/L	29	Standard
|	Se-1	77	117.7	6.0	0.1529	0.068	44.5	ug/L	107	Standard
>	Ga	71	28.3	79.6				mg/L	37	Standard
|	Rb	85	100.0	13.2				ug/L	23	Standard
|	Y	89	531618.4	1.4				ug/L	562937	Standard
>	Rh	103	11.7	65.5				ug/L	13	Standard
|	Mo	98	21.7	38.8	0.0012	0.002	178.2	ug/L	25	Standard
|	Ag	107	204.3	35.7	0.0069	0.007	104.8	ug/L	114	Standard
|	Cd	111	35.0	47.8	0.0109	0.005	50.0	mg/L	6	Standard
|	Cd	114	97.8	40.3	0.0112	0.005	47.4	ug/L	14	Standard
>	In	115	706057.7	1.2				ug/L	726030	Standard
|	Sn	118	1138.4	8.9	0.0428	0.013	31.0	ug/L	913	Standard
|	Sb	123	2090.8	24.9	0.3200	0.087	27.1	ug/L	308	Standard
|	Ba	135	198.0	9.0	0.0470	0.006	12.4	ug/L	50	Standard
|	Ce	140	58.3	17.8				ug/L	122	Standard
>	Tb	159	1115604.3	0.8				ug/L	1169812	Standard
|	Ho	165	11.7	49.5				ug/L	7	Standard
|	Tl	203	314.0	9.6	0.0261	0.003	10.7	ug/L	11	Standard
|	Tl	205	268.3	22.5	0.0261	0.006	24.6	ug/L	8	Standard
|	Pb	206	944.7	12.1	0.0989	0.017	17.2	ug/L	277	Standard
|	Pb	207	810.4	8.1	0.0873	0.011	12.3	ug/L	262	Standard
|	Pb	208	3252.8	6.2	0.0912	0.009	9.7	ug/L	982	Standard
	U	238	94.0	46.5	0.0100	0.005	50.4	ug/L	8	Standard
>	Bi	209	580354.7	0.4				ug/L	593643	Standard

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Na	23	3.3	86.6	22.3031	19.311	86.6	mg/L	2	Standard
Mg	24	1678.4	5.5	1.5507	0.101	6.5	mg/L	75	Standard
K	39	33.3	37.7	-0.0201	0.045	224.2	mg/L	32	Standard
Ca	43	20.0	25.0	-0.4059	0.430	105.9	mg/L	50	Standard
Fe	54	210.3	20.4	-0.0089	0.026	289.1	mg/L	236	Standard
Fe	57	271.7	13.9	-0.0130	0.092	711.9	mg/L	352	Standard
Sc-1	45	38884.8	0.8				mg/L	42879	Standard
Cl	35	200916.4	2.1				ug/L	166385	Standard
Kr	83	2.0	86.6				ug/L	3	Standard
Br	81	4564.0	6.8				ug/L	4321	Standard
P	31	27284.6	2.8				ug/L	24331	Standard
S	34	4987.5	5.4				ug/L	3789	Standard
Sr	88	90.0	5.6				ug/L	78	Standard
C	12	80.0	12.5				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	22.5	25.0				mg/L	12	Standard
Ho-1	165	11.7	49.5				mg/L	7	Standard
Er	166	16.7	34.6				mg/L	20	Standard
I	127	1266.7	3.7				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		100.456	
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		95.073	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.249
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.762
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605016901 WG567607-01

Sample Date/Time: Thursday, May 05, 2016 16:09:49

Number of Replicates: 3

Autosampler Position: 304

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82249.3	1.6				ug/L	82657	Standard
|	Be	9	25.0	40.0	-0.0214	0.009	41.7	ug/L	13	Standard
|	Al	27	16964.5	1.4	0.0712	0.001	1.2	ug/L	1347	Standard
|	Sc	45	38696.0	2.5				ug/L	42879	Standard
|	Ti	47	46.3	26.8	0.0117	0.041	347.3	ug/L	41	Standard
|	V	51	2309.9	3.3	0.0193	0.007	37.8	ug/L	2416	Standard
|	Cr	52	13224.8	0.4	0.1816	0.024	13.1	ug/L	12475	Standard
|	Cr	53	1146.7	9.0	0.4449	0.088	19.9	ug/L	537	Standard
|	Mn	55	2009.8	3.9	0.0916	0.009	9.9	ug/L	1090	Standard
|	Co	59	376.7	8.5	0.0067	0.004	56.5	ug/L	363	Standard
|	Ni	60	718.0	1.3	0.1125	0.007	6.5	ug/L	399	Standard
|	Cu	65	3034.0	1.1	0.9126	0.009	1.0	ug/L	492	Standard
|	Zn	66	3575.4	2.9	2.1929	0.031	1.4	ug/L	201	Standard
>	Ge	72	633275.5	1.6				ug/L	679875	Standard
|	As	75	-180.6	17.5	-0.0353	0.022	62.6	ug/L	-85	Standard
|	Se	82	23.0	41.8	-0.0691	0.056	81.5	ug/L	29	Standard
|	Se-1	77	117.0	8.2	0.1694	0.102	60.3	ug/L	107	Standard
>	Ga	71	30.0	16.7				mg/L	37	Standard
|	Rb	85	95.0	18.2				ug/L	23	Standard
|	Y	89	523263.1	1.3				ug/L	562937	Standard
>	Rh	103	11.7	99.0				ug/L	13	Standard
|	Mo	98	128.0	1.3	0.0286	0.001	2.5	ug/L	25	Standard
|	Ag	107	135.3	22.8	0.0001	0.003	2962.1	ug/L	114	Standard
|	Cd	111	48.4	29.6	0.0157	0.005	32.2	mg/L	6	Standard
|	Cd	114	133.9	5.5	0.0166	0.001	6.2	ug/L	14	Standard
>	In	115	695356.5	1.1				ug/L	726030	Standard
|	Sn	118	1160.0	5.7	0.0475	0.009	19.4	ug/L	913	Standard
|	Sb	123	474.6	41.7	0.0633	0.033	51.9	ug/L	308	Standard
|	Ba	135	248.0	7.0	0.0647	0.007	10.3	ug/L	50	Standard
|	Ce	140	310.0	12.6				ug/L	122	Standard
>	Tb	159	1100284.5	0.3				ug/L	1169812	Standard
|	Ho	165	15.0	57.7				ug/L	7	Standard
|	Tl	203	104.7	40.9	0.0075	0.004	52.9	ug/L	11	Standard
|	Tl	205	66.7	11.5	0.0050	0.001	18.2	ug/L	8	Standard
|	Pb	206	1122.7	5.1	0.1252	0.009	7.4	ug/L	277	Standard
|	Pb	207	958.4	0.2	0.1114	0.002	2.0	ug/L	262	Standard
|	Pb	208	3856.2	0.9	0.1166	0.004	3.2	ug/L	982	Standard
	U	238	35.0	59.7	0.0033	0.002	75.5	ug/L	8	Standard
>	Bi	209	578317.3	1.4				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	73.3	25.8	0.0239	0.019	80.6	mg/L	75	Standard
K	39	31.7	9.1	-0.0255	0.007	29.2	mg/L	32	Standard
Ca	43	21.7	93.3	-0.2391	1.759	735.6	mg/L	50	Standard
Fe	54	277.3	12.1	0.0338	0.017	49.0	mg/L	236	Standard
Fe	57	276.7	8.5	0.0053	0.079	1479.5	mg/L	352	Standard
Sc-1	45	38696.0	2.5				mg/L	42879	Standard
Cl	35	196490.6	0.9				ug/L	166385	Standard
Kr	83	1.7	91.7				ug/L	3	Standard
Br	81	4313.9	1.9				ug/L	4321	Standard
P	31	29083.0	7.8				ug/L	24331	Standard
S	34	4949.1	2.6				ug/L	3789	Standard
Sr	88	100.0	27.8				ug/L	78	Standard
C	12	110.0	15.7				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	12.2	96.9				mg/L	12	Standard
Ho-1	165	15.0	57.7				mg/L	7	Standard
Er	166	23.3	49.5				mg/L	20	Standard
I	127	1751.8	3.5				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		99.507	
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		93.146	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.775
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.418
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605016901DP WG567607-04

Sample Date/Time: Thursday, May 05, 2016 16:13:01

Number of Replicates: 3

Autosampler Position: 305

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82641.5	2.6				ug/L	82657	Standard
|	Be	9	30.0	16.7	-0.0173	0.004	21.5	ug/L	13	Standard
|	Al	27	18094.1	3.2	0.0763	0.003	4.5	ug/L	1347	Standard
|	Sc	45	39307.6	1.6				ug/L	42879	Standard
|	Ti	47	50.3	5.0	0.0231	0.007	29.0	ug/L	41	Standard
|	V	51	2349.1	4.3	0.0224	0.010	44.6	ug/L	2416	Standard
|	Cr	52	13326.2	1.3	0.1857	0.015	8.3	ug/L	12475	Standard
|	Cr	53	1375.1	7.3	0.6212	0.069	11.2	ug/L	537	Standard
|	Mn	55	2205.8	1.7	0.1092	0.002	1.4	ug/L	1090	Standard
|	Co	59	374.7	5.6	0.0062	0.002	26.4	ug/L	363	Standard
|	Ni	60	670.0	3.4	0.0946	0.005	5.2	ug/L	399	Standard
|	Cu	65	3416.1	2.0	1.0429	0.018	1.7	ug/L	492	Standard
|	Zn	66	4315.3	3.0	2.6582	0.047	1.8	ug/L	201	Standard
>	Ge	72	636043.8	1.3				ug/L	679875	Standard
|	As	75	-98.3	31.0	0.0175	0.020	115.6	ug/L	-85	Standard
|	Se	82	35.2	10.6	0.0045	0.022	493.8	ug/L	29	Standard
|	Se-1	77	122.0	13.0	0.2099	0.142	67.4	ug/L	107	Standard
>	Ga	71	36.7	34.3				mg/L	37	Standard
|	Rb	85	125.0	34.6				ug/L	23	Standard
|	Y	89	523287.3	2.1				ug/L	562937	Standard
>	Rh	103	13.3	57.3				ug/L	13	Standard
|	Mo	98	131.4	6.6	0.0289	0.003	8.8	ug/L	25	Standard
|	Ag	107	108.3	8.3	-0.0029	0.001	25.5	ug/L	114	Standard
|	Cd	111	47.1	14.5	0.0150	0.002	15.1	mg/L	6	Standard
|	Cd	114	131.3	32.5	0.0160	0.006	39.1	ug/L	14	Standard
>	In	115	705648.3	1.7				ug/L	726030	Standard
|	Sn	118	1878.4	2.2	0.1331	0.008	6.2	ug/L	913	Standard
|	Sb	123	268.8	38.0	0.0293	0.017	58.0	ug/L	308	Standard
|	Ba	135	257.7	4.6	0.0666	0.003	4.4	ug/L	50	Standard
|	Ce	140	288.3	9.9				ug/L	122	Standard
>	Tb	159	1113326.9	2.3				ug/L	1169812	Standard
|	Ho	165	18.3	41.7				ug/L	7	Standard
|	Tl	203	201.0	8.6	0.0158	0.002	10.6	ug/L	11	Standard
|	Tl	205	185.0	4.7	0.0171	0.001	4.8	ug/L	8	Standard
|	Pb	206	1224.0	6.8	0.1371	0.012	8.6	ug/L	277	Standard
|	Pb	207	1014.7	2.7	0.1180	0.005	4.4	ug/L	262	Standard
|	Pb	208	4067.2	2.7	0.1228	0.005	3.7	ug/L	982	Standard
	U	238	35.7	16.4	0.0033	0.001	19.6	ug/L	8	Standard
>	Bi	209	587209.5	0.9				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	76.7	52.7	0.0261	0.039	150.2	mg/L	75	Standard
K	39	21.7	58.1	-0.0631	0.043	68.8	mg/L	32	Standard
Ca	43	25.0	52.9	-0.0068	1.104	16294.4	mg/L	50	Standard
Fe	54	255.2	5.0	0.0176	0.006	31.5	mg/L	236	Standard
Fe	57	298.3	7.6	0.0489	0.066	133.9	mg/L	352	Standard
Sc-1	45	39307.6	1.6				mg/L	42879	Standard
Cl	35	196421.3	1.9				ug/L	166385	Standard
Kr	83	3.0	88.2				ug/L	3	Standard
Br	81	4614.0	1.4				ug/L	4321	Standard
P	31	27852.2	0.9				ug/L	24331	Standard
S	34	5169.2	1.9				ug/L	3789	Standard
Sr	88	95.0	13.9				ug/L	78	Standard
C	12	126.7	9.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	86.6				mg/L	3	Standard
Dy	164	19.2	137.3				mg/L	12	Standard
Ho-1	165	18.3	41.7				mg/L	7	Standard
Er	166	16.7	34.6				mg/L	20	Standard
I	127	2705.2	3.4				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		99.982	
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		93.553	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.193
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	98.916
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605016901S WG567607-05

Sample Date/Time: Thursday, May 05, 2016 16:16:12

Number of Replicates: 3

Autosampler Position: 306

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	84903.9	1.2				ug/L	82657	Standard
|	Be	9	61802.5	3.2	52.8514	1.526	2.9	ug/L	13	Standard
|	Al	27	170539.4	0.7	0.7855	0.012	1.5	ug/L	1347	Standard
|	Sc	45	39046.9	1.7				ug/L	42879	Standard
|	Ti	47	275.0	54.5	0.7052	0.467	66.2	ug/L	41	Standard
|	V	51	479528.7	0.6	49.2227	0.555	1.1	ug/L	2416	Standard
|	Cr	52	547236.9	1.7	50.8966	0.362	0.7	ug/L	12475	Standard
|	Cr	53	67262.4	2.9	51.5691	1.297	2.5	ug/L	537	Standard
|	Mn	55	547476.6	0.2	50.5174	0.662	1.3	ug/L	1090	Standard
|	Co	59	522439.9	0.8	50.8827	0.859	1.7	ug/L	363	Standard
|	Ni	60	150138.4	2.0	50.6221	0.470	0.9	ug/L	399	Standard
|	Cu	65	152507.8	1.4	52.4553	0.202	0.4	ug/L	492	Standard
|	Zn	66	85748.3	1.3	53.6421	0.565	1.1	ug/L	201	Standard
>	Ge	72	652048.0	1.1				ug/L	679875	Standard
|	As	75	82154.2	0.7	50.9128	0.188	0.4	ug/L	-85	Standard
|	Se	82	8355.0	0.9	49.2486	0.559	1.1	ug/L	29	Standard
|	Se-1	77	5670.7	2.4	50.6215	1.747	3.5	ug/L	107	Standard
>	Ga	71	95.0	45.6				mg/L	37	Standard
|	Rb	85	301.7	5.8				ug/L	23	Standard
|	Y	89	525675.0	1.6				ug/L	562937	Standard
>	Rh	103	45.0	22.2				ug/L	13	Standard
|	Mo	98	269.6	6.3	0.0631	0.004	5.9	ug/L	25	Standard
|	Ag	107	493506.8	1.0	50.2345	0.873	1.7	ug/L	114	Standard
|	Cd	111	151932.8	0.5	50.2745	0.184	0.4	mg/L	6	Standard
|	Cd	114	364090.6	1.2	50.1157	0.318	0.6	ug/L	14	Standard
>	In	115	713324.0	0.8				ug/L	726030	Standard
|	Sn	118	1430.1	4.0	0.0765	0.008	10.8	ug/L	913	Standard
|	Sb	123	308899.6	0.6	48.6825	0.158	0.3	ug/L	308	Standard
|	Ba	135	154205.4	0.8	49.9224	0.196	0.4	ug/L	50	Standard
|	Ce	140	1191.7	1.7				ug/L	122	Standard
>	Tb	159	1142262.6	1.0				ug/L	1169812	Standard
|	Ho	165	15.0	88.2				ug/L	7	Standard
|	Tl	203	569520.7	1.3	49.5919	0.621	1.3	ug/L	11	Standard
|	Tl	205	498449.7	1.8	50.9241	0.815	1.6	ug/L	8	Standard
|	Pb	206	360352.5	0.4	50.8108	0.380	0.7	ug/L	277	Standard
|	Pb	207	315082.1	0.3	48.9939	0.345	0.7	ug/L	262	Standard
|	Pb	208	1268628.8	0.4	51.1183	0.078	0.2	ug/L	982	Standard
	U	238	445679.9	1.6	49.7896	0.658	1.3	ug/L	8	Standard
>	Bi	209	593781.9	0.4				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	168.3	24.7	0.1135	0.042	37.2	mg/L	75	Standard
K	39	48.3	15.8	0.0333	0.029	87.7	mg/L	32	Standard
Ca	43	33.3	37.7	0.7143	1.095	153.2	mg/L	50	Standard
Fe	54	271.4	6.6	0.0290	0.014	48.9	mg/L	236	Standard
Fe	57	253.3	15.3	-0.0638	0.092	144.0	mg/L	352	Standard
Sc-1	45	39046.9	1.7				mg/L	42879	Standard
Cl	35	198202.2	1.6				ug/L	166385	Standard
Kr	83	2.7	43.3				ug/L	3	Standard
Br	81	5757.8	3.8				ug/L	4321	Standard
P	31	28393.3	2.0				ug/L	24331	Standard
S	34	5200.9	2.2				ug/L	3789	Standard
Sr	88	80.0	0.0				ug/L	78	Standard
C	12	163.3	28.9				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	20.0	0.0				mg/L	3	Standard
Dy	164	18.6	54.1				mg/L	12	Standard
Ho-1	165	15.0	88.2				mg/L	7	Standard
Er	166	30.0	57.7				mg/L	20	Standard
I	127	4984.2	5.1				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		102.719	
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		95.907	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.250
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	100.023
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605016901SD WG567607-06

Sample Date/Time: Thursday, May 05, 2016 16:19:24

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 Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	84929.1	2.4				ug/L	82657	Standard
|	Be	9	60570.9	2.8	51.7838	0.841	1.6	ug/L	13	Standard
|	Al	27	23326.3	6.3	0.0982	0.004	4.3	ug/L	1347	Standard
|	Sc	45	39194.0	1.7				ug/L	42879	Standard
|	Ti	47	52.7	25.3	0.0275	0.038	139.5	ug/L	41	Standard
|	V	51	476513.3	0.9	49.3756	0.984	2.0	ug/L	2416	Standard
|	Cr	52	532654.8	1.5	49.9873	0.609	1.2	ug/L	12475	Standard
|	Cr	53	64818.5	3.5	50.1423	1.261	2.5	ug/L	537	Standard
|	Mn	55	537463.2	1.5	50.0591	1.139	2.3	ug/L	1090	Standard
|	Co	59	516055.3	1.4	50.7250	0.259	0.5	ug/L	363	Standard
|	Ni	60	145497.3	0.8	49.5234	0.906	1.8	ug/L	399	Standard
|	Cu	65	149111.9	1.3	51.7666	0.345	0.7	ug/L	492	Standard
|	Zn	66	82772.8	1.3	52.2638	0.691	1.3	ug/L	201	Standard
>	Ge	72	646032.8	1.7				ug/L	679875	Standard
|	As	75	78782.9	1.4	49.2846	0.742	1.5	ug/L	-85	Standard
|	Se	82	8162.1	1.9	48.5619	1.130	2.3	ug/L	29	Standard
|	Se-1	77	5655.4	3.1	50.9407	0.726	1.4	ug/L	107	Standard
>	Ga	71	80.0	22.5				mg/L	37	Standard
|	Rb	85	83.3	9.2				ug/L	23	Standard
|	Y	89	530090.9	1.2				ug/L	562937	Standard
>	Rh	103	26.7	21.7				ug/L	13	Standard
|	Mo	98	262.9	4.6	0.0615	0.003	4.2	ug/L	25	Standard
|	Ag	107	491026.4	1.2	50.0086	0.430	0.9	ug/L	114	Standard
|	Cd	111	150005.1	0.6	49.6693	0.560	1.1	mg/L	6	Standard
|	Cd	114	359770.5	1.8	49.5557	1.049	2.1	ug/L	14	Standard
>	In	115	712916.0	1.5				ug/L	726030	Standard
|	Sn	118	1586.7	2.8	0.0954	0.004	4.5	ug/L	913	Standard
|	Sb	123	310377.3	2.1	48.9404	0.475	1.0	ug/L	308	Standard
|	Ba	135	151891.6	0.2	49.2072	0.631	1.3	ug/L	50	Standard
|	Ce	140	345.0	5.8				ug/L	122	Standard
>	Tb	159	1159318.7	1.2				ug/L	1169812	Standard
|	Ho	165	15.0	66.7				ug/L	7	Standard
|	Tl	203	562274.4	0.3	48.8223	0.333	0.7	ug/L	11	Standard
|	Tl	205	491171.4	0.9	50.0382	0.337	0.7	ug/L	8	Standard
|	Pb	206	357739.9	0.9	50.2973	0.410	0.8	ug/L	277	Standard
|	Pb	207	310043.7	0.2	48.0726	0.377	0.8	ug/L	262	Standard
|	Pb	208	1245197.0	1.0	50.0292	0.214	0.4	ug/L	982	Standard
	U	238	438677.6	1.1	48.8688	0.459	0.9	ug/L	8	Standard
>	Bi	209	595484.7	0.7				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	108.3	13.3	0.0557	0.012	21.3	mg/L	75	Standard
K	39	18.3	41.7	-0.0740	0.028	37.6	mg/L	32	Standard
Ca	43	18.3	15.7	-0.5606	0.239	42.6	mg/L	50	Standard
Fe	54	215.7	32.8	-0.0069	0.041	596.3	mg/L	236	Standard
Fe	57	235.0	22.2	-0.1138	0.127	111.9	mg/L	352	Standard
Sc-1	45	39194.0	1.7				mg/L	42879	Standard
Cl	35	199114.9	3.6				ug/L	166385	Standard
Kr	83	2.0	50.0				ug/L	3	Standard
Br	81	4797.4	5.3				ug/L	4321	Standard
P	31	29455.4	7.1				ug/L	24331	Standard
S	34	4990.8	5.6				ug/L	3789	Standard
Sr	88	90.0	5.6				ug/L	78	Standard
C	12	163.3	18.7				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	19.4	3.8				mg/L	12	Standard
Ho-1	165	15.0	66.7				mg/L	7	Standard
Er	166	13.3	114.6				mg/L	20	Standard
I	127	2070.1	1.3				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		102.749	
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		95.022	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.194
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	100.310
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605016901SD WG567607-06

Report Date/Time: Thursday, May 05, 2016 16:21:40

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Method 6020 - Summary Report

Sample ID: L1605015002

Sample Date/Time: Thursday, May 05, 2016 16:22:35

Number of Replicates: 3

Autosampler Position: 308

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	84184.9	1.3				ug/L	82657	Standard
|	Be	9	65.0	46.8	0.0127	0.027	212.6	ug/L	13	Standard
|	Al	27	2227198.6	1.2	10.4750	0.178	1.7	ug/L	1347	Standard
|	Sc	45	37758.7	0.9				ug/L	42879	Standard
|	Ti	47	589.7	3.8	1.7430	0.049	2.8	ug/L	41	Standard
|	V	51	38706.7	1.3	3.9547	0.046	1.2	ug/L	2416	Standard
|	Cr	52	17359.3	2.7	0.6159	0.067	10.9	ug/L	12475	Standard
|	Cr	53	3375.4	5.6	2.2677	0.185	8.1	ug/L	537	Standard
|	Mn	55	6909.9	1.0	0.5694	0.014	2.5	ug/L	1090	Standard
|	Co	59	1335.1	3.7	0.1051	0.005	5.0	ug/L	363	Standard
|	Ni	60	2584.6	2.0	0.7780	0.029	3.7	ug/L	399	Standard
|	Cu	65	44428.1	1.5	15.8913	0.106	0.7	ug/L	492	Standard
|	Zn	66	2921.9	1.7	1.8044	0.052	2.9	ug/L	201	Standard
>	Ge	72	622518.2	1.2				ug/L	679875	Standard
|	As	75	13416.5	0.9	8.7753	0.069	0.8	ug/L	-85	Standard
|	Se	82	234.9	10.6	1.2487	0.171	13.7	ug/L	29	Standard
|	Se-1	77	359.7	3.5	2.4980	0.132	5.3	ug/L	107	Standard
>	Ga	71	168.3	17.1				mg/L	37	Standard
|	Rb	85	16145.3	1.4				ug/L	23	Standard
|	Y	89	507559.5	1.7				ug/L	562937	Standard
>	Rh	103	128.3	31.3				ug/L	13	Standard
|	Mo	98	11626.2	1.1	3.0766	0.023	0.7	ug/L	25	Standard
|	Ag	107	322.3	25.7	0.0208	0.009	44.9	ug/L	114	Standard
|	Cd	111	60.0	64.9	0.0204	0.014	68.5	mg/L	6	Standard
|	Cd	114	178.5	50.6	0.0238	0.014	56.8	ug/L	14	Standard
>	In	115	673696.8	1.0				ug/L	726030	Standard
|	Sn	118	1048.4	1.5	0.0379	0.001	2.9	ug/L	913	Standard
|	Sb	123	5274.4	15.9	0.8674	0.147	17.0	ug/L	308	Standard
|	Ba	135	34369.9	0.6	11.7683	0.087	0.7	ug/L	50	Standard
|	Ce	140	3408.7	2.4				ug/L	122	Standard
>	Tb	159	1083001.0	1.1				ug/L	1169812	Standard
|	Ho	165	61.7	4.7				ug/L	7	Standard
|	Tl	203	637.0	21.3	0.0578	0.013	22.1	ug/L	11	Standard
|	Tl	205	535.0	15.0	0.0568	0.009	15.9	ug/L	8	Standard
|	Pb	206	1501.1	6.8	0.1905	0.015	8.0	ug/L	277	Standard
|	Pb	207	1279.1	6.2	0.1725	0.012	7.2	ug/L	262	Standard
|	Pb	208	5096.0	5.7	0.1781	0.013	7.1	ug/L	982	Standard
	U	238	438.3	17.5	0.0520	0.009	18.3	ug/L	8	Standard
>	Bi	209	551643.3	0.9				ug/L	593643	Standard

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Na	23	5.0	100.0	34.4764	34.639	100.5	mg/L	2	Standard
Mg	24	40769.8	1.2	39.8909	0.192	0.5	mg/L	75	Standard
K	39	1048.4	7.5	3.7316	0.260	7.0	mg/L	32	Standard
Ca	43	230.0	11.3	17.9034	2.353	13.1	mg/L	50	Standard
Fe	54	274.9	20.1	0.0371	0.037	100.7	mg/L	236	Standard
Fe	57	425.0	15.9	0.4183	0.173	41.2	mg/L	352	Standard
Sc-1	45	37758.7	0.9				mg/L	42879	Standard
Cl	35	310883.5	2.4				ug/L	166385	Standard
Kr	83	4.3	53.3				ug/L	3	Standard
Br	81	14073.2	2.8				ug/L	4321	Standard
P	31	29101.3	3.6				ug/L	24331	Standard
S	34	4620.7	4.3				ug/L	3789	Standard
Sr	88	460.0	8.7				ug/L	78	Standard
C	12	140.0	18.9				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	33.3	45.8				mg/L	3	Standard
Dy	164	126.8	14.4				mg/L	12	Standard
Ho-1	165	61.7	4.7				mg/L	7	Standard
Er	166	66.7	31.2				mg/L	20	Standard
I	127	66557.8	5.1				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		101.849	
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		91.564	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	92.792
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	92.925
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

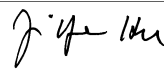
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605015002PS WG567700-01

Sample Date/Time: Thursday, May 05, 2016 16:25:46

Number of Replicates: 3

Autosampler Position: 309

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	89439.9	1.1				ug/L	82657	Standard
|	Be	9	63608.2	0.6	51.6422	0.800	1.5	ug/L	13	Standard
|	Al	27	2292363.0	2.7	10.1455	0.166	1.6	ug/L	1347	Standard
|	Sc	45	38062.8	2.0				ug/L	42879	Standard
|	Ti	47	587.3	8.2	1.7438	0.146	8.4	ug/L	41	Standard
|	V	51	518219.6	1.0	55.9915	0.485	0.9	ug/L	2416	Standard
|	Cr	52	528047.5	1.2	51.6869	0.366	0.7	ug/L	12475	Standard
|	Cr	53	65675.4	2.0	52.9871	0.912	1.7	ug/L	537	Standard
|	Mn	55	535431.5	2.0	51.9747	0.830	1.6	ug/L	1090	Standard
|	Co	59	514311.1	0.8	52.6941	0.155	0.3	ug/L	363	Standard
|	Ni	60	144021.0	1.4	51.0913	0.465	0.9	ug/L	399	Standard
|	Cu	65	187489.5	2.7	67.8909	1.542	2.3	ug/L	492	Standard
|	Zn	66	81543.6	2.0	53.6644	0.778	1.4	ug/L	201	Standard
>	Ge	72	619774.8	0.5				ug/L	679875	Standard
|	As	75	94002.2	1.9	61.2679	0.835	1.4	ug/L	-85	Standard
|	Se	82	8423.4	2.1	52.2446	0.817	1.6	ug/L	29	Standard
|	Se-1	77	5830.8	2.2	54.8224	1.110	2.0	ug/L	107	Standard
>	Ga	71	161.7	9.4				mg/L	37	Standard
|	Rb	85	16819.3	3.1				ug/L	23	Standard
|	Y	89	498780.9	1.2				ug/L	562937	Standard
>	Rh	103	171.7	8.4				ug/L	13	Standard
|	Mo	98	11629.5	0.8	3.0843	0.021	0.7	ug/L	25	Standard
|	Ag	107	464974.2	1.7	50.2195	0.592	1.2	ug/L	114	Standard
|	Cd	111	148714.5	1.3	52.2205	0.694	1.3	mg/L	6	Standard
|	Cd	114	361986.6	0.9	52.8756	0.351	0.7	ug/L	14	Standard
>	In	115	672196.3	0.6				ug/L	726030	Standard
|	Sn	118	1273.4	10.0	0.0669	0.016	23.3	ug/L	913	Standard
|	Sb	123	315505.5	2.7	52.7631	1.173	2.2	ug/L	308	Standard
|	Ba	135	182353.5	1.2	62.6505	0.479	0.8	ug/L	50	Standard
|	Ce	140	3398.7	5.8				ug/L	122	Standard
>	Tb	159	1091393.3	2.1				ug/L	1169812	Standard
|	Ho	165	56.7	44.4				ug/L	7	Standard
|	Tl	203	562077.4	0.5	51.9855	0.088	0.2	ug/L	11	Standard
|	Tl	205	497373.8	0.9	53.9725	0.165	0.3	ug/L	8	Standard
|	Pb	206	357115.7	0.8	53.4841	0.123	0.2	ug/L	277	Standard
|	Pb	207	310661.0	0.9	51.3088	0.098	0.2	ug/L	262	Standard
|	Pb	208	1243525.7	0.6	53.2223	0.069	0.1	ug/L	982	Standard
	U	238	456798.9	1.1	54.2065	0.776	1.4	ug/L	8	Standard
>	Bi	209	559044.3	0.7				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	41398.1	1.0	40.1883	0.405	1.0	mg/L	75	Standard
K	39	968.4	14.8	3.4058	0.482	14.1	mg/L	32	Standard
Ca	43	195.0	11.8	14.6972	1.655	11.3	mg/L	50	Standard
Fe	54	236.8	17.1	0.0108	0.023	214.1	mg/L	236	Standard
Fe	57	388.3	20.0	0.3105	0.187	60.1	mg/L	352	Standard
Sc-1	45	38062.8	2.0				mg/L	42879	Standard
Cl	35	306838.5	1.8				ug/L	166385	Standard
Kr	83	2.7	78.1				ug/L	3	Standard
Br	81	14263.4	3.4				ug/L	4321	Standard
P	31	27493.3	4.5				ug/L	24331	Standard
S	34	4419.0	6.5				ug/L	3789	Standard
Sr	88	481.7	12.3				ug/L	78	Standard
C	12	163.3	15.4				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	20.0	50.0				mg/L	3	Standard
Dy	164	100.0	29.3				mg/L	12	Standard
Ho-1	165	56.7	44.4				mg/L	7	Standard
Er	166	70.0	24.7				mg/L	20	Standard
I	127	65444.5	3.7				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.207	
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		91.160	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	92.585
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	94.172
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605015002SDL WG567700-02

Sample Date/Time: Thursday, May 05, 2016 16:28:58

Number of Replicates: 3

Autosampler Position: 310

Sample Description: 5

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	79782.9	1.4				ug/L	82657	Standard
|	Be	9	30.0	16.7	-0.0163	0.004	27.0	ug/L	13	Standard
|	Al	27	398660.2	0.9	1.9700	0.041	2.1	ug/L	1347	Standard
|	Sc	45	33390.1	2.6				ug/L	42879	Standard
|	Ti	47	118.7	20.7	0.2694	0.088	32.7	ug/L	41	Standard
|	V	51	8350.6	0.9	0.7350	0.019	2.5	ug/L	2416	Standard
|	Cr	52	9768.5	1.7	-0.0769	0.009	11.8	ug/L	12475	Standard
|	Cr	53	1295.1	4.2	0.6489	0.044	6.7	ug/L	537	Standard
|	Mn	55	1741.4	0.2	0.0798	0.002	2.9	ug/L	1090	Standard
|	Co	59	484.7	9.4	0.0216	0.006	26.0	ug/L	363	Standard
|	Ni	60	659.0	3.5	0.1111	0.008	7.5	ug/L	399	Standard
|	Cu	65	8555.4	1.8	3.1288	0.065	2.1	ug/L	492	Standard
|	Zn	66	1194.4	1.9	0.7209	0.022	3.1	ug/L	201	Standard
>	Ge	72	584363.4	1.3				ug/L	679875	Standard
|	As	75	2464.7	1.0	1.7816	0.016	0.9	ug/L	-85	Standard
|	Se	82	74.9	13.7	0.2853	0.061	21.5	ug/L	29	Standard
|	Se-1	77	150.3	2.0	0.5987	0.050	8.3	ug/L	107	Standard
>	Ga	71	70.0	37.8				mg/L	37	Standard
|	Rb	85	2838.6	7.8				ug/L	23	Standard
|	Y	89	465446.8	2.3				ug/L	562937	Standard
>	Rh	103	35.0	24.7				ug/L	13	Standard
|	Mo	98	1997.7	0.7	0.5548	0.005	0.9	ug/L	25	Standard
|	Ag	107	266.7	6.8	0.0163	0.002	15.3	ug/L	114	Standard
|	Cd	111	25.9	40.0	0.0088	0.004	44.5	mg/L	6	Standard
|	Cd	114	93.9	33.6	0.0122	0.005	41.3	ug/L	14	Standard
>	In	115	637961.5	1.5				ug/L	726030	Standard
|	Sn	118	475.0	13.8	-0.0319	0.010	30.5	ug/L	913	Standard
|	Sb	123	1680.1	24.0	0.2823	0.071	25.1	ug/L	308	Standard
|	Ba	135	6047.5	0.9	2.1722	0.014	0.7	ug/L	50	Standard
|	Ce	140	658.3	14.5				ug/L	122	Standard
>	Tb	159	1023862.9	1.2				ug/L	1169812	Standard
|	Ho	165	21.7	26.6				ug/L	7	Standard
|	Tl	203	378.3	7.8	0.0339	0.003	8.7	ug/L	11	Standard
|	Tl	205	346.7	12.1	0.0364	0.005	13.6	ug/L	8	Standard
|	Pb	206	563.0	7.4	0.0487	0.007	14.0	ug/L	277	Standard
|	Pb	207	493.3	6.4	0.0415	0.006	13.5	ug/L	262	Standard
|	Pb	208	2053.1	3.8	0.0467	0.004	7.7	ug/L	982	Standard
	U	238	121.7	30.2	0.0140	0.005	32.2	ug/L	8	Standard
>	Bi	209	547591.0	0.8				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	7218.4	0.4	7.9530	0.182	2.3	mg/L	75	Standard
K	39	221.7	18.2	0.7854	0.156	19.9	mg/L	32	Standard
Ca	43	46.7	32.7	2.4887	1.470	59.1	mg/L	50	Standard
Fe	54	112.5	9.5	-0.0583	0.010	16.7	mg/L	236	Standard
Fe	57	305.0	23.0	0.2038	0.202	99.0	mg/L	352	Standard
Sc-1	45	33390.1	2.6				mg/L	42879	Standard
Cl	35	194006.3	1.4				ug/L	166385	Standard
Kr	83	1.3	43.3				ug/L	3	Standard
Br	81	4910.8	1.7				ug/L	4321	Standard
P	31	12151.5	1.8				ug/L	24331	Standard
S	34	4250.6	2.4				ug/L	3789	Standard
Sr	88	166.7	17.3				ug/L	78	Standard
C	12	93.3	16.4				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	45.9	32.7				mg/L	12	Standard
Ho-1	165	21.7	26.6				mg/L	7	Standard
Er	166	16.7	34.6				mg/L	20	Standard
I	127	14078.2	0.8				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		96.523	
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		85.952	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	87.870
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	92.242
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605015002SDL WG567700-02

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 05, 2016 16:32:11

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	85369.9	1.5				ug/L	82657	Standard
|	Be	9	60974.2	2.4	51.8543	0.583	1.1	ug/L	13	Standard
|	Al	27	10447093.0	2.1	48.5038	1.763	3.6	ug/L	1347	Standard
|	Sc	45	37641.7	0.3				ug/L	42879	Standard
|	Ti	47	30724.1	0.9	97.7849	0.443	0.5	ug/L	41	Standard
|	V	51	471875.8	0.4	50.8016	0.425	0.8	ug/L	2416	Standard
|	Cr	52	511436.7	0.7	49.8657	0.592	1.2	ug/L	12475	Standard
|	Cr	53	61554.9	2.9	49.4769	1.513	3.1	ug/L	537	Standard
|	Mn	55	517449.4	1.8	50.0689	1.046	2.1	ug/L	1090	Standard
|	Co	59	507167.3	1.8	51.7980	1.050	2.0	ug/L	363	Standard
|	Ni	60	140463.8	0.2	49.6688	0.352	0.7	ug/L	399	Standard
|	Cu	65	141357.7	1.2	50.9866	0.719	1.4	ug/L	492	Standard
|	Zn	66	76885.6	1.1	50.4342	0.664	1.3	ug/L	201	Standard
>	Ge	72	621761.4	0.5				ug/L	679875	Standard
|	As	75	76539.3	0.8	49.7447	0.422	0.8	ug/L	-85	Standard
|	Se	82	7958.4	0.7	49.1932	0.277	0.6	ug/L	29	Standard
|	Se-1	77	5409.6	2.9	50.6370	1.749	3.5	ug/L	107	Standard
>	Ga	71	55.0	31.5				mg/L	37	Standard
|	Rb	85	1168.4	9.2				ug/L	23	Standard
|	Y	89	515698.0	1.9				ug/L	562937	Standard
>	Rh	103	38.3	27.2				ug/L	13	Standard
|	Mo	98	385579.5	0.2	98.4842	0.724	0.7	ug/L	25	Standard
|	Ag	107	469138.0	0.3	48.7334	0.388	0.8	ug/L	114	Standard
|	Cd	111	146307.4	0.7	49.4086	0.278	0.6	mg/L	6	Standard
|	Cd	114	359118.8	1.1	50.4531	0.924	1.8	ug/L	14	Standard
>	In	115	698948.9	0.8				ug/L	726030	Standard
|	Sn	118	405183.1	0.7	49.7691	0.042	0.1	ug/L	913	Standard
|	Sb	123	307124.0	1.0	49.3973	0.197	0.4	ug/L	308	Standard
|	Ba	135	147301.3	1.0	48.6683	0.492	1.0	ug/L	50	Standard
|	Ce	140	93.3	8.2				ug/L	122	Standard
>	Tb	159	1099078.0	0.9				ug/L	1169812	Standard
|	Ho	165	13.3	21.7				ug/L	7	Standard
|	Tl	203	548268.7	0.6	49.5440	0.538	1.1	ug/L	11	Standard
|	Tl	205	492908.5	1.3	52.2622	0.962	1.8	ug/L	8	Standard
|	Pb	206	340786.5	0.1	49.8639	0.303	0.6	ug/L	277	Standard
|	Pb	207	310966.7	0.2	50.1792	0.333	0.7	ug/L	262	Standard
|	Pb	208	1230125.1	0.7	51.4385	0.586	1.1	ug/L	982	Standard
	U	238	449892.0	1.3	52.1593	0.829	1.6	ug/L	8	Standard
>	Bi	209	572199.6	0.6				ug/L	593643	Standard

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Na	23	3.3	86.6	22.9752	19.893	86.6	mg/L	2	Standard
Mg	24	5686.1	0.5	5.5411	0.043	0.8	mg/L	75	Standard
K	39	1211.7	5.9	4.3502	0.266	6.1	mg/L	32	Standard
Ca	43	78.3	25.8	4.7356	1.774	37.5	mg/L	50	Standard
Fe	54	8178.2	2.8	5.1565	0.160	3.1	mg/L	236	Standard
Fe	57	2266.8	9.9	5.3707	0.598	11.1	mg/L	352	Standard
Sc-1	45	37641.7	0.3				mg/L	42879	Standard
Cl	35	186468.1	2.1				ug/L	166385	Standard
Kr	83	2.0	50.0				ug/L	3	Standard
Br	81	3990.5	2.3				ug/L	4321	Standard
P	31	26997.4	2.5				ug/L	24331	Standard
S	34	4899.1	2.8				ug/L	3789	Standard
Sr	88	96.7	15.8				ug/L	78	Standard
C	12	130.0	33.5				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	12.7	46.6				mg/L	12	Standard
Ho-1	165	13.3	21.7				mg/L	7	Standard
Er	166	13.3	43.3				mg/L	20	Standard
I	127	1616.8	10.7				mg/L	2570	Standard

QC Calculated Values

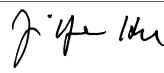
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	103.709		
Al	27	97.008		
Sc	45			
Ti	47	97.785		
V	51	101.603		
Cr	52	99.731		
Cr	53			
Mn	55	100.138		
Co	59	103.596		
Ni	60	99.338		
Cu	65	101.973		
Zn	66	100.868		
Ge	72		91.452	
As	75	99.489		
Se	82	98.386		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	98.484	
[Ag	107	97.467	
[Cd	111	98.817	
[Cd	114		
>	In	115		96.270
[Sn	118	99.538	
[	Sb	123	98.795	
[	Ba	135	97.337	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.088	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	102.877	
[	U	238	104.319	
>	Bi	209		96.388
[	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		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

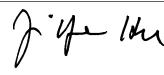
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 05, 2016 16:35:23

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 Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	86928.7	1.0				ug/L	82657	Standard
|	Be	9	46.7	37.6	-0.0046	0.015	317.4	ug/L	13	Standard
|	Al	27	2630.2	31.8	0.0015	0.004	265.7	ug/L	1347	Standard
|	Sc	45	36844.9	6.5				ug/L	42879	Standard
|	Ti	47	27.0	3.7	-0.0488	0.003	5.9	ug/L	41	Standard
|	V	51	1940.9	4.5	-0.0189	0.011	56.9	ug/L	2416	Standard
|	Cr	52	10017.3	1.5	-0.1279	0.018	13.9	ug/L	12475	Standard
|	Cr	53	708.3	9.6	0.0979	0.054	55.2	ug/L	537	Standard
|	Mn	55	1018.0	5.7	-0.0024	0.007	271.0	ug/L	1090	Standard
|	Co	59	349.3	13.3	0.0041	0.005	123.3	ug/L	363	Standard
|	Ni	60	316.3	9.0	-0.0268	0.011	41.6	ug/L	399	Standard
|	Cu	65	440.0	8.0	-0.0083	0.014	172.9	ug/L	492	Standard
|	Zn	66	270.7	4.6	0.0608	0.007	11.6	ug/L	201	Standard
>	Ge	72	630348.6	1.1				ug/L	679875	Standard
|	As	75	-134.4	5.5	-0.0061	0.004	72.4	ug/L	-85	Standard
|	Se	82	27.2	17.1	-0.0423	0.027	63.3	ug/L	29	Standard
|	Se-1	77	109.0	10.6	0.0982	0.103	104.9	ug/L	107	Standard
>	Ga	71	28.3	10.2				mg/L	37	Standard
|	Rb	85	38.3	15.1				ug/L	23	Standard
|	Y	89	516047.7	0.4				ug/L	562937	Standard
>	Rh	103	5.0	100.0				ug/L	13	Standard
|	Mo	98	246.4	8.6	0.0581	0.005	8.6	ug/L	25	Standard
|	Ag	107	278.7	23.2	0.0147	0.007	46.7	ug/L	114	Standard
|	Cd	111	30.2	52.4	0.0094	0.005	57.9	mg/L	6	Standard
|	Cd	114	91.3	79.8	0.0105	0.010	98.7	ug/L	14	Standard
>	In	115	704526.7	1.4				ug/L	726030	Standard
|	Sn	118	1380.1	18.3	0.0728	0.033	45.3	ug/L	913	Standard
|	Sb	123	1269.8	36.2	0.1897	0.076	40.0	ug/L	308	Standard
|	Ba	135	126.3	20.2	0.0237	0.009	36.7	ug/L	50	Standard
|	Ce	140	26.7	28.6				ug/L	122	Standard
>	Tb	159	1110763.8	1.6				ug/L	1169812	Standard
|	Ho	165	13.3	57.3				ug/L	7	Standard
|	Tl	203	146.0	36.5	0.0112	0.005	44.7	ug/L	11	Standard
|	Tl	205	113.3	51.7	0.0099	0.006	64.4	ug/L	8	Standard
|	Pb	206	362.3	2.4	0.0150	0.002	13.4	ug/L	277	Standard
|	Pb	207	292.3	16.6	0.0051	0.009	169.3	ug/L	262	Standard
|	Pb	208	1277.7	14.9	0.0099	0.009	89.4	ug/L	982	Standard
	U	238	96.0	56.2	0.0103	0.006	62.3	ug/L	8	Standard
>	Bi	209	578685.7	1.6				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	58.3	17.8	0.0127	0.013	105.3	mg/L	75	Standard
K	39	31.7	39.7	-0.0211	0.040	189.0	mg/L	32	Standard
Ca	43	26.7	75.8	0.2105	1.589	755.1	mg/L	50	Standard
Fe	54	204.3	8.4	-0.0053	0.010	198.4	mg/L	236	Standard
Fe	57	298.3	4.2	0.1034	0.083	80.5	mg/L	352	Standard
Sc-1	45	36844.9	6.5				mg/L	42879	Standard
Cl	35	183221.3	1.2				ug/L	166385	Standard
Kr	83	0.7	173.2				ug/L	3	Standard
Br	81	3830.5	3.8				ug/L	4321	Standard
P	31	26905.6	4.3				ug/L	24331	Standard
S	34	4737.4	1.4				ug/L	3789	Standard
Sr	88	95.0	24.1				ug/L	78	Standard
C	12	86.7	17.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	18.6	51.3				mg/L	12	Standard
Ho-1	165	13.3	57.3				mg/L	7	Standard
Er	166	30.0	33.3				mg/L	20	Standard
I	127	1670.1	5.4				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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		92.715	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.038
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.480
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605015002SDL WG567700-02

Sample Date/Time: Thursday, May 05, 2016 16:38:35

Number of Replicates: 3

Autosampler Position: 311

Sample Description: 25

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

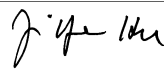
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	76718.8	2.0				ug/L	82657	Standard
|	Be	9	28.3	27.0	-0.0168	0.007	41.4	ug/L	13	Standard
|	Al	27	73499.6	2.0	0.3693	0.012	3.3	ug/L	1347	Standard
|	Sc	45	34140.1	2.5				ug/L	42879	Standard
|	Ti	47	38.0	2.6	-0.0051	0.003	50.8	ug/L	41	Standard
|	V	51	2891.9	4.0	0.1060	0.015	14.3	ug/L	2416	Standard
|	Cr	52	7222.1	0.5	-0.3487	0.007	2.0	ug/L	12475	Standard
|	Cr	53	548.3	14.3	0.0034	0.070	2031.5	ug/L	537	Standard
|	Mn	55	829.4	4.5	-0.0145	0.004	29.3	ug/L	1090	Standard
|	Co	59	309.7	17.5	0.0024	0.006	237.2	ug/L	363	Standard
|	Ni	60	367.3	0.9	0.0007	0.002	324.8	ug/L	399	Standard
|	Cu	65	1877.1	3.8	0.5554	0.022	3.9	ug/L	492	Standard
|	Zn	66	1036.7	2.3	0.6087	0.015	2.4	ug/L	201	Standard
>	Ge	72	585792.0	0.8				ug/L	679875	Standard
|	As	75	392.0	20.9	0.3497	0.055	15.7	ug/L	-85	Standard
|	Se	82	42.8	33.8	0.0730	0.094	128.8	ug/L	29	Standard
|	Se-1	77	106.0	12.5	0.1459	0.131	89.9	ug/L	107	Standard
>	Ga	71	16.7	96.4				mg/L	37	Standard
|	Rb	85	558.3	6.6				ug/L	23	Standard
|	Y	89	461945.1	1.1				ug/L	562937	Standard
>	Rh	103	16.7	96.4				ug/L	13	Standard
|	Mo	98	369.3	12.9	0.0995	0.014	13.9	ug/L	25	Standard
|	Ag	107	146.3	60.2	0.0027	0.010	374.6	ug/L	114	Standard
|	Cd	111	27.3	120.6	0.0094	0.012	130.6	mg/L	6	Standard
|	Cd	114	56.0	126.4	0.0064	0.011	172.7	ug/L	14	Standard
>	In	115	635505.5	0.5				ug/L	726030	Standard
|	Sn	118	460.0	7.8	-0.0337	0.005	14.3	ug/L	913	Standard
|	Sb	123	224.0	1.8	0.0259	0.001	2.2	ug/L	308	Standard
|	Ba	135	1134.4	2.3	0.3946	0.011	2.9	ug/L	50	Standard
|	Ce	140	138.3	20.6				ug/L	122	Standard
>	Tb	159	1017226.1	0.1				ug/L	1169812	Standard
|	Ho	165	15.0	66.7				ug/L	7	Standard
|	Tl	203	217.0	36.7	0.0188	0.008	42.5	ug/L	11	Standard
|	Tl	205	158.3	13.1	0.0156	0.002	16.0	ug/L	8	Standard
|	Pb	206	360.0	12.4	0.0179	0.008	43.9	ug/L	277	Standard
|	Pb	207	286.3	5.5	0.0068	0.003	50.1	ug/L	262	Standard
|	Pb	208	1209.7	7.2	0.0101	0.005	47.2	ug/L	982	Standard
	U	238	37.3	43.4	0.0038	0.002	54.5	ug/L	8	Standard
>	Bi	209	545513.6	1.8				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	1398.4	6.9	1.4709	0.141	9.6	mg/L	75	Standard
K	39	63.3	24.1	0.1190	0.061	51.3	mg/L	32	Standard
Ca	43	23.3	24.7	0.1405	0.501	356.5	mg/L	50	Standard
Fe	54	84.2	54.6	-0.0803	0.033	41.2	mg/L	236	Standard
Fe	57	288.3	15.0	0.1361	0.135	99.1	mg/L	352	Standard
Sc-1	45	34140.1	2.5				mg/L	42879	Standard
Cl	35	170781.6	2.9				ug/L	166385	Standard
Kr	83	0.7	86.6				ug/L	3	Standard
Br	81	3510.4	11.8				ug/L	4321	Standard
P	31	10161.7	4.9				ug/L	24331	Standard
S	34	4567.4	0.9				ug/L	3789	Standard
Sr	88	81.7	17.7				ug/L	78	Standard
C	12	90.0	11.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0					mg/L	3	Standard
Dy	164	9.4	101.7				mg/L	12	Standard
Ho-1	165	15.0	66.7				mg/L	7	Standard
Er	166	13.3	86.6				mg/L	20	Standard
I	127	4218.9	4.1				mg/L	2570	Standard

QC Calculated Values

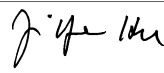
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		92.816	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		86.162	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	87.532
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	91.892
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605015002SDL WG567700-02

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Method 6020 - Summary Report

Sample ID: L1605015102

Sample Date/Time: Thursday, May 05, 2016 16:41:47

Number of Replicates: 3

Autosampler Position: 312

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	94770.5	1.8				ug/L	82657	Standard
|	Be	9	56.7	10.2	-0.0001	0.004	2826.1	ug/L	13	Standard
|	Al	27	45359396.2	4.4	189.6430	6.743	3.6	ug/L	1347	Standard
|	Sc	45	38114.6	3.0				ug/L	42879	Standard
|	Ti	47	846.4	5.8	2.6612	0.087	3.3	ug/L	41	Standard
|	V	51	5975.7	8.1	0.4433	0.036	8.0	ug/L	2416	Standard
|	Cr	52	17242.8	4.3	0.6684	0.028	4.2	ug/L	12475	Standard
|	Cr	53	8018.8	10.7	6.2933	0.918	14.6	ug/L	537	Standard
|	Mn	55	397190.9	2.9	39.8214	0.126	0.3	ug/L	1090	Standard
|	Co	59	7328.4	2.7	0.7453	0.009	1.2	ug/L	363	Standard
|	Ni	60	9064.7	3.0	3.1951	0.079	2.5	ug/L	399	Standard
|	Cu	65	2109.1	3.6	0.6257	0.007	1.1	ug/L	492	Standard
|	Zn	66	4259.9	2.0	2.7893	0.036	1.3	ug/L	201	Standard
>	Ge	72	599743.9	2.9				ug/L	679875	Standard
|	As	75	2060.8	5.9	1.4654	0.043	2.9	ug/L	-85	Standard
|	Se	82	767.1	2.6	4.7283	0.029	0.6	ug/L	29	Standard
|	Se-1	77	591.0	4.7	4.9198	0.400	8.1	ug/L	107	Standard
>	Ga	71	190.0	10.5				mg/L	37	Standard
|	Rb	85	4534.0	6.5				ug/L	23	Standard
|	Y	89	488093.5	2.4				ug/L	562937	Standard
>	Rh	103	326.7	17.7				ug/L	13	Standard
|	Mo	98	320.6	2.1	0.0828	0.003	3.3	ug/L	25	Standard
|	Ag	107	116.0	17.3	-0.0012	0.002	162.2	ug/L	114	Standard
|	Cd	111	177.1	3.8	0.0629	0.003	4.7	mg/L	6	Standard
|	Cd	114	395.2	24.5	0.0567	0.014	24.4	ug/L	14	Standard
>	In	115	657253.4	1.5				ug/L	726030	Standard
|	Sn	118	1048.4	6.3	0.0412	0.009	22.7	ug/L	913	Standard
|	Sb	123	625.5	27.9	0.0936	0.031	33.6	ug/L	308	Standard
|	Ba	135	42964.2	1.1	15.0844	0.158	1.0	ug/L	50	Standard
|	Ce	140	5340.9	1.4				ug/L	122	Standard
>	Tb	159	1074993.3	2.5				ug/L	1169812	Standard
|	Ho	165	113.3	24.3				ug/L	7	Standard
|	Tl	203	271.7	15.9	0.0246	0.004	15.7	ug/L	11	Standard
|	Tl	205	253.3	4.1	0.0270	0.001	3.9	ug/L	8	Standard
|	Pb	206	1093.0	3.0	0.1355	0.004	3.2	ug/L	277	Standard
|	Pb	207	937.7	4.6	0.1220	0.007	5.7	ug/L	262	Standard
|	Pb	208	3667.8	5.5	0.1228	0.007	5.9	ug/L	982	Standard
	U	238	17231.5	1.3	2.1588	0.020	0.9	ug/L	8	Standard
>	Bi	209	529326.6	1.4				ug/L	593643	Standard

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Na	23	8.3	34.6	56.3323	18.533	32.9	mg/L	2	Standard
Mg	24	115886.5	0.8	112.4682	2.654	2.4	mg/L	75	Standard
K	39	138.3	27.6	0.3650	0.127	34.8	mg/L	32	Standard
Ca	43	433.3	4.1	35.2094	0.451	1.3	mg/L	50	Standard
Fe	54	578.1	10.0	0.2299	0.044	19.3	mg/L	236	Standard
Fe	57	711.7	15.0	1.1753	0.337	28.7	mg/L	352	Standard
Sc-1	45	38114.6	3.0				mg/L	42879	Standard
Cl	35	441334.6	1.7				ug/L	166385	Standard
Kr	83	3.0	66.7				ug/L	3	Standard
Br	81	151786.8	2.4				ug/L	4321	Standard
P	31	40325.3	2.0				ug/L	24331	Standard
S	34	4218.9	4.6				ug/L	3789	Standard
Sr	88	1211.7	8.4				ug/L	78	Standard
C	12	830.0	9.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	114.6				mg/L	3	Standard
Dy	164	151.4	31.5				mg/L	12	Standard
Ho-1	165	113.3	24.3				mg/L	7	Standard
Er	166	110.0	9.1				mg/L	20	Standard
I	127	790683.0	2.0				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		114.656	
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		88.214	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	90.527
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	89.166
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

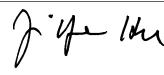
Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	

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Method 6020 - Summary Report

Sample ID: L1605015104

Sample Date/Time: Thursday, May 05, 2016 16:44:58

Number of Replicates: 3

Autosampler Position: 313

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	100243.9	1.8				ug/L	82657	Standard
|	Be	9	75.0	6.7	0.0108	0.003	24.6	ug/L	13	Standard
|	Al	27	49664808.9	1.9	196.3320	1.567	0.8	ug/L	1347	Standard
|	Sc	45	37305.9	1.3				ug/L	42879	Standard
|	Ti	47	3596.8	5.3	12.0367	0.562	4.7	ug/L	41	Standard
|	V	51	12072.5	3.1	1.1602	0.031	2.7	ug/L	2416	Standard
|	Cr	52	23233.1	1.1	1.3463	0.024	1.8	ug/L	12475	Standard
|	Cr	53	9501.3	2.5	7.7193	0.293	3.8	ug/L	537	Standard
|	Mn	55	1810981.6	1.1	186.3433	1.235	0.7	ug/L	1090	Standard
|	Co	59	17449.4	1.8	1.8627	0.054	2.9	ug/L	363	Standard
|	Ni	60	9484.3	0.5	3.4339	0.054	1.6	ug/L	399	Standard
|	Cu	65	4084.9	3.4	1.4042	0.051	3.6	ug/L	492	Standard
|	Zn	66	10614.0	0.7	7.2955	0.034	0.5	ug/L	201	Standard
>	Ge	72	585524.8	1.1				ug/L	679875	Standard
|	As	75	3552.8	2.5	2.5285	0.085	3.4	ug/L	-85	Standard
|	Se	82	946.4	2.8	6.0302	0.188	3.1	ug/L	29	Standard
|	Se-1	77	604.3	5.5	5.1931	0.406	7.8	ug/L	107	Standard
>	Ga	71	825.0	7.9				mg/L	37	Standard
|	Rb	85	19242.2	3.5				ug/L	23	Standard
|	Y	89	482641.2	3.1				ug/L	562937	Standard
>	Rh	103	441.7	5.1				ug/L	13	Standard
|	Mo	98	1223.7	5.0	0.3303	0.015	4.6	ug/L	25	Standard
|	Ag	107	124.3	14.9	-0.0002	0.002	954.1	ug/L	114	Standard
|	Cd	111	159.6	3.5	0.0569	0.002	2.9	mg/L	6	Standard
|	Cd	114	365.2	12.2	0.0526	0.006	12.1	ug/L	14	Standard
>	In	115	652707.1	0.6				ug/L	726030	Standard
|	Sn	118	1485.1	13.3	0.0997	0.026	25.8	ug/L	913	Standard
|	Sb	123	487.2	30.1	0.0701	0.025	35.2	ug/L	308	Standard
|	Ba	135	64037.7	0.3	22.6477	0.174	0.8	ug/L	50	Standard
|	Ce	140	36051.2	0.9				ug/L	122	Standard
>	Tb	159	1056603.3	0.8				ug/L	1169812	Standard
|	Ho	165	468.3	10.5				ug/L	7	Standard
|	Tl	203	298.0	8.9	0.0274	0.003	11.1	ug/L	11	Standard
|	Tl	205	366.7	46.0	0.0402	0.020	49.4	ug/L	8	Standard
|	Pb	206	3293.4	1.6	0.4852	0.008	1.6	ug/L	277	Standard
|	Pb	207	2698.6	2.5	0.4308	0.017	4.1	ug/L	262	Standard
|	Pb	208	11589.7	5.1	0.4829	0.033	6.8	ug/L	982	Standard
	U	238	1214.7	14.9	0.1520	0.024	15.9	ug/L	8	Standard
>	Bi	209	527905.5	1.5				ug/L	593643	Standard

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Na	23	18.3	31.5	127.1758	39.513	31.1	mg/L	2	Standard
Mg	24	103911.9	2.6	103.0100	3.836	3.7	mg/L	75	Standard
K	39	290.0	11.3	0.9452	0.127	13.5	mg/L	32	Standard
Ca	43	446.7	5.2	37.1855	1.549	4.2	mg/L	50	Standard
Fe	54	5799.4	4.8	3.6484	0.141	3.9	mg/L	236	Standard
Fe	57	2135.2	6.7	5.0721	0.444	8.7	mg/L	352	Standard
Sc-1	45	37305.9	1.3				mg/L	42879	Standard
Cl	35	455032.1	1.5				ug/L	166385	Standard
Kr	83	3.7	31.5				ug/L	3	Standard
Br	81	195260.6	2.5				ug/L	4321	Standard
P	31	37130.5	2.1				ug/L	24331	Standard
S	34	4215.6	4.2				ug/L	3789	Standard
Sr	88	1901.8	4.4				ug/L	78	Standard
C	12	926.7	21.8				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	114.6				mg/L	3	Standard
Dy	164	705.8	8.2				mg/L	12	Standard
Ho-1	165	468.3	10.5				mg/L	7	Standard
Er	166	436.7	17.5				mg/L	20	Standard
I	127	1098519.0	4.4				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		121.278	
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		86.122	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	89.901
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	88.926
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1605015104

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Method 6020 - Summary Report

Sample ID: L1605015106

Sample Date/Time: Thursday, May 05, 2016 16:48:10

Number of Replicates: 3

Autosampler Position: 314

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	104462.4	3.1				ug/L	82657	Standard
|	Be	9	43.3	17.6	-0.0135	0.005	34.5	ug/L	13	Standard
|	Al	27	42922295.5	3.4	162.8144	0.397	0.2	ug/L	1347	Standard
|	Sc	45	37601.6	1.7				ug/L	42879	Standard
|	Ti	47	240.0	3.6	0.6743	0.022	3.2	ug/L	41	Standard
|	V	51	7799.5	4.1	0.6657	0.052	7.8	ug/L	2416	Standard
|	Cr	52	15504.3	2.3	0.5197	0.012	2.3	ug/L	12475	Standard
|	Cr	53	8070.5	2.0	6.4500	0.168	2.6	ug/L	537	Standard
|	Mn	55	105791.4	1.1	10.7387	0.264	2.5	ug/L	1090	Standard
|	Co	59	1860.1	3.8	0.1697	0.010	5.7	ug/L	363	Standard
|	Ni	60	3735.1	1.9	1.2616	0.003	0.2	ug/L	399	Standard
|	Cu	65	2551.9	0.2	0.8103	0.015	1.8	ug/L	492	Standard
|	Zn	66	4284.3	1.3	2.8614	0.049	1.7	ug/L	201	Standard
>	Ge	72	588526.5	1.8				ug/L	679875	Standard
|	As	75	1885.6	3.0	1.3724	0.019	1.4	ug/L	-85	Standard
|	Se	82	894.5	3.3	5.6575	0.154	2.7	ug/L	29	Standard
|	Se-1	77	682.7	2.5	5.9487	0.190	3.2	ug/L	107	Standard
>	Ga	71	41.7	34.6				mg/L	37	Standard
|	Rb	85	3520.4	5.8				ug/L	23	Standard
|	Y	89	483298.1	1.5				ug/L	562937	Standard
>	Rh	103	266.7	10.3				ug/L	13	Standard
|	Mo	98	580.4	1.7	0.1527	0.001	0.7	ug/L	25	Standard
|	Ag	107	114.3	3.5	-0.0015	0.000	21.6	ug/L	114	Standard
|	Cd	111	130.3	13.3	0.0459	0.006	13.9	mg/L	6	Standard
|	Cd	114	346.1	16.1	0.0492	0.008	16.7	ug/L	14	Standard
>	In	115	659779.9	1.0				ug/L	726030	Standard
|	Sn	118	955.0	6.0	0.0285	0.006	21.9	ug/L	913	Standard
|	Sb	123	398.0	24.6	0.0540	0.016	29.7	ug/L	308	Standard
|	Ba	135	30947.6	0.8	10.8183	0.029	0.3	ug/L	50	Standard
|	Ce	140	216.7	9.6				ug/L	122	Standard
>	Tb	159	1081688.3	0.6				ug/L	1169812	Standard
|	Ho	165	21.7	26.6				ug/L	7	Standard
|	Tl	203	312.0	2.7	0.0282	0.001	3.0	ug/L	11	Standard
|	Tl	205	296.7	18.9	0.0316	0.006	20.0	ug/L	8	Standard
|	Pb	206	435.0	1.8	0.0305	0.001	4.9	ug/L	277	Standard
|	Pb	207	404.3	3.1	0.0280	0.003	9.1	ug/L	262	Standard
|	Pb	208	1535.0	2.6	0.0255	0.002	8.2	ug/L	982	Standard
	U	238	71092.1	1.5	8.8002	0.073	0.8	ug/L	8	Standard
>	Bi	209	535842.5	0.7				ug/L	593643	Standard

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Na	23	10.0	86.6	69.4783	61.191	88.1	mg/L	2	Standard
Mg	24	131888.2	1.0	129.7136	2.485	1.9	mg/L	75	Standard
K	39	106.7	5.4	0.2564	0.027	10.5	mg/L	32	Standard
Ca	43	340.0	5.9	27.6041	2.239	8.1	mg/L	50	Standard
Fe	54	170.2	19.9	-0.0300	0.024	79.3	mg/L	236	Standard
Fe	57	498.3	3.2	0.6214	0.047	7.5	mg/L	352	Standard
Sc-1	45	37601.6	1.7				mg/L	42879	Standard
Cl	35	411461.3	1.2				ug/L	166385	Standard
Kr	83	1.3	86.6				ug/L	3	Standard
Br	81	157902.0	1.5				ug/L	4321	Standard
P	31	37827.2	1.1				ug/L	24331	Standard
S	34	3853.8	0.5				ug/L	3789	Standard
Sr	88	1146.7	1.8				ug/L	78	Standard
C	12	760.0	18.4				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	114.6				mg/L	3	Standard
Dy	164	25.1	24.1				mg/L	12	Standard
Ho-1	165	21.7	26.6				mg/L	7	Standard
Er	166	33.3	17.3				mg/L	20	Standard
I	127	563412.3	3.1				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		126.381	
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		86.564	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605015106

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	90.875
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	90.263
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

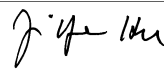
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	

Sample ID: L1605015106

Report Date/Time: Thursday, May 05, 2016 16:50:27

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Method 6020 - Summary Report

Sample ID: L1605015108

Sample Date/Time: Thursday, May 05, 2016 16:51:21

Number of Replicates: 3

Autosampler Position: 315

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	107109.2	3.5				ug/L	82657	Standard
|	Be	9	43.3	37.1	-0.0141	0.011	77.5	ug/L	13	Standard
|	Al	27	59591593.4	3.0	220.6011	8.190	3.7	ug/L	1347	Standard
|	Sc	45	38159.7	1.0				ug/L	42879	Standard
|	Ti	47	295.3	4.3	0.8677	0.040	4.6	ug/L	41	Standard
|	V	51	4434.3	11.1	0.2840	0.052	18.4	ug/L	2416	Standard
|	Cr	52	16055.8	2.2	0.5897	0.016	2.6	ug/L	12475	Standard
|	Cr	53	15686.5	3.7	13.0757	0.589	4.5	ug/L	537	Standard
|	Mn	55	46391.3	2.3	4.6851	0.054	1.1	ug/L	1090	Standard
|	Co	59	1639.4	1.2	0.1471	0.000	0.1	ug/L	363	Standard
|	Ni	60	7385.5	3.4	2.6481	0.057	2.2	ug/L	399	Standard
|	Cu	65	2415.5	0.7	0.7646	0.007	0.9	ug/L	492	Standard
|	Zn	66	5398.3	2.2	3.6611	0.032	0.9	ug/L	201	Standard
>	Ge	72	584387.2	1.3				ug/L	679875	Standard
|	As	75	2511.4	6.3	1.8132	0.091	5.0	ug/L	-85	Standard
|	Se	82	1095.6	4.7	7.0251	0.251	3.6	ug/L	29	Standard
|	Se-1	77	1236.7	4.8	11.6197	0.736	6.3	ug/L	107	Standard
>	Ga	71	50.0	36.1				mg/L	37	Standard
|	Rb	85	4600.7	5.3				ug/L	23	Standard
|	Y	89	490362.0	3.2				ug/L	562937	Standard
>	Rh	103	373.3	14.2				ug/L	13	Standard
|	Mo	98	708.6	2.0	0.1895	0.003	1.8	ug/L	25	Standard
|	Ag	107	128.0	4.9	0.0002	0.001	436.5	ug/L	114	Standard
|	Cd	111	138.1	10.6	0.0491	0.005	10.0	mg/L	6	Standard
|	Cd	114	293.1	8.6	0.0418	0.005	10.8	ug/L	14	Standard
>	In	115	652747.5	1.6				ug/L	726030	Standard
|	Sn	118	1065.0	3.3	0.0444	0.007	14.7	ug/L	913	Standard
|	Sb	123	402.9	15.0	0.0558	0.012	20.6	ug/L	308	Standard
|	Ba	135	85714.8	1.4	30.3190	0.264	0.9	ug/L	50	Standard
|	Ce	140	541.7	12.6				ug/L	122	Standard
>	Tb	159	1077379.7	0.9				ug/L	1169812	Standard
|	Ho	165	25.0	20.0				ug/L	7	Standard
|	Tl	203	207.3	3.2	0.0183	0.001	3.5	ug/L	11	Standard
|	Tl	205	173.3	26.2	0.0177	0.005	27.6	ug/L	8	Standard
|	Pb	206	702.7	6.9	0.0732	0.009	12.9	ug/L	277	Standard
|	Pb	207	602.3	1.8	0.0629	0.004	5.6	ug/L	262	Standard
|	Pb	208	2418.4	1.6	0.0657	0.003	4.6	ug/L	982	Standard
	U	238	22720.4	1.5	2.8312	0.040	1.4	ug/L	8	Standard
>	Bi	209	532253.6	1.6				ug/L	593643	Standard

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Na	23	11.7	49.5	79.3336	39.518	49.8	mg/L	2	Standard
Mg	24	151990.4	1.9	147.2737	1.957	1.3	mg/L	75	Standard
K	39	145.0	22.6	0.3905	0.120	30.6	mg/L	32	Standard
Ca	43	561.7	3.1	46.2223	1.974	4.3	mg/L	50	Standard
Fe	54	218.2	15.1	-0.0012	0.021	1802.4	mg/L	236	Standard
Fe	57	628.3	3.3	0.9459	0.040	4.3	mg/L	352	Standard
Sc-1	45	38159.7	1.0				mg/L	42879	Standard
Cl	35	313877.3	0.8				ug/L	166385	Standard
Kr	83	3.7	56.8				ug/L	3	Standard
Br	81	236217.5	1.8				ug/L	4321	Standard
P	31	40678.0	5.2				ug/L	24331	Standard
S	34	3885.5	3.8				ug/L	3789	Standard
Sr	88	1321.7	2.3				ug/L	78	Standard
C	12	686.7	10.5				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	114.6				mg/L	3	Standard
Dy	164	32.1	35.2				mg/L	12	Standard
Ho-1	165	25.0	20.0				mg/L	7	Standard
Er	166	26.7	21.7				mg/L	20	Standard
I	127	508714.2	3.5				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		129.583	
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		85.955	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	89.906
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	89.659
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

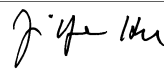
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	

Sample ID: L1605015108

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Method 6020 - Summary Report

Sample ID: L1605015110

Sample Date/Time: Thursday, May 05, 2016 16:54:33

Number of Replicates: 3

Autosampler Position: 316

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	107077.5	4.5				ug/L	82657	Standard
|	Be	9	88.3	28.5	0.0159	0.014	89.6	ug/L	13	Standard
|	Al	27	10952785.6	0.8	40.5906	2.134	5.3	ug/L	1347	Standard
|	Sc	45	35551.8	6.5				ug/L	42879	Standard
|	Ti	47	239.0	14.3	0.6990	0.153	21.9	ug/L	41	Standard
|	V	51	3679.5	1.5	0.2075	0.020	9.5	ug/L	2416	Standard
|	Cr	52	36304.4	0.8	2.8295	0.189	6.7	ug/L	12475	Standard
|	Cr	53	4725.7	3.4	3.7092	0.263	7.1	ug/L	537	Standard
|	Mn	55	206080.8	1.1	21.6566	0.650	3.0	ug/L	1090	Standard
|	Co	59	3976.2	2.5	0.4115	0.023	5.6	ug/L	363	Standard
|	Ni	60	4894.8	1.4	1.7534	0.095	5.4	ug/L	399	Standard
|	Cu	65	1185.0	2.1	0.3015	0.012	4.0	ug/L	492	Standard
|	Zn	66	5579.4	2.1	3.8829	0.245	6.3	ug/L	201	Standard
>	Ge	72	571428.3	3.9				ug/L	679875	Standard
|	As	75	3120.2	2.3	2.2856	0.113	5.0	ug/L	-85	Standard
|	Se	82	142.2	8.2	0.7514	0.057	7.5	ug/L	29	Standard
|	Se-1	77	175.0	8.1	0.8917	0.179	20.1	ug/L	107	Standard
>	Ga	71	151.7	3.8				mg/L	37	Standard
|	Rb	85	183657.0	2.9				ug/L	23	Standard
|	Y	89	470175.3	4.6				ug/L	562937	Standard
>	Rh	103	645.0	13.0				ug/L	13	Standard
|	Mo	98	3111.2	2.3	0.8497	0.040	4.7	ug/L	25	Standard
|	Ag	107	91.0	1.1	-0.0039	0.000	9.4	ug/L	114	Standard
|	Cd	111	167.7	1.2	0.0601	0.002	4.0	mg/L	6	Standard
|	Cd	114	400.5	17.0	0.0583	0.012	20.3	ug/L	14	Standard
>	In	115	651039.8	3.5				ug/L	726030	Standard
|	Sn	118	1223.4	3.4	0.0657	0.005	7.6	ug/L	913	Standard
|	Sb	123	694.0	6.8	0.1062	0.009	8.2	ug/L	308	Standard
|	Ba	135	239022.6	0.6	84.8568	2.622	3.1	ug/L	50	Standard
|	Ce	140	4875.8	1.7				ug/L	122	Standard
>	Tb	159	1046020.1	4.2				ug/L	1169812	Standard
|	Ho	165	46.7	27.0				ug/L	7	Standard
|	Tl	203	454.0	6.6	0.0421	0.001	3.4	ug/L	11	Standard
|	Tl	205	405.0	5.4	0.0441	0.004	8.3	ug/L	8	Standard
|	Pb	206	1417.7	2.6	0.1854	0.004	2.1	ug/L	277	Standard
|	Pb	207	1206.0	3.5	0.1673	0.001	0.6	ug/L	262	Standard
|	Pb	208	4911.0	0.9	0.1777	0.008	4.4	ug/L	982	Standard
	U	238	10552.7	1.0	1.3139	0.064	4.9	ug/L	8	Standard
>	Bi	209	533179.3	3.9				ug/L	593643	Standard

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Na	23	3.3	86.6	25.1547	21.810	86.7	mg/L	2	Standard
Mg	24	46277.3	2.3	48.2418	3.471	7.2	mg/L	75	Standard
K	39	1023.4	1.8	3.8871	0.280	7.2	mg/L	32	Standard
Ca	43	298.3	12.6	25.6541	5.020	19.6	mg/L	50	Standard
Fe	54	528.5	11.0	0.2235	0.052	23.3	mg/L	236	Standard
Fe	57	581.7	13.8	0.9416	0.272	28.9	mg/L	352	Standard
Sc-1	45	35551.8	6.5				mg/L	42879	Standard
Cl	35	227852.5	0.5				ug/L	166385	Standard
Kr	83	1.0	100.0				ug/L	3	Standard
Br	81	27828.9	0.9				ug/L	4321	Standard
P	31	33856.1	1.0				ug/L	24331	Standard
S	34	4012.2	2.4				ug/L	3789	Standard
Sr	88	2790.3	4.9				ug/L	78	Standard
C	12	1236.7	13.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	56.0	35.3				mg/L	12	Standard
Ho-1	165	46.7	27.0				mg/L	7	Standard
Er	166	83.3	25.0				mg/L	20	Standard
I	127	603040.4	3.7				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		129.545	
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		84.049	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	89.671
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	89.815
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample

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Method 6020 - Summary Report

Sample ID: L1605016902

Sample Date/Time: Thursday, May 05, 2016 16:57:44

Number of Replicates: 3

Autosampler Position: 317

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	94967.0	4.2				ug/L	82657	Standard
|	Be	9	30.0	28.9	-0.0205	0.008	36.8	ug/L	13	Standard
|	Al	27	25564.9	34.6	0.0953	0.032	33.6	ug/L	1347	Standard
|	Sc	45	34972.0	3.3				ug/L	42879	Standard
|	Ti	47	59.0	5.1	0.0610	0.012	19.8	ug/L	41	Standard
|	V	51	2317.3	3.6	0.0334	0.009	27.4	ug/L	2416	Standard
|	Cr	52	13171.7	0.8	0.2457	0.010	4.0	ug/L	12475	Standard
|	Cr	53	1258.4	8.2	0.5880	0.096	16.3	ug/L	537	Standard
|	Mn	55	2515.5	5.1	0.1526	0.013	8.7	ug/L	1090	Standard
|	Co	59	375.3	6.7	0.0085	0.002	28.0	ug/L	363	Standard
|	Ni	60	854.4	0.2	0.1759	0.003	1.9	ug/L	399	Standard
|	Cu	65	3683.8	2.9	1.2142	0.049	4.0	ug/L	492	Standard
|	Zn	66	6241.6	1.3	4.1313	0.012	0.3	ug/L	201	Standard
>	Ge	72	600880.2	1.1				ug/L	679875	Standard
|	As	75	-129.0	6.7	-0.0067	0.006	95.2	ug/L	-85	Standard
|	Se	82	26.4	22.8	-0.0399	0.037	92.2	ug/L	29	Standard
|	Se-1	77	112.3	4.6	0.1821	0.063	34.5	ug/L	107	Standard
>	Ga	71	40.0	45.1				mg/L	37	Standard
|	Rb	85	200.0	10.9				ug/L	23	Standard
|	Y	89	494106.1	2.0				ug/L	562937	Standard
>	Rh	103	6.7	43.3				ug/L	13	Standard
|	Mo	98	119.5	7.4	0.0270	0.003	10.8	ug/L	25	Standard
|	Ag	107	207.0	5.4	0.0080	0.002	19.2	ug/L	114	Standard
|	Cd	111	75.8	16.0	0.0255	0.004	16.4	mg/L	6	Standard
|	Cd	114	173.7	17.0	0.0227	0.004	17.6	ug/L	14	Standard
>	In	115	681589.8	2.0				ug/L	726030	Standard
|	Sn	118	1601.8	7.4	0.1062	0.015	13.9	ug/L	913	Standard
|	Sb	123	146.8	20.8	0.0105	0.005	48.8	ug/L	308	Standard
|	Ba	135	851.0	3.1	0.2707	0.009	3.3	ug/L	50	Standard
|	Ce	140	506.7	7.0				ug/L	122	Standard
>	Tb	159	1081179.5	1.2				ug/L	1169812	Standard
|	Ho	165	18.3	15.7				ug/L	7	Standard
|	Tl	203	129.3	10.3	0.0098	0.001	10.2	ug/L	11	Standard
|	Tl	205	116.7	23.6	0.0104	0.003	29.0	ug/L	8	Standard
|	Pb	206	1952.8	4.3	0.2490	0.008	3.1	ug/L	277	Standard
|	Pb	207	1691.1	1.7	0.2320	0.001	0.5	ug/L	262	Standard
|	Pb	208	6666.9	1.5	0.2366	0.002	0.7	ug/L	982	Standard
	U	238	38.7	14.7	0.0037	0.001	16.8	ug/L	8	Standard
>	Bi	209	570884.3	2.1				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	88.3	36.4	0.0478	0.037	77.3	mg/L	75	Standard
K	39	13.3	21.7	-0.0865	0.010	12.1	mg/L	32	Standard
Ca	43	28.3	62.0	0.5735	1.700	296.4	mg/L	50	Standard
Fe	54	222.1	8.7	0.0144	0.016	110.3	mg/L	236	Standard
Fe	57	230.0	19.6	-0.0526	0.141	268.1	mg/L	352	Standard
Sc-1	45	34972.0	3.3				mg/L	42879	Standard
Cl	35	189125.9	1.6				ug/L	166385	Standard
Kr	83	1.3	43.3				ug/L	3	Standard
Br	81	5110.9	5.5				ug/L	4321	Standard
P	31	24620.0	4.2				ug/L	24331	Standard
S	34	4193.9	4.7				ug/L	3789	Standard
Sr	88	75.0	6.7				ug/L	78	Standard
C	12	226.7	17.8				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	32.2	49.0				mg/L	12	Standard
Ho-1	165	18.3	15.7				mg/L	7	Standard
Er	166	23.3	49.5				mg/L	20	Standard
I	127	16190.6	24.0				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		114.893	
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		88.381	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605016902

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	93.879
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.166
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits


Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605016902

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Method 6020 - Summary Report

Sample ID: L1605017801

Sample Date/Time: Thursday, May 05, 2016 17:00:56

Number of Replicates: 3

Autosampler Position: 318

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	98604.9	1.9				ug/L	82657	Standard
|	Be	9	13.3	86.6	-0.0338	0.008	25.1	ug/L	13	Standard
|	Al	27	12968400.0	3.5	52.0993	0.831	1.6	ug/L	1347	Standard
|	Sc	45	33659.0	2.0				ug/L	42879	Standard
|	Ti	47	105.0	9.9	0.2395	0.039	16.1	ug/L	41	Standard
|	V	51	2598.0	14.2	0.0872	0.043	49.4	ug/L	2416	Standard
|	Cr	52	27594.1	0.2	1.9536	0.021	1.1	ug/L	12475	Standard
|	Cr	53	17124.7	2.6	15.0236	0.505	3.4	ug/L	537	Standard
|	Mn	55	24054.1	0.4	2.5002	0.018	0.7	ug/L	1090	Standard
|	Co	59	8559.8	1.7	0.9440	0.010	1.0	ug/L	363	Standard
|	Ni	60	24721.2	2.5	9.6342	0.192	2.0	ug/L	399	Standard
|	Cu	65	528777.4	1.3	213.1455	1.467	0.7	ug/L	492	Standard
|	Zn	66	2674.9	1.8	1.8458	0.022	1.2	ug/L	201	Standard
>	Ge	72	557705.7	0.7				ug/L	679875	Standard
|	As	75	5153.4	4.7	3.8072	0.149	3.9	ug/L	-85	Standard
|	Se	82	1868.8	4.5	12.7218	0.497	3.9	ug/L	29	Standard
|	Se-1	77	1344.4	4.3	13.3602	0.661	4.9	ug/L	107	Standard
>	Ga	71	695.0	2.6				mg/L	37	Standard
|	Rb	85	398833.8	1.8				ug/L	23	Standard
|	Y	89	467879.6	0.9				ug/L	562937	Standard
>	Rh	103	150.0	25.2				ug/L	13	Standard
|	Mo	98	26481.1	1.1	7.6203	0.098	1.3	ug/L	25	Standard
|	Ag	107	118.0	9.6	-0.0002	0.001	591.1	ug/L	114	Standard
|	Cd	111	-1.5	641.4	-0.0014	0.004	273.9	mg/L	6	Standard
|	Cd	114	86.1	18.9	0.0113	0.002	21.3	ug/L	14	Standard
>	In	115	620080.4	1.2				ug/L	726030	Standard
|	Sn	118	1698.4	1.2	0.1396	0.004	2.5	ug/L	913	Standard
|	Sb	123	2861.0	5.2	0.5052	0.028	5.5	ug/L	308	Standard
|	Ba	135	105843.7	0.6	39.4180	0.455	1.2	ug/L	50	Standard
|	Ce	140	83.3	15.1				ug/L	122	Standard
>	Tb	159	1028738.2	1.9				ug/L	1169812	Standard
|	Ho	165	1.7	173.2				ug/L	7	Standard
|	Tl	203	107.7	21.7	0.0094	0.002	25.5	ug/L	11	Standard
|	Tl	205	110.0	4.5	0.0115	0.001	5.6	ug/L	8	Standard
|	Pb	206	582.3	5.0	0.0611	0.005	7.7	ug/L	277	Standard
|	Pb	207	485.0	10.1	0.0489	0.009	18.0	ug/L	262	Standard
|	Pb	208	1926.0	0.7	0.0502	0.001	1.5	ug/L	982	Standard
	U	238	30.7	15.4	0.0033	0.001	19.0	ug/L	8	Standard
>	Bi	209	494608.8	0.4				ug/L	593643	Standard

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Na	23	11.7	89.2	89.1881	79.010	88.6	mg/L	2	Standard
Mg	24	286697.2	0.9	315.1113	8.169	2.6	mg/L	75	Standard
K	39	11059.0	4.2	45.6840	1.629	3.6	mg/L	32	Standard
Ca	43	773.4	3.8	73.2988	2.004	2.7	mg/L	50	Standard
Fe	54	207.2	6.6	0.0096	0.013	132.3	mg/L	236	Standard
Fe	57	798.4	2.8	1.6801	0.074	4.4	mg/L	352	Standard
Sc-1	45	33659.0	2.0				mg/L	42879	Standard
Cl	35	573072.3	1.9				ug/L	166385	Standard
Kr	83	2.7	21.7				ug/L	3	Standard
Br	81	397546.8	2.6				ug/L	4321	Standard
P	31	25145.9	3.3				ug/L	24331	Standard
S	34	4282.3	2.2				ug/L	3789	Standard
Sr	88	455.0	4.8				ug/L	78	Standard
C	12	316.7	6.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	30.0	57.7				mg/L	3	Standard
Dy	164	13.0	43.3				mg/L	12	Standard
Ho-1	165	1.7	173.2				mg/L	7	Standard
Er	166	6.7	86.6				mg/L	20	Standard
I	127	2071417.1	13.3				mg/L	2570	Standard

QC Calculated Values

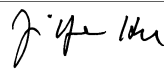
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		119.295	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		82.031	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	85.407
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	83.317
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

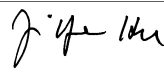
Measurement Type	Analyte	Mass	Out of Limits Message
Cu 65 Upper, S, EEE	Cu	65	

Sample ID: L1605017801

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Method 6020 - Summary Report

Sample ID: L1605017901

Sample Date/Time: Thursday, May 05, 2016 17:04:07

Number of Replicates: 3

Autosampler Position: 319

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	100000.7	2.2				ug/L	82657	Standard
|	Be	9	15.0	57.7	-0.0327	0.006	19.0	ug/L	13	Standard
|	Al	27	14825570.9	1.3	58.7606	1.457	2.5	ug/L	1347	Standard
|	Sc	45	34298.8	2.8				ug/L	42879	Standard
|	Ti	47	98.0	5.1	0.2150	0.021	9.7	ug/L	41	Standard
|	V	51	2490.5	17.7	0.0748	0.055	72.9	ug/L	2416	Standard
|	Cr	52	24517.2	1.3	1.6143	0.021	1.3	ug/L	12475	Standard
|	Cr	53	20994.6	4.3	18.5370	0.618	3.3	ug/L	537	Standard
|	Mn	55	33111.1	0.2	3.4829	0.042	1.2	ug/L	1090	Standard
|	Co	59	7366.5	0.8	0.8089	0.003	0.4	ug/L	363	Standard
|	Ni	60	23465.8	2.4	9.1471	0.123	1.3	ug/L	399	Standard
|	Cu	65	462290.4	1.8	186.5109	1.983	1.1	ug/L	492	Standard
|	Zn	66	2504.5	1.3	1.7232	0.042	2.4	ug/L	201	Standard
>	Ge	72	557140.1	1.0				ug/L	679875	Standard
|	As	75	3837.3	2.1	2.8590	0.073	2.6	ug/L	-85	Standard
|	Se	82	1438.5	1.5	9.7565	0.098	1.0	ug/L	29	Standard
|	Se-1	77	1776.8	1.7	17.9710	0.118	0.7	ug/L	107	Standard
>	Ga	71	450.0	4.8				mg/L	37	Standard
|	Rb	85	327557.9	0.3				ug/L	23	Standard
|	Y	89	467387.9	0.6				ug/L	562937	Standard
>	Rh	103	193.3	5.4				ug/L	13	Standard
|	Mo	98	23552.8	0.9	6.7529	0.043	0.6	ug/L	25	Standard
|	Ag	107	168.7	26.7	0.0056	0.005	92.6	ug/L	114	Standard
|	Cd	111	6.8	213.6	0.0018	0.006	302.1	mg/L	6	Standard
|	Cd	114	127.8	36.0	0.0179	0.007	40.6	ug/L	14	Standard
>	In	115	622265.1	0.5				ug/L	726030	Standard
|	Sn	118	1758.4	7.8	0.1470	0.018	12.3	ug/L	913	Standard
|	Sb	123	2812.8	2.1	0.4946	0.013	2.6	ug/L	308	Standard
|	Ba	135	124291.4	0.7	46.1264	0.502	1.1	ug/L	50	Standard
|	Ce	140	103.3	10.1				ug/L	122	Standard
>	Tb	159	1027400.1	0.6				ug/L	1169812	Standard
|	Ho	165	5.0	100.0				ug/L	7	Standard
|	Tl	203	127.7	33.5	0.0117	0.005	39.1	ug/L	11	Standard
|	Tl	205	113.3	24.3	0.0121	0.003	28.6	ug/L	8	Standard
|	Pb	206	442.7	1.1	0.0385	0.001	1.9	ug/L	277	Standard
|	Pb	207	378.0	2.8	0.0299	0.002	7.0	ug/L	262	Standard
|	Pb	208	1486.0	4.5	0.0299	0.003	11.4	ug/L	982	Standard
	U	238	36.7	78.0	0.0042	0.004	92.4	ug/L	8	Standard
>	Bi	209	487669.8	0.2				ug/L	593643	Standard

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Na	23	16.7	34.6	125.3755	41.896	33.4	mg/L	2	Standard
Mg	24	360906.9	1.6	389.2461	4.642	1.2	mg/L	75	Standard
K	39	9508.0	2.6	38.5328	0.921	2.4	mg/L	32	Standard
Ca	43	743.4	8.5	69.0712	6.527	9.5	mg/L	50	Standard
Fe	54	211.3	18.4	0.0097	0.028	292.0	mg/L	236	Standard
Fe	57	981.7	6.9	2.1808	0.279	12.8	mg/L	352	Standard
Sc-1	45	34298.8	2.8				mg/L	42879	Standard
Cl	35	556175.6	1.6				ug/L	166385	Standard
Kr	83	1.0	100.0				ug/L	3	Standard
Br	81	306808.9	1.4				ug/L	4321	Standard
P	31	24608.3	5.4				ug/L	24331	Standard
S	34	4355.6	1.2				ug/L	3789	Standard
Sr	88	570.0	16.7				ug/L	78	Standard
C	12	283.3	24.8				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	60.0	44.1				mg/L	3	Standard
Dy	164	32.2	34.2				mg/L	12	Standard
Ho-1	165	5.0	100.0				mg/L	7	Standard
Er	166	23.3	65.5				mg/L	20	Standard
I	127	1481257.6	4.2				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		120.983	
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		81.947	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605017901

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	85.708
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	82.149
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

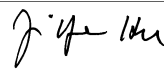
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Cu 65 Upper, S, EEE	Cu	65	

Sample ID: L1605017901

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Method 6020 - Summary Report

Sample ID: L1605018301

Sample Date/Time: Thursday, May 05, 2016 17:07:19

Number of Replicates: 3

Autosampler Position: 320

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	117977.7	2.3				ug/L	82657	Standard
|	Be	9	3947.2	3.1	2.3879	0.065	2.7	ug/L	13	Standard
|	Al	27	28054132.0	2.8	94.2195	0.563	0.6	ug/L	1347	Standard
|	Sc	45	35416.4	4.4				ug/L	42879	Standard
|	Ti	47	197.3	17.6	0.5395	0.120	22.3	ug/L	41	Standard
|	V	51	10420.3	1.3	0.9799	0.018	1.8	ug/L	2416	Standard
|	Cr	52	21769.3	2.2	1.2090	0.021	1.7	ug/L	12475	Standard
|	Cr	53	3090.3	12.5	2.2116	0.298	13.5	ug/L	537	Standard
|	Mn	55	19522195.7	2.0	2025.2129	23.991	1.2	ug/L	1090	Standard
|	Co	59	432043.6	0.3	47.2192	0.541	1.1	ug/L	363	Standard
|	Ni	60	184842.2	1.8	70.0019	1.252	1.8	ug/L	399	Standard
|	Cu	65	6682.5	4.8	2.4215	0.093	3.9	ug/L	492	Standard
|	Zn	66	240553.9	0.6	169.1348	1.548	0.9	ug/L	201	Standard
>	Ge	72	581032.2	1.4				ug/L	679875	Standard
|	As	75	5427.7	0.8	3.8491	0.049	1.3	ug/L	-85	Standard
|	Se	82	147.0	8.1	0.7672	0.065	8.5	ug/L	29	Standard
|	Se-1	77	182.7	14.6	0.9344	0.245	26.2	ug/L	107	Standard
>	Ga	71	650.0	8.1				mg/L	37	Standard
|	Rb	85	157986.2	1.8				ug/L	23	Standard
|	Y	89	851483.0	0.9				ug/L	562937	Standard
>	Rh	103	165.0	9.1				ug/L	13	Standard
|	Mo	98	233.9	10.0	0.0581	0.006	10.4	ug/L	25	Standard
|	Ag	107	104.3	7.4	-0.0027	0.001	33.4	ug/L	114	Standard
|	Cd	111	1074.6	2.0	0.3788	0.009	2.5	mg/L	6	Standard
|	Cd	114	2512.7	11.9	0.3668	0.044	11.9	ug/L	14	Standard
>	In	115	668312.7	0.5				ug/L	726030	Standard
|	Sn	118	840.0	6.2	0.0121	0.006	52.0	ug/L	913	Standard
|	Sb	123	109.0	28.8	0.0047	0.005	115.7	ug/L	308	Standard
|	Ba	135	13633.8	0.9	4.6951	0.062	1.3	ug/L	50	Standard
|	Ce	140	520566.4	1.6				ug/L	122	Standard
>	Tb	159	1117736.9	1.2				ug/L	1169812	Standard
|	Ho	165	32252.6	0.5				ug/L	7	Standard
|	Tl	203	791.0	8.2	0.0708	0.007	9.6	ug/L	11	Standard
|	Tl	205	661.7	2.2	0.0693	0.002	2.6	ug/L	8	Standard
|	Pb	206	1391.7	2.2	0.1696	0.007	4.2	ug/L	277	Standard
|	Pb	207	1166.4	3.1	0.1497	0.007	4.5	ug/L	262	Standard
|	Pb	208	4737.3	1.7	0.1583	0.002	1.4	ug/L	982	Standard
	U	238	3356.7	2.4	0.3945	0.005	1.4	ug/L	8	Standard
>	Bi	209	563287.5	1.2				ug/L	593643	Standard

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Na	23	11.7	99.0	83.1942	79.243	95.3	mg/L	2	Standard
Mg	24	2471.9	2.4	2.5367	0.052	2.1	mg/L	75	Standard
K	39	746.7	19.2	2.7888	0.433	15.5	mg/L	32	Standard
Ca	43	790.0	11.5	70.9787	5.449	7.7	mg/L	50	Standard
Fe	54	74664.6	2.9	51.2832	1.147	2.2	mg/L	236	Standard
Fe	57	19666.1	1.2	55.4925	1.967	3.5	mg/L	352	Standard
Sc-1	45	35416.4	4.4				mg/L	42879	Standard
Cl	35	1029017.6	2.0				ug/L	166385	Standard
Kr	83	1.0	100.0				ug/L	3	Standard
Br	81	14353.5	5.4				ug/L	4321	Standard
P	31	33732.5	4.1				ug/L	24331	Standard
S	34	4167.2	7.8				ug/L	3789	Standard
Sr	88	808.4	9.9				ug/L	78	Standard
C	12	183.3	22.0				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	50296.9	0.6				mg/L	12	Standard
Ho-1	165	32252.6	0.5				mg/L	7	Standard
Er	166	28760.6	2.5				mg/L	20	Standard
I	127	102500.8	9.2				mg/L	2570	Standard

QC Calculated Values

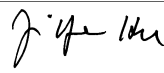
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		142.732	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		85.462	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	92.050
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	94.887
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

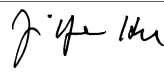
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 05, 2016 17:10:32

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	111356.1	1.0				ug/L	82657	Standard
|	Be	9	77528.0	4.0	50.5395	1.510	3.0	ug/L	13	Standard
|	Al	27	11400594.2	1.7	40.5603	0.282	0.7	ug/L	1347	Standard
|	Sc	45	35451.4	2.6				ug/L	42879	Standard
|	Ti	47	29253.5	1.4	93.8183	0.599	0.6	ug/L	41	Standard
|	V	51	462541.2	1.0	50.1779	0.288	0.6	ug/L	2416	Standard
|	Cr	52	490463.0	1.5	48.1507	0.488	1.0	ug/L	12475	Standard
|	Cr	53	60124.1	1.7	48.6895	0.482	1.0	ug/L	537	Standard
|	Mn	55	493919.3	1.0	48.1559	0.175	0.4	ug/L	1090	Standard
|	Co	59	538637.7	0.6	55.4387	0.084	0.2	ug/L	363	Standard
|	Ni	60	134039.0	0.5	47.7582	0.124	0.3	ug/L	399	Standard
|	Cu	65	136924.9	0.8	49.7656	0.336	0.7	ug/L	492	Standard
|	Zn	66	75925.4	0.5	50.1890	0.238	0.5	ug/L	201	Standard
>	Ge	72	616983.1	0.7				ug/L	679875	Standard
|	As	75	76020.7	1.0	49.7912	0.579	1.2	ug/L	-85	Standard
|	Se	82	8226.6	0.9	51.2557	0.670	1.3	ug/L	29	Standard
|	Se-1	77	5444.6	1.3	51.3704	0.926	1.8	ug/L	107	Standard
>	Ga	71	45.0	11.1				mg/L	37	Standard
|	Rb	85	1208.4	6.0				ug/L	23	Standard
|	Y	89	512841.9	0.9				ug/L	562937	Standard
>	Rh	103	36.7	7.9				ug/L	13	Standard
|	Mo	98	404447.4	0.7	100.0044	0.620	0.6	ug/L	25	Standard
|	Ag	107	491433.4	2.5	49.4149	0.933	1.9	ug/L	114	Standard
|	Cd	111	152229.9	1.0	49.7674	0.304	0.6	mg/L	6	Standard
|	Cd	114	364230.7	2.6	49.5404	1.566	3.2	ug/L	14	Standard
>	In	115	722020.9	1.4				ug/L	726030	Standard
|	Sn	118	416126.2	1.6	49.4783	0.209	0.4	ug/L	913	Standard
|	Sb	123	317418.6	1.6	49.4215	0.346	0.7	ug/L	308	Standard
|	Ba	135	149370.7	0.9	47.7766	0.414	0.9	ug/L	50	Standard
|	Ce	140	155.0	14.8				ug/L	122	Standard
>	Tb	159	1155988.1	0.4				ug/L	1169812	Standard
|	Ho	165	11.7	99.0				ug/L	7	Standard
|	Tl	203	587106.1	0.4	49.6465	0.364	0.7	ug/L	11	Standard
|	Tl	205	532125.6	2.1	52.7899	0.668	1.3	ug/L	8	Standard
|	Pb	206	366259.0	0.5	50.1503	0.387	0.8	ug/L	277	Standard
|	Pb	207	332906.3	0.6	50.2696	0.253	0.5	ug/L	262	Standard
|	Pb	208	1290380.3	0.8	50.4928	0.584	1.2	ug/L	982	Standard
	U	238	484107.7	1.3	52.5189	0.315	0.6	ug/L	8	Standard
>	Bi	209	611476.0	1.1				ug/L	593643	Standard

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Na	23	3.3	86.6	24.3159	21.074	86.7	mg/L	2	Standard
Mg	24	5744.4	1.0	5.9499	0.178	3.0	mg/L	75	Standard
K	39	973.4	4.9	3.6932	0.256	6.9	mg/L	32	Standard
Ca	43	48.3	15.8	2.3927	0.816	34.1	mg/L	50	Standard
Fe	54	7743.9	0.9	5.1868	0.123	2.4	mg/L	236	Standard
Fe	57	2383.5	2.8	6.0826	0.238	3.9	mg/L	352	Standard
Sc-1	45	35451.4	2.6				mg/L	42879	Standard
Cl	35	176962.4	2.1				ug/L	166385	Standard
Kr	83	2.0	50.0				ug/L	3	Standard
Br	81	5240.9	9.0				ug/L	4321	Standard
P	31	24528.2	1.4				ug/L	24331	Standard
S	34	4080.5	3.5				ug/L	3789	Standard
Sr	88	90.0	5.6				ug/L	78	Standard
C	12	120.0	41.7				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	22.2	23.1				mg/L	12	Standard
Ho-1	165	11.7	99.0				mg/L	7	Standard
Er	166	23.3	89.2				mg/L	20	Standard
I	127	14712.3	15.9				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	101.079		
Al	27	81.121		
Sc	45			
Ti	47	93.818		
V	51	100.356		
Cr	52	96.301		
Cr	53			
Mn	55	96.312		
Co	59	110.877		
Ni	60	95.516		
Cu	65	99.531		
Zn	66	100.378		
Ge	72		90.749	
As	75	99.582		
Se	82	102.511		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	100.004	
[Ag	107	98.830	
[Cd	111	99.535	
[Cd	114		
>	In	115		99.448
[Sn	118	98.957	
[	Sb	123	98.843	
[	Ba	135	95.553	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.293	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.986	
[	U	238	105.038	
>	Bi	209		103.004
[	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		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

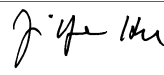
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Co	59	

Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 05, 2016 17:13:43

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	106622.2	1.6				ug/L	82657	Standard
|	Be	9	38.3	106.2	-0.0177	0.027	153.0	ug/L	13	Standard
|	Al	27	12722.3	121.9	0.0361	0.056	156.1	ug/L	1347	Standard
|	Sc	45	34936.9	0.9				ug/L	42879	Standard
|	Ti	47	27.0	24.3	-0.0466	0.021	44.3	ug/L	41	Standard
|	V	51	1846.4	10.4	-0.0239	0.019	78.0	ug/L	2416	Standard
|	Cr	52	9484.6	1.3	-0.1557	0.009	5.9	ug/L	12475	Standard
|	Cr	53	780.0	9.7	0.1714	0.057	33.3	ug/L	537	Standard
|	Mn	55	2980.8	97.8	0.1909	0.282	147.6	ug/L	1090	Standard
|	Co	59	396.3	49.2	0.0097	0.020	202.6	ug/L	363	Standard
|	Ni	60	325.0	9.7	-0.0209	0.011	52.8	ug/L	399	Standard
|	Cu	65	574.0	17.7	0.0447	0.035	79.2	ug/L	492	Standard
|	Zn	66	318.7	17.3	0.0972	0.034	35.3	ug/L	201	Standard
>	Ge	72	614165.1	1.5				ug/L	679875	Standard
|	As	75	-95.8	45.9	0.0168	0.029	174.8	ug/L	-85	Standard
|	Se	82	46.3	13.4	0.0821	0.036	44.3	ug/L	29	Standard
|	Se-1	77	111.3	2.6	0.1483	0.040	27.1	ug/L	107	Standard
>	Ga	71	8.3	34.6				mg/L	37	Standard
|	Rb	85	225.0	125.1				ug/L	23	Standard
|	Y	89	507670.4	0.9				ug/L	562937	Standard
>	Rh	103	16.7	34.6				ug/L	13	Standard
|	Mo	98	277.6	40.0	0.0651	0.028	42.4	ug/L	25	Standard
|	Ag	107	260.7	78.2	0.0124	0.021	165.9	ug/L	114	Standard
|	Cd	111	63.7	132.3	0.0202	0.028	137.2	mg/L	6	Standard
|	Cd	114	178.8	128.3	0.0222	0.031	141.4	ug/L	14	Standard
>	In	115	714020.3	1.0				ug/L	726030	Standard
|	Sn	118	1475.1	4.6	0.0817	0.009	10.5	ug/L	913	Standard
|	Sb	123	834.6	12.4	0.1178	0.018	15.0	ug/L	308	Standard
|	Ba	135	237.0	96.5	0.0588	0.074	125.3	ug/L	50	Standard
|	Ce	140	110.0	137.9				ug/L	122	Standard
>	Tb	159	1148293.6	0.6				ug/L	1169812	Standard
|	Ho	165	30.0	60.1				ug/L	7	Standard
|	Tl	203	270.3	110.4	0.0211	0.025	119.2	ug/L	11	Standard
|	Tl	205	151.7	47.7	0.0132	0.007	53.5	ug/L	8	Standard
|	Pb	206	419.3	28.7	0.0206	0.016	77.0	ug/L	277	Standard
|	Pb	207	359.0	28.8	0.0132	0.015	114.6	ug/L	262	Standard
|	Pb	208	1340.7	21.3	0.0101	0.011	105.5	ug/L	982	Standard
	U	238	117.3	93.9	0.0120	0.012	98.8	ug/L	8	Standard
>	Bi	209	602788.5	1.5				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	140.0	43.3	0.1015	0.063	61.7	mg/L	75	Standard
K	39	21.7	74.2	-0.0528	0.065	122.7	mg/L	32	Standard
Ca	43	18.3	15.7	-0.3743	0.263	70.2	mg/L	50	Standard
Fe	54	206.0	3.7	0.0031	0.004	130.2	mg/L	236	Standard
Fe	57	208.3	16.0	-0.1158	0.099	85.4	mg/L	352	Standard
Sc-1	45	34936.9	0.9				mg/L	42879	Standard
Cl	35	175845.3	1.2				ug/L	166385	Standard
Kr	83	1.0	100.0				ug/L	3	Standard
Br	81	4847.4	6.0				ug/L	4321	Standard
P	31	25170.9	2.8				ug/L	24331	Standard
S	34	3950.5	4.5				ug/L	3789	Standard
Sr	88	63.3	18.2				ug/L	78	Standard
C	12	156.7	47.0				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	173.2				mg/L	3	Standard
Dy	164	32.1	76.9				mg/L	12	Standard
Ho-1	165	30.0	60.1				mg/L	7	Standard
Er	166	26.7	43.3				mg/L	20	Standard
I	127	9354.6	15.9				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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		90.335	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.346
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	101.541
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
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[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

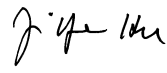
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: L1605018302

Sample Date/Time: Thursday, May 05, 2016 17:16:56

Number of Replicates: 3

Autosampler Position: 321

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	127158.1	1.1				ug/L	82657	Standard
|	Be	9	4188.9	2.0	2.3504	0.053	2.2	ug/L	13	Standard
|	Al	27	28606085.0	1.2	89.1507	1.544	1.7	ug/L	1347	Standard
|	Sc	45	35800.6	4.5				ug/L	42879	Standard
|	Ti	47	167.7	12.3	0.4314	0.060	13.9	ug/L	41	Standard
|	V	51	2782.4	6.0	0.0925	0.015	16.6	ug/L	2416	Standard
|	Cr	52	21536.3	2.4	1.1596	0.018	1.6	ug/L	12475	Standard
|	Cr	53	2365.2	6.6	1.5616	0.099	6.3	ug/L	537	Standard
|	Mn	55	19935025.3	1.8	2046.0570	12.540	0.6	ug/L	1090	Standard
|	Co	59	452053.3	1.0	48.8802	0.425	0.9	ug/L	363	Standard
|	Ni	60	166850.1	1.6	62.4975	0.208	0.3	ug/L	399	Standard
|	Cu	65	6528.1	3.0	2.3353	0.050	2.1	ug/L	492	Standard
|	Zn	66	243691.3	2.0	169.4966	0.562	0.3	ug/L	201	Standard
>	Ge	72	587285.5	1.7				ug/L	679875	Standard
|	As	75	3944.9	1.3	2.7904	0.054	1.9	ug/L	-85	Standard
|	Se	82	140.1	5.2	0.7125	0.062	8.8	ug/L	29	Standard
|	Se-1	77	148.0	2.3	0.5670	0.013	2.3	ug/L	107	Standard
>	Ga	71	560.0	26.0				mg/L	37	Standard
|	Rb	85	162922.9	0.4				ug/L	23	Standard
|	Y	89	898954.4	2.4				ug/L	562937	Standard
>	Rh	103	148.3	5.1				ug/L	13	Standard
|	Mo	98	108.1	6.6	0.0240	0.002	7.8	ug/L	25	Standard
|	Ag	107	114.0	6.1	-0.0019	0.001	44.3	ug/L	114	Standard
|	Cd	111	1062.8	1.1	0.3671	0.002	0.6	mg/L	6	Standard
|	Cd	114	2591.3	6.0	0.3706	0.017	4.7	ug/L	14	Standard
>	In	115	681980.1	1.5				ug/L	726030	Standard
|	Sn	118	1078.4	12.9	0.0402	0.019	48.1	ug/L	913	Standard
|	Sb	123	247.0	33.9	0.0272	0.014	52.6	ug/L	308	Standard
|	Ba	135	14016.8	0.9	4.7307	0.059	1.2	ug/L	50	Standard
|	Ce	140	535454.8	1.2				ug/L	122	Standard
>	Tb	159	1150466.6	1.5				ug/L	1169812	Standard
|	Ho	165	33593.9	2.8				ug/L	7	Standard
|	Tl	203	705.7	1.2	0.0616	0.000	0.7	ug/L	11	Standard
|	Tl	205	678.3	10.7	0.0696	0.008	11.3	ug/L	8	Standard
|	Pb	206	1509.7	4.3	0.1825	0.009	5.2	ug/L	277	Standard
|	Pb	207	1295.7	4.0	0.1665	0.008	5.0	ug/L	262	Standard
|	Pb	208	5054.7	1.3	0.1674	0.004	2.4	ug/L	982	Standard
	U	238	3528.4	3.1	0.4064	0.014	3.4	ug/L	8	Standard
>	Bi	209	574982.4	0.6				ug/L	593643	Standard

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Na	23	21.7	53.3	156.1670	80.907	51.8	mg/L	2	Standard
Mg	24	2485.2	5.5	2.5205	0.028	1.1	mg/L	75	Standard
K	39	708.3	9.6	2.6165	0.155	5.9	mg/L	32	Standard
Ca	43	775.0	11.7	68.7986	5.203	7.6	mg/L	50	Standard
Fe	54	71556.7	1.9	48.6288	1.359	2.8	mg/L	236	Standard
Fe	57	19504.2	2.7	54.4079	1.036	1.9	mg/L	352	Standard
Sc-1	45	35800.6	4.5				mg/L	42879	Standard
Cl	35	1055364.7	2.3				ug/L	166385	Standard
Kr	83	2.0	0.0				ug/L	3	Standard
Br	81	13506.0	3.2				ug/L	4321	Standard
P	31	35035.5	1.8				ug/L	24331	Standard
S	34	3787.1	4.4				ug/L	3789	Standard
Sr	88	873.4	2.6				ug/L	78	Standard
C	12	200.0	15.0				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	51762.0	2.4				mg/L	12	Standard
Ho-1	165	33593.9	2.8				mg/L	7	Standard
Er	166	28900.9	1.6				mg/L	20	Standard
I	127	74268.9	7.3				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		153.839	
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		86.381	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	93.933
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.857
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

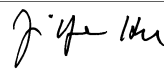
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1605018302

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Method 6020 - Summary Report

Sample ID: L1605019701

Sample Date/Time: Thursday, May 05, 2016 17:20:08

Number of Replicates: 3

Autosampler Position: 322

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

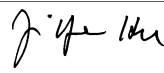
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	113062.1	2.7				ug/L	82657	Standard
|	Be	9	76.7	16.4	0.0058	0.009	154.2	ug/L	13	Standard
|	Al	27	6826485.3	1.2	23.9266	0.582	2.4	ug/L	1347	Standard
|	Sc	45	34694.7	0.4				ug/L	42879	Standard
|	Ti	47	2323.5	27.9	7.4913	2.079	27.8	ug/L	41	Standard
|	V	51	7902.4	2.4	0.6551	0.016	2.4	ug/L	2416	Standard
|	Cr	52	16108.2	1.7	0.5426	0.009	1.7	ug/L	12475	Standard
|	Cr	53	1906.8	14.7	1.1255	0.226	20.1	ug/L	537	Standard
|	Mn	55	485100.3	0.3	48.3975	0.445	0.9	ug/L	1090	Standard
|	Co	59	5329.9	2.1	0.5304	0.009	1.6	ug/L	363	Standard
|	Ni	60	4433.0	2.9	1.4832	0.046	3.1	ug/L	399	Standard
|	Cu	65	3245.0	2.1	1.0456	0.036	3.4	ug/L	492	Standard
|	Zn	66	8067.8	0.8	5.3549	0.071	1.3	ug/L	201	Standard
>	Ge	72	602997.5	1.1				ug/L	679875	Standard
|	As	75	479.5	4.8	0.4008	0.013	3.3	ug/L	-85	Standard
|	Se	82	97.4	4.6	0.4145	0.034	8.2	ug/L	29	Standard
|	Se-1	77	143.3	8.9	0.4817	0.112	23.3	ug/L	107	Standard
>	Ga	71	680.0	9.6				mg/L	37	Standard
|	Rb	85	20265.2	2.3				ug/L	23	Standard
|	Y	89	498508.7	1.1				ug/L	562937	Standard
>	Rh	103	36.7	47.9				ug/L	13	Standard
|	Mo	98	1552.2	4.0	0.3849	0.013	3.4	ug/L	25	Standard
|	Ag	107	140.0	1.2	0.0002	0.000	41.3	ug/L	114	Standard
|	Cd	111	74.0	19.5	0.0238	0.005	19.3	mg/L	6	Standard
|	Cd	114	224.2	15.0	0.0286	0.005	16.0	ug/L	14	Standard
>	In	115	711948.7	0.9				ug/L	726030	Standard
|	Sn	118	1833.4	6.3	0.1255	0.012	9.7	ug/L	913	Standard
|	Sb	123	434.5	2.7	0.0549	0.002	3.6	ug/L	308	Standard
|	Ba	135	52759.7	0.9	17.1025	0.212	1.2	ug/L	50	Standard
|	Ce	140	21326.7	3.9				ug/L	122	Standard
>	Tb	159	1128806.4	0.7				ug/L	1169812	Standard
|	Ho	165	570.0	13.7				ug/L	7	Standard
|	Tl	203	419.7	6.7	0.0346	0.002	6.3	ug/L	11	Standard
|	Tl	205	408.3	9.3	0.0396	0.004	9.5	ug/L	8	Standard
|	Pb	206	6127.2	0.8	0.8247	0.004	0.4	ug/L	277	Standard
|	Pb	207	5173.9	0.8	0.7613	0.009	1.2	ug/L	262	Standard
|	Pb	208	20674.6	0.3	0.7884	0.004	0.5	ug/L	982	Standard
	U	238	595.7	3.0	0.0656	0.001	2.3	ug/L	8	Standard
>	Bi	209	595437.6	0.7				ug/L	593643	Standard

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Na	23	6.7	43.3	49.8083	21.734	43.6	mg/L	2	Standard
Mg	24	9571.4	2.7	10.1580	0.293	2.9	mg/L	75	Standard
K	39	125.0	10.6	0.3629	0.052	14.4	mg/L	32	Standard
Ca	43	126.7	13.9	9.8905	1.707	17.3	mg/L	50	Standard
Fe	54	1016.7	6.7	0.5740	0.050	8.8	mg/L	236	Standard
Fe	57	503.3	5.5	0.7482	0.082	11.0	mg/L	352	Standard
Sc-1	45	34694.7	0.4				mg/L	42879	Standard
Cl	35	221983.2	1.5				ug/L	166385	Standard
Kr	83	1.7	124.9				ug/L	3	Standard
Br	81	14483.6	2.1				ug/L	4321	Standard
P	31	24843.7	4.3				ug/L	24331	Standard
S	34	3428.7	3.9				ug/L	3789	Standard
Sr	88	226.7	6.4				ug/L	78	Standard
C	12	173.3	8.8				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	43.3				mg/L	3	Standard
Dy	164	910.4	20.1				mg/L	12	Standard
Ho-1	165	570.0	13.7				mg/L	7	Standard
Er	166	480.0	18.5				mg/L	20	Standard
I	127	19480.9	2.1				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		136.785	
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		88.692	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605019701

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.061
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	100.302
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample

Sample ID: L1605019701

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Method 6020 - Summary Report

Sample ID: L1605020006

Sample Date/Time: Thursday, May 05, 2016 17:23:19

Number of Replicates: 3

Autosampler Position: 323

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	117588.1	2.8				ug/L	82657	Standard
|	Be	9	183.3	32.9	0.0701	0.039	56.0	ug/L	13	Standard
|	Al	27	29762690.6	3.2	100.2890	0.743	0.7	ug/L	1347	Standard
|	Sc	45	37835.5	0.9				ug/L	42879	Standard
|	Ti	47	3806.1	3.1	11.7437	0.340	2.9	ug/L	41	Standard
|	V	51	26944.0	1.2	2.6274	0.070	2.7	ug/L	2416	Standard
|	Cr	52	118758.0	1.6	10.4783	0.225	2.1	ug/L	12475	Standard
|	Cr	53	10423.6	5.2	7.8108	0.386	4.9	ug/L	537	Standard
|	Mn	55	54536.7	2.9	5.0765	0.091	1.8	ug/L	1090	Standard
|	Co	59	3260.4	1.1	0.2951	0.004	1.2	ug/L	363	Standard
|	Ni	60	19768.2	0.6	6.7266	0.130	1.9	ug/L	399	Standard
|	Cu	65	15038.5	3.0	5.1619	0.087	1.7	ug/L	492	Standard
|	Zn	66	422170.8	1.7	271.6325	0.462	0.2	ug/L	201	Standard
>	Ge	72	635053.0	1.9				ug/L	679875	Standard
|	As	75	135499.0	1.0	86.1703	0.735	0.9	ug/L	-85	Standard
|	Se	82	178.5	6.1	0.8761	0.072	8.2	ug/L	29	Standard
|	Se-1	77	218.0	7.3	1.1100	0.181	16.3	ug/L	107	Standard
>	Ga	71	11674.5	1.9				mg/L	37	Standard
|	Rb	85	29169.7	1.5				ug/L	23	Standard
|	Y	89	529607.1	1.7				ug/L	562937	Standard
>	Rh	103	65.0	7.7				ug/L	13	Standard
|	Mo	98	111839.5	2.7	26.8412	0.461	1.7	ug/L	25	Standard
|	Ag	107	122.3	9.4	-0.0021	0.001	53.5	ug/L	114	Standard
|	Cd	111	-38.9	51.9	-0.0132	0.007	49.7	mg/L	6	Standard
|	Cd	114	347.0	7.7	0.0435	0.003	6.7	ug/L	14	Standard
>	In	115	743676.9	1.2				ug/L	726030	Standard
|	Sn	118	22294.7	1.0	2.4829	0.031	1.3	ug/L	913	Standard
|	Sb	123	2812095.4	1.7	425.1934	4.406	1.0	ug/L	308	Standard
|	Ba	135	3579700.5	1.0	1111.9954	5.102	0.5	ug/L	50	Standard
|	Ce	140	8717.5	2.7				ug/L	122	Standard
>	Tb	159	1187130.8	1.3				ug/L	1169812	Standard
|	Ho	165	160.0	21.7				ug/L	7	Standard
|	Tl	203	765.4	8.0	0.0636	0.004	7.0	ug/L	11	Standard
|	Tl	205	681.7	5.3	0.0664	0.003	4.6	ug/L	8	Standard
|	Pb	206	48038.4	1.6	6.6271	0.023	0.3	ug/L	277	Standard
|	Pb	207	40890.1	2.0	6.2148	0.051	0.8	ug/L	262	Standard
|	Pb	208	165171.3	1.9	6.5060	0.049	0.7	ug/L	982	Standard
	U	238	1783.8	0.9	0.1952	0.001	0.3	ug/L	8	Standard
>	Bi	209	603904.1	1.3				ug/L	593643	Standard

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Na	23	6.7	114.6	45.3365	51.830	114.3	mg/L	2	Standard
Mg	24	15289.4	4.0	14.8991	0.523	3.5	mg/L	75	Standard
K	39	395.0	24.7	1.3158	0.353	26.8	mg/L	32	Standard
Ca	43	488.3	8.7	40.2452	3.374	8.4	mg/L	50	Standard
Fe	54	457.0	7.6	0.1540	0.025	16.3	mg/L	236	Standard
Fe	57	610.0	12.4	0.9110	0.195	21.4	mg/L	352	Standard
Sc-1	45	37835.5	0.9				mg/L	42879	Standard
Cl	35	247390.8	2.5				ug/L	166385	Standard
Kr	83	1.0	0.0				ug/L	3	Standard
Br	81	15948.4	0.6				ug/L	4321	Standard
P	31	29749.2	3.9				ug/L	24331	Standard
S	34	3810.5	3.1				ug/L	3789	Standard
Sr	88	390.0	10.2				ug/L	78	Standard
C	12	12014.8	2.1				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	293.3	18.8				mg/L	3	Standard
Dy	164	213.3	14.6				mg/L	12	Standard
Ho-1	165	160.0	21.7				mg/L	7	Standard
Er	166	140.0	51.5				mg/L	20	Standard
I	127	48551.0	25.6				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		142.261	
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		93.407	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	102.431
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	101.728
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

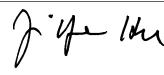
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Zn 66 Upper, S, EEE	Zn	66	

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Sb 123 Upper, S, EEE Sb 123
Ba 135 Upper, S, EEE Ba 135

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Method 6020 - Summary Report

Sample ID: L1605020101

Sample Date/Time: Thursday, May 05, 2016 17:26:31

Number of Replicates: 3

Autosampler Position: 324

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	113871.4	2.2				ug/L	82657	Standard
|	Be	9	80.0	33.1	0.0073	0.016	215.5	ug/L	13	Standard
|	Al	27	7577847.4	1.6	26.3641	0.155	0.6	ug/L	1347	Standard
|	Sc	45	35372.9	3.5				ug/L	42879	Standard
|	Ti	47	1436.1	4.3	4.5858	0.352	7.7	ug/L	41	Standard
|	V	51	10139.2	3.2	0.9029	0.012	1.3	ug/L	2416	Standard
|	Cr	52	16781.6	5.5	0.6085	0.040	6.6	ug/L	12475	Standard
|	Cr	53	2800.3	8.5	1.8701	0.185	9.9	ug/L	537	Standard
|	Mn	55	680568.4	0.9	67.8681	1.715	2.5	ug/L	1090	Standard
|	Co	59	4819.4	1.7	0.4761	0.011	2.3	ug/L	363	Standard
|	Ni	60	4509.0	2.8	1.5091	0.047	3.1	ug/L	399	Standard
|	Cu	65	4146.9	3.1	1.3797	0.026	1.9	ug/L	492	Standard
|	Zn	66	8219.6	2.3	5.4513	0.152	2.8	ug/L	201	Standard
>	Ge	72	603915.6	3.3				ug/L	679875	Standard
|	As	75	447.0	11.1	0.3795	0.043	11.3	ug/L	-85	Standard
|	Se	82	92.6	6.6	0.3838	0.056	14.5	ug/L	29	Standard
|	Se-1	77	183.0	3.3	0.8700	0.052	6.0	ug/L	107	Standard
>	Ga	71	575.0	7.6				mg/L	37	Standard
|	Rb	85	19696.1	3.9				ug/L	23	Standard
|	Y	89	495999.8	2.0				ug/L	562937	Standard
>	Rh	103	45.0	11.1				ug/L	13	Standard
|	Mo	98	1617.1	4.1	0.4068	0.011	2.8	ug/L	25	Standard
|	Ag	107	123.0	17.1	-0.0013	0.002	157.8	ug/L	114	Standard
|	Cd	111	111.6	18.4	0.0368	0.007	18.8	mg/L	6	Standard
|	Cd	114	263.4	4.6	0.0345	0.002	4.4	ug/L	14	Standard
>	In	115	702098.9	1.6				ug/L	726030	Standard
|	Sn	118	2173.5	10.1	0.1706	0.031	18.3	ug/L	913	Standard
|	Sb	123	3304.9	35.3	0.5170	0.191	36.9	ug/L	308	Standard
|	Ba	135	54232.2	1.9	17.8268	0.231	1.3	ug/L	50	Standard
|	Ce	140	20876.3	18.0				ug/L	122	Standard
>	Tb	159	1136817.0	1.8				ug/L	1169812	Standard
|	Ho	165	411.7	16.2				ug/L	7	Standard
|	Tl	203	177.0	32.5	0.0136	0.005	37.9	ug/L	11	Standard
|	Tl	205	155.0	19.6	0.0139	0.003	24.3	ug/L	8	Standard
|	Pb	206	4755.4	1.7	0.6334	0.005	0.8	ug/L	277	Standard
|	Pb	207	3986.2	1.8	0.5785	0.004	0.7	ug/L	262	Standard
|	Pb	208	16473.2	1.6	0.6213	0.018	2.9	ug/L	982	Standard
	U	238	674.7	2.9	0.0746	0.004	4.8	ug/L	8	Standard
>	Bi	209	593888.2	1.9				ug/L	593643	Standard

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Na	23	5.0	100.0	37.2442	37.048	99.5	mg/L	2	Standard
Mg	24	15548.0	2.7	16.2172	0.398	2.5	mg/L	75	Standard
K	39	190.0	5.3	0.6096	0.027	4.5	mg/L	32	Standard
Ca	43	148.3	19.2	11.6788	2.724	23.3	mg/L	50	Standard
Fe	54	1075.0	4.5	0.6002	0.016	2.6	mg/L	236	Standard
Fe	57	571.7	12.4	0.9210	0.253	27.5	mg/L	352	Standard
Sc-1	45	35372.9	3.5				mg/L	42879	Standard
Cl	35	240910.6	3.0				ug/L	166385	Standard
Kr	83	1.7	34.6				ug/L	3	Standard
Br	81	12722.0	3.3				ug/L	4321	Standard
P	31	26631.7	0.9				ug/L	24331	Standard
S	34	3467.1	3.6				ug/L	3789	Standard
Sr	88	221.7	25.2				ug/L	78	Standard
C	12	383.3	34.7				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	173.2				mg/L	3	Standard
Dy	164	695.0	16.5				mg/L	12	Standard
Ho-1	165	411.7	16.2				mg/L	7	Standard
Er	166	453.3	24.4				mg/L	20	Standard
I	127	22064.5	9.3				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		137.765	
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		88.827	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	96.704
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	100.041
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

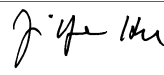
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample

Sample ID: L1605020101

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Method 6020 - Summary Report

Sample ID: L1605020103

Sample Date/Time: Thursday, May 05, 2016 17:29:43

Number of Replicates: 3

Autosampler Position: 325

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	114662.3	0.9				ug/L	82657	Standard
|	Be	9	26.7	47.2	-0.0266	0.008	30.4	ug/L	13	Standard
|	Al	27	8607736.8	1.6	29.7385	0.220	0.7	ug/L	1347	Standard
|	Sc	45	35249.3	1.3				ug/L	42879	Standard
|	Ti	47	252.0	17.1	0.7022	0.144	20.5	ug/L	41	Standard
|	V	51	3376.3	47.4	0.1534	0.178	116.0	ug/L	2416	Standard
|	Cr	52	305797.9	1.6	30.6019	0.392	1.3	ug/L	12475	Standard
|	Cr	53	38091.2	1.6	31.6898	0.461	1.5	ug/L	537	Standard
|	Mn	55	181147.6	1.5	18.1740	0.206	1.1	ug/L	1090	Standard
|	Co	59	1148.4	3.6	0.0909	0.004	4.8	ug/L	363	Standard
|	Ni	60	3260.7	0.4	1.0655	0.001	0.1	ug/L	399	Standard
|	Cu	65	4577.0	3.4	1.5578	0.051	3.3	ug/L	492	Standard
|	Zn	66	3894.8	1.5	2.5497	0.029	1.1	ug/L	201	Standard
>	Ge	72	597536.0	0.5				ug/L	679875	Standard
|	As	75	447.6	12.9	0.3821	0.038	9.8	ug/L	-85	Standard
|	Se	82	96.8	5.8	0.4160	0.034	8.2	ug/L	29	Standard
|	Se-1	77	202.7	3.7	1.0837	0.077	7.1	ug/L	107	Standard
>	Ga	71	271.7	9.4				mg/L	37	Standard
|	Rb	85	12613.6	3.8				ug/L	23	Standard
|	Y	89	491883.4	1.8				ug/L	562937	Standard
>	Rh	103	36.7	28.4				ug/L	13	Standard
|	Mo	98	3484.3	2.0	0.8908	0.006	0.7	ug/L	25	Standard
|	Ag	107	119.3	20.1	-0.0016	0.002	146.4	ug/L	114	Standard
|	Cd	111	16.2	25.5	0.0047	0.001	27.9	mg/L	6	Standard
|	Cd	114	1485.9	38.6	0.2072	0.079	38.2	ug/L	14	Standard
>	In	115	694845.8	1.3				ug/L	726030	Standard
|	Sn	118	461570.1	3.9	57.0412	1.980	3.5	ug/L	913	Standard
|	Sb	123	2837.8	11.2	0.4456	0.053	11.9	ug/L	308	Standard
|	Ba	135	19166.8	1.6	6.3559	0.173	2.7	ug/L	50	Standard
|	Ce	140	3073.9	117.0				ug/L	122	Standard
>	Tb	159	1121235.1	0.4				ug/L	1169812	Standard
|	Ho	165	35.0	51.5				ug/L	7	Standard
|	Tl	203	152.0	23.4	0.0118	0.003	26.9	ug/L	11	Standard
|	Tl	205	120.0	15.0	0.0107	0.002	18.1	ug/L	8	Standard
|	Pb	206	887.7	0.8	0.0920	0.001	1.0	ug/L	277	Standard
|	Pb	207	735.4	2.2	0.0766	0.003	3.9	ug/L	262	Standard
|	Pb	208	3031.8	0.5	0.0834	0.001	0.8	ug/L	982	Standard
	U	238	409.0	3.4	0.0465	0.001	2.6	ug/L	8	Standard
>	Bi	209	574145.2	1.0				ug/L	593643	Standard

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Na	23	1.7	173.2	12.1348	21.009	173.1	mg/L	2	Standard
Mg	24	45381.2	0.4	47.5805	0.804	1.7	mg/L	75	Standard
K	39	156.7	24.0	0.4818	0.158	32.8	mg/L	32	Standard
Ca	43	115.0	19.0	8.6032	1.946	22.6	mg/L	50	Standard
Fe	54	537.0	19.0	0.2302	0.066	28.7	mg/L	236	Standard
Fe	57	456.7	5.2	0.5907	0.052	8.8	mg/L	352	Standard
Sc-1	45	35249.3	1.3				mg/L	42879	Standard
Cl	35	345644.3	1.9				ug/L	166385	Standard
Kr	83	1.3	43.3				ug/L	3	Standard
Br	81	13642.8	1.5				ug/L	4321	Standard
P	31	28520.2	4.0				ug/L	24331	Standard
S	34	3392.0	3.5				ug/L	3789	Standard
Sr	88	265.0	16.1				ug/L	78	Standard
C	12	220.0	23.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	21.6	117.4				mg/L	12	Standard
Ho-1	165	35.0	51.5				mg/L	7	Standard
Er	166	36.7	41.7				mg/L	20	Standard
I	127	24606.6	2.3				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		138.721	
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		87.889	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.705
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.716
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

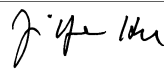
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample

Sample ID: L1605020103

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Method 6020 - Summary Report

Sample ID: L1605015102

Sample Date/Time: Thursday, May 05, 2016 17:32:54

Number of Replicates: 3

Autosampler Position: 326

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	92594.2	5.0				ug/L	82657	Standard
|	Be	9	16.7	17.3	-0.0305	0.002	6.8	ug/L	13	Standard
|	Al	27	860266.4	2.8	3.6783	0.233	6.3	ug/L	1347	Standard
|	Sc	45	30253.5	1.5				ug/L	42879	Standard
|	Ti	47	42.7	28.2	0.0233	0.039	168.8	ug/L	41	Standard
|	V	51	1926.6	6.2	0.0165	0.024	147.0	ug/L	2416	Standard
|	Cr	52	7764.0	1.4	-0.2137	0.030	13.9	ug/L	12475	Standard
|	Cr	53	658.3	6.6	0.1507	0.023	15.2	ug/L	537	Standard
|	Mn	55	8765.2	15.7	0.8848	0.129	14.6	ug/L	1090	Standard
|	Co	59	391.0	9.2	0.0152	0.003	20.7	ug/L	363	Standard
|	Ni	60	462.3	4.8	0.0527	0.004	8.2	ug/L	399	Standard
|	Cu	65	399.7	5.0	0.0024	0.002	89.4	ug/L	492	Standard
|	Zn	66	3193.3	1.5	2.3247	0.092	4.0	ug/L	201	Standard
>	Ge	72	535579.0	3.7				ug/L	679875	Standard
|	As	75	-54.1	83.9	0.0394	0.033	84.7	ug/L	-85	Standard
|	Se	82	39.7	28.8	0.0793	0.093	116.9	ug/L	29	Standard
|	Se-1	77	99.3	14.3	0.1765	0.189	107.2	ug/L	107	Standard
>	Ga	71	43.3	6.7				mg/L	37	Standard
|	Rb	85	155.0	59.2				ug/L	23	Standard
|	Y	89	426303.8	5.1				ug/L	562937	Standard
>	Rh	103	10.0	100.0				ug/L	13	Standard
|	Mo	98	44.5	30.2	0.0085	0.004	42.9	ug/L	25	Standard
|	Ag	107	104.7	19.9	-0.0017	0.002	128.9	ug/L	114	Standard
|	Cd	111	16.9	92.0	0.0057	0.006	102.9	mg/L	6	Standard
|	Cd	114	39.4	76.6	0.0039	0.005	120.1	ug/L	14	Standard
>	In	115	617322.2	2.5				ug/L	726030	Standard
|	Sn	118	766.7	14.8	0.0106	0.013	126.3	ug/L	913	Standard
|	Sb	123	303.9	78.0	0.0413	0.042	102.3	ug/L	308	Standard
|	Ba	135	1165.0	39.3	0.4167	0.165	39.5	ug/L	50	Standard
|	Ce	140	178.3	63.8				ug/L	122	Standard
>	Tb	159	991874.8	4.4				ug/L	1169812	Standard
|	Ho	165	20.0	43.3				ug/L	7	Standard
|	Tl	203	82.0	30.0	0.0060	0.002	36.1	ug/L	11	Standard
|	Tl	205	68.3	33.0	0.0058	0.003	43.9	ug/L	8	Standard
|	Pb	206	318.3	7.3	0.0124	0.003	24.0	ug/L	277	Standard
|	Pb	207	267.0	7.7	0.0045	0.004	78.8	ug/L	262	Standard
|	Pb	208	1088.0	4.6	0.0057	0.001	15.1	ug/L	982	Standard
	U	238	327.3	10.0	0.0398	0.002	5.6	ug/L	8	Standard
>	Bi	209	534234.0	5.1				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	2068.5	5.6	2.4825	0.133	5.4	mg/L	75	Standard
K	39	16.7	17.3	-0.0625	0.015	23.3	mg/L	32	Standard
Ca	43	35.0	51.5	1.6823	1.913	113.7	mg/L	50	Standard
Fe	54	87.2	22.4	-0.0703	0.016	23.2	mg/L	236	Standard
Fe	57	233.3	13.8	0.0621	0.120	193.5	mg/L	352	Standard
Sc-1	45	30253.5	1.5				mg/L	42879	Standard
Cl	35	164827.4	2.7				ug/L	166385	Standard
Kr	83	1.3	86.6				ug/L	3	Standard
Br	81	5707.7	6.6				ug/L	4321	Standard
P	31	8644.1	3.8				ug/L	24331	Standard
S	34	3480.4	3.4				ug/L	3789	Standard
Sr	88	80.0	22.5				ug/L	78	Standard
C	12	170.0	36.7				mg/L	110	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	8.6	11.2				mg/L	12	Standard
Ho-1	165	20.0	43.3				mg/L	7	Standard
Er	166	30.0	66.7				mg/L	20	Standard
I	127	18618.1	4.7				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		112.023	
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		78.776	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	85.027
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	89.992
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605015102

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Method 6020 - Summary Report

Sample ID: L1605015104

Sample Date/Time: Thursday, May 05, 2016 17:36:06

Number of Replicates: 3

Autosampler Position: 327

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	91026.2	3.9				ug/L	82657	Standard
|	Be	9	15.0	115.5	-0.0313	0.014	45.8	ug/L	13	Standard
|	Al	27	929858.7	1.0	4.0409	0.124	3.1	ug/L	1347	Standard
|	Sc	45	31257.2	0.7				ug/L	42879	Standard
|	Ti	47	74.7	8.1	0.1349	0.018	13.7	ug/L	41	Standard
|	V	51	2034.2	5.2	0.0225	0.012	52.1	ug/L	2416	Standard
|	Cr	52	8089.5	0.9	-0.2022	0.005	2.7	ug/L	12475	Standard
|	Cr	53	718.4	7.8	0.1888	0.042	22.4	ug/L	537	Standard
|	Mn	55	32773.8	2.5	3.4882	0.051	1.5	ug/L	1090	Standard
|	Co	59	544.7	3.2	0.0317	0.002	5.2	ug/L	363	Standard
|	Ni	60	528.3	3.8	0.0740	0.008	10.5	ug/L	399	Standard
|	Cu	65	388.0	2.9	-0.0069	0.003	49.6	ug/L	492	Standard
|	Zn	66	1933.1	3.8	1.3204	0.041	3.1	ug/L	201	Standard
>	Ge	72	550570.6	1.4				ug/L	679875	Standard
|	As	75	-65.6	4.0	0.0319	0.003	7.9	ug/L	-85	Standard
|	Se	82	40.0	4.7	0.0714	0.015	21.4	ug/L	29	Standard
|	Se-1	77	95.3	2.4	0.0999	0.023	23.4	ug/L	107	Standard
>	Ga	71	31.7	24.1				mg/L	37	Standard
|	Rb	85	396.7	7.2				ug/L	23	Standard
|	Y	89	434495.2	2.0				ug/L	562937	Standard
>	Rh	103	23.3	12.4				ug/L	13	Standard
|	Mo	98	34.3	22.1	0.0055	0.002	37.8	ug/L	25	Standard
|	Ag	107	81.3	11.2	-0.0045	0.001	26.1	ug/L	114	Standard
|	Cd	111	7.3	31.7	0.0020	0.001	44.2	mg/L	6	Standard
|	Cd	114	29.7	81.3	0.0024	0.004	161.5	ug/L	14	Standard
>	In	115	623173.2	1.5				ug/L	726030	Standard
|	Sn	118	445.0	9.8	-0.0346	0.006	18.0	ug/L	913	Standard
|	Sb	123	100.8	14.0	0.0045	0.003	62.0	ug/L	308	Standard
|	Ba	135	1284.7	2.1	0.4585	0.013	2.8	ug/L	50	Standard
|	Ce	140	645.0	10.4				ug/L	122	Standard
>	Tb	159	996937.2	1.0				ug/L	1169812	Standard
|	Ho	165	28.3	50.9				ug/L	7	Standard
|	Tl	203	98.7	22.9	0.0075	0.002	29.1	ug/L	11	Standard
|	Tl	205	81.7	31.4	0.0071	0.003	40.9	ug/L	8	Standard
|	Pb	206	363.3	4.1	0.0185	0.002	12.2	ug/L	277	Standard
|	Pb	207	304.7	4.6	0.0101	0.002	21.3	ug/L	262	Standard
|	Pb	208	1207.7	4.7	0.0102	0.002	22.9	ug/L	982	Standard
	U	238	24.3	10.3	0.0022	0.000	13.4	ug/L	8	Standard
>	Bi	209	543097.2	0.4				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	1948.5	7.3	2.2595	0.171	7.5	mg/L	75	Standard
K	39	18.3	68.6	-0.0575	0.057	98.7	mg/L	32	Standard
Ca	43	25.0	52.9	0.5326	1.393	261.5	mg/L	50	Standard
Fe	54	144.0	18.2	-0.0284	0.020	69.4	mg/L	236	Standard
Fe	57	228.3	17.0	0.0191	0.121	630.9	mg/L	352	Standard
Sc-1	45	31257.2	0.7				mg/L	42879	Standard
Cl	35	179877.5	0.9				ug/L	166385	Standard
Kr	83	1.7	69.3				ug/L	3	Standard
Br	81	6698.1	4.8				ug/L	4321	Standard
P	31	8747.5	2.0				ug/L	24331	Standard
S	34	3827.2	3.1				ug/L	3789	Standard
Sr	88	115.0	19.0				ug/L	78	Standard
C	12	130.0	40.0				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	32.4	46.7				mg/L	12	Standard
Ho-1	165	28.3	50.9				mg/L	7	Standard
Er	166	20.0	50.0				mg/L	20	Standard
I	127	19202.2	1.4				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		110.126	
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		80.981	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	85.833
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	91.485
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

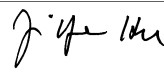
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605015106

Sample Date/Time: Thursday, May 05, 2016 17:39:17

Number of Replicates: 3

Autosampler Position: 328

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	89673.2	4.3				ug/L	82657	Standard
|	Be	9	13.3	108.3	-0.0331	0.011	33.2	ug/L	13	Standard
|	Al	27	776723.8	1.8	3.4272	0.187	5.4	ug/L	1347	Standard
|	Sc	45	30453.9	2.8				ug/L	42879	Standard
|	Ti	47	18.0	14.7	-0.0694	0.009	12.3	ug/L	41	Standard
|	V	51	2013.1	2.0	0.0183	0.003	16.6	ug/L	2416	Standard
|	Cr	52	8086.5	1.2	-0.2083	0.008	4.0	ug/L	12475	Standard
|	Cr	53	708.3	1.6	0.1760	0.010	5.4	ug/L	537	Standard
|	Mn	55	2486.9	1.2	0.1708	0.005	3.0	ug/L	1090	Standard
|	Co	59	245.0	11.5	-0.0031	0.003	97.7	ug/L	363	Standard
|	Ni	60	395.3	10.5	0.0197	0.015	77.0	ug/L	399	Standard
|	Cu	65	361.0	3.5	-0.0188	0.007	36.5	ug/L	492	Standard
|	Zn	66	1860.1	2.7	1.2581	0.055	4.4	ug/L	201	Standard
[>	Ge	72	554065.9	1.4				ug/L	679875	Standard
|	As	75	-42.8	12.5	0.0488	0.004	8.8	ug/L	-85	Standard
|	Se	82	50.9	9.9	0.1457	0.037	25.6	ug/L	29	Standard
|	Se-1	77	98.3	15.3	0.1243	0.148	119.0	ug/L	107	Standard
[>	Ga	71	15.0	88.2				mg/L	37	Standard
|	Rb	85	95.0	13.9				ug/L	23	Standard
|	Y	89	433535.1	0.6				ug/L	562937	Standard
[>	Rh	103	16.7	34.6				ug/L	13	Standard
|	Mo	98	23.7	7.4	0.0025	0.000	19.0	ug/L	25	Standard
|	Ag	107	78.3	7.7	-0.0049	0.001	13.7	ug/L	114	Standard
|	Cd	111	4.3	35.5	0.0009	0.001	66.5	mg/L	6	Standard
|	Cd	114	36.7	27.2	0.0035	0.002	45.9	ug/L	14	Standard
[>	In	115	621434.6	0.7				ug/L	726030	Standard
|	Sn	118	370.0	23.9	-0.0448	0.012	27.1	ug/L	913	Standard
|	Sb	123	66.5	25.2	-0.0017	0.003	183.5	ug/L	308	Standard
|	Ba	135	657.0	5.9	0.2264	0.013	5.6	ug/L	50	Standard
|	Ce	140	20.0	25.0				ug/L	122	Standard
[>	Tb	159	987580.8	0.8				ug/L	1169812	Standard
|	Ho	165	11.7	65.5				ug/L	7	Standard
|	Tl	203	131.0	24.6	0.0107	0.003	27.4	ug/L	11	Standard
|	Tl	205	98.3	34.6	0.0090	0.004	40.8	ug/L	8	Standard
|	Pb	206	286.3	0.9	0.0071	0.000	5.0	ug/L	277	Standard
|	Pb	207	238.3	8.7	-0.0008	0.003	371.4	ug/L	262	Standard
|	Pb	208	1043.7	5.0	0.0034	0.002	50.3	ug/L	982	Standard
	U	238	1234.4	5.0	0.1515	0.006	3.9	ug/L	8	Standard
[>	Bi	209	537574.6	1.6				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	2326.8	9.8	2.7764	0.208	7.5	mg/L	75	Standard
K	39	30.0	16.7	-0.0022	0.021	942.0	mg/L	32	Standard
Ca	43	33.3	31.2	1.4786	1.018	68.8	mg/L	50	Standard
Fe	54	90.7	33.8	-0.0681	0.024	35.2	mg/L	236	Standard
Fe	57	233.3	22.3	0.0537	0.160	297.0	mg/L	352	Standard
Sc-1	45	30453.9	2.8				mg/L	42879	Standard
Cl	35	177853.4	2.2				ug/L	166385	Standard
Kr	83	2.7	43.3				ug/L	3	Standard
Br	81	6071.2	1.5				ug/L	4321	Standard
P	31	8692.5	3.3				ug/L	24331	Standard
S	34	3757.1	3.9				ug/L	3789	Standard
Sr	88	91.7	22.0				ug/L	78	Standard
C	12	116.7	39.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	12.5	48.9				mg/L	12	Standard
Ho-1	165	11.7	65.5				mg/L	7	Standard
Er	166	16.7	124.9				mg/L	20	Standard
I	127	13843.0	5.9				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.489	
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		81.495	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	85.594
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	90.555
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits


Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605015108

Sample Date/Time: Thursday, May 05, 2016 17:42:29

Number of Replicates: 3

Autosampler Position: 329

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	88201.1	3.1				ug/L	82657	Standard
|	Be	9	13.3	57.3	-0.0327	0.006	18.6	ug/L	13	Standard
|	Al	27	1075402.4	2.7	4.8225	0.104	2.2	ug/L	1347	Standard
|	Sc	45	31551.2	1.9				ug/L	42879	Standard
|	Ti	47	23.7	16.0	-0.0502	0.014	27.5	ug/L	41	Standard
|	V	51	2007.7	2.6	0.0141	0.006	44.5	ug/L	2416	Standard
|	Cr	52	8023.5	1.2	-0.2284	0.020	9.0	ug/L	12475	Standard
|	Cr	53	905.0	0.0	0.3430	0.009	2.7	ug/L	537	Standard
|	Mn	55	1574.7	3.7	0.0690	0.006	9.2	ug/L	1090	Standard
|	Co	59	265.0	10.3	-0.0012	0.003	260.1	ug/L	363	Standard
|	Ni	60	452.3	3.6	0.0398	0.005	12.4	ug/L	399	Standard
|	Cu	65	386.7	3.2	-0.0107	0.003	32.3	ug/L	492	Standard
|	Zn	66	2092.1	1.7	1.4062	0.011	0.8	ug/L	201	Standard
>	Ge	72	562290.8	1.2				ug/L	679875	Standard
|	As	75	-71.3	11.5	0.0289	0.005	18.2	ug/L	-85	Standard
|	Se	82	36.2	24.0	0.0394	0.061	154.0	ug/L	29	Standard
|	Se-1	77	115.3	8.2	0.2887	0.086	29.9	ug/L	107	Standard
>	Ga	71	23.3	44.6				mg/L	37	Standard
|	Rb	85	115.0	13.0				ug/L	23	Standard
|	Y	89	440509.8	2.7				ug/L	562937	Standard
>	Rh	103	16.7	62.4				ug/L	13	Standard
|	Mo	98	25.0	11.9	0.0028	0.001	32.0	ug/L	25	Standard
|	Ag	107	86.3	13.2	-0.0041	0.001	32.2	ug/L	114	Standard
|	Cd	111	3.0	89.4	0.0003	0.001	282.6	mg/L	6	Standard
|	Cd	114	14.9	55.4	-0.0000	0.001	21365.7	ug/L	14	Standard
>	In	115	631493.9	0.7				ug/L	726030	Standard
|	Sn	118	378.3	18.2	-0.0445	0.010	21.4	ug/L	913	Standard
|	Sb	123	67.4	29.3	-0.0017	0.003	203.9	ug/L	308	Standard
|	Ba	135	1643.4	1.7	0.5835	0.014	2.4	ug/L	50	Standard
|	Ce	140	25.0	0.0				ug/L	122	Standard
>	Tb	159	999999.2	1.6				ug/L	1169812	Standard
|	Ho	165	13.3	57.3				ug/L	7	Standard
|	Tl	203	198.0	17.1	0.0170	0.003	18.9	ug/L	11	Standard
|	Tl	205	173.3	4.4	0.0173	0.001	5.3	ug/L	8	Standard
|	Pb	206	359.7	5.3	0.0179	0.003	17.4	ug/L	277	Standard
|	Pb	207	308.7	6.5	0.0107	0.003	28.1	ug/L	262	Standard
|	Pb	208	1255.0	4.6	0.0122	0.003	22.1	ug/L	982	Standard
	U	238	406.7	8.2	0.0488	0.004	7.7	ug/L	8	Standard
>	Bi	209	543795.2	0.8				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	2781.9	7.0	3.2176	0.271	8.4	mg/L	75	Standard
K	39	35.0	37.8	0.0145	0.056	386.2	mg/L	32	Standard
Ca	43	41.7	25.0	2.2357	1.059	47.3	mg/L	50	Standard
Fe	54	79.3	12.7	-0.0792	0.009	11.3	mg/L	236	Standard
Fe	57	228.3	28.2	0.0125	0.203	1627.1	mg/L	352	Standard
Sc-1	45	31551.2	1.9				mg/L	42879	Standard
Cl	35	178595.9	1.3				ug/L	166385	Standard
Kr	83	2.7	114.6				ug/L	3	Standard
Br	81	7085.0	3.7				ug/L	4321	Standard
P	31	9119.4	1.2				ug/L	24331	Standard
S	34	3965.5	3.7				ug/L	3789	Standard
Sr	88	101.7	20.5				ug/L	78	Standard
C	12	126.7	19.9				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	21.9	28.3				mg/L	12	Standard
Ho-1	165	13.3	57.3				mg/L	7	Standard
Er	166	30.0	33.3				mg/L	20	Standard
I	127	12286.7	4.3				mg/L	2570	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		106.708	
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		82.705	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	86.979
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[Pb	206	
[Pb	207	
[Pb	208	
[U	238	
>	Bi	209	91.603
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
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[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

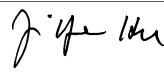
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: L1605015110

Sample Date/Time: Thursday, May 05, 2016 17:45:40

Number of Replicates: 3

Autosampler Position: 330

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	88687.3	3.4				ug/L	82657	Standard
|	Be	9	13.3	57.3	-0.0326	0.006	18.9	ug/L	13	Standard
|	Al	27	201972.6	2.0	0.8923	0.018	2.0	ug/L	1347	Standard
|	Sc	45	31193.8	2.4				ug/L	42879	Standard
|	Ti	47	23.0	26.4	-0.0524	0.023	44.4	ug/L	41	Standard
|	V	51	1925.4	3.6	0.0041	0.011	275.0	ug/L	2416	Standard
|	Cr	52	8425.3	1.2	-0.1852	0.010	5.2	ug/L	12475	Standard
|	Cr	53	515.0	12.8	-0.0067	0.067	1002.1	ug/L	537	Standard
|	Mn	55	4390.3	3.9	0.3702	0.009	2.5	ug/L	1090	Standard
|	Co	59	313.7	5.7	0.0043	0.003	59.0	ug/L	363	Standard
|	Ni	60	402.0	2.4	0.0199	0.001	3.9	ug/L	399	Standard
|	Cu	65	340.0	1.9	-0.0295	0.000	1.4	ug/L	492	Standard
|	Zn	66	1835.8	1.6	1.2184	0.007	0.6	ug/L	201	Standard
>	Ge	72	562944.6	2.1				ug/L	679875	Standard
|	As	75	-33.0	81.6	0.0565	0.019	33.2	ug/L	-85	Standard
|	Se	82	27.8	19.0	-0.0179	0.036	201.5	ug/L	29	Standard
|	Se-1	77	83.3	6.8	-0.0488	0.062	127.9	ug/L	107	Standard
>	Ga	71	25.0	40.0				mg/L	37	Standard
|	Rb	85	3363.7	3.7				ug/L	23	Standard
|	Y	89	444865.7	1.6				ug/L	562937	Standard
>	Rh	103	23.3	81.1				ug/L	13	Standard
|	Mo	98	60.3	11.2	0.0126	0.002	14.5	ug/L	25	Standard
|	Ag	107	84.0	3.1	-0.0045	0.000	5.4	ug/L	114	Standard
|	Cd	111	6.9	25.1	0.0018	0.001	35.2	mg/L	6	Standard
|	Cd	114	17.0	73.1	0.0003	0.002	603.6	ug/L	14	Standard
>	In	115	636117.6	0.6				ug/L	726030	Standard
|	Sn	118	360.0	16.8	-0.0473	0.008	17.6	ug/L	913	Standard
|	Sb	123	87.5	26.1	0.0018	0.004	231.4	ug/L	308	Standard
|	Ba	135	4599.4	1.7	1.6525	0.018	1.1	ug/L	50	Standard
|	Ce	140	91.7	8.3				ug/L	122	Standard
>	Tb	159	996947.4	0.9				ug/L	1169812	Standard
|	Ho	165	8.3	91.7				ug/L	7	Standard
|	Tl	203	59.0	7.4	0.0037	0.000	11.8	ug/L	11	Standard
|	Tl	205	56.7	50.9	0.0043	0.003	75.6	ug/L	8	Standard
|	Pb	206	287.7	1.3	0.0068	0.001	14.1	ug/L	277	Standard
|	Pb	207	257.3	2.2	0.0020	0.001	62.7	ug/L	262	Standard
|	Pb	208	1025.0	0.9	0.0021	0.001	42.9	ug/L	982	Standard
	U	238	177.3	2.5	0.0209	0.000	1.7	ug/L	8	Standard
>	Bi	209	543710.3	1.1				ug/L	593643	Standard

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Na	23	1.7	173.2	13.7228	23.760	173.1	mg/L	2	Standard
Mg	24	880.0	12.8	0.9966	0.124	12.4	mg/L	75	Standard
K	39	41.7	61.6	0.0468	0.113	242.4	mg/L	32	Standard
Ca	43	35.0	37.8	1.5767	1.331	84.4	mg/L	50	Standard
Fe	54	75.9	18.3	-0.0811	0.012	14.5	mg/L	236	Standard
Fe	57	246.7	9.1	0.0807	0.070	86.3	mg/L	352	Standard
Sc-1	45	31193.8	2.4				mg/L	42879	Standard
Cl	35	177018.2	1.5				ug/L	166385	Standard
Kr	83	1.7	124.9				ug/L	3	Standard
Br	81	3860.5	3.7				ug/L	4321	Standard
P	31	9012.7	6.6				ug/L	24331	Standard
S	34	3950.5	3.3				ug/L	3789	Standard
Sr	88	156.7	8.0				ug/L	78	Standard
C	12	133.3	17.3				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	19.7	52.0				mg/L	12	Standard
Ho-1	165	8.3	91.7				mg/L	7	Standard
Er	166	6.7	86.6				mg/L	20	Standard
I	127	13929.7	4.0				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		107.296	
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		82.801	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605015110

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	87.616
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	91.589
[	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	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

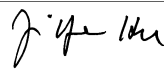
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605015110

Report Date/Time: Thursday, May 05, 2016 17:47:57

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 05, 2016 17:48:53

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	96404.2	2.3				ug/L	82657	Standard
|	Be	9	69812.2	1.7	52.5847	0.383	0.7	ug/L	13	Standard
|	Al	27	10689053.3	4.1	43.9179	0.784	1.8	ug/L	1347	Standard
|	Sc	45	35207.5	0.2				ug/L	42879	Standard
|	Ti	47	29093.6	2.0	94.8302	0.770	0.8	ug/L	41	Standard
|	V	51	458347.9	1.4	50.5379	0.163	0.3	ug/L	2416	Standard
|	Cr	52	490456.4	1.5	48.9563	0.148	0.3	ug/L	12475	Standard
|	Cr	53	59300.8	1.8	48.8201	1.264	2.6	ug/L	537	Standard
|	Mn	55	483417.8	1.2	47.9040	0.269	0.6	ug/L	1090	Standard
|	Co	59	509889.0	2.2	53.3330	0.591	1.1	ug/L	363	Standard
|	Ni	60	135728.0	1.5	49.1538	0.049	0.1	ug/L	399	Standard
|	Cu	65	136933.7	1.2	50.5857	0.195	0.4	ug/L	492	Standard
|	Zn	66	75718.5	2.1	50.8693	0.628	1.2	ug/L	201	Standard
>	Ge	72	607068.6	1.6				ug/L	679875	Standard
|	As	75	75259.2	1.4	50.0963	0.166	0.3	ug/L	-85	Standard
|	Se	82	7922.1	1.5	50.1584	0.123	0.2	ug/L	29	Standard
|	Se-1	77	5374.6	1.0	51.5434	0.718	1.4	ug/L	107	Standard
>	Ga	71	50.0	17.3				mg/L	37	Standard
|	Rb	85	1056.7	6.2				ug/L	23	Standard
|	Y	89	499617.3	0.5				ug/L	562937	Standard
>	Rh	103	38.3	39.8				ug/L	13	Standard
|	Mo	98	389098.5	0.5	99.8055	0.515	0.5	ug/L	25	Standard
|	Ag	107	474936.9	0.9	49.5442	0.072	0.1	ug/L	114	Standard
|	Cd	111	146999.8	1.9	49.8508	0.553	1.1	mg/L	6	Standard
|	Cd	114	360536.5	1.7	50.8624	0.572	1.1	ug/L	14	Standard
>	In	115	695986.0	0.9				ug/L	726030	Standard
|	Sn	118	404490.6	1.6	49.8938	0.350	0.7	ug/L	913	Standard
|	Sb	123	309855.8	1.8	50.0474	0.500	1.0	ug/L	308	Standard
|	Ba	135	144486.4	1.0	47.9408	0.268	0.6	ug/L	50	Standard
|	Ce	140	113.3	9.2				ug/L	122	Standard
>	Tb	159	1079971.3	1.5				ug/L	1169812	Standard
|	Ho	165	16.7	34.6				ug/L	7	Standard
|	Tl	203	555782.2	1.2	50.0795	0.812	1.6	ug/L	11	Standard
|	Tl	205	488789.7	1.2	51.6770	0.910	1.8	ug/L	8	Standard
|	Pb	206	338847.8	0.2	49.4378	0.325	0.7	ug/L	277	Standard
|	Pb	207	310203.6	0.2	49.9122	0.314	0.6	ug/L	262	Standard
|	Pb	208	1237269.0	1.0	51.5908	0.857	1.7	ug/L	982	Standard
	U	238	451815.9	1.2	52.2311	0.699	1.3	ug/L	8	Standard
>	Bi	209	573850.9	0.8				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	5324.3	1.7	5.5473	0.100	1.8	mg/L	75	Standard
K	39	956.7	2.5	3.6505	0.101	2.8	mg/L	32	Standard
Ca	43	73.3	15.7	4.7392	1.068	22.5	mg/L	50	Standard
Fe	54	7956.6	2.1	5.3690	0.121	2.3	mg/L	236	Standard
Fe	57	2178.5	3.7	5.5384	0.228	4.1	mg/L	352	Standard
Sc-1	45	35207.5	0.2				mg/L	42879	Standard
Cl	35	190535.5	2.0				ug/L	166385	Standard
Kr	83	1.7	124.9				ug/L	3	Standard
Br	81	4424.0	4.7				ug/L	4321	Standard
P	31	26494.8	1.8				ug/L	24331	Standard
S	34	4592.4	3.1				ug/L	3789	Standard
Sr	88	65.0	20.4				ug/L	78	Standard
C	12	130.0	27.7				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	9.0	113.3				mg/L	12	Standard
Ho-1	165	16.7	34.6				mg/L	7	Standard
Er	166	20.0	50.0				mg/L	20	Standard
I	127	2203.5	7.7				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	105.169		
Al	27	87.836		
Sc	45			
Ti	47	94.830		
V	51	101.076		
Cr	52	97.913		
Cr	53			
Mn	55	95.808		
Co	59	106.666		
Ni	60	98.308		
Cu	65	101.171		
Zn	66	101.739		
Ge	72		89.291	
As	75	100.193		
Se	82	100.317		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	99.806	
[Ag	107	99.088	
[Cd	111	99.702	
[Cd	114		
>	In	115		95.862
[Sn	118	99.788	
[	Sb	123	100.095	
[	Ba	135	95.882	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.159	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	103.182	
[	U	238	104.462	
>	Bi	209		96.666
[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		
[C	12		
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[Hg	202		
[Dy	164		
[Ho-1	165		
[Er	166		
[I	127		

QC Out of Limits

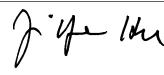
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	

Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 05, 2016 17:52:05

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results


IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	94180.4	3.5				ug/L	82657	Standard
|	Be	9	35.0	37.8	-0.0165	0.011	65.7	ug/L	13	Standard
|	Al	27	3190.4	35.3	0.0029	0.005	166.5	ug/L	1347	Standard
|	Sc	45	34646.3	2.9				ug/L	42879	Standard
|	Ti	47	26.3	23.2	-0.0467	0.022	47.1	ug/L	41	Standard
|	V	51	1904.2	2.0	-0.0133	0.006	41.8	ug/L	2416	Standard
|	Cr	52	9457.6	1.2	-0.1393	0.008	5.8	ug/L	12475	Standard
|	Cr	53	645.0	14.5	0.0704	0.068	96.1	ug/L	537	Standard
|	Mn	55	973.4	13.0	-0.0022	0.014	652.6	ug/L	1090	Standard
|	Co	59	322.7	14.3	0.0029	0.005	176.8	ug/L	363	Standard
|	Ni	60	371.7	1.2	-0.0014	0.004	278.1	ug/L	399	Standard
|	Cu	65	411.0	4.7	-0.0119	0.006	48.8	ug/L	492	Standard
|	Zn	66	294.7	4.4	0.0855	0.012	13.8	ug/L	201	Standard
>	Ge	72	602151.3	2.0				ug/L	679875	Standard
|	As	75	-136.9	34.2	-0.0118	0.031	266.0	ug/L	-85	Standard
|	Se	82	25.3	33.5	-0.0465	0.055	118.5	ug/L	29	Standard
|	Se-1	77	100.3	10.9	0.0602	0.093	154.6	ug/L	107	Standard
>	Ga	71	18.3	31.5				mg/L	37	Standard
|	Rb	85	25.0	40.0				ug/L	23	Standard
|	Y	89	496069.0	3.8				ug/L	562937	Standard
>	Rh	103	13.3	43.3				ug/L	13	Standard
|	Mo	98	242.4	11.8	0.0579	0.008	14.2	ug/L	25	Standard
|	Ag	107	176.3	27.0	0.0044	0.005	117.6	ug/L	114	Standard
|	Cd	111	26.6	32.5	0.0083	0.003	35.5	mg/L	6	Standard
|	Cd	114	53.6	42.2	0.0053	0.003	62.0	ug/L	14	Standard
>	In	115	696007.1	1.7				ug/L	726030	Standard
|	Sn	118	1355.1	23.9	0.0719	0.043	59.7	ug/L	913	Standard
|	Sb	123	868.2	30.2	0.1271	0.045	35.2	ug/L	308	Standard
|	Ba	135	134.7	21.3	0.0270	0.010	36.9	ug/L	50	Standard
|	Ce	140	25.0	52.9				ug/L	122	Standard
>	Tb	159	1097453.8	2.7				ug/L	1169812	Standard
|	Ho	165	18.3	41.7				ug/L	7	Standard
|	Tl	203	109.7	44.5	0.0079	0.004	55.6	ug/L	11	Standard
|	Tl	205	120.0	56.4	0.0105	0.007	66.0	ug/L	8	Standard
|	Pb	206	329.7	10.8	0.0102	0.005	54.0	ug/L	277	Standard
|	Pb	207	286.3	8.1	0.0040	0.004	105.5	ug/L	262	Standard
|	Pb	208	1249.4	9.0	0.0086	0.005	53.6	ug/L	982	Standard
	U	238	80.7	35.2	0.0085	0.003	39.0	ug/L	8	Standard
>	Bi	209	579367.8	1.5				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	71.7	14.5	0.0301	0.011	35.6	mg/L	75	Standard
K	39	20.0	75.0	-0.0599	0.058	96.8	mg/L	32	Standard
Ca	43	18.3	56.8	-0.3515	1.018	289.7	mg/L	50	Standard
Fe	54	209.3	22.8	0.0064	0.032	498.5	mg/L	236	Standard
Fe	57	235.0	12.9	-0.0319	0.101	315.5	mg/L	352	Standard
Sc-1	45	34646.3	2.9				mg/L	42879	Standard
Cl	35	185148.0	2.0				ug/L	166385	Standard
Kr	83	1.7	34.6				ug/L	3	Standard
Br	81	4063.9	7.6				ug/L	4321	Standard
P	31	25261.0	0.6				ug/L	24331	Standard
S	34	4642.4	6.3				ug/L	3789	Standard
Sr	88	68.3	16.9				ug/L	78	Standard
C	12	130.0	33.5				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	6.2	86.7				mg/L	12	Standard
Ho-1	165	18.3	41.7				mg/L	7	Standard
Er	166	10.0	100.0				mg/L	20	Standard
I	127	2056.8	2.4				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
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		88.568	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.865
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
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[Na	23	
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[K	39	
[Ca	43	
[Fe	54	
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[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Thursday, May 05, 2016 17:55:18

Number of Replicates: 3

Autosampler Position: 202

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	88876.6	1.2				ug/L	82657	Standard
|	Be	9	355.0	18.9	0.2463	0.052	21.1	ug/L	13	Standard
|	Al	27	3552.2	57.4	0.0052	0.009	169.1	ug/L	1347	Standard
|	Sc	45	32775.4	3.1				ug/L	42879	Standard
|	Ti	47	24.0	15.0	-0.0508	0.012	24.5	ug/L	41	Standard
|	V	51	5080.9	2.5	0.3691	0.003	0.9	ug/L	2416	Standard
|	Cr	52	16197.3	1.4	0.6360	0.026	4.0	ug/L	12475	Standard
|	Cr	53	1375.1	7.5	0.7384	0.066	8.9	ug/L	537	Standard
|	Mn	55	5452.7	12.7	0.4726	0.070	14.7	ug/L	1090	Standard
|	Co	59	3946.5	5.3	0.4056	0.019	4.7	ug/L	363	Standard
|	Ni	60	4298.6	3.0	1.5131	0.022	1.4	ug/L	399	Standard
|	Cu	65	2377.2	1.3	0.7664	0.015	1.9	ug/L	492	Standard
|	Zn	66	9393.6	3.2	6.5737	0.144	2.2	ug/L	201	Standard
>	Ge	72	574072.7	2.1				ug/L	679875	Standard
|	As	75	452.7	4.9	0.3980	0.010	2.6	ug/L	-85	Standard
|	Se	82	95.5	12.6	0.4339	0.091	20.9	ug/L	29	Standard
|	Se-1	77	121.7	7.1	0.3293	0.076	23.1	ug/L	107	Standard
>	Ga	71	26.7	28.6				mg/L	37	Standard
|	Rb	85	31.7	9.1				ug/L	23	Standard
|	Y	89	463701.7	1.7				ug/L	562937	Standard
>	Rh	103	13.3	21.7				ug/L	13	Standard
|	Mo	98	117.5	77.8	0.0269	0.024	88.7	ug/L	25	Standard
|	Ag	107	3615.4	8.6	0.3795	0.028	7.4	ug/L	114	Standard
|	Cd	111	662.6	4.8	0.2337	0.005	2.2	mg/L	6	Standard
|	Cd	114	1588.8	3.7	0.2316	0.004	1.6	ug/L	14	Standard
>	In	115	666823.0	2.6				ug/L	726030	Standard
|	Sn	118	791.7	28.2	0.0060	0.028	460.6	ug/L	913	Standard
|	Sb	123	2501.8	7.0	0.4080	0.023	5.7	ug/L	308	Standard
|	Ba	135	2062.5	2.4	0.6974	0.036	5.1	ug/L	50	Standard
|	Ce	140	21.7	35.3				ug/L	122	Standard
>	Tb	159	1048691.6	3.2				ug/L	1169812	Standard
|	Ho	165	10.0	50.0				ug/L	7	Standard
|	Tl	203	939.7	14.3	0.0848	0.011	13.4	ug/L	11	Standard
|	Tl	205	780.0	14.7	0.0823	0.011	13.7	ug/L	8	Standard
|	Pb	206	1723.1	9.4	0.2199	0.021	9.4	ug/L	277	Standard
|	Pb	207	1368.1	8.8	0.1838	0.018	9.6	ug/L	262	Standard
|	Pb	208	5718.8	3.7	0.2013	0.006	2.9	ug/L	982	Standard
	U	238	3306.4	1.6	0.3907	0.003	0.7	ug/L	8	Standard
>	Bi	209	560327.1	1.4				ug/L	593643	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	68.3	29.6	0.0306	0.022	70.6	mg/L	75	Standard
K	39	16.7	17.3	-0.0686	0.012	17.2	mg/L	32	Standard
Ca	43	16.7	17.3	-0.4273	0.277	64.9	mg/L	50	Standard
Fe	54	120.3	13.2	-0.0512	0.010	20.1	mg/L	236	Standard
Fe	57	255.0	7.8	0.0695	0.086	123.5	mg/L	352	Standard
Sc-1	45	32775.4	3.1				mg/L	42879	Standard
Cl	35	173499.9	1.8				ug/L	166385	Standard
Kr	83	2.3	65.5				ug/L	3	Standard
Br	81	3710.5	6.6				ug/L	4321	Standard
P	31	16715.9	1.9				ug/L	24331	Standard
S	34	4242.3	3.1				ug/L	3789	Standard
Sr	88	71.7	26.4				ug/L	78	Standard
C	12	110.0	50.6				mg/L	110	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	9.5	5.0				mg/L	12	Standard
Ho-1	165	10.0	50.0				mg/L	7	Standard
Er	166	10.0	100.0				mg/L	20	Standard
I	127	1958.5	3.7				mg/L	2570	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6			
Be	9	123.159		
Al	27			
Sc	45			
Ti	47			
V	51	92.276		
Cr	52	79.501		
Cr	53			
Mn	55	94.516		
Co	59	101.390		
Ni	60	94.568		
Cu	65	95.802		
Zn	66	105.180		
> Ge	72		84.438	
As	75	99.509		
Se	82	108.464		
Se-1	77			
> Ga	71			

Sample ID: QC Std 8

Report Date/Time: Thursday, May 05, 2016 17:57:34

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Approved: May 06, 2016



[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98		
[Ag	107	94.877	
[Cd	111	97.370	
[Cd	114		
>	In	115		91.845
[	Sn	118		
[	Sb	123	102.007	
[	Ba	135	92.980	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	105.956	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.631	
[	U	238	97.668	
>	Bi	209		94.388
[	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		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 8

Report Date/Time: Thursday, May 05, 2016 17:57:34

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Approved: May 06, 2016



2.4 General Chemistry Data

2.4.1 Method 9056

2.4.1.1 Summary Data

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-03	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW14-050316	Prep Method: 9056	Prep Date: 05/04/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG567559	Analyst: AED	Run Date: 05/04/2016 20:24
Collect Date: 05/03/2016 09:25	Dilution: 3	File ID: I1_050416-36
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	0.600	U	1.20	0.600	0.300
Nitrite	14797-65-0	0.378	J	1.20	0.600	0.300
J	Estimated value ; the analyte concentration was less than the LOQ.					
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-03	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW14-050316	Prep Method: 9056	Prep Date: 05/04/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG567559	Analyst: AED	Run Date: 05/04/2016 20:41
Collect Date: 05/03/2016 09:25	Dilution: 50	File ID: I1_050416-37
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	377		20.0	10.0	5.00
Sulfate	14808-79-8	339		100	50.0	25.0
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-05	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW08-050316	Prep Method: 9056	Prep Date: 05/04/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG567559	Analyst: AED	Run Date: 05/04/2016 20:59
Collect Date: 05/03/2016 10:45	Dilution: 3	File ID: I1_050416-38
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	0.600	U	1.20	0.600	0.300
Nitrite	14797-65-0	0.414	J	1.20	0.600	0.300
Sulfate	14808-79-8	342		6.00	3.00	1.50
J	Estimated value ; the analyte concentration was less than the LOQ.					
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-05	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW08-050316	Prep Method: 9056	Prep Date: 05/04/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG567559	Analyst: AED	Run Date: 05/04/2016 21:52
Collect Date: 05/03/2016 10:45	Dilution: 50	File ID: I1_050416-41
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	352		20.0	10.0	5.00
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-07	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW18-050316	Prep Method: 9056	Prep Date: 05/04/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG567559	Analyst: AED	Run Date: 05/05/2016 08:33
Collect Date: 05/03/2016 13:10	Dilution: 5	File ID: I1_050416-56
Sample Tag: DL03	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	1.00	U	2.00	1.00	0.500
Nitrite	14797-65-0	0.985	J	2.00	1.00	0.500
J	Estimated value ; the analyte concentration was less than the LOQ.					
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-07	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW18-050316	Prep Method: 9056	Prep Date: 05/04/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG567559	Analyst: AED	Run Date: 05/04/2016 22:28
Collect Date: 05/03/2016 13:10	Dilution: 50	File ID: I1_050416-43
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	738		20.0	10.0	5.00
Sulfate	14808-79-8	150		100	50.0	25.0
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-09	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW25-050316	Prep Method: 9056	Prep Date: 05/04/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG567559	Analyst: AED	Run Date: 05/04/2016 22:45
Collect Date: 05/03/2016 14:40	Dilution: 2	File ID: I1_050416-44
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	20.3		0.800	0.400	0.200
Nitrate	14797-55-8	0.400	U	0.800	0.400	0.200
Nitrite	14797-65-0	0.400	U	0.800	0.400	0.200
Sulfate	14808-79-8	63.1		4.00	2.00	1.00
U	Analyte was not detected. The concentration is below the reported LOD.					

2.4.1.2 QC Summary Data

Example Calculations - Ion Chromatography

A. Methods 9056/300.0 (Quadratic with Offset)

1. Retrieve Curve Data from the ICAL Curve

c2 = the value of curve constant

c1 = the curve slope

c0 = the curve offset

2. Obtain the area, y , from the instrument raw data

3. Calculate the concentration of the analyte, f(y), where:

$$f(y) = \frac{1}{2 * c_2} * \left(-c_1 \pm \sqrt{c_1^2 - 4 * c_2 * (c_0 - y)} \right)$$

Example Calculation:

Value of constant, c2, (curve):	0.0003
Value of curve constant, c1, (slope):	0.0869
Value of curve constant, c0, (offset):	-0.0103
Area of target analyte, y, (uS*min):	2.993
Calculated concentration, f(y), (mg/L):	31.1998864
	or: -40.1161215 *
Dilution factor (D):	1.00
Concentration of analyte in sample (mg/L):	31.200

* There are two possible solutions, but only one is valid.

B. Method 314.0 - Perchlorate (Linear)

Retrieve Curve Data from Linear Plot

c1 = the curve slope

Obtain the area, y , from the quantitation report

Calculate the concentration of the analyte, f(y), where:

$$f(y) = y / c1$$

Example Calculation:

Value of c1, slope:	0.0034
Area of target analyte, y:	0.083
Calculated concentration:	24.4117647
Dilution Factor:	1
Concentration in sample:	24.4117647

Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 _____ Dataset: 042916 ICAL IC1.SEQ _____
 Analyst1: AED _____ Analyst2: NA _____
 Method: 300/9056 _____ SOP: IC01 _____ Rev: 19 _____

Maintenance Log ID: _____ Syringe Filter Lot#: _____

Eluent ID#: RGT36585 _____

Workgroups: Column 1 ID: AG14A-4MM _____ Column 2 ID: AS14A-4MM _____

Internal STD: NA _____ Surrogate STD: NA _____ Calibration STD WG566125 29-APR-2016
 CCV STD: STD74524 _____ LCS STD: STD74525 _____ MS/MSD STD: STD74525 _____

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_042916-01	ELUENT	1	1		04/29/16 10:37
2	I1_042916-02	DI WATER	1	1		04/29/16 10:54
3	I1_042916-03	WG566125-01 STD \#6	1	1		04/29/16 11:12
4	I1_042916-04	WG566125-02 STD \#5	1	1		04/29/16 11:30
5	I1_042916-05	WG566125-03 STD \#4	1	1		04/29/16 11:48
6	I1_042916-06	WG566125-04 STD \#3	1	1		04/29/16 12:05
7	I1_042916-07	WG566125-05 STD \#2	1	1		04/29/16 12:23
8	I1_042916-08	WG566125-06 STD \#1	1	1		04/29/16 12:41
9	I1_042916-09	WG566125-07 SSCV	1	1		04/29/16 12:58
10	I1_042916-10	LCR LEVEL 6	1	1		04/29/16 13:16
11	I1_042916-11	LCR LEVEL 2	1	1		04/29/16 13:34
12	I1_042916-12	LCR LEVEL 0	1	1		04/29/16 13:51

Comments

Seq.	Rerun	Dil.	Reason	Analytes
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Approved: 02-MAY-16

Eri C. Zimm



Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 _____ Dataset: 050416 IC1.SEQ _____
 Analyst1: AED _____ Analyst2: NA _____
 Method: 300/9056 _____ SOP: IC01 _____ Rev: 19 _____

Maintenance Log ID: _____ Syringe Filter Lot#: 151125254 _____
 Eluent ID#: RGT36709 _____

Workgroups: _____ Column 1 ID: AG14A-4MM _____ Column 2 ID: AS14A-4MM _____

Internal STD: NA _____ Surrogate STD: NA _____ Calibration STD WG566125 29-APR-2016
 CCV STD: STD74524 _____ LCS STD: STD74525 _____ MS/MSD STD: STD74525 _____

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_050416-01	ELUENT	1	1		05/04/16 10:04
2	I1_050416-02	DI WATER	1	1		05/04/16 10:22
3	I1_050416-03	WG567453-01 ANION CCV	1	1		05/04/16 10:39
4	I1_050416-04	WG567453-02 ANION CCB	1	1		05/04/16 10:57
5	I1_050416-05	WG567455-01 ANION BLANK	1	1		05/04/16 11:15
6	I1_050416-06	WG567455-02 ANION LCS	1	1		05/04/16 11:33
7	I1_050416-07	L16041605-01 BR CL SO4 (SO4) 50X	2	50		05/04/16 11:50
8	I1_050416-08	L16041605-05 BR CL SO4 20X	2	20		05/04/16 12:08
9	I1_050416-09	L16041605-06 BR CL SO4 REF	1	1		05/04/16 12:26
10	I1_050416-10	WG567455-04 DUP	2	1		05/04/16 12:43
11	I1_050416-11	WG567455-05 MS	2	1		05/04/16 13:01
12	I1_050416-12	WG567455-06 MSD	2	1		05/04/16 13:19
13	I1_050416-13	L16041605-07 BR CL SO4 20X	2	20		05/04/16 13:36
14	I1_050416-14	L16041605-08 BR CL SO4 20X	2	20		05/04/16 13:54
15	I1_050416-15	WG567453-03 ANION CCV	1	1		05/04/16 14:12
16	I1_050416-16	WG567453-04 ANION CCB	1	1		05/04/16 14:30
17	I1_050416-17	L16041605-09 BR CL SO4 10X	2	10		05/04/16 14:47
18	I1_050416-18	L16041605-10 BR CL SO4 10X	2	10		05/04/16 15:05
19	I1_050416-19	L16041614-01 CL SO4 10X	1	10		05/04/16 15:23
20	I1_050416-20	L16041614-02 CL SO4 3X	1	3		05/04/16 15:40
21	I1_050416-21	L16041614-03 CL SO4	1	1		05/04/16 15:58
22	I1_050416-22	L16050087-01 CL	2	1		05/04/16 16:16
23	I1_050416-23	L16050087-02 CL	2	1		05/04/16 16:34
24	I1_050416-24	L16050087-03 CL	2	1		05/04/16 16:51
25	I1_050416-25	L16050126-01 CL SO4 10X	1	10		05/04/16 17:09
26	I1_050416-26	L16050126-02 CL SO4 10X	1	10		05/04/16 17:27
27	I1_050416-27	WG567453-05 ANION CCV	1	1		05/04/16 17:44
28	I1_050416-28	WG567453-06 ANION CCB	1	1		05/04/16 18:02
29	I1_050416-29	L16050126-03 CL SO4 2X	1	2		05/04/16 18:20
30	I1_050416-30	L16050128-01 CL SO4 2X	1	2		05/04/16 18:38
31	I1_050416-31	L16041605-06 BR CL SO4 5X	1	5		05/04/16 18:55
32	I1_050416-32	WG567559-01 ANION BLANK	1	1		05/04/16 19:13
33	I1_050416-33	WG567559-02 ANION LCS	1	1		05/04/16 19:31



Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 Dataset: 050416 IC1.SEQ
 Analyst1: AED Analyst2: NA
 Method: 300/9056 SOP: IC01 Rev: 19

Maintenance Log ID: _____ Syringe Filter Lot#: 151125254
 Eluent ID#: RGT36709

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM

Internal STD: NA Surrogate STD: NA WG566125 29-APR-2016
 CCV STD: STD74524 LCS STD: STD74525 STD74525

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	I1_050416-34	L16050151-01 CL SO4 NO3 NO2 3X	1	3		05/04/16 19:48
35	I1_050416-35	L16050151-01 CL SO4 NO3 NO2 50X	1	50		05/04/16 20:06
36	I1_050416-36	L16050151-03 CL SO4 NO3 NO2 3X	1	3		05/04/16 20:24
37	I1_050416-37	L16050151-03 CL SO4 NO3 NO2 50X	1	50		05/04/16 20:41
38	I1_050416-38	L16050151-05 CL SO4 NO3 NO2 3X	1	3		05/04/16 20:59
39	I1_050416-39	WG567453-07 ANION CCV	1	1		05/04/16 21:17
40	I1_050416-40	WG567453-08 ANION CCB	1	1		05/04/16 21:35
41	I1_050416-41	L16050151-05 CL SO4 NO3 NO2 50X	1	50		05/04/16 21:52
42	I1_050416-42	L16050151-07 CL SO4 NO3 NO2 5X NR	1	5		05/04/16 22:10
43	I1_050416-43	L16050151-07 CL SO4 NO3 NO2 50X	1	50		05/04/16 22:28
44	I1_050416-44	L16050151-09 CL SO4 NO3 NO2 2X	1	2		05/04/16 22:45
45	I1_050416-45	L16050153-01 NO3 REF	1	1		05/04/16 23:03
46	I1_050416-46	WG567559-04 DUP	1	1		05/04/16 23:21
47	I1_050416-47	L16050153-02 NO3 MS	1	1		05/04/16 23:39
48	I1_050416-48	L16050153-03 NO3 MSD	1	1		05/04/16 23:56
49	I1_050416-49	L16050192-01 ALL	2	1		05/05/16 00:14
50	I1_050416-50	L16050192-01 ALL 10X	2	10		05/05/16 00:32
51	I1_050416-51	WG567453-09 ANION CCV	1	1		05/05/16 00:49
52	I1_050416-52	WG567453-10 ANION CCB	1	1		05/05/16 01:07
53	I1_050416-53	L16050197-01 SO4	2	1		05/05/16 01:25
54	I1_050416-54	WG567453-11 ANION CCV	1	1		05/05/16 01:43
55	I1_050416-55	WG567453-12 ANION CCB	1	1		05/05/16 02:00
56	I1_050416-56	L16050151-07 CL SO4 NO3 NO2 5X	1	5		05/05/16 08:33
57	I1_050416-57	L16050201-01 SO4 BR 5X	2	5		05/05/16 08:58
58	I1_050416-58	L16050201-03 NO2 FL SO4 BR 5X	2	5		05/05/16 09:15
59	I1_050416-59	WG567453-13 ANION CCV	1	1		05/05/16 09:33
60	I1_050416-60	WG567453-14 ANION CCB	1	1		05/05/16 09:51

Comments

Seq.	Rerun	Dil.	Reason	Analytes
7				
			L16041605-01 BR CL SO4 (SO4) 50X: Diluted due to initial analysis of sulfate exceeding the upper limit of the calibration range.	
8				
			L16041605-05 BR CL SO4 20X: Diluted due to a high screen result for sulfate that exceeded the upper limit of the calibration range.	
9	X	5	Over Calibration Range	CL
			L16041605-06 BR CL SO4 REF	

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Approved:



Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 _____ Dataset: 050416 IC1.SEQ _____
 Analyst1: AED _____ Analyst2: NA _____
 Method: 300/9056 _____ SOP: IC01 _____ Rev: 19 _____

Maintenance Log ID: _____ Syringe Filter Lot#: 151125254 _____

Eluent ID#: RGT36709 _____

Workgroups: _____ Column 1 ID: AG14A-4MM _____ Column 2 ID: AS14A-4MM _____

Internal STD: NA _____ Surrogate STD: NA _____ WG566125 29-APR-2016
 CCV STD: STD74524 _____ LCS STD: STD74525 _____ STD74525 _____

Comments

Seq.	Rerun	Dil.	Reason	Analytes
13				
			L16041605-07 BR CL SO4 20X: Diluted due to a high screen result for sulfate that exceeded the upper limit of the calibration range.	
14				
			L16041605-08 BR CL SO4 20X: Diluted due to a high screen result for sulfate that exceeded the upper limit of the calibration range.	
17				
			L16041605-09 BR CL SO4 10X: Diluted due to a high screen result for sulfate that exceeded the upper limit of the calibration range.	
18				
			L16041605-10 BR CL SO4 10X: Diluted due to a high screen result for sulfate that exceeded the upper limit of the calibration range.	
19				
			L16041614-01 CL SO4 10X: Diluted due to a high screen result for chloride that exceeded the upper limit of the calibration range.	
20				
			L16041614-02 CL SO4 3X: Diluted due to a high screen result for chloride that exceeded the upper limit of the calibration range.	
22	X	3	Over Calibration Range	CL
			L16050087-01 CL	
25				
			L16050126-01 CL SO4 10X: Diluted due to a high screen result for chloride that exceeded the upper limit of the calibration range.	
26				
			L16050126-01 CL SO4 10X: Diluted due to a high screen result for chloride that exceeded the upper limit of the calibration range.	
29				
			L16050126-03 CL SO4 2X: Diluted due to a high screen result for chloride that exceeded the upper limit of the calibration range.	
30				
			L16050128-01 CL SO4 2X: Diluted due to a high screen result for chloride that exceeded the upper limit of the calibration range.	
34	X	50	Over Calibration Range	CL SO4
			L16050151-01 CL SO4 NO3 NO2 3X: Diluted due to a high screen result for chloride which exceeded the upper limit of the calibration range.	
36	X	50	Over Calibration Range	CL SO4
			L16050151-03 CL SO4 NO3 NO2 3X: Diluted due to a high screen result for chloride which exceeded the upper limit of the calibration range.	
38	X	50	Over Calibration Range	CL
			L16050151-05 CL SO4 NO3 NO2 3X: Diluted due to a high screen result for chloride which exceeded the upper limit of the calibration range.	
42	X	5		
			L16050151-07 CL SO4 NO3 NO2 5X NR: Diluted due to a high screen result for chloride which exceeded the upper limit of the calibration range. Needs re-analysis due to inconsistent data.	
44				
			L16050151-09 CL SO4 NO3 NO2 2X: Diluted due to a high screen result for chloride which exceeded the upper limit of the calibration range.	
49	X	10	Over Calibration Range	CL
			L16050192-01 ALL	



Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 _____ Dataset: 050416 IC1.SEQ _____
 Analyst1: AED _____ Analyst2: NA _____
 Method: 300/9056 _____ SOP: IC01 _____ Rev: 19 _____

Maintenance Log ID: _____ Syringe Filter Lot#: 151125254 _____
 Eluent ID#: RGT36709 _____

Workgroups: _____ Column 1 ID: AG14A-4MM _____ Column 2 ID: AS14A-4MM _____

Internal STD: NA _____ Surrogate STD: NA _____ WG566125 29-APR-2016 _____
 CCV STD: STD74524 _____ LCS STD: STD74525 _____ STD74525 _____

Comments

Seq.	Rerun	Dil.	Reason	Analytes
52				
			WG567453-10 ANION CCB: Hit of nitrite below MDL of calibration range.	
56	X	50	Over Calibration Range	CL
			L16050151-07 CL SO4 NO3 NO2 5X	
57	X	1	Analyzed too dilute	BR
			L16050201-01 SO4 BR 5X	
58	X	1	Analyzed too dilute	BR NO2
			L16050201-03 NO2 FL SO4 BR 5X: Diluted due to a high screen result for sulfate which exceeded the upper limit of the calibration range.	



Microbac Laboratories Inc.

Data Checklist

Date: 29-APR-2016
 Analyst: AED
 Analyst: NA
 Method: 9056
 Instrument: IC1
 Curve Workgroup: NA
 Runlog ID: 74807
 Analytical Workgroups: WG566125 ICAL

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
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)	NA
% D/% Drift	NA
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	NA
TCL hits	NA
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	NA
TCL hits	NA
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	NA
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	NA
Check for completeness	X
Primary Reviewer	AED
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:
02-MAY-2016



Secondary Reviewer:
02-MAY-2016




Microbac Laboratories Inc.

Data Checklist

Date: 04-MAY-2016
 Analyst: AED
 Analyst: NA
 Method: 300/9056
 Instrument: IC1
 Curve Workgroup: NA
 Runlog ID: 74915
 Analytical Workgroups: L16041605, 1614, L16050087, 0126, 0128, 0151, 0153, 0192, 0197, 02

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
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)	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
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
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	X
Check for completeness	X
Primary Reviewer	AED
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	
Check the completeness/accuracy of reported information	
Data qualifiers	
Secondary Reviewer	

Primary Reviewer:
05-MAY-2016

AED

Secondary Reviewer:

CHECKLIST1 - Modified 03/05/2008

Generated: MAY-05-2016 13:03:55



Analytical Method:9056
Login Number:L16050151

AAB#:WG567559

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
50WW13-050316	01	05/03/16					05/04/2016	1.3	2		05/04/16	1.5	2	
50WW13-050316	01	05/03/16					05/04/2016	1.3	2		05/04/16	1.5	2	
50WW14-050316	03	05/03/16					05/04/2016	1.2	2		05/04/16	1.5	2	
50WW14-050316	03	05/03/16					05/04/2016	1.2	2		05/04/16	1.5	2	
50WW08-050316	05	05/03/16					05/04/2016	1.2	2		05/04/16	1.4	2	
50WW08-050316	05	05/03/16					05/04/2016	1.2	2		05/04/16	1.5	2	
50WW18-050316	07	05/03/16					05/04/2016	1.1	2		05/04/16	1.4	2	
50WW18-050316	07	05/03/16					05/04/2016	1.1	2		05/05/16	1.8	2	
50WW25-050316	09	05/03/16					05/04/2016	1	2		05/04/16	1.3	2	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID:4748369
Report generated 05/09/2016 11:24



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG567559
 Blank File ID: I1_050416-32 Blank Sample ID: WG567559-01
 Prep Date: 05/04/16 15:00 Instrument ID: IC1
 Analyzed Date: 05/04/16 19:13 Method: 9056
 Analyst: AED

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG567559-02	I1_050416-33	05/04/16 19:31	01
50WW13-050316	L16050151-01	I1_050416-34	05/04/16 19:48	DL01
50WW13-050316	L16050151-01	I1_050416-35	05/04/16 20:06	DL02
50WW14-050316	L16050151-03	I1_050416-36	05/04/16 20:24	DL01
50WW14-050316	L16050151-03	I1_050416-37	05/04/16 20:41	DL02
50WW08-050316	L16050151-05	I1_050416-38	05/04/16 20:59	DL01
50WW08-050316	L16050151-05	I1_050416-41	05/04/16 21:52	DL02
50WW18-050316	L16050151-07	I1_050416-43	05/04/16 22:28	DL02
50WW25-050316	L16050151-09	I1_050416-44	05/04/16 22:45	DL01
DUP	WG567559-04	I1_050416-46	05/04/16 23:21	01
50WW18-050316	L16050151-07	I1_050416-56	05/05/16 08:33	DL03

Report Name: BLANK_SUMMARY
 PDF File ID: 4748370
 Report generated 05/09/2016 11:25



Login Number: L16050151 Prep Date: 05/04/16 15:00 Sample ID: WG567559-01
 Instrument ID: IC1 Run Date: 05/04/16 19:13 Prep Method: 9056
 File ID: I1 050416-32 Analyst: AED Method: 9056
 Workgroup (AAB#): WG567559 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: IC1-29-APR-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Chloride	0.100	0.400	0.100	1	U
Nitrate	0.100	0.400	0.100	1	U
Nitrite	0.100	0.400	0.100	1	U
Sulfate	0.500	2.00	0.500	1	U

DL 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: 4748371
 09-MAY-2016 11:25



Login Number: L16050151 Run Date: 05/04/2016 Sample ID: WG567559-02
 Instrument ID: IC1 Run Time: 19:31 Prep Method: 9056
 File ID: I1 050416-33 Analyst: AED Method: 9056
 Workgroup (AAB#): WG567559 Matrix: Water Units: mg/L
 QC Key: DOD4 Lot#: STD74525 Cal ID: IC1-29-APR-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chloride	8.00	8.18	102	90 - 110	
Nitrate	5.42	5.43	100	90 - 110	
Nitrite	4.87	4.96	102	90 - 110	
Sulfate	40.0	40.7	102	90 - 110	

LCS - Modified 03/06/2008
 PDF File ID: 4748372
 Report generated: 05/09/2016 11:25



Login Number: L16050151
Analytical Method: 9056
ICAL Workgroup: WG566125

Instrument ID: IC1
Initial Calibration Date: 29-APR-16 12:41
Column ID: F

Analyte	AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Chloride	6.078	7.86	0.99700	
Nitrate	2.464	10.4	0.99800	
Nitrite	2.956	4.80	0.99900	
Sulfate	7.882	13.8	0.99700	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 4748373
Report generated 05/09/2016 11:25



Login Number: L16050151
 Analytical Method: 9056

Instrument ID: IC1
 Initial Calibration Date: 29-APR-16 12:41
 Column ID: F

Analyte	WG566125-01			WG566125-02			WG566125-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	24.0	4.50300000	5.330	12.0	2.07600000	5.780	8.00	1.27500000	6.275
Nitrate	16.3	7.72700000	2.105	8.13	3.53200000	2.302	5.42	2.25500000	2.404
Nitrite	14.6	5.30500000	2.755	7.31	2.57800000	2.834	4.87	1.63200000	2.985
Sulfate	120	18.4750000	6.495	60.0	8.44600000	7.104	40.0	5.31900000	7.520

INT_CAL - Modified 03/06/2008
 PDF File ID: 4748373
 Report generated 05/09/2016 11:25



Login Number: L16050151
Analytical Method: 9056

Instrument ID: IC1
Initial Calibration Date: 29-APR-16 12:41
Column ID: F

Analyte	WG566125-04			WG566125-05			WG566125-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	4.00	0.644000000	6.211	1.00	0.151000000	6.623	0.200	0.032000000 0	6.250
Nitrate	2.71	1.07300000	2.526	0.678	0.260000000	2.606	0.134	0.047000000 0	2.841
Nitrite	2.44	0.817000000	2.981	0.609	0.194000000	3.139	0.122	0.040000000 0	3.045
Sulfate	20.0	2.51300000	7.959	5.00	0.588000000	8.503	1.00	0.103000000	9.709

INT_CAL - Modified 03/06/2008
PDF File ID: 4748373
Report generated 05/09/2016 11:25



Login Number: L16050151 Run Date: 04/29/2016 Sample ID: WG566125-07
 Instrument ID: IC1 Run Time: 12:58 Method: 9056
 File ID: I1 042916-09 Analyst: AED QC Key: DOD4
 ICal Workgroup: WG566125 Cal ID: IC1 - 29-APR-16

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Chloride	8.00	8.15	mg/L	5.92	1.90	10	
Nitrate	5.42	5.41	mg/L	2.38	0.300	10	
Nitrite	4.87	4.95	mg/L	2.88	1.70	10	
Sulfate	40.0	40.4	mg/L	7.39	1.00	10	

* Exceeds %D Limit



Login Number: L16050151 Run Date: 05/04/2016 Sample ID: WG567453-06
 Instrument ID: IC1 Run Time: 18:02 Method: 9056
 File ID: I1 050416-28 Analyst: AED Units: mg/L
 Workgroup (AAB#): WG567559 Cal ID: IC1 - 29-APR-16
 Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	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: 4748376
 Report generated 05/05/2016 12:11



Login Number: L16050151 Run Date: 05/04/2016 Sample ID: WG567453-08
 Instrument ID: IC1 Run Time: 21:35 Method: 9056
 File ID: I1 050416-40 Analyst: AED Units: mg/L
 Workgroup (AAB#): WG567559 Cal ID: IC1 - 29-APR-16
 Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	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: 4748376
 Report generated 05/05/2016 12:11



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567453-10
 Instrument ID: IC1 Run Time: 01:07 Method: 9056
 File ID: I1 050416-52 Analyst: AED Units: mg/L
 Workgroup (AAB#): WG567559 Cal ID: IC1 - 29-APR-16
 Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	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: 4748376
 Report generated 05/05/2016 12:11



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567453-12
 Instrument ID: IC1 Run Time: 02:00 Method: 9056
 File ID: I1 050416-55 Analyst: AED Units: mg/L
 Workgroup (AAB#): WG567559 Cal ID: IC1 - 29-APR-16
 Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	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: 4748376
 Report generated 05/05/2016 12:11



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567453-14
 Instrument ID: IC1 Run Time: 09:51 Method: 9056
 File ID: I1 050416-60 Analyst: AED Units: mg/L
 Workgroup (AAB#): WG567559 Cal ID: IC1 - 29-APR-16
 Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	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: 4748376
 Report generated 05/05/2016 12:11



Login Number: L16050151 Run Date: 05/04/2016 Sample ID: WG567453-05
 Instrument ID: IC1 Run Time: 17:44 Method: 9056
 File ID: I1 050416-27 Analyst: AED QC Key: DOD4
 Workgroup (AAB#): WG567559 Cal ID: IC1 - 29-APR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.14	mg/L	5.93	1.74	10	
Nitrate	5.42	5.39	mg/L	2.39	0.638	10	
Nitrite	4.87	4.90	mg/L	2.92	0.608	10	
Sulfate	40.0	40.3	mg/L	7.40	0.870	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
 PDF File ID: 4748375
 Report generated 05/09/2016 11:25



Login Number: L16050151 Run Date: 05/04/2016 Sample ID: WG567453-07
 Instrument ID: IC1 Run Time: 21:17 Method: 9056
 File ID: I1 050416-39 Analyst: AED QC Key: DOD4
 Workgroup (AAB#): WG567559 Cal ID: IC1 - 29-APR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.17	mg/L	5.91	2.06	10	
Nitrate	5.42	5.38	mg/L	2.39	0.712	10	
Nitrite	4.87	4.95	mg/L	2.89	1.63	10	
Sulfate	40.0	40.4	mg/L	7.39	0.955	10	

* Exceeds %D Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567453-09
 Instrument ID: IC1 Run Time: 00:49 Method: 9056
 File ID: I1 050416-51 Analyst: AED QC Key: DOD4
 Workgroup (AAB#): WG567559 Cal ID: IC1 - 29-APR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.14	mg/L	5.93	1.73	10	
Nitrate	5.42	5.39	mg/L	2.39	0.528	10	
Nitrite	4.87	5.00	mg/L	2.86	2.62	10	
Sulfate	40.0	40.5	mg/L	7.37	1.21	10	

* Exceeds %D Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567453-11
 Instrument ID: IC1 Run Time: 01:43 Method: 9056
 File ID: I1 050416-54 Analyst: AED QC Key: DOD4
 Workgroup (AAB#): WG567559 Cal ID: IC1 - 29-APR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.16	mg/L	5.92	1.96	10	
Nitrate	5.42	5.37	mg/L	2.40	0.915	10	
Nitrite	4.87	5.00	mg/L	2.86	2.54	10	
Sulfate	40.0	40.4	mg/L	7.39	0.923	10	

* Exceeds %D Criteria



Login Number: L16050151 Run Date: 05/05/2016 Sample ID: WG567453-13
Instrument ID: IC1 Run Time: 09:33 Method: 9056
File ID: I1 050416-59 Analyst: AED QC Key: DOD4
Workgroup (AAB#): WG567559 Cal ID: IC1 - 29-APR-16
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.13	mg/L	5.94	1.61	10	
Nitrate	5.42	5.36	mg/L	2.40	1.08	10	
Nitrite	4.87	4.93	mg/L	2.90	1.12	10	
Sulfate	40.0	40.3	mg/L	7.41	0.720	10	

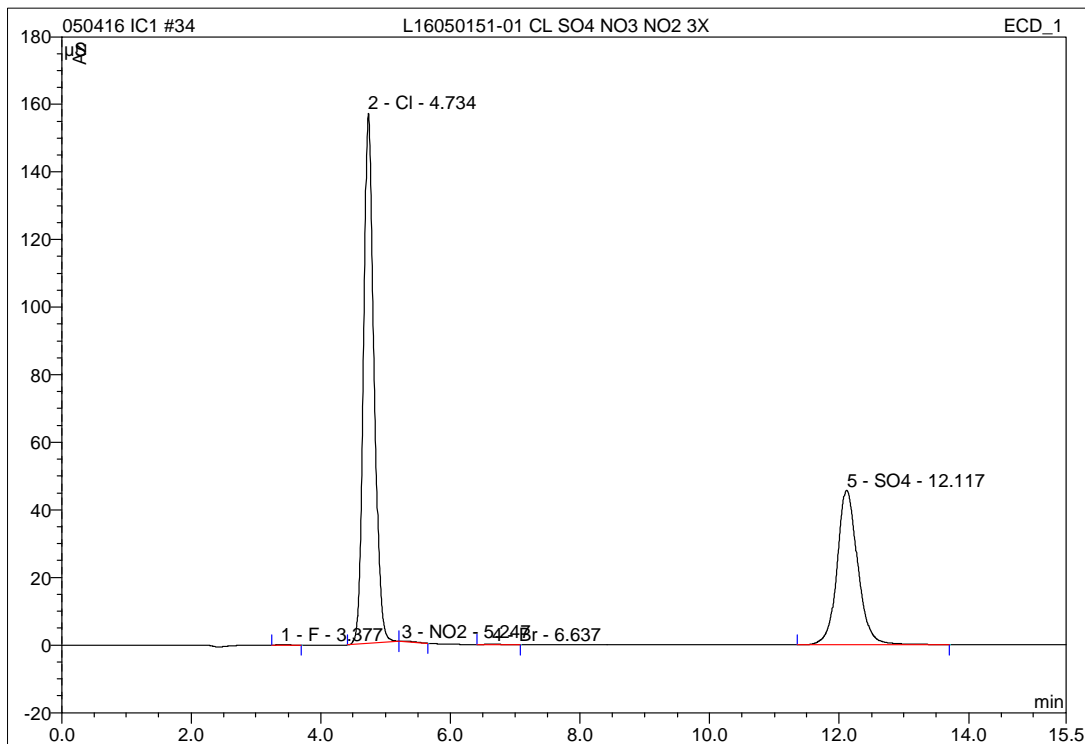
* Exceeds %D Criteria



2.4.1.3 Sample Data

34 L16050151-01 CL SO4 NO3 NO2 3X**1,3 AED**

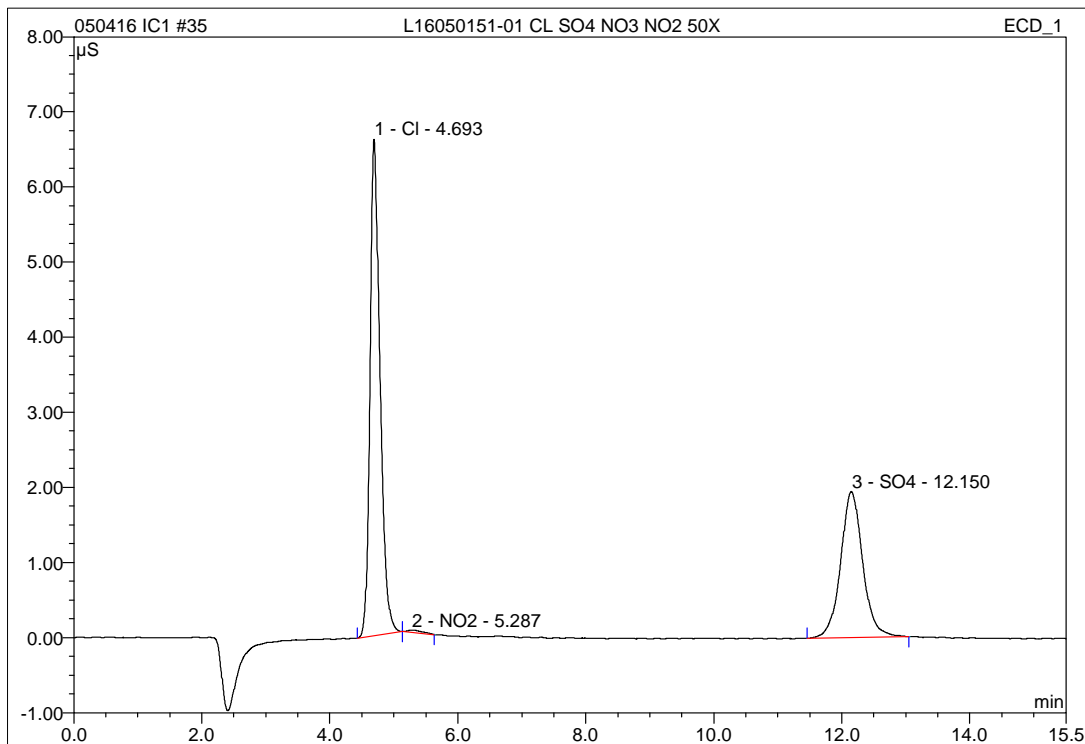
Sample Name:	L16050151-01 CL SO4 NO3 NO2 3X	Injection Volume:	20.0
Vial Number:	22	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 19:48	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	0.116	0.023	0.05	0.156	BMB
2	4.73	Cl	156.883	29.401	63.31	177.111	BMb
3	5.25	NO2	0.057	0.036	0.08	0.109	bMB
4	6.64	Br	0.199	0.046	0.10	0.721	BMB
5	12.12	SO4	45.730	16.938	36.47	125.805	BMB
Total:			202.984	46.443	100.00	303.903	

35 L16050151-01 CL SO4 NO3 NO2 50X**1,50 AED**

Sample Name:	L16050151-01 CL SO4 NO3 NO2 50X	Injection Volume:	20.0
Vial Number:	23	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 20:06	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



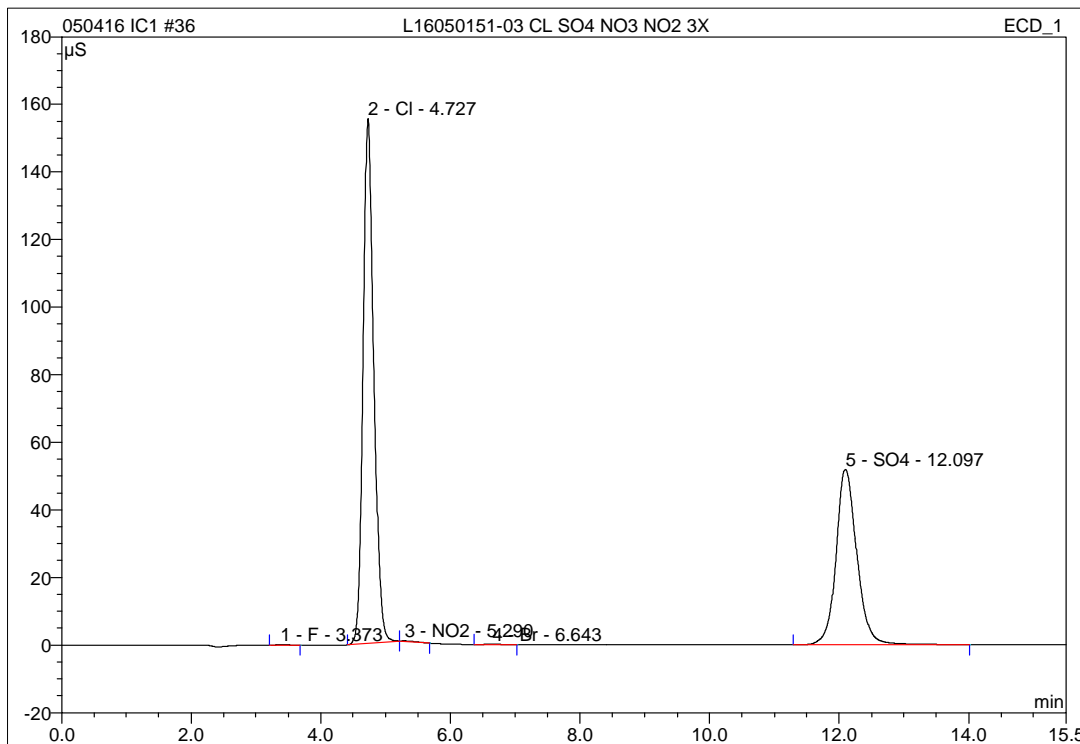
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount mg/L	Type
1	4.69	Cl	6.607	1.198	60.24	7.226	BMb
2	5.29	NO2	0.033	0.009	0.46	0.032	bMB
3	12.15	SO4	1.945	0.781	39.29	6.039	BMB
Total:			8.585	1.988	100.00	13.297	

IC/Integration

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

36 L16050151-03 CL SO4 NO3 NO2 3X**1,3 AED**

Sample Name:	L16050151-03 CL SO4 NO3 NO2 3X	Injection Volume:	20.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 20:24	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



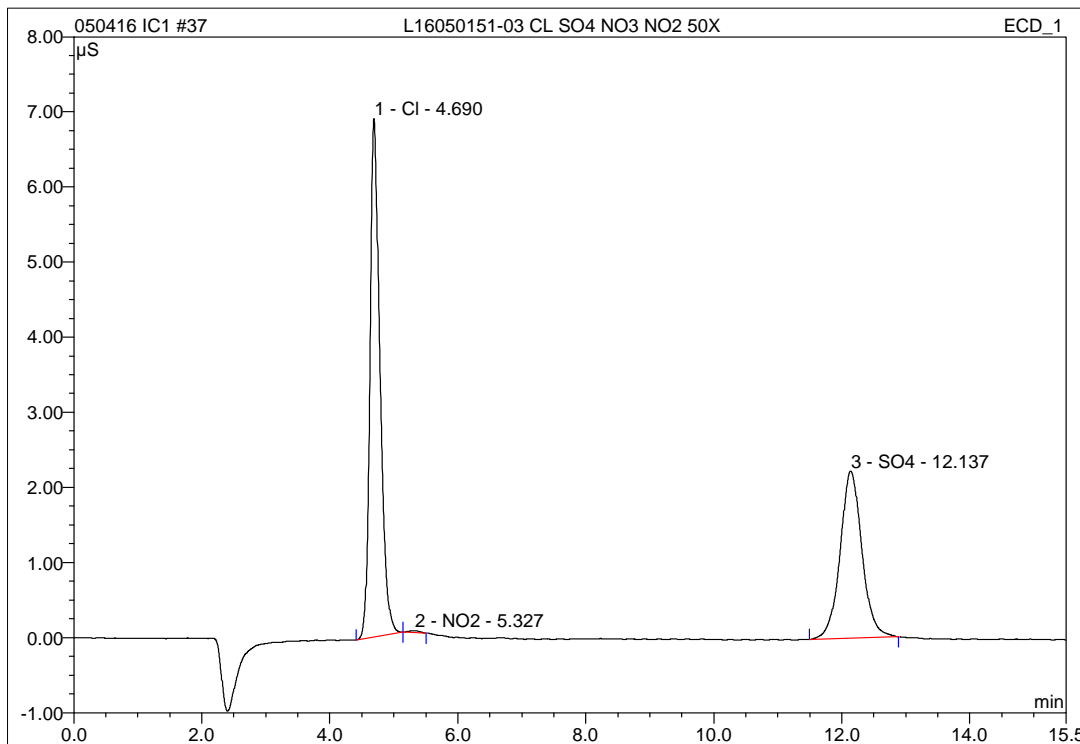
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.37	F	0.082	0.016	0.03	0.129	BMB
2	4.73	Cl	155.358	29.569	60.33	178.124	BMb
3	5.29	NO2	0.119	0.041	0.08	0.126	bMB
4	6.64	Br	0.208	0.048	0.10	0.753	BMB
5	12.10	SO4	51.901	19.341	39.46	143.624	BMB
Total:			207.669	49.016	100.00	322.756	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

37 L16050151-03 CL SO4 NO3 NO2 50X**1,50 AED**

Sample Name:	L16050151-03 CL SO4 NO3 NO2 50X	Injection Volume:	20.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 20:41	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



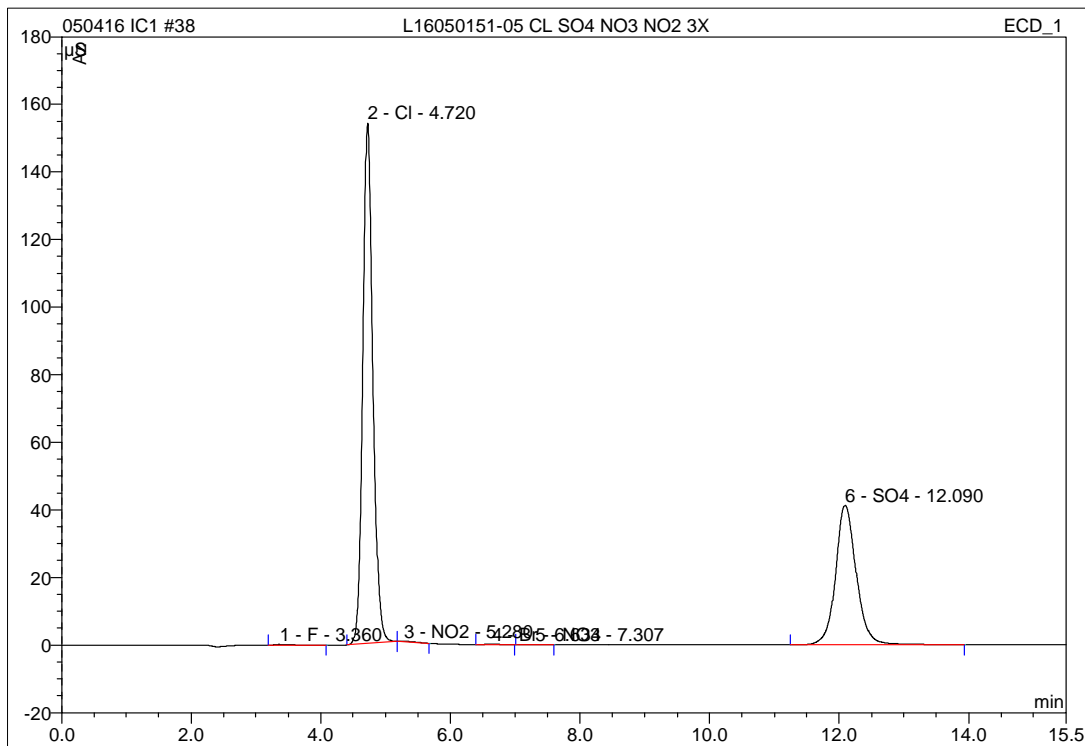
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	4.69	Cl	6.904	1.250	58.50	7.545	BMB
2	5.33	NO2	0.026	0.005	0.24	0.020	bMB
3	12.14	SO4	2.228	0.882	41.26	6.787	BMB
Total:			9.158	2.138	100.00	14.352	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

38 L16050151-05 CL SO4 NO3 NO2 3X**1,3 AED**

Sample Name:	L16050151-05 CL SO4 NO3 NO2 3X	Injection Volume:	20.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 20:59	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



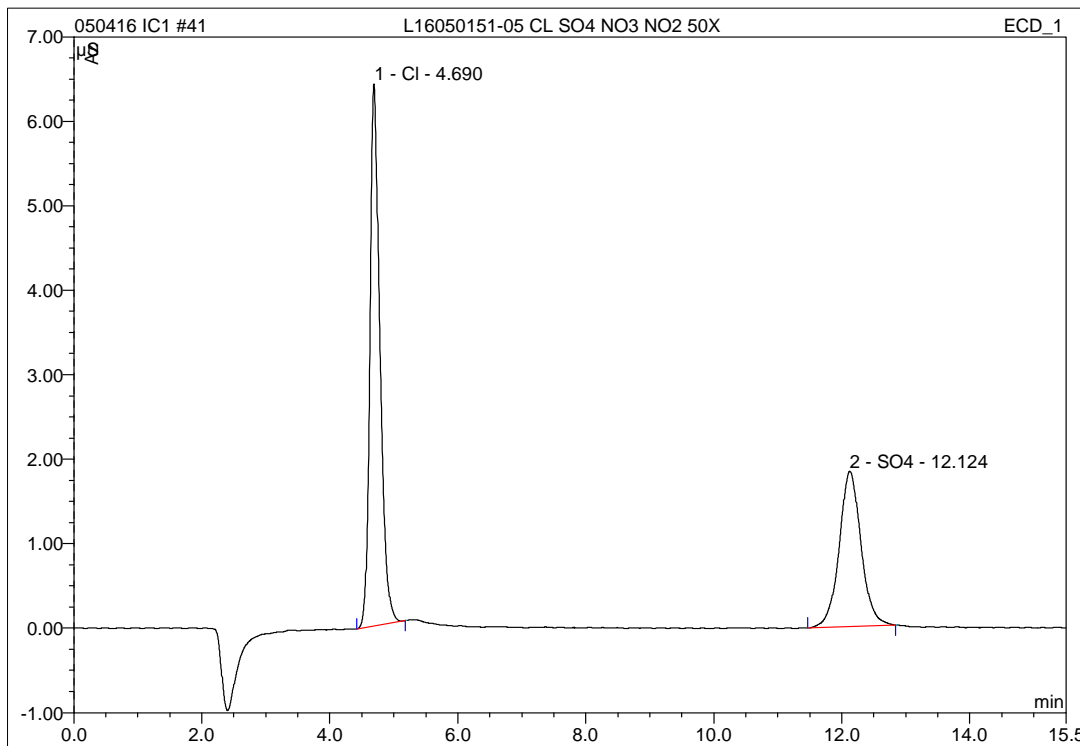
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.36	F	0.220	0.052	0.12	0.284	BMB
2	4.72	Cl	154.023	27.531	64.01	165.845	BMb
3	5.28	NO2	0.153	0.046	0.11	0.138	bMB
4	6.63	Br	0.191	0.042	0.10	0.660	BMB
5	7.31	NO3	0.062	0.016	0.04	0.062	BMB
6	12.09	SO4	41.252	15.326	35.63	113.861	BMB
Total:			195.900	43.012	100.00	280.850	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

41 L16050151-05 CL SO4 NO3 NO2 50X**1,50 AED**

Sample Name:	L16050151-05 CL SO4 NO3 NO2 50X	Injection Volume:	20.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 21:52	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



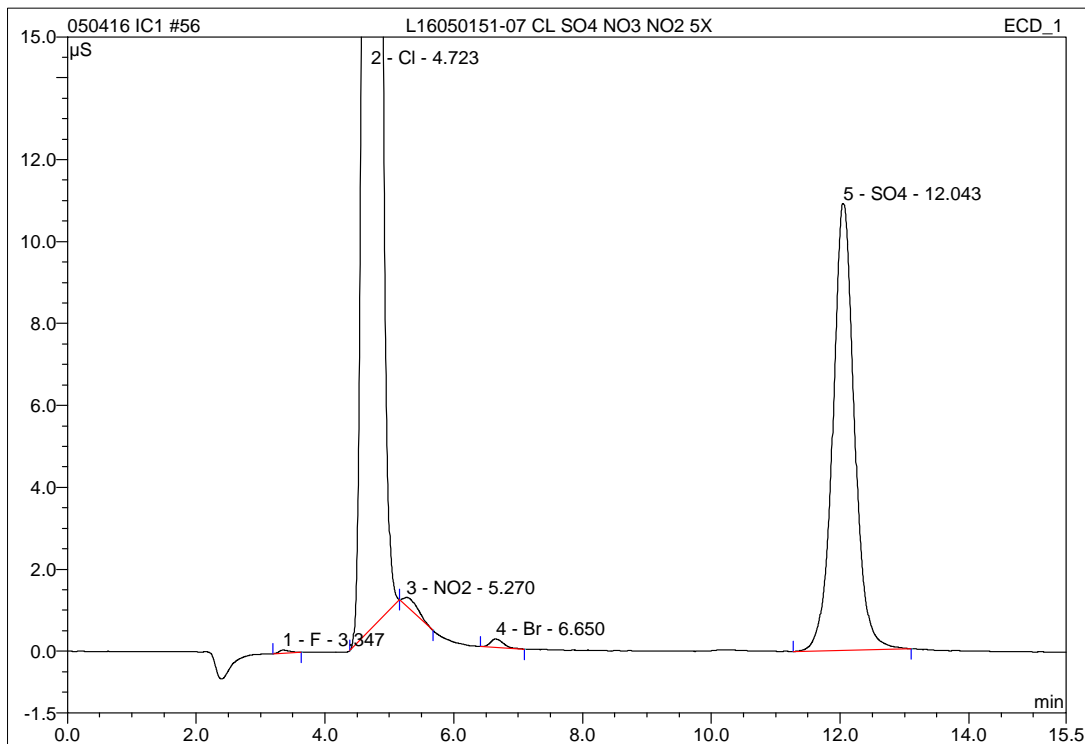
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	4.69	Cl	6.418	1.167	61.56	7.042	BMB
2	12.12	SO4	1.839	0.729	38.44	5.651	BMB
Total:			8.257	1.896	100.00	12.693	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

56 L16050151-07 CL SO4 NO3 NO2 5X**1,5 AED**

Sample Name:	L16050151-07 CL SO4 NO3 NO2 5X	Injection Volume:	20.0
Vial Number:	27	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/5/2016 8:33	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



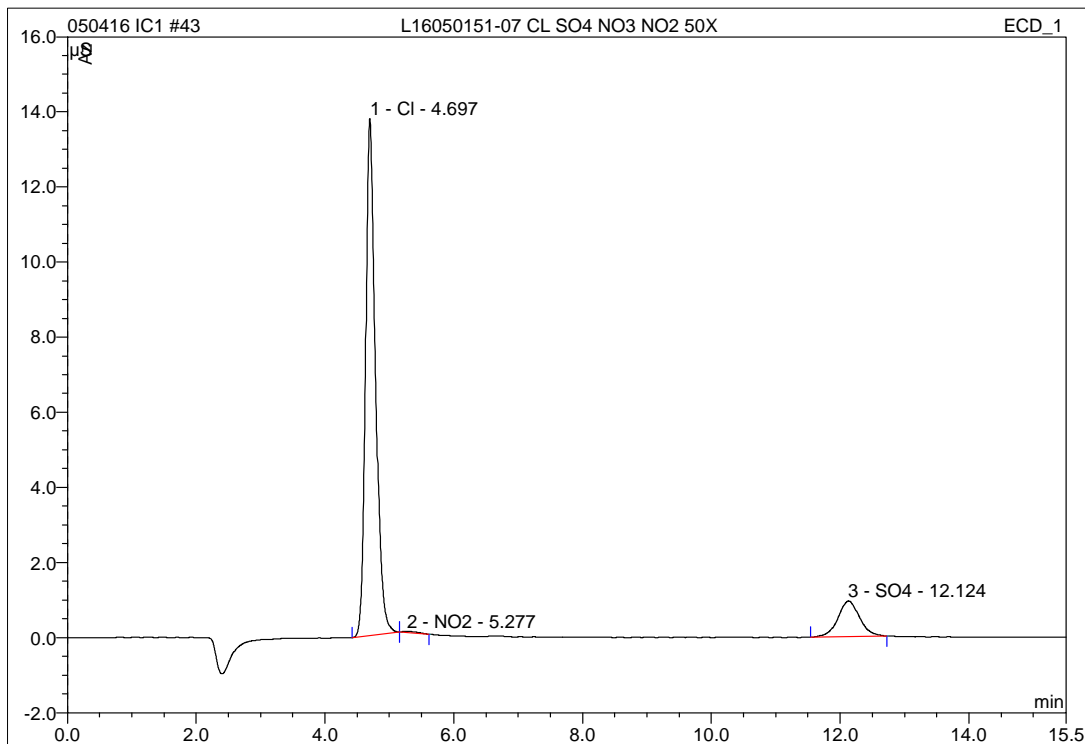
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.35	F	0.078	0.015	0.04	0.123	BMB
2	4.72	Cl	183.597	33.277	88.44	200.457	BMb
3	5.27	NO2	0.210	0.066	0.17	0.197	bMB
4	6.65	Br	0.206	0.049	0.13	0.766	BMB
5	12.04	SO4	10.914	4.222	11.22	31.547	BMB
Total:			195.006	37.628	100.00	233.089	

IC/Integration

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

43 L16050151-07 CL SO4 NO3 NO2 50X**1,50 AED**

Sample Name:	L16050151-07 CL SO4 NO3 NO2 50X	Injection Volume:	20.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 22:28	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



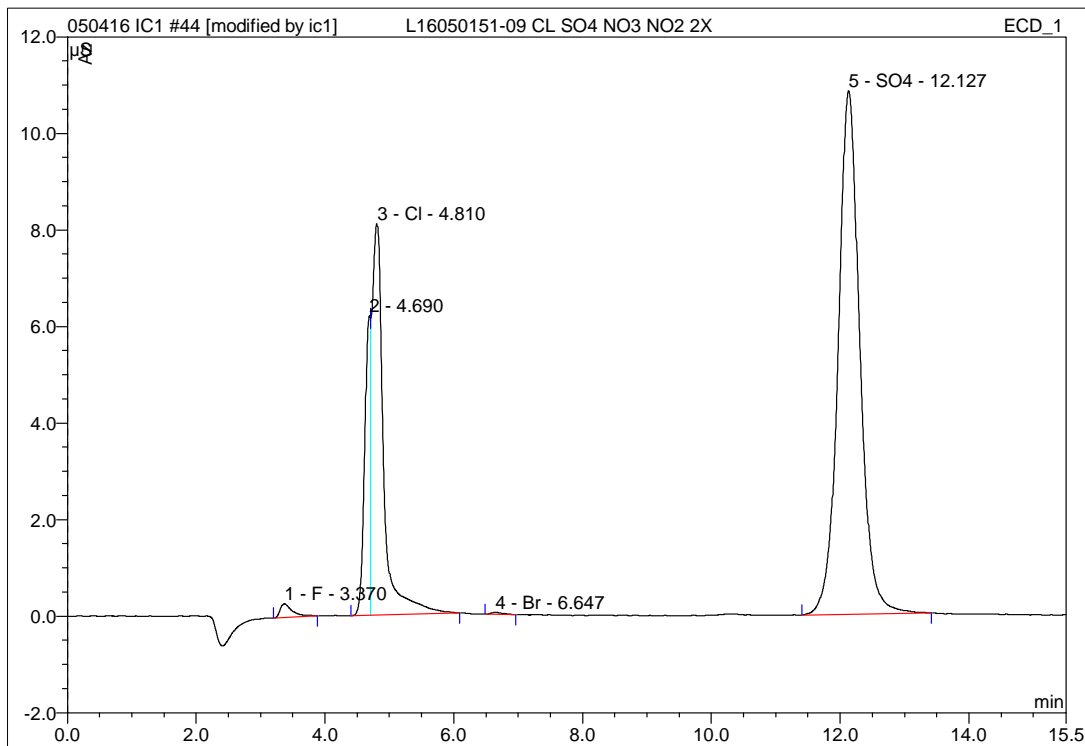
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	4.70	Cl	13.773	2.447	86.56	14.752	BMB
2	5.28	NO2	0.033	0.010	0.34	0.033	bMB
3	12.12	SO4	0.949	0.371	13.11	2.996	BMB
Total:			14.755	2.827	100.00	17.780	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

44 L16050151-09 CL SO4 NO3 NO2 2X**1,2 AED**

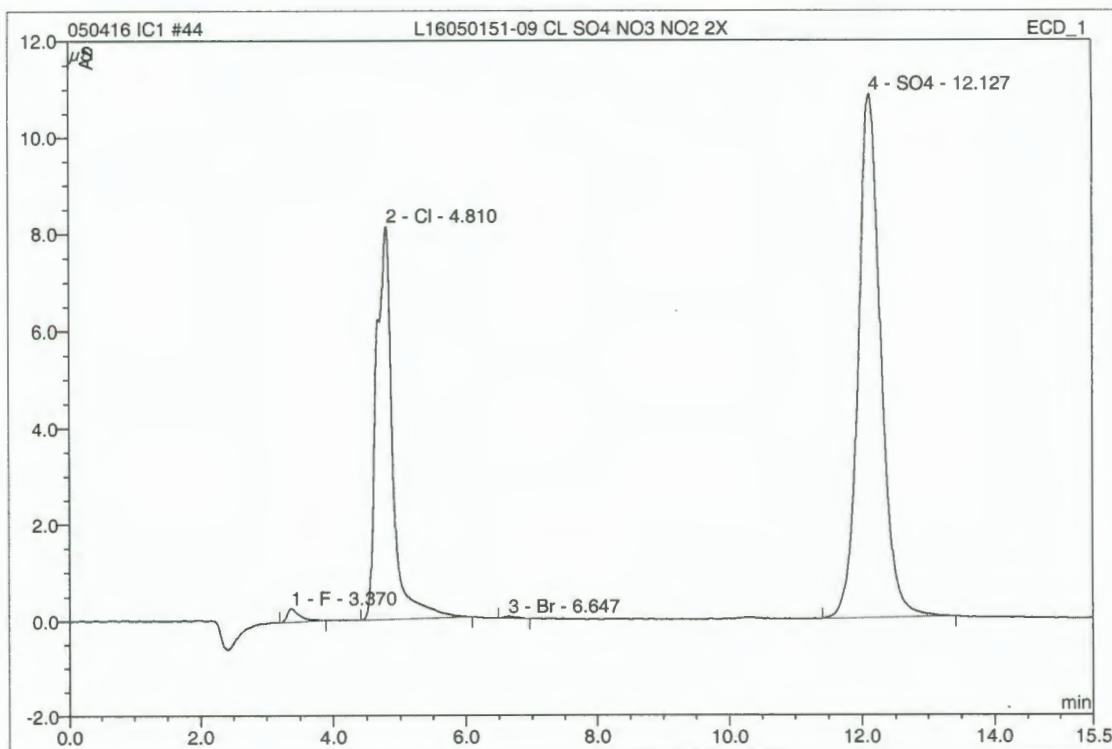
Sample Name:	L16050151-09 CL SO4 NO3 NO2 2X	Injection Volume:	20.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 22:45	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.37	F	0.285	0.063	0.95	0.330	BMB
2	4.69	n.a.	6.199	0.646	9.77	n.a.	BM *
3	4.81	Cl	8.107	1.680	25.39	10.135	MB*
4	6.65	Br	0.041	0.009	0.14	0.155	BMB
5	12.13	SO4	10.846	4.220	63.76	31.532	BMB
Total:			25.479	6.619	100.00	42.152	

44 L16050151-09 CL SO4 NO3 NO2 2X**1,2 AED**

Sample Name:	L16050151-09 CL SO4 NO3 NO2 2X	Injection Volume:	20.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 22:45	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peakname min	Height µS	Width min	Type	Resol. (EP)	Asym. (EP)	Plates (EP)
1	3.370	F	0.285	0.321	BMB	3.78	2.19	1832
2	4.810	Cl	8.108	0.414	BMB	4.52	1.16	1839
n.a.	n.a.	NO2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	6.647	Br	0.041	0.329	BMB	11.60	1.54	5262
n.a.	n.a.	NO3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	PO4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	12.127	SO4	10.846	0.587	BMB	n.a.	1.06	6966
Average:			4.820	0.413		6.63	1.49	3975

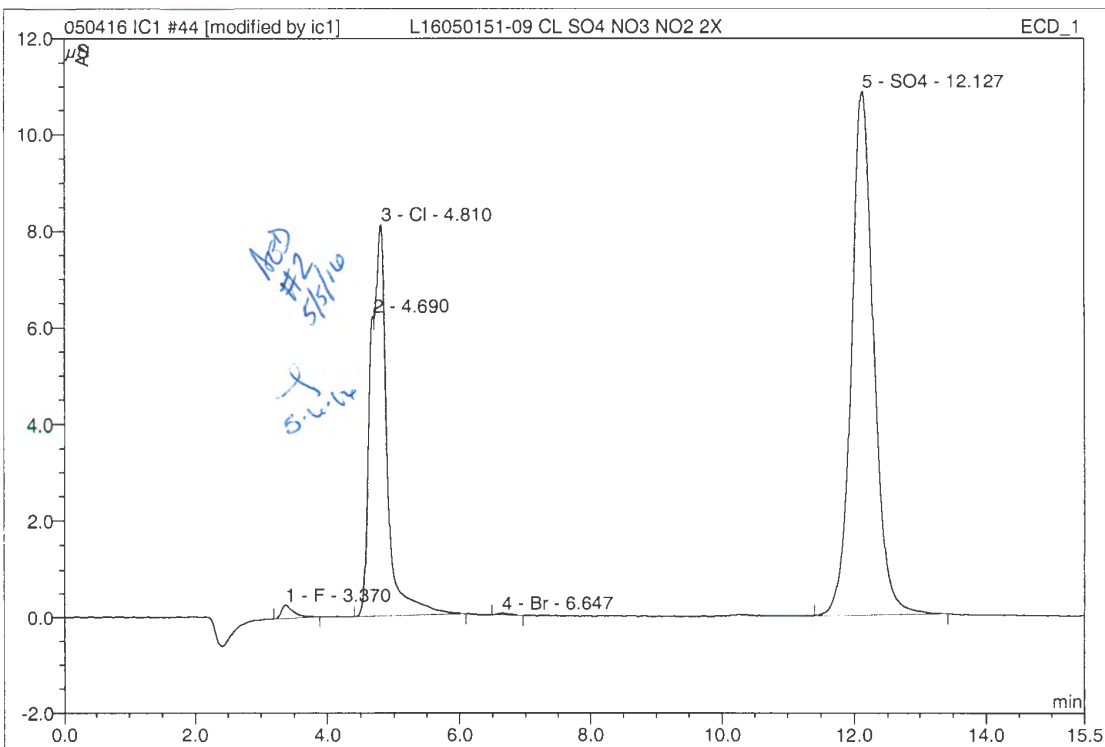
IC/Peak Analysis

↓
ApprovedChromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

44 L16050151-09 CL SO4 NO3 NO2 2X

1,2 AED

Sample Name:	L16050151-09 CL SO4 NO3 NO2 2X	Injection Volume:	20.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 22:45	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peakname min	Height μS	Width min	Type	Resol. (EP)	Asym. (EP)	Plates (EP)
1	3.370	F	0.285	0.321	BMB	n.a.	2.19	1832
2	4.690	n.a.	6.199	n.a.	BM *	n.a.	n.a.	n.a.
3	4.810	Cl	8.107	0.409	MB*	n.a.	n.a.	n.a.
n.a.	n.a.	NO2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	6.647	Br	0.041	0.329	BMB	11.60	1.54	5262
n.a.	n.a.	NO3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	PO4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	12.127	SO4	10.846	0.587	BMB	n.a.	1.06	6966
Average:			5.096	0.412		11.60	1.60	4687

IC/Peak Analysis

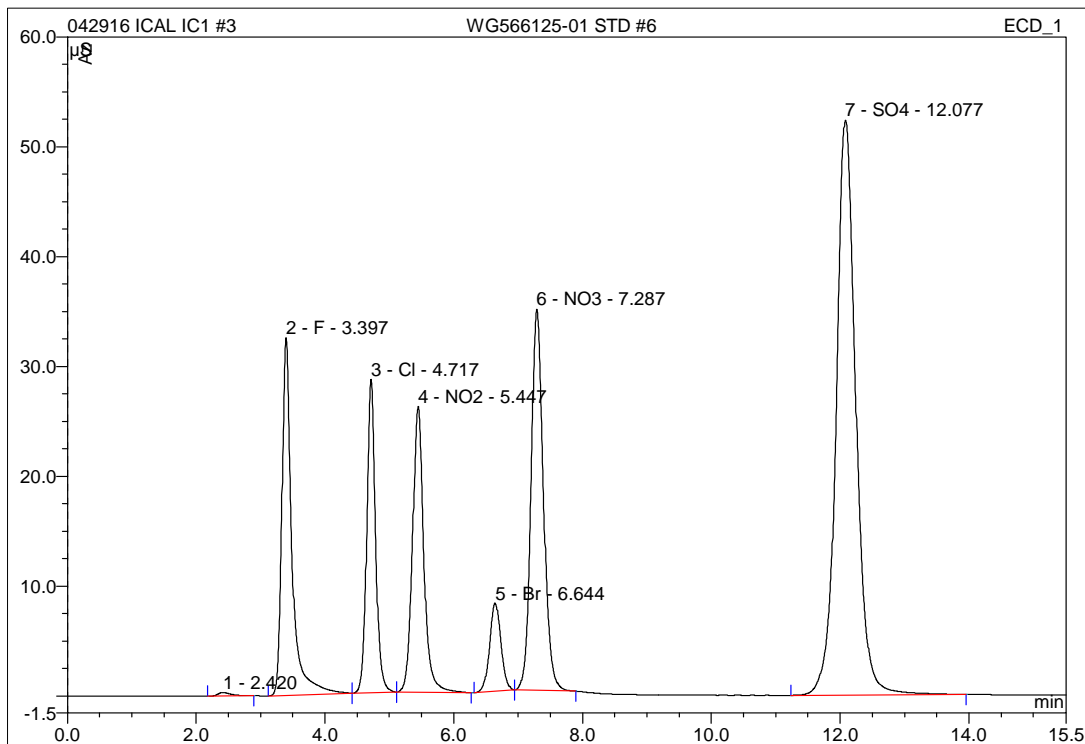
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

2.4.1.4 Standards Data

3 WG566125-01 STD #6

1,1 AED STD74524 (_____ psi @ ____:____)

Sample Name:	WG566125-01 STD #6	Injection Volume:	20.0
Vial Number:	3	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	4/29/2016 11:12	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



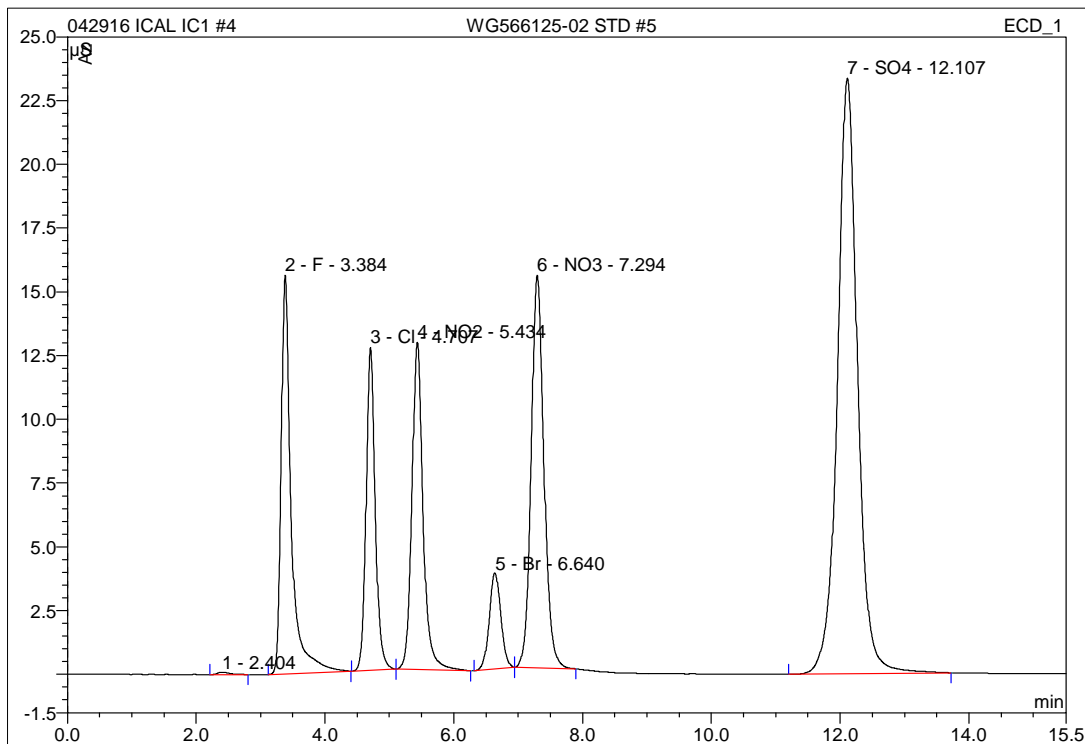
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.42	n.a.	0.310	0.075	0.17	n.a.	BMB
2	3.40	F	32.557	5.876	13.48	25.460	BMB
3	4.72	Cl	28.514	4.503	10.33	27.139	BMB
4	5.45	NO2	25.992	5.305	12.17	15.546	BMB
5	6.64	Br	8.014	1.633	3.75	25.377	BMB
6	7.29	NO3	34.689	7.727	17.73	18.298	bMB
7	12.08	SO4	52.305	18.475	42.38	137.202	BMB
Total:			182.381	43.595	100.00	249.021	

IC/Integration

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

4 WG566125-02 STD #5**1,1 AED STD74524**

Sample Name:	WG566125-02 STD #5	Injection Volume:	20.0
Vial Number:	4	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	4/29/2016 11:30	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



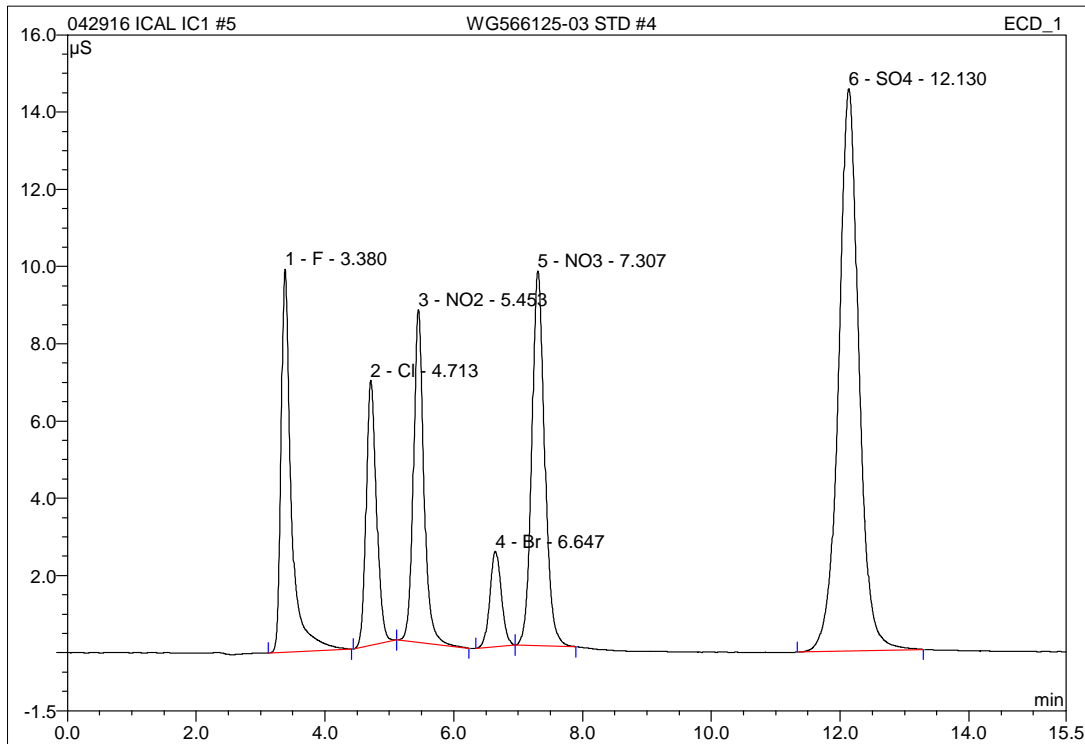
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.40	n.a.	0.095	0.021	0.10	n.a.	BMB
2	3.38	F	15.633	2.819	13.92	12.246	BMB
3	4.71	Cl	12.654	2.076	10.25	12.517	BMB
4	5.43	NO2	12.825	2.578	12.73	7.556	bMB
5	6.64	Br	3.769	0.782	3.86	12.163	BMB
6	7.29	NO3	15.394	3.532	17.44	8.377	bMB
7	12.11	SO4	23.351	8.446	41.70	62.857	BMB
Total:			83.720	20.254	100.00	115.716	

IC/Integration

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

5 WG566125-03 STD #4**1,1 AED STD74524**

Sample Name:	WG566125-03 STD #4	Injection Volume:	20.0
Vial Number:	5	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	4/29/2016 11:48	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



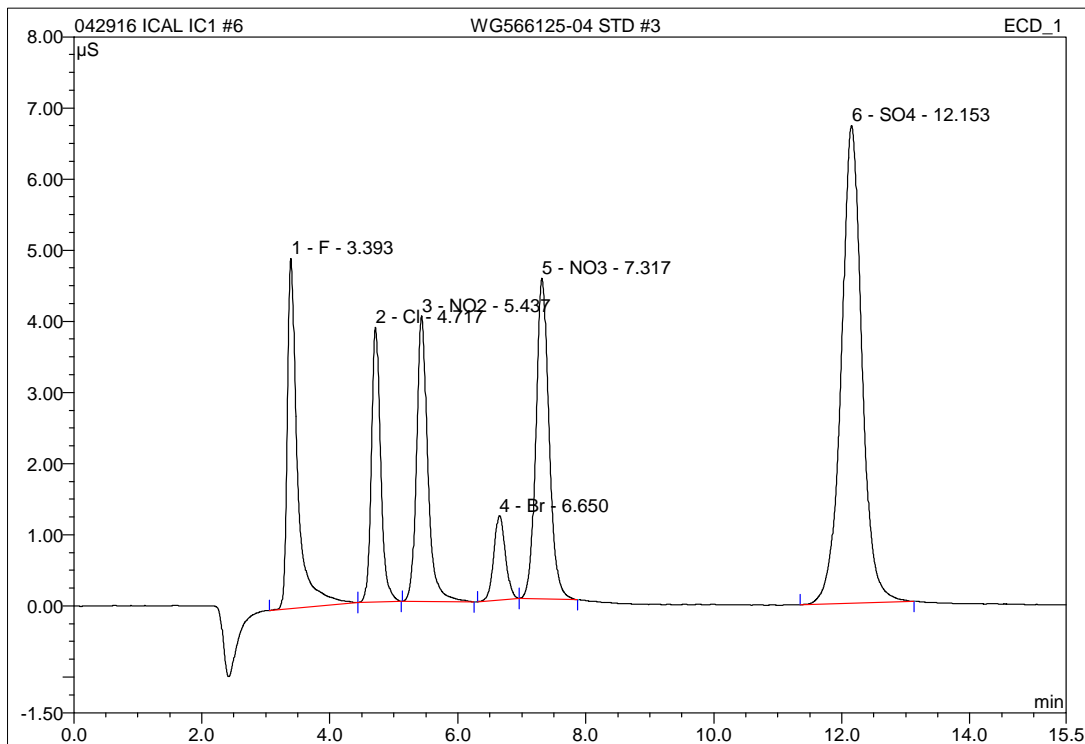
No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	9.920	1.826	14.25	7.953	BMB
2	4.71	Cl	6.863	1.275	9.95	7.695	BMb
3	5.45	NO2	8.623	1.632	12.73	4.785	bMB
4	6.65	Br	2.469	0.513	4.00	7.974	BMB
5	7.31	NO3	9.699	2.255	17.59	5.358	bMB
6	12.13	SO4	14.564	5.319	41.49	39.676	BMB
Total:			52.139	12.820	100.00	73.440	

IC/Integration

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

6 WG566125-04 STD #3**1,1 AED STD74524**

Sample Name:	WG566125-04 STD #3	Injection Volume:	20.0
Vial Number:	6	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	4/29/2016 12:05	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



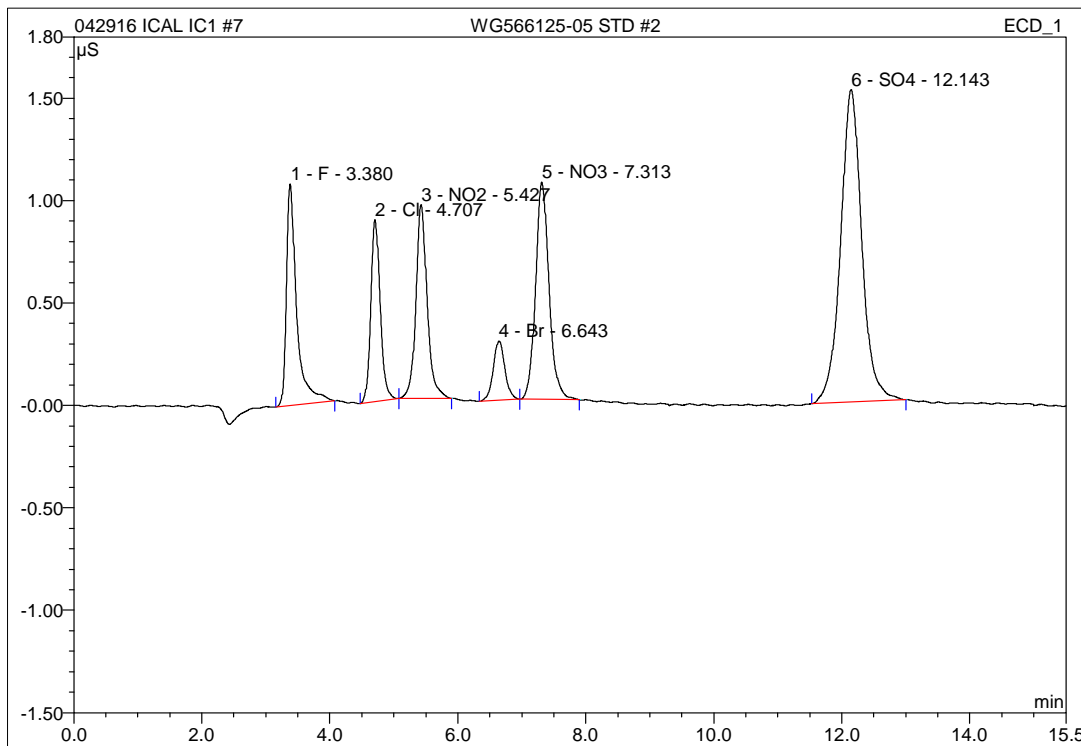
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.39	F	4.918	0.916	14.74	4.017	BMB
2	4.72	Cl	3.858	0.644	10.37	3.892	bMB
3	5.44	NO2	4.013	0.817	13.15	2.398	BMB
4	6.65	Br	1.186	0.249	4.00	3.875	BMB
5	7.32	NO3	4.506	1.073	17.28	2.563	bMB
6	12.15	SO4	6.714	2.513	40.45	18.874	BMB
Total:			25.194	6.211	100.00	35.619	

IC/Integration

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

7 WG566125-05 STD #2**1,1 AED STD74524**

Sample Name:	WG566125-05 STD #2	Injection Volume:	20.0
Vial Number:	7	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	4/29/2016 12:23	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



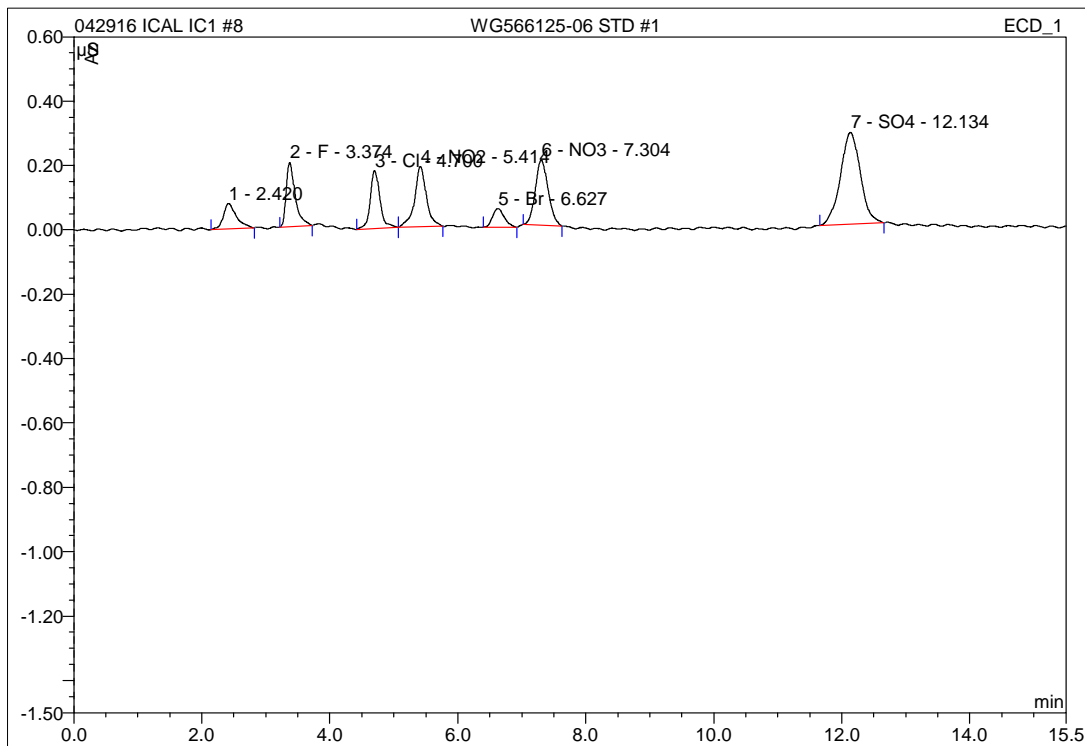
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	1.083	0.202	13.87	0.932	BMB
2	4.71	Cl	0.887	0.151	10.39	0.924	BMB
3	5.43	NO2	0.947	0.194	13.32	0.573	BMB
4	6.64	Br	0.290	0.061	4.22	0.967	BMB
5	7.31	NO3	1.059	0.260	17.83	0.639	BMB
6	12.14	SO4	1.525	0.588	40.38	4.609	BMB
Total:			5.793	1.457	100.00	8.644	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

8 WG566125-06 STD #1**1,1 AED STD74525**

Sample Name:	WG566125-06 STD #1	Injection Volume:	20.0
Vial Number:	8	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	4/29/2016 12:41	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



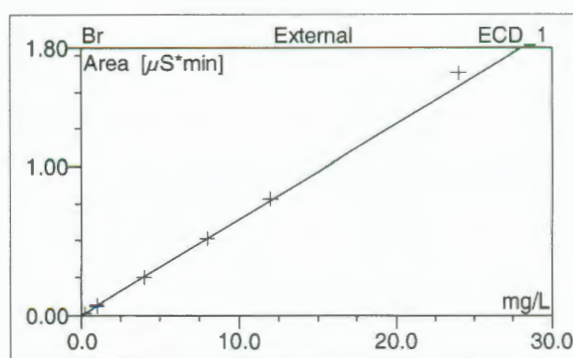
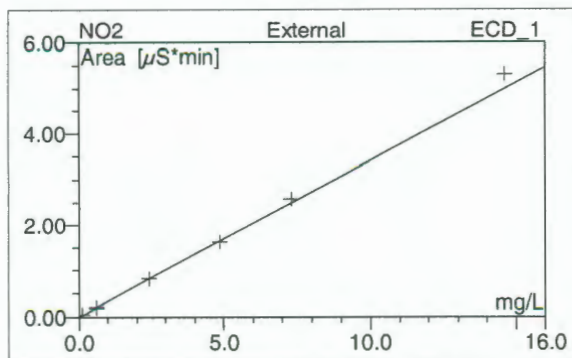
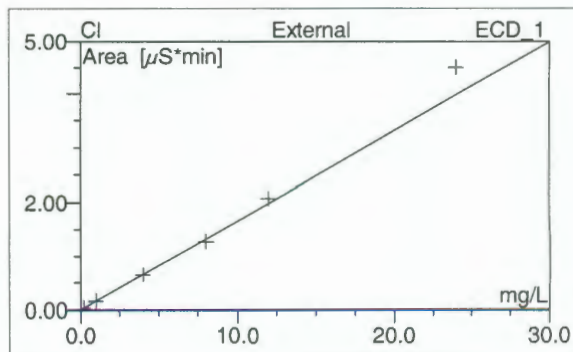
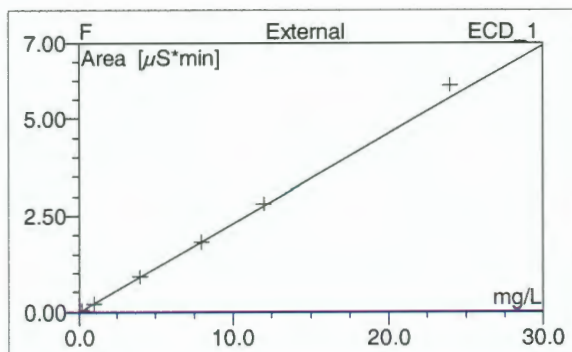
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.42	n.a.	0.080	0.019	6.56	n.a.	BMB
2	3.37	F	0.199	0.033	11.57	0.202	BMB
3	4.70	Cl	0.180	0.032	11.03	0.203	BMB
4	5.41	NO2	0.188	0.040	14.12	0.123	BMB
5	6.63	Br	0.058	0.012	4.25	0.201	BMB
6	7.30	NO3	0.203	0.047	16.53	0.137	BMB
7	12.13	SO4	0.285	0.103	35.94	1.013	BMB
Total:			1.193	0.287	100.00	1.880	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

8 WG566125-06 STD #1**1,1 AED STD74525**

Sample Name:	WG566125-06 STD #1	Injection Volume:	20.0
Vial Number:	8	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	4/29/2016 12:41	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000

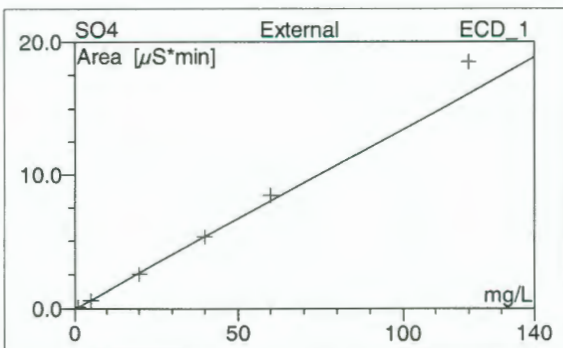
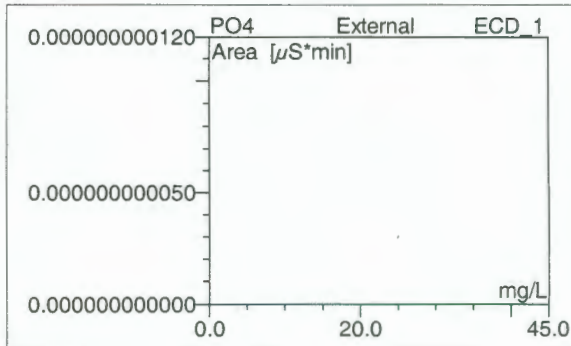
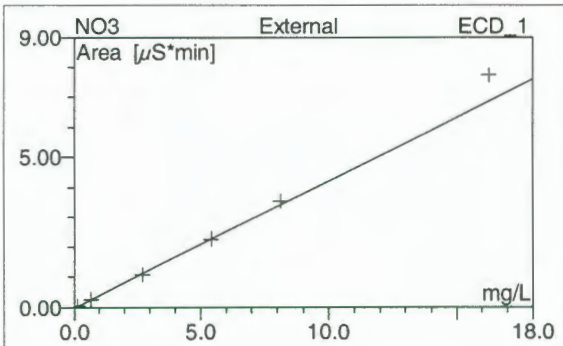


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.42	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.37	F	YYLOff	6	99.8889	-0.0135	0.2313	0.0000
3	4.70	Cl	YYLOff	6	99.7171	-0.0022	0.1660	0.0000
4	5.41	NO2	YYLOff	6	99.8923	-0.0017	0.3414	0.0000
5	6.63	Br	YYLOff	6	99.9382	-0.0008	0.0644	0.0000
6	7.30	NO3	YYLOff	6	99.7649	-0.0105	0.4229	0.0000
7	12.13	SO4	YYLOff	6	99.6654	-0.0336	0.1349	0.0000
Average:					99.8111	-0.0104	0.2268	0.0000

IC/Calibration(Batch)

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

8 WG566125-06 STD #1			
1,1 AED STD74525			
Sample Name:	WG566125-06 STD #1	Injection Volume:	20.0
Vial Number:	8	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	4/29/2016 12:41	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.42	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.37	F	YYLOff	6	99.8889	-0.0135	0.2313	0.0000
3	4.70	Cl	YYLOff	6	99.7171	-0.0022	0.1660	0.0000
4	5.41	NO2	YYLOff	6	99.8923	-0.0017	0.3414	0.0000
5	6.63	Br	YYLOff	6	99.9382	-0.0008	0.0644	0.0000
6	7.30	NO3	YYLOff	6	99.7649	-0.0105	0.4229	0.0000
7	12.13	SO4	YYLOff	6	99.6654	-0.0336	0.1349	0.0000
Average:					99.8111	-0.0104	0.2268	0.0000

IC/Calibration(Batch)(2)

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

9 WG566125-07 SSCV**1,1 AED STD74524**

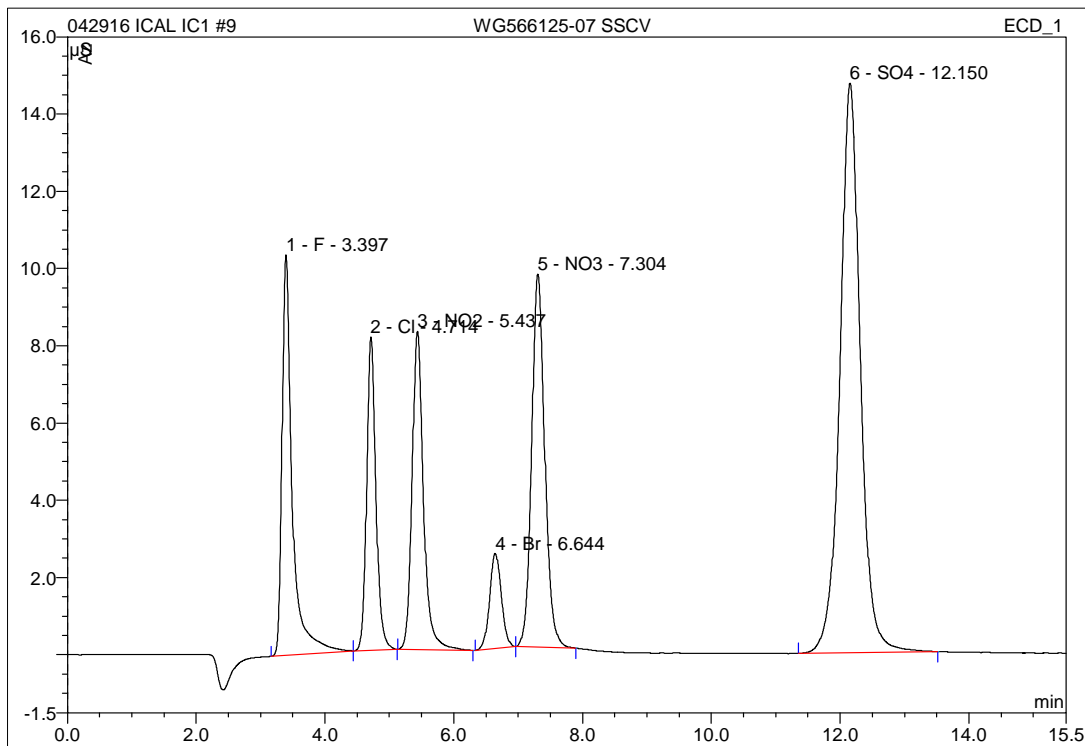
<i>Sample Name:</i>	WG566125-07 SSCV	<i>Injection Volume:</i>	20.0
<i>Vial Number:</i>	9	<i>Channel:</i>	ECD_1
<i>Sample Type:</i>	unknown	<i>Wavelength:</i>	n.a.
<i>Control Program:</i>	9056	<i>Bandwidth:</i>	n.a.
<i>Quantif. Method:</i>	042916_9056	<i>Dilution Factor:</i>	1.0000
<i>Recording Time:</i>	4/29/2016 12:58	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	15.50	<i>Sample Amount:</i>	1.0000

	WG566125-07 SSCV Actual mg/L	Recoverd mg/L	%Difference	
F	8.00	8.2708	3.39	PASS
Cl	8.00	8.1519	1.90	PASS
NO2-N	4.8714	4.9535	1.68	PASS
Br	8.00	8.0787	0.98	PASS
NO3-N	5.4216	5.4053	-0.30	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	40.3939	0.98	PASS

9 WG566125-07 SSCV**1,1 AED STD74524**

Sample Name: **WG566125-07 SSCV**
 Vial Number: **9**
 Sample Type: **unknown**
 Control Program: **9056**
 Quantif. Method: **042916_9056**
 Recording Time: **4/29/2016 12:58**
 Run Time (min): **15.50**

Injection Volume: **20.0**
 Channel: **ECD_1**
 Wavelength: **n.a.**
 Bandwidth: **n.a.**
 Dilution Factor: **1.0000**
 Sample Weight: **1.0000**
 Sample Amount: **1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.40	F	10.371	1.900	14.45	8.271	BMB
2	4.71	Cl	8.115	1.351	10.27	8.152	BMB
3	5.44	NO2	8.239	1.689	12.85	4.953	BMB
4	6.64	Br	2.458	0.519	3.95	8.079	BMB
5	7.30	NO3	9.664	2.275	17.30	5.405	bMB
6	12.15	SO4	14.748	5.416	41.18	40.394	BMB
Total:			53.595	13.150	100.00	75.254	

IC/Integration

 Chromeleon (c) Dionex 1996-2001
 Version 6.80 SP1 Build 2238

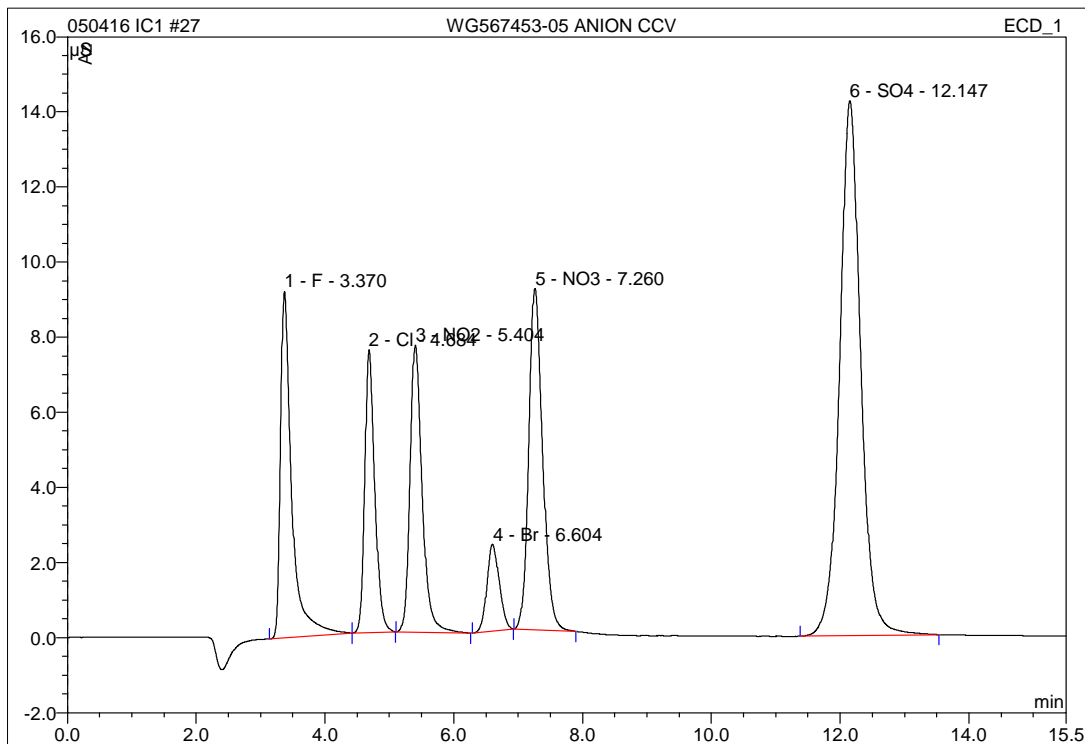
27 WG567453-05 ANION CCV**1,1 AED STD74524**

<i>Sample Name:</i>	WG567453-05 ANION CCV	<i>Injection Volume:</i>	20.0
<i>Vial Number:</i>	17	<i>Channel:</i>	ECD_1
<i>Sample Type:</i>	unknown	<i>Wavelength:</i>	n.a.
<i>Control Program:</i>	9056	<i>Bandwidth:</i>	n.a.
<i>Quantif. Method:</i>	042916_9056	<i>Dilution Factor:</i>	1.0000
<i>Recording Time:</i>	5/4/2016 17:44	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	15.50	<i>Sample Amount:</i>	1.0000

	Actual mg/L	Recoverd mg/L	%Difference	
F	8.00	8.0793	0.99	PASS
Cl	8.00	8.1393	1.74	PASS
NO2-N	4.8714	4.9006	0.60	PASS
Br	8.00	8.0551	0.69	PASS
NO3-N	5.4216	5.3875	-0.63	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	40.3476	0.87	PASS

27 WG567453-05 ANION CCV**1,1 AED STD74524**

Sample Name:	WG567453-05 ANION CCV	Injection Volume:	20.0
Vial Number:	17	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 17:44	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.37	F	9.231	1.856	14.20	8.079	BMB
2	4.68	Cl	7.525	1.349	10.32	8.139	bMB
3	5.40	NO2	7.642	1.671	12.79	4.901	BMB
4	6.60	Br	2.316	0.518	3.96	8.055	BMB
5	7.26	NO3	9.097	2.268	17.35	5.387	BMB
6	12.15	SO4	14.245	5.409	41.39	40.348	BMB
Total:			50.056	13.071	100.00	74.909	

IC/Integration

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

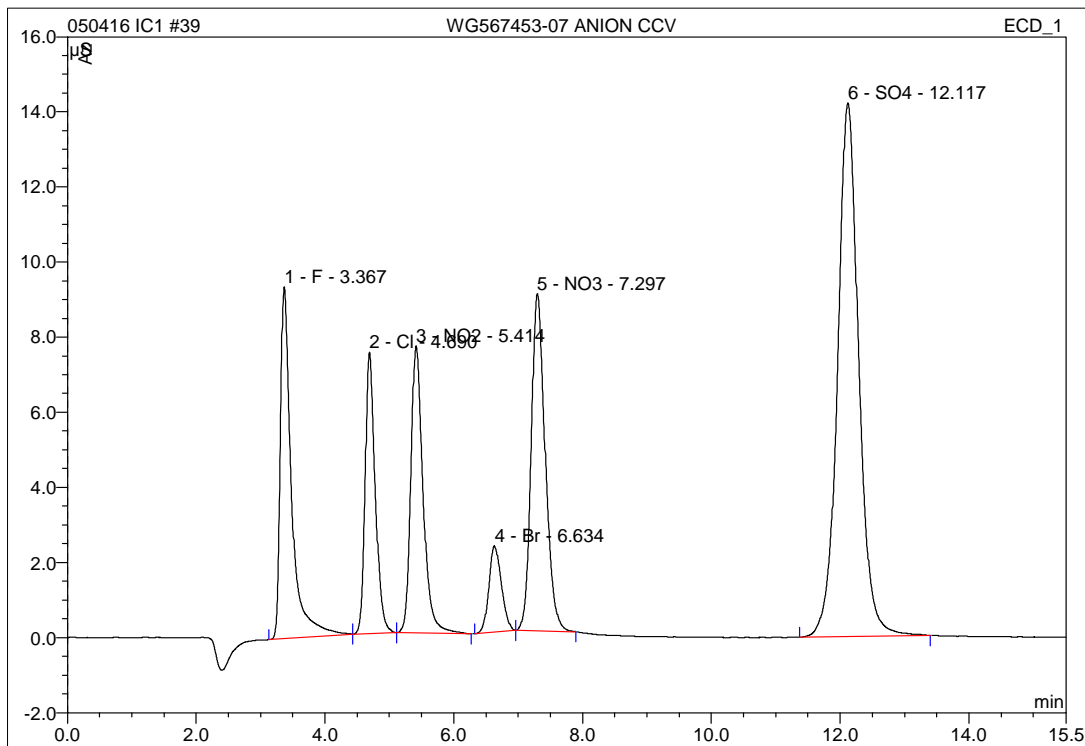
39 WG567453-07 ANION CCV**1,1 AED STD74524**

<i>Sample Name:</i>	WG567453-07 ANION CCV	<i>Injection Volume:</i>	20.0
<i>Vial Number:</i>	25	<i>Channel:</i>	ECD_1
<i>Sample Type:</i>	unknown	<i>Wavelength:</i>	n.a.
<i>Control Program:</i>	9056	<i>Bandwidth:</i>	n.a.
<i>Quantif. Method:</i>	042916_9056	<i>Dilution Factor:</i>	1.0000
<i>Recording Time:</i>	5/4/2016 21:17	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	15.50	<i>Sample Amount:</i>	1.0000

	Actual mg/L	Recoverd mg/L	%Difference	
F	8.00	8.1978	2.47	PASS
Cl	8.00	8.1645	2.06	PASS
NO2-N	4.8714	4.9506	1.63	PASS
Br	8.00	8.0351	0.44	PASS
NO3-N	5.4216	5.3828	-0.72	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	40.3822	0.96	PASS

39 WG567453-07 ANION CCV**1,1 AED STD74524**

Sample Name:	WG567453-07 ANION CCV	Injection Volume:	20.0
Vial Number:	25	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 21:17	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.37	F	9.375	1.883	14.35	8.198	BMB
2	4.69	Cl	7.494	1.353	10.31	8.165	bMB
3	5.41	NO2	7.645	1.688	12.87	4.951	BMB
4	6.63	Br	2.292	0.516	3.94	8.035	BMB
5	7.30	NO3	8.985	2.266	17.27	5.383	BMB
6	12.12	SO4	14.216	5.414	41.26	40.382	BMB
Total:			50.007	13.121	100.00	75.113	

IC/Integration

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

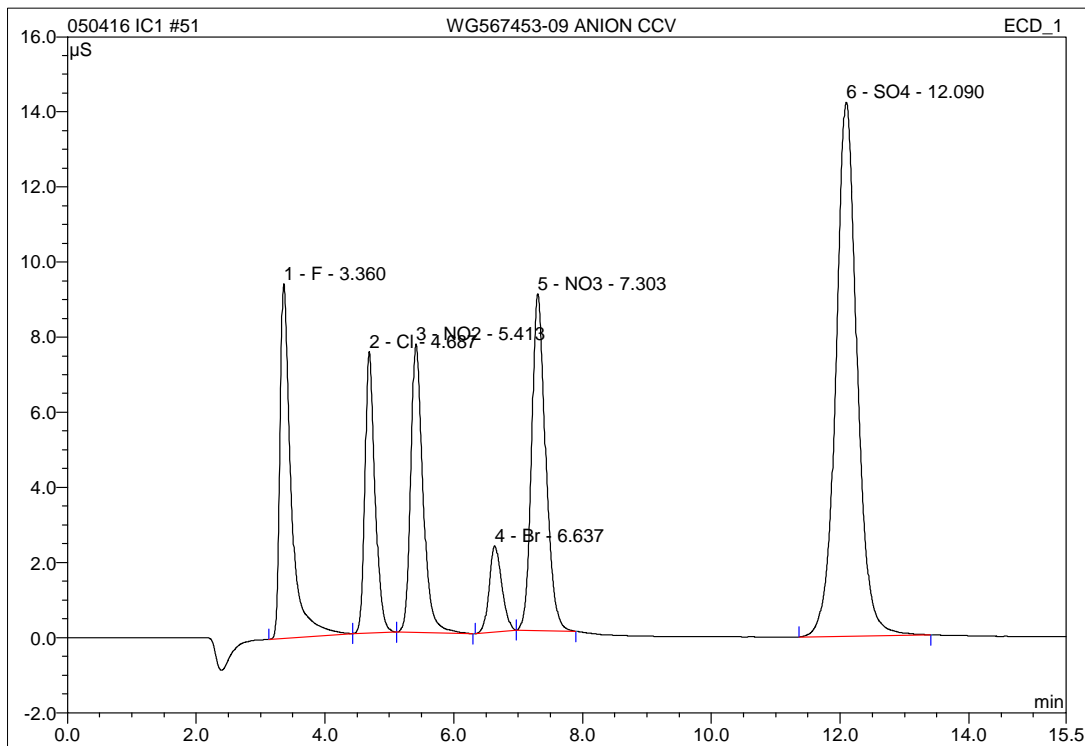
51 WG567453-09 ANION CCV**1,1 AED STD74524**

<i>Sample Name:</i>	WG567453-09 ANION CCV	<i>Injection Volume:</i>	20.0
<i>Vial Number:</i>	24	<i>Channel:</i>	ECD_1
<i>Sample Type:</i>	unknown	<i>Wavelength:</i>	n.a.
<i>Control Program:</i>	9056	<i>Bandwidth:</i>	n.a.
<i>Quantif. Method:</i>	042916_9056	<i>Dilution Factor:</i>	1.0000
<i>Recording Time:</i>	5/5/2016 0:49	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	15.50	<i>Sample Amount:</i>	1.0000

WG567453-09 ANIOI	Actual mg/L	Recoverd mg/L	%Difference	
F	8.00	8.2382	2.98	PASS
Cl	8.00	8.1377	1.72	PASS
NO2-N	4.8714	4.9991	2.62	PASS
Br	8.00	8.0828	1.04	PASS
NO3-N	5.4216	5.3929	-0.53	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	40.4828	1.21	PASS

51 WG567453-09 ANION CCV**1,1 AED STD74524**

Sample Name:	WG567453-09 ANION CCV	Injection Volume:	20.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/5/2016 0:49	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount mg/L	Type
1	3.36	F	9.434	1.892	14.38	8.238	BMB
2	4.69	Cl	7.499	1.349	10.25	8.138	bMB
3	5.41	NO2	7.686	1.705	12.95	4.999	BMB
4	6.64	Br	2.293	0.520	3.95	8.083	BMB
5	7.30	NO3	8.967	2.270	17.25	5.393	bMB
6	12.09	SO4	14.218	5.428	41.23	40.483	BMB
Total:			50.097	13.163	100.00	75.334	

IC/Integration

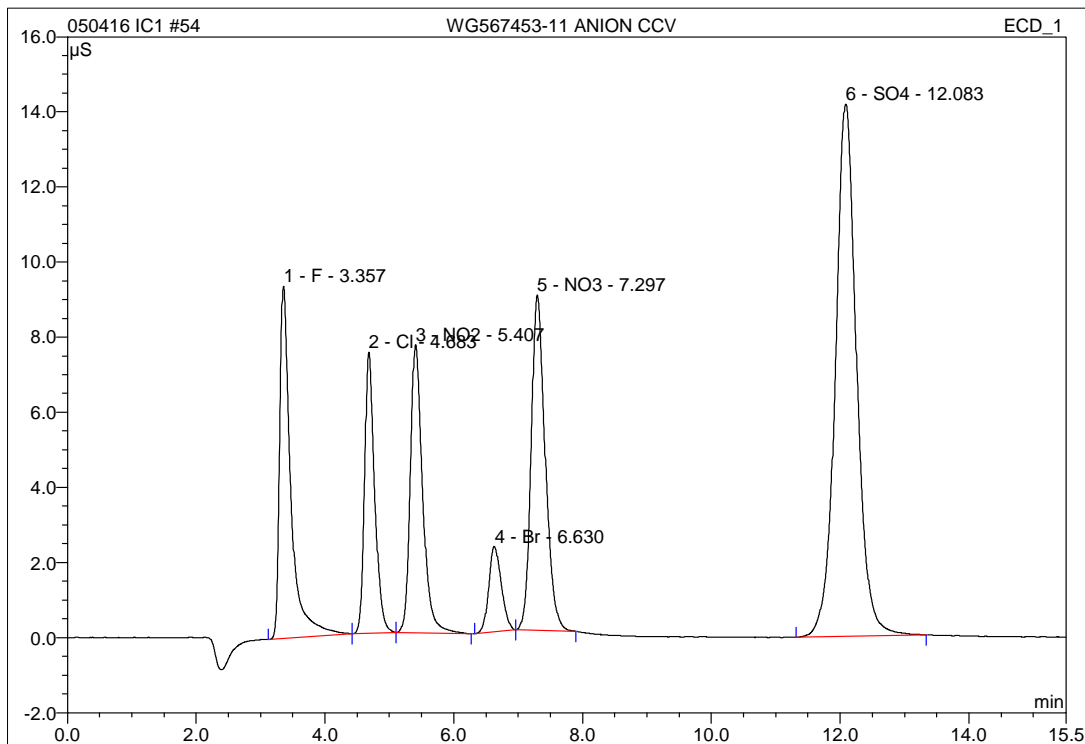
Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

54		WG567453-11 ANION CCV	
1,1 AED			
Sample Name:	WG567453-11 ANION CCV	Injection Volume:	20.0
Vial Number:	26	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/5/2016 1:43	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000

WG567453-11 ANION Actual mg/L	Recoverd mg/L	%Difference	
F 8.00	8.2225	2.78	PASS
Cl 8.00	8.1567	1.96	PASS
NO2-N 4.8714	4.9946	2.53	PASS
Br 8.00	8.0168	0.21	PASS
NO3-N 5.4216	5.3720	-0.91	PASS
PO4-P 13.0456	n.a.	#VALUE!	#VALUE!
SO4 40	40.3695	0.92	PASS

54 WG567453-11 ANION CCV**1,1 AED**

Sample Name:	WG567453-11 ANION CCV	Injection Volume:	20.0
Vial Number:	26	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/5/2016 1:43	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount mg/L	Type
1	3.36	F	9.378	1.889	14.38	8.223	BMB
2	4.68	Cl	7.493	1.352	10.29	8.157	bMB
3	5.41	NO2	7.676	1.703	12.97	4.995	BMB
4	6.63	Br	2.279	0.515	3.92	8.017	BMB
5	7.30	NO3	8.928	2.261	17.22	5.372	BMB
6	12.08	SO4	14.181	5.412	41.21	40.369	BMB
Total:			49.935	13.133	100.00	75.132	

IC/Integration

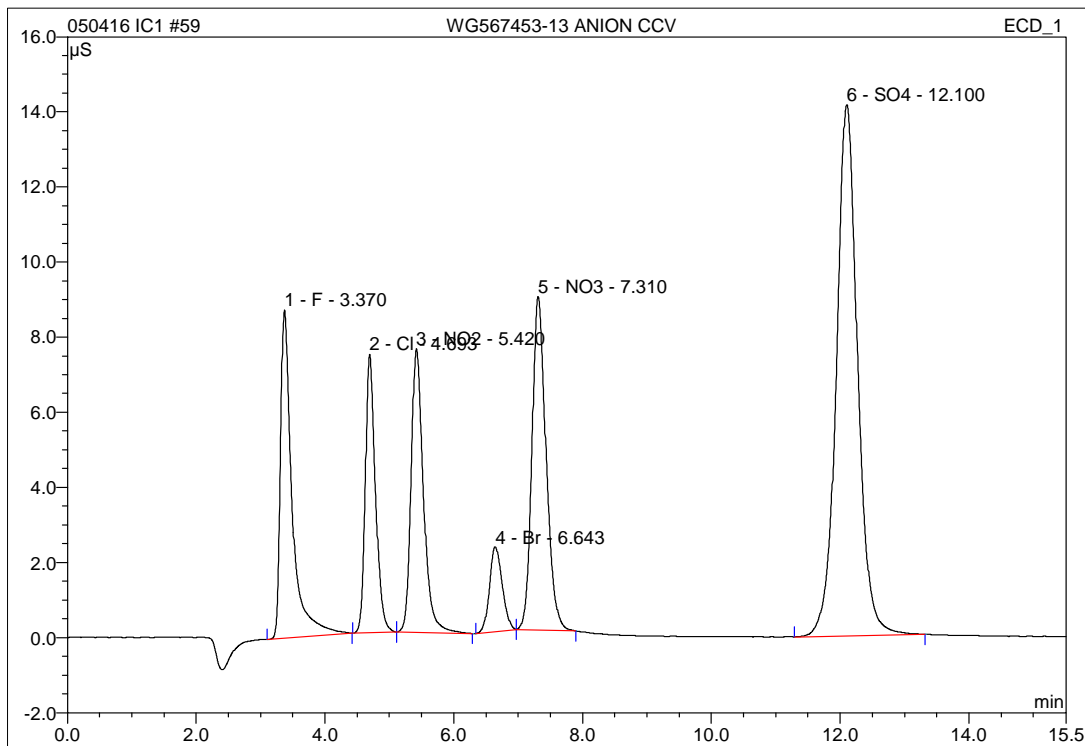
Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

59		WG567453-13 ANION CCV	
1,1 AED			
Sample Name:	WG567453-13 ANION CCV	Injection Volume:	20.0
Vial Number:	28	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/5/2016 9:33	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000

WG567453-13 ANION Actual mg/L	Recoverd mg/L	%Difference	
F	8.00	7.9943	-0.07 PASS
Cl	8.00	8.1287	1.61 PASS
NO2-N	4.8714	4.9257	1.11 PASS
Br	8.00	8.0023	0.03 PASS
NO3-N	5.4216	5.3633	-1.08 PASS
PO4-P	13.0456	n.a.	#VALUE! #VALUE!
SO4	40	40.2878	0.72 PASS

59 WG567453-13 ANION CCV**1,1 AED**

Sample Name:	WG567453-13 ANION CCV	Injection Volume:	20.0
Vial Number:	28	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/5/2016 9:33	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



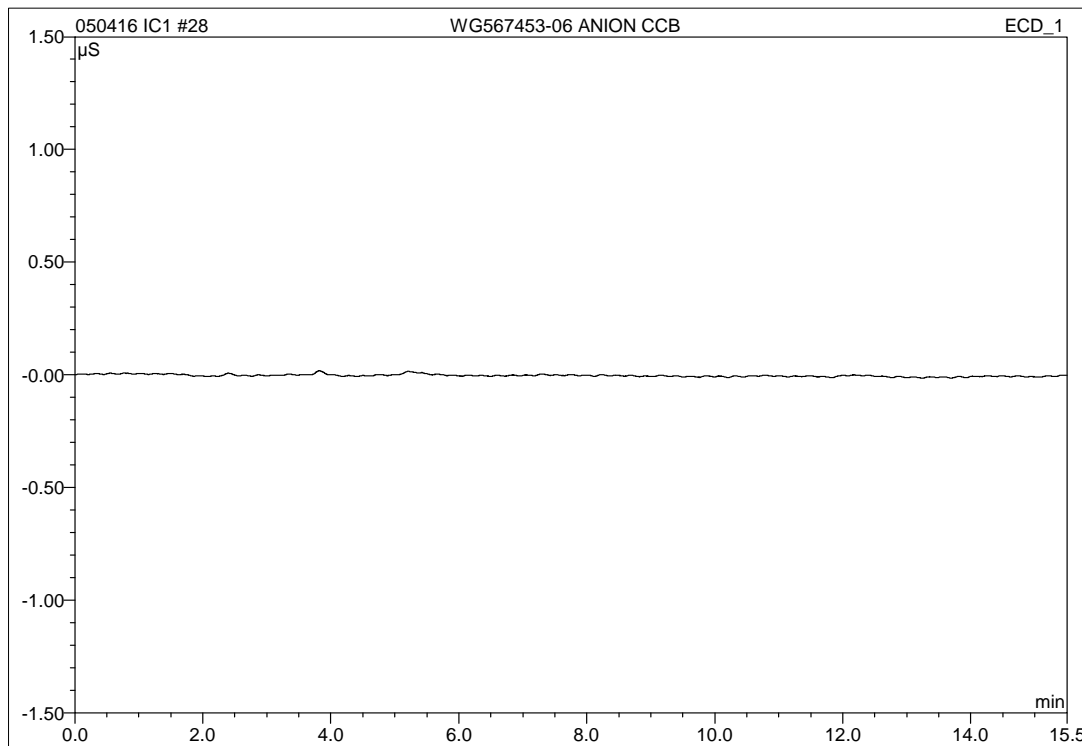
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.37	F	8.740	1.836	14.08	7.994	BMB
2	4.69	Cl	7.417	1.347	10.34	8.129	BMB
3	5.42	NO2	7.554	1.680	12.89	4.926	bMB
4	6.64	Br	2.257	0.514	3.95	8.002	BMB
5	7.31	NO3	8.875	2.257	17.32	5.363	bMB
6	12.10	SO4	14.148	5.401	41.43	40.288	BMB
Total:			48.991	13.036	100.00	74.702	

IC/Integration

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

28 WG567453-06 ANION CCB**1,1 AED**

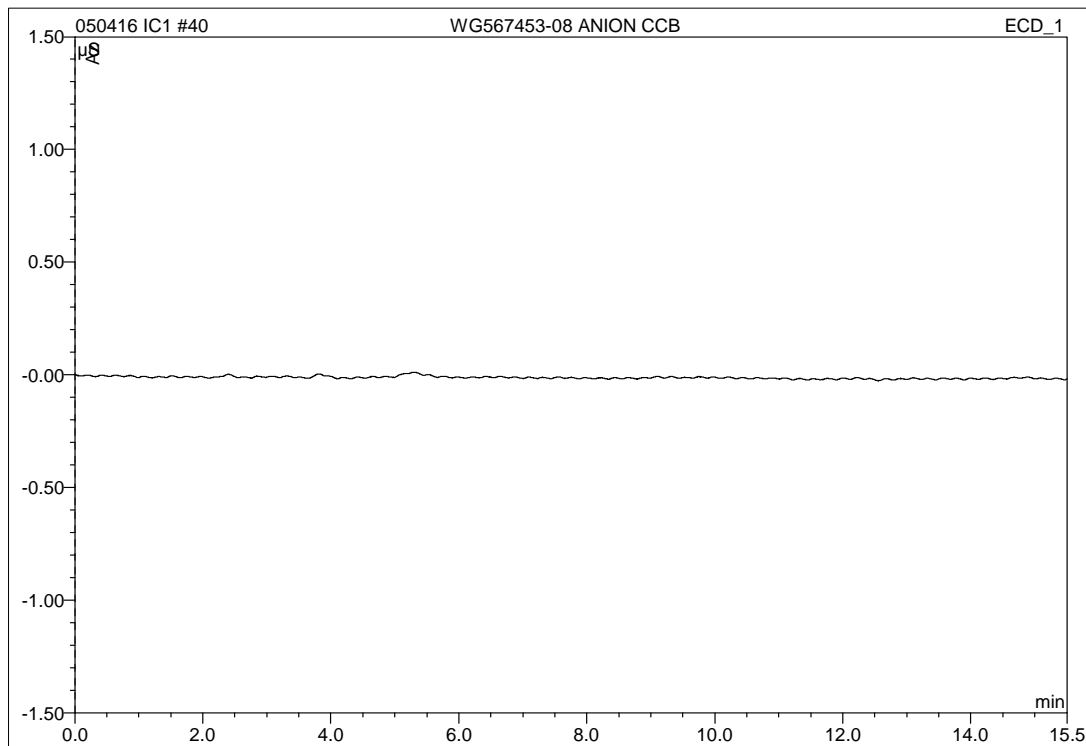
Sample Name:	WG567453-06 ANION CCB	Injection Volume:	20.0
Vial Number:	18	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 18:02	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

40 WG567453-08 ANION CCB**1,1 AED**

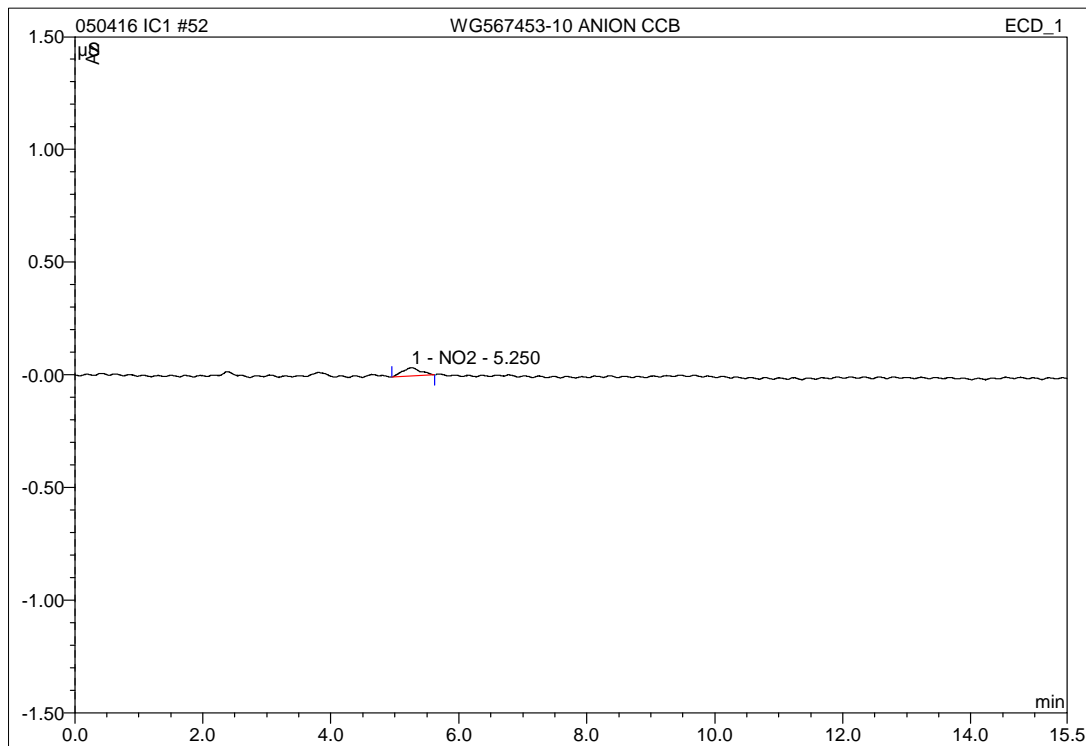
Sample Name:	WG567453-08 ANION CCB	Injection Volume:	20.0
Vial Number:	26	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 21:35	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

52 WG567453-10 ANION CCB**1,1 AED**

Sample Name:	WG567453-10 ANION CCB	Injection Volume:	20.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/5/2016 1:07	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



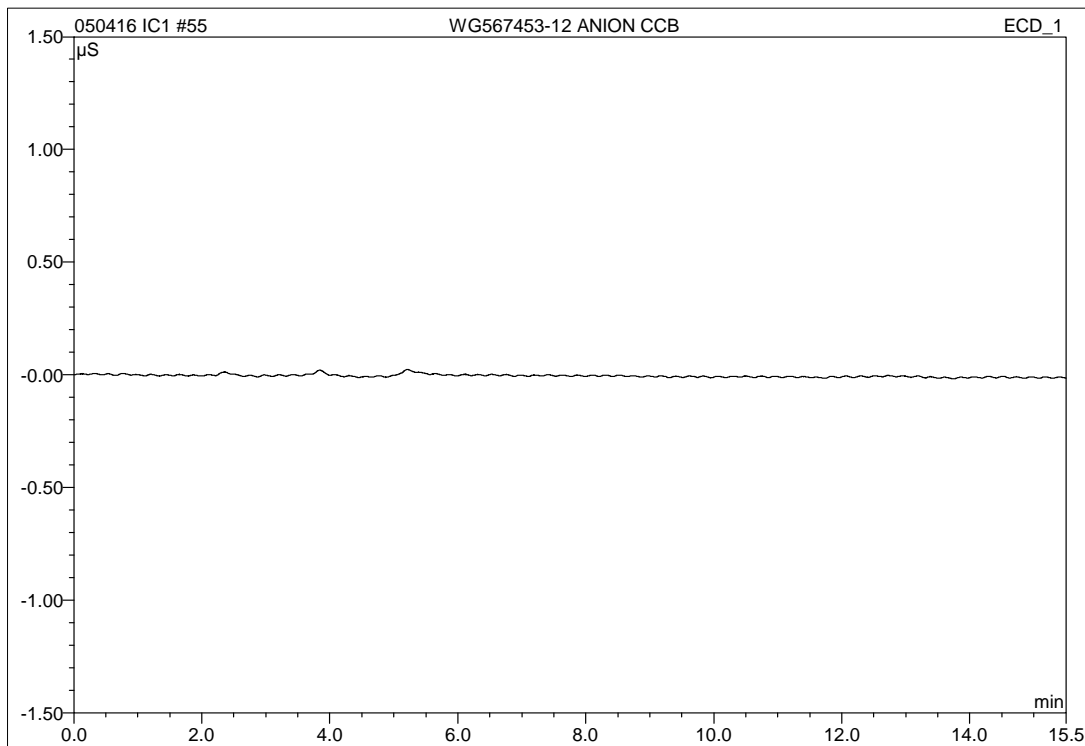
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount mg/L	Type
1	5.25	NO2	0.037	0.012	100.00	0.041	BMB
Total:			0.037	0.012	100.00	0.041	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

55 WG567453-12 ANION CCB**1,1 AED**

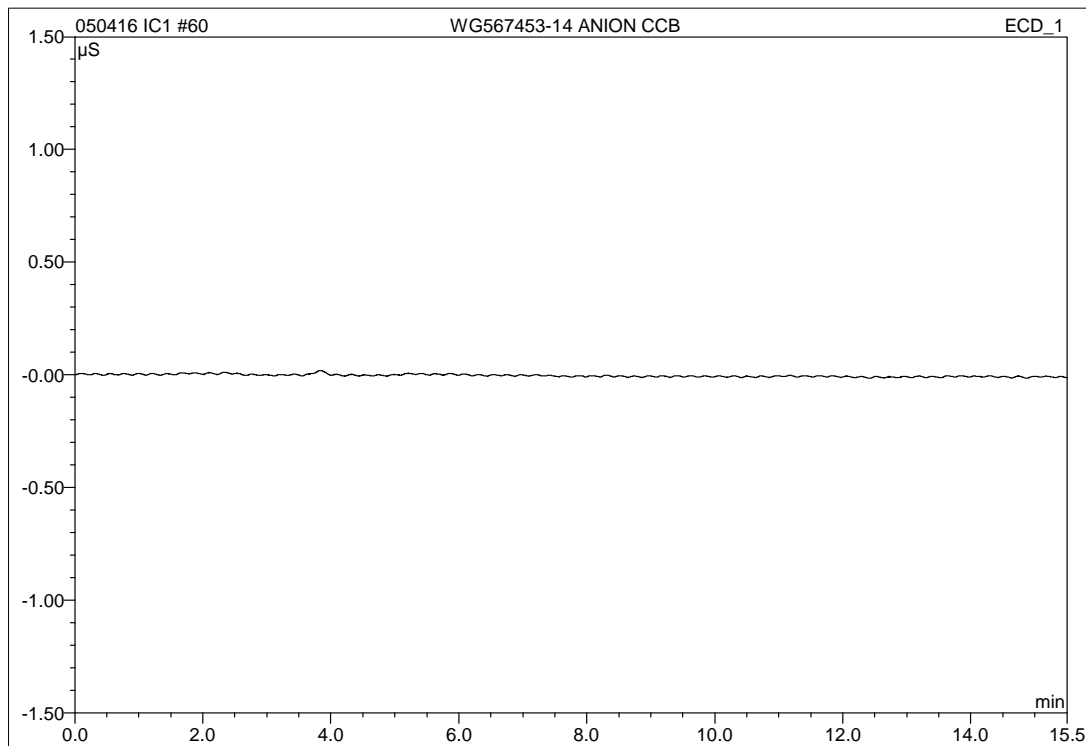
Sample Name:	WG567453-12 ANION CCB	Injection Volume:	20.0
Vial Number:	26	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/5/2016 2:00	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

60 WG567453-14 ANION CCB**1,1 AED**

<i>Sample Name:</i>	WG567453-14 ANION CCB	<i>Injection Volume:</i>	20.0
<i>Vial Number:</i>	28	<i>Channel:</i>	ECD_1
<i>Sample Type:</i>	unknown	<i>Wavelength:</i>	n.a.
<i>Control Program:</i>	9056	<i>Bandwidth:</i>	n.a.
<i>Quantif. Method:</i>	042916_9056	<i>Dilution Factor:</i>	1.0000
<i>Recording Time:</i>	5/5/2016 9:51	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	15.50	<i>Sample Amount:</i>	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

RETENTION TIME WINDOWS

Lab Name: MICROBAC Laboratories, Inc.

Instrument ID: IC1

IC Column: AG14A-SC/AS14A-SC

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	6/5/2013	6/5/2013	6/6/2013
File #	WG432976-05	WG432976-07	WG433275-01
Time	16:16	18:25	16:50

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.40	3.41	0.017
Cl	4.87	4.87	4.88	0.017
NO2-N	5.67	5.66	5.67	0.017
Br	7.01	6.99	7.02	0.046
NO3-N	7.76	7.74	7.77	0.046
SO4	13.35	13.35	13.35	0.000

Instrument ID: IC2

IC Column: AS14A-4mm

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	3/2/2015	3/4/2015	3/5/2015
File #	WG514023-02	WG514341-02	WG514431-02
Time	23:15	18:47	17:41

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.33	3.33	3.32	0.017
Cl	4.75	4.78	4.76	0.043
NO2-N	5.54	5.59	5.56	0.082
Br	6.86	6.98	6.93	0.180
NO3-N	7.59	7.73	7.67	0.222
SO4	12.42	12.38	12.34	0.116

Instrument ID: IC3

IC Column: AG14A-SC/AS14A-SC

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	5/20/2014	5/21/2014	5/21/2014
File #	WG476910-05	WG476934-01	WG476934-03
Time	12:41	9:54	13:59

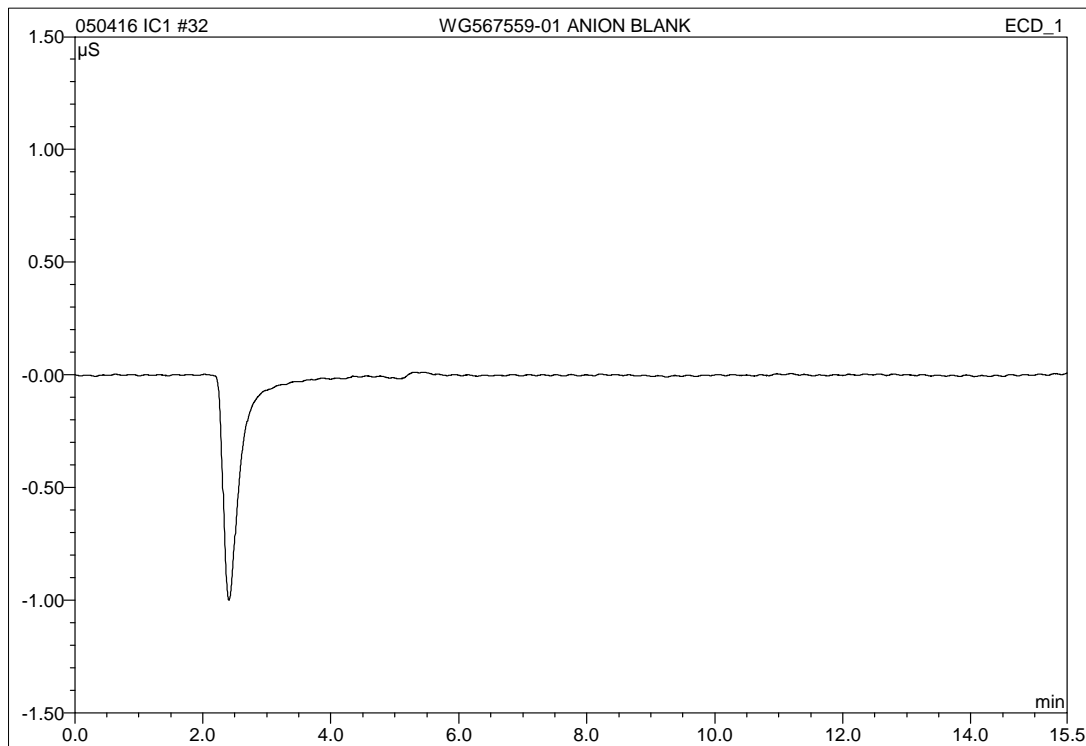
COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.41	3.41	0.000
Cl	5.11	5.09	5.07	0.050
NO2-N	6.14	6.11	6.07	0.101
Br	7.90	7.84	7.75	0.220
NO3-N	8.94	8.86	8.76	0.271
SO4	13.35	13.39	13.42	0.101

Page 1

2.4.1.5 Raw QC Data

32 WG567559-01 ANION BLANK**1,1 AED**

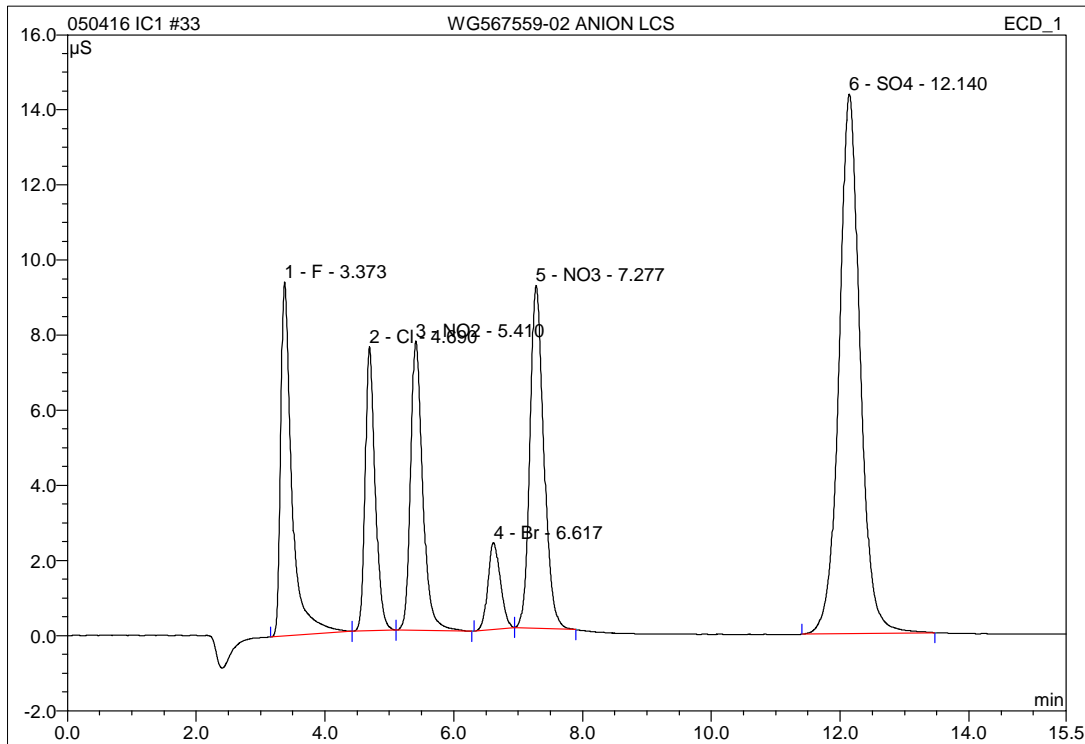
Sample Name:	WG567559-01 ANION BLANK	Injection Volume:	20.0
Vial Number:	22	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 19:13	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

33 WG567559-02 ANION LCS**1,1 AED**

Sample Name:	WG567559-02 ANION LCS	Injection Volume:	20.0
Vial Number:	22	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/4/2016 19:31	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.37	F	9.428	1.895	14.35	8.251	BMB
2	4.69	Cl	7.565	1.355	10.26	8.178	bMB
3	5.41	NO2	7.707	1.691	12.81	4.959	BMB
4	6.62	Br	2.315	0.519	3.93	8.081	BMb
5	7.28	NO3	9.127	2.287	17.31	5.432	bMB
6	12.14	SO4	14.372	5.458	41.33	40.708	BMB
Total:			50.514	13.206	100.00	75.609	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

2.4.2 Alkalinity Data

2.4.2.1 Summary Data

Certificate of Analysis

Sample #: L16050151-03	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW14-050316	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 05/05/2016 14:54
Workgroup #: WG567701	Analyst: DCM	Run Date: 05/05/2016 14:59
Collect Date: 05/03/2016 09:25	Dilution: 1	File ID: SC160505005.016
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	249		40.0	20.0	10.0

Certificate of Analysis

Sample #: L16050151-05	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW08-050316	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 05/05/2016 14:54
Workgroup #: WG567701	Analyst: DCM	Run Date: 05/05/2016 14:59
Collect Date: 05/03/2016 10:45	Dilution: 2	File ID: SC160505005.017
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	416		80.0	40.0	20.0

Certificate of Analysis

Sample #: L16050151-07	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW18-050316	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 05/05/2016 14:54
Workgroup #: WG567701	Analyst: DCM	Run Date: 05/05/2016 15:00
Collect Date: 05/03/2016 13:10	Dilution: 2	File ID: SC160505005.018
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	356		80.0	40.0	20.0

Certificate of Analysis

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Sample #: L16050151-09

PrePrep Method: N/A

Instrument: SMARTCHEM

Client ID: 50WW25-050316

Prep Method: 310.2

Prep Date: N/A

Matrix: Water

Analytical Method: 310.2

Cal Date: 05/05/2016 14:54

Workgroup #: WG567701

Analyst: DCM

Run Date: 05/05/2016 15:01

Collect Date: 05/03/2016 14:40

Dilution: 2

File ID: SC160505005.019

Sample Tag: DL01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO ₃)	11-43-8	483		80.0	40.0	20.0

2.4.2.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
 b = intercept from the linear equation
 y = instrument response as absorbance or OD
 x = concentration of analyte (mg/L)
 $y = mx + b$

Step 2: Calculate the instrument concentration, x

Where:

$$x = (y - b)/m$$

Step 3: Solve for analyte concentration in sample, Cx

$$C_x = (x) (D)$$

Example Calculation (LCS):

Value of m from plot:	7.809
Value of b from plot:	0.0004135
Absorbance of unknown from quantitation report (y):	0.31
Calculated concentration (x):	0.03964483
Dilution factor (D):	1.00
Concentration of analyte in sample, C _y :	0.0396 mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

$$y = Ax^2 + Bx + C$$

Step 3: Solve for analyte concentration in sample, C_y

$$C_y = (y) (D)$$

Example Calculation (LCS):

Value of A from plot:	101.2796
Value of B from plot:	318.9056
Value of C from plot:	-2.2712
Absorbance of unknown from quantitation report (x):	0.1583
Calculated concentration (y):	50.7495108
Dilution factor (D):	1.00
Concentration of analyte in sample, C _y :	50.75 mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 05-MAY-2016
 Analyst: DCM
 Analyst: NA
 Method: ALK
 Instrument: SC
 Curve Workgroup: NA
 Runlog ID: _____
 Analytical Workgroups: WG567701 WG567693

Calibration/Linearity	05-05-2016
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
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	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
10-MAY-2016



Secondary Reviewer:
10-MAY-2016




Analytical Method: 310.2
Login Number: L16050151

AAB#: WG567701

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
50WW13-050316	01	05/03/16					05/05/2016	2.3	14		05/05/16	2.3	14	
50WW14-050316	03	05/03/16					05/05/2016	2.2	14		05/05/16	2.2	14	
50WW08-050316	05	05/03/16					05/05/2016	2.2	14		05/05/16	2.2	14	
50WW18-050316	07	05/03/16					05/05/2016	2.1	14		05/05/16	2.1	14	
50WW25-050316	09	05/03/16					05/05/2016	2	14		05/05/16	2	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4755197
Report generated 05/10/2016 13:42



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG567701
 Blank File ID: SC160505005.012 Blank Sample ID: WG567701-01
 Prep Date: 05/05/16 14:57 Instrument ID: SMARTCHEM
 Analyzed Date: 05/05/16 14:57 Method: 310.2
 Analyst: DCM

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG567701-02	SC160505005.013	05/05/16 14:57	01
LCS2	WG567701-03	SC160505005.014	05/05/16 14:58	01
50WW13-050316	L16050151-01	SC160505005.015	05/05/16 14:58	DL01
50WW14-050316	L16050151-03	SC160505005.016	05/05/16 14:59	01
50WW08-050316	L16050151-05	SC160505005.017	05/05/16 14:59	DL01
50WW18-050316	L16050151-07	SC160505005.018	05/05/16 15:00	DL01
50WW25-050316	L16050151-09	SC160505005.019	05/05/16 15:01	DL01
DUP	WG567701-05	SC160505005.027	05/05/16 15:05	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4755198
 Report generated 05/10/2016 13:42



Login Number: L16050151 Prep Date: 05/05/16 14:57 Sample ID: WG567701-01
Instrument ID: SMARTCHEM Run Date: 05/05/16 14:57 Prep Method: 310.2
File ID: SC160505005.012 Analyst: DCM Method: 310.2
Workgroup (AAB#): WG567701 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: SMARTC-05-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Alkalinity, Total (as CaCO3)	10.0	40.0	10.0	1	U

DL 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: 4755199
10-MAY-2016 13:42



Login Number: L16050151 Analyst: DCM Prep Method: 310.2
 Instrument ID: SMARTCHEM Matrix: Water Method: 310.2
 Workgroup (AAB#): WG567701 Units: mg/L
 QC Key: DOD4 Lot #: STD75542
 Sample ID: WG567701-02 LCS File ID: SC160505005.013 Run Date: 05/05/2016 14:57
 Sample ID: WG567701-03 LCS2 File ID: SC160505005.014 Run Date: 05/05/2016 14:58

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Alkalinity, Total (as CaCO3)	200	199	99.3	200	199	99.6	0.364	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4755200
 Report generated: 05/10/2016 13:42



2.4.2.3 Raw Data

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG567693
567701

Daily Check

- Lamp On
- Probe Rinse Full
- DI Water > 1/2 Full
- Wash Solution > 1/2 Full
- NO3 Reagent bottle connected / purged
- NO3 pH adj to pH 5-9
- Syringe filter lot # _____
- WBL Run
- Reagents Full
- Dilution H₂O Full
- Waste Container Check

1) Workgroup _____
Plan # 2016045004
2) Workgroup _____
Plan # 2016050505
3) Workgroup _____
Plan # _____
Instrument: SC1 SC2

Analyte	1	2	3
	Aik		
	Dilution		
SC Prepared Curve			
Position			
1-1	ICV		
1-2	Blk		
1-3	LC3		
1-4	LCSDUP		
1-5	05-119-02	1/4	color
1-6	03	1/4	color
1-7	05	1/4	color
1-8	06	1/4	color
1-9	07	1/100	color
1-10	05-64-C2	1/2	
1-11	MS 04	1/2	
1-12	MSD 05	1/2	
1-13	03	1/2	
1-14	06	1/2	
1-15	07	1/2	
1-16	05-138-C2	1/2	
1-17	MS 04	1/2	
1-18	MSD 05	1/2	
1-19	03	1/2	
1-20	06	1/2	
1-21	07	1/2	
1-22	08	1/2	
2-1	09	1/2	
2-2	DUP 09	1/2	
2-3			

Position	Analyte	1	2	3
2-1	ICV			
2-2	Blk			
2-3	LC3			
2-4	LCSDUP			
2-5	05-151-C1	1/2		
2-6	03			
2-7	05	1/2		
2-8	07	1/2		
2-9	09	1/2		
2-10	05-202-C2			
2-11	03	1/2		
2-12	04	1/2		
2-13	05	1/2		
2-14	06			
2-15	DUP 05-202-06			
2-16				
2-17				
2-18				
2-19				
2-20				
2-21				
2-22				
2-23				
2-24				
2-25				
2-26				
3-1				
3-2				

NOTES: * Run NO2 std on NO3 runs
* LCSD must be run if no MS or Duplicate
* MS(10% sample): NO3, TKN, NH3, PHOS

DCN#118294



SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG567693

Analyte	1	2	3
Position			
3-3			
3-4			
3-5			
3-6			
3-7			
3-8			
3-9			
3-10			
3-11			
3-12			
3-13			
3-14			
3-15			

Analyte	1	2	3
Position			
3-16			
3-17			
3-18			
3-19			
3-20			
3-21			
3-22			
3-23			
3-24			
3-25			
3-26			
3-27			
3-28			

Chloride	EPA 325.2/SM 4500-Cl E-2000
Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F-2000
✓ Alkalinity	EPA 310.2
Sulfate	EPA 375.4/SM 426C (15 th)/ SM4500-504 E-1997

Ammonia	EPA 350.1/SM 4500-NH3 B-1997
TKN	EPA 351.2
Phos	EPA 365.4

Analyte	Alk	Reagents
SOP & Revision	K3102 R17	RC 36725
Curve Stock (SC made)	SH 73515	
NO2 STD		
ICV	Std 75701	
CCV	Std 75541	
LCS	Std 75542	
MS	Std 74251 Dilution $\frac{0.4(2500)}{10=100}$	

Comments: _____

Analyst: David Merrill

Date: 5/3/16

DCN#118294



MICROBAC (OVD)
 SMARTCHEM200 INST1 (VER3.1.14)
 NH3, TKN, NO3NO2 (MG/L N)
 ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK -Unit [mg/L] - ALKALINITY EPA 310.2

Smp#[/Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.0	0.7211	0.00		1:58:40 PM
DIL-1	RBL	0.0	0.7232	0.00		1:58:58 PM
DIL-1	RBL	0.0	0.7174	0.00		1:59:52 PM
DIL-1	Std-1	0.0	0.0022	0.00	INV	2:00:10 PM
SR5-1	Std-2	10.0	-0.0226	0.00	EPL	2:01:04 PM
SR5-2	Std-3	20.0	-0.0229	0.00		2:01:23 PM
SR5-3	Std-4	50.0	-0.0787	0.00		2:02:16 PM
SR5-4	Std-5	100.0	-0.1474	0.00		2:02:35 PM
SR5-5	Std-6	200.0	-0.3300	0.00	EPL	2:03:28 PM
SR5-6	Std-7	250.0	-0.4181	0.00		2:03:46 PM
SR5-7	Std-8	300.0	-0.4919	0.00		2:04:40 PM
ST-3	1CCV (150 mg/L)	143.7	-0.2303	95.77		2:04:58 PM
ST-2	2CCB (0 mg/L)	-21.2	0.0361	0.00	INV,><,LL	2:05:52 PM
1	ICV	241.2	-0.3956	0.00		2:06:11 PM
2	WG567693-01 BLK	-20.4	0.0349	0.00	INV,><,LL	2:07:05 PM
3	WG567693-02 LCS	199.9	-0.3248	0.00		2:07:23 PM
4	WG567693-03 LCSDUP	196.6	-0.3192	0.00		2:08:17 PM
5	L16050119-02 (4)	99.0	-0.1566	0.00		2:08:35 PM
6	L16050119-03 (4)	96.5	-0.1525	0.00		2:09:29 PM
7	L16050119-05 (4)	139.5	-0.2234	0.00		2:09:47 PM
8	L16050119-06 (4)	73.5	-0.1150	0.00		2:10:41 PM
9	L16050119-07 (100)	101.6	-0.1609	0.00		2:10:59 PM
10	L16050064-02 (2)	88.5	-0.1395	0.00		2:11:53 PM
ST-3	1CCV (150 mg/L)	147.1	-0.2360	98.06		2:12:11 PM
ST-2	2CCB (0 mg/L)	-14.1	0.0249	0.00	INV,><,LL	2:13:05 PM
11	L16050064-04 (2) MS	137.4	-0.2199	0.00		2:13:23 PM
12	L16050064-05 (2) MSD	137.0	-0.2193	0.00		2:14:17 PM
13	L16050064-03 (2)	94.8	-0.1497	0.00		2:14:35 PM
14	L16050064-06 (2)	141.1	-0.2261	0.00		2:15:29 PM
15	L16050064-07 (2)	244.0	-0.4005	0.00		2:15:47 PM
16	L16050138-02 (2)	207.9	-0.3385	0.00		2:16:41 PM
17	L16050138-04 (2) MS	252.8	-0.4158	0.00		2:16:59 PM

Report Date :05/05/2016 Run Date :5/5/2016 Operator : SMARTCHEM1 Plan # :20160505004
 Plan Description : ALK-A1-DCM/05/05/2016

MICROBAC (OVD)
 SMARTCHEM200 INST1 (VER3.1.14)
 NH3, TKN, NO3NO2 (MG/L N)
 ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK -Unit [mg/L] - ALKALINITY EPA 310.2

Smp#[[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
18	L16050138-05 (2) MSD	249.0	-0.4091	0.00		2:17:53 PM
19	L16050138-03 (2)	213.1	-0.3474	0.00		2:18:11 PM
20	L16050138-06 (2)	238.7	-0.3914	0.00		2:19:05 PM
ST-3	1CCV (150 mg/L)	153.3	-0.2463	102.17		2:19:23 PM
ST-2	2CCB (0 mg/L)	-2.1	0.0059	0.00	INV,><,LL	2:20:17 PM
21	L16050138-07 (2)	232.9	-0.3813	0.00		2:20:35 PM
22	L16050138-08 (2)	236.7	-0.3879	0.00		2:21:29 PM
23	L16050138-09 (2)	202.3	-0.3290	0.00		2:21:47 PM
24	WG567693-11 (2) DUP	196.8	-0.3197	0.00		2:22:41 PM
25	ID 25	28.0	-0.0418	0.00		2:22:59 PM
ST-3	1CCV (150 mg/L)	160.0	-0.2576	106.68		2:23:53 PM
ST-2	2CCB (0 mg/L)	2.1	-0.0007	0.00		2:24:11 PM

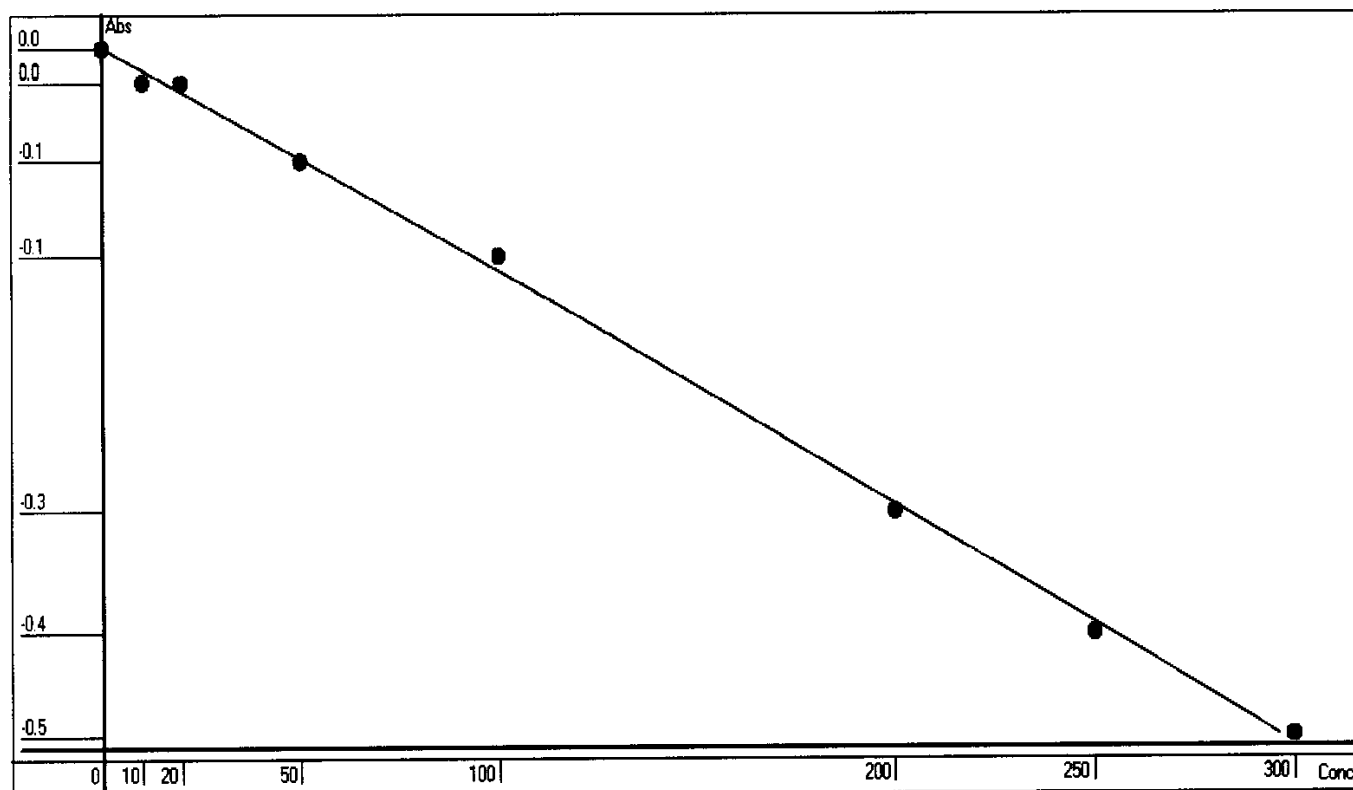
Report Date :05/05/2016 Run Date :5/5/2016 Operator : SMARTCHEM1 Plan # :20160505004

Plan Description : ALK-A1-DCM/05/05/2016

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan #: 20160505004 Description: [ALK-A1-DCM/05/05/2016] Unit



Point	OD	Conc	Recalc Conc	% Error
1	0.0022	0	0.3121	31.21
2	-0.0226	10	15.9534	59.53
3	-0.0229	20	16.1421	-19.29
4	-0.0787	50	51.0291	2.06
5	-0.1473	100	93.3430	-6.66
6	-0.3300	200	202.9374	1.47
7	-0.4180	250	254.1174	1.65
8	-0.4918	300	296.2329	-1.26

Conc= -67.4889*Abso^2 -632.0726*Abso +1.703 R²=0.9986

RBL
0.7222
0

Report Date 5/5/2016 Run Date 5/5/2016

MICROBAC (OVD)
 SMARTCHEM200 INST1 (VER3.1.14)
 NH3, TKN, NO3NO2 (MG/L N)
 ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK -Unit [mg/L] - ALKALINITY EPA 310.2

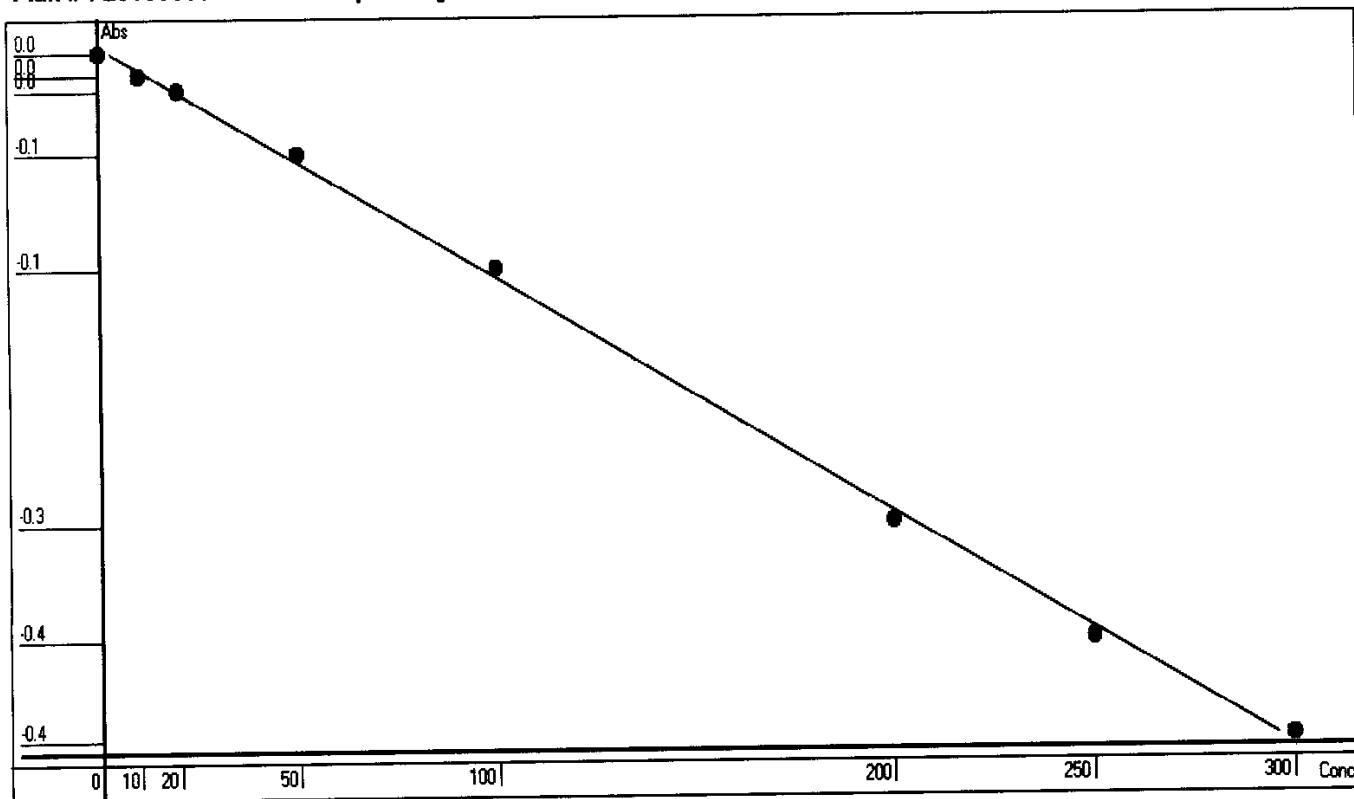
Smp#[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.0	0.6419	0.00		2:48:48 PM
DIL-1	RBL	0.0	0.6426	0.00		2:49:06 PM
DIL-1	RBL	0.0	0.6469	0.00		2:50:00 PM
DIL-1	Std-1	0.0	0.0036	0.00	INV	2:50:18 PM
SR5-1	Std-2	10.0	-0.0109	0.00		2:51:12 PM
SR5-2	Std-3	20.0	-0.0208	0.00		2:51:30 PM
SR5-3	Std-4	50.0	-0.0618	0.00		2:52:25 PM
SR5-4	Std-5	100.0	-0.1362	0.00		2:52:42 PM
SR5-5	Std-6	200.0	-0.3006	0.00		2:53:37 PM
SR5-6	Std-7	250.0	-0.3759	0.00		2:53:54 PM
SR5-7	Std-8	300.0	-0.4400	0.00		2:54:49 PM
ST-3	1CCV (150 mg/L)	146.7	-0.2134	97.82		2:55:07 PM
ST-2	2CCB (0 mg/L)	-9.4	0.0219	0.00	INV,><,LL	2:56:01 PM
1	ICV	243.2	-0.3598	0.00		2:56:18 PM
2	WG567701-01 BLK	-5.5	0.0160	0.00	INV,><,LL	2:57:13 PM
3	WG567701-02 LCS	198.6	-0.2920	0.00		2:57:31 PM
4	WG567701-03 LCSDUP	199.3	-0.2931	0.00		2:58:25 PM
5	L16050151-01 (2)	151.3	-0.2203	0.00		2:58:43 PM
6	L16050151-03	248.6	-0.3681	0.00		2:59:37 PM
7	L16050151-05 (2)	207.9	-0.3062	0.00		2:59:55 PM
8	L16050151-07 (2)	178.0	-0.2608	0.00		3:00:49 PM
9	L16050151-09 (2)	241.4	-0.3571	0.00		3:01:07 PM
10	L16050202-02	240.9	-0.3564	0.00		3:02:01 PM
ST-3	1CCV (150 mg/L)	158.0	-0.2305	105.35		3:02:19 PM
ST-2	2CCB (0 mg/L)	5.0	0.0003	0.00	INV	3:03:13 PM
11	L16050202-03 (2)	192.6	-0.2829	0.00		3:03:31 PM
12	L16050202-04 (2)	206.6	-0.3042	0.00		3:04:25 PM
13	L16050202-05 (2)	200.9	-0.2956	0.00		3:04:43 PM
14	L16050202-06	30.1	-0.0374	0.00		3:05:37 PM
15	WG567701-05 DUP	29.2	-0.0361	0.00		3:05:55 PM
16	ID 16	6.7	-0.0022	0.00		3:06:49 PM
ST-3	1CCV (150 mg/L)	156.9	-0.2288	104.60		3:07:07 PM
ST-2	2CCB (0 mg/L)	8.5	-0.0050	0.00		3:08:01 PM

Report Date :05/05/2016 Run Date :05/05/2016 Operator : SMARTCHEM1 Plan # :20160505005
 Plan Description : ALK-B1-DCM/05/05/2016

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan # : 20160505005 Description : [ALK-B1-DCM/05/05/2016] Unit



Point	OD	Conc	Recalc Conc	% Error
1	0.0036	0	2.8306	283.06
2	-0.0109	10	12.4842	24.84
3	-0.0208	20	19.0723	-4.64
4	-0.0618	50	46.3306	-7.34
5	-0.1362	100	95.6883	-4.31
6	-0.3006	200	204.2679	2.13
7	-0.3759	250	253.7775	1.51
8	-0.4400	300	295.8127	-1.40
				RBL
				0.6423
				0

Conc = -12.3567*Abso^2 -665.8571*Abso +5.2278 R²=0.9990

Report Date 5/5/2016 Run Date 5/5/2016

2.4.3 Phosphorus Data

2.4.3.1 Summary Data

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-03	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW14-050316	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 05/13/2016 10:44
Workgroup #: WG568658	Analyst: DCM	Run Date: 05/13/2016 10:53
Collect Date: 05/03/2016 09:25	Dilution: 1	File ID: S2160513002.018
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	1.84		0.400	0.200	0.100

Certificate of Analysis

Sample #: L16050151-05	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW08-050316	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 05/13/2016 10:44
Workgroup #: WG568658	Analyst: DCM	Run Date: 05/13/2016 10:54
Collect Date: 05/03/2016 10:45	Dilution: 1	File ID: S2160513002.021
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.172	J	0.400	0.200	0.100

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

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-07	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW18-050316	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 05/13/2016 10:44
Workgroup #: WG568658	Analyst: DCM	Run Date: 05/13/2016 10:55
Collect Date: 05/03/2016 13:10	Dilution: 1	File ID: S2160513002.022
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.200	U	0.400	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-09	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW25-050316	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 05/13/2016 10:44
Workgroup #: WG568658	Analyst: DCM	Run Date: 05/13/2016 10:56
Collect Date: 05/03/2016 14:40	Dilution: 1	File ID: S2160513002.023
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.200	U	0.400	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.					

2.4.3.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
 b = intercept from the linear equation
 y = instrument response as absorbance or OD
 x = concentration of analyte (mg/L)
 $y = mx + b$

Step 2: Calculate the instrument concentration, x

Where:

$$x = (y - b)/m$$

Step 3: Solve for analyte concentration in sample, Cx

$$Cx = (x) (D)$$

Example Calculation (LCS):

Value of m from plot:	7.809
Value of b from plot:	0.0004135
Absorbance of unknown from quantitation report (y):	0.31
Calculated concentration (x):	0.03964483
Dilution factor (D):	1.00
Concentration of analyte in sample, Cy:	0.0396 mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

$$y = Ax^2 + Bx + C$$

Step 3: Solve for analyte concentration in sample, Cy

$$Cy = (y) (D)$$

Example Calculation (LCS):

Value of A from plot:	101.2796
Value of B from plot:	318.9056
Value of C from plot:	-2.2712
Absorbance of unknown from quantitation report (x):	0.1583
Calculated concentration (y):	50.7495108
Dilution factor (D):	1.00
Concentration of analyte in sample, Cy:	50.75 mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 13-MAY-2016
 Analyst: DCM
 Analyst: NA
 Method: PHOS
 Instrument: SC2
 Curve Workgroup: NA
 Runlog ID: _____
 Analytical Workgroups: WG568658

Calibration/Linearity	05-13-2016
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
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	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
13-MAY-2016



Secondary Reviewer:
13-MAY-2016




Analytical Method: 365.4
 Login Number: L16050151

AAB#: WG568658

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
50WW13-050316	01	05/03/16					05/13/2016	10.1	28		05/13/16	10.1	28	
50WW14-050316	03	05/03/16					05/13/2016	10.1	28		05/13/16	10.1	28	
50WW08-050316	05	05/03/16					05/13/2016	10	28		05/13/16	10	28	
50WW18-050316	07	05/03/16					05/13/2016	9.9	28		05/13/16	9.9	28	
50WW25-050316	09	05/03/16					05/13/2016	9.8	28		05/13/16	9.8	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
 PDF File ID: 4762053
 Report generated 05/13/2016 14:18



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG568658
 Blank File ID: S2160513002.010 Blank Sample ID: WG568658-01
 Prep Date: 05/13/16 10:46 Instrument ID: SMARTCHEM2
 Analyzed Date: 05/13/16 10:46 Method: 365.4
 Analyst: DCM

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
50WW14-050316	L16050151-03	S2160513002.018	05/13/16 10:53	01
50WW08-050316	L16050151-05	S2160513002.021	05/13/16 10:54	01
50WW18-050316	L16050151-07	S2160513002.022	05/13/16 10:55	01
50WW25-050316	L16050151-09	S2160513002.023	05/13/16 10:56	01
DUP	WG568658-04	S2160513002.034	05/13/16 11:03	01
LCS	WG568658-02	S2160513002.037	05/13/16 11:06	01
50WW13-050316	L16050151-01	S2160513002.039	05/13/16 11:07	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4762054
 Report generated 05/13/2016 14:18



Login Number: L16050151 Prep Date: 05/13/16 10:46 Sample ID: WG568658-01
Instrument ID: SMARTCHEM2 Run Date: 05/13/16 10:46 Prep Method: 365.4
File ID: S2160513002.010 Analyst: DCM Method: 365.4
Workgroup (AAB#): WG568658 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: SMARTC-13-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Phosphorus, Total	0.100	0.400	0.100	1	U

DL 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: 4762055
13-MAY-2016 14:18



Login Number: L16050151 Run Date: 05/13/2016 Sample ID: WG568658-02
Instrument ID: SMARTCHEM2 Run Time: 11:06 Prep Method: 365.4
File ID: S2160513002.037 Analyst: DCM Method: 365.4
Workgroup (AAB#): WG568658 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD75943 Cal ID: SMARTC-13-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Phosphorus, Total	1.00	0.974	97.4	70 - 130	

LCS - Modified 03/06/2008
PDF File ID: 4762056
Report generated: 05/13/2016 14:18



2.4.3.3 Raw Data

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG568658

Daily Check

- Lamp On
- Probe Rinse Full
- DI Water > 1/2 Full
- Wash Solution > 1/2 Full
- NO3 Reagent bottle connected / purged
- NO3 pH adj to pH 5-9
- Syringe filter lot # _____
- WBL Run
- Reagents Full
- Dilution H₂O Full
- Waste Container Check

1) Workgroup _____
Plan # 20160513002
2) Workgroup _____
Plan # _____
3) Workgroup _____
Plan # _____
Instrument: SC1 SC2

Analyte	1	2	3
	PLCS		
	Dilution		
SC Prepared Curve			
Position			
1-1	ICV		
1-2	Blk		
1-3	LCS		
1-4	05-320-c1		
1-5	c2		
1-6	05-426-c1		
1-7	c2	Auto 1/2	
1-8	05-596-c1		
1-9	05-151-c1	1/2	
1-10	c3		
1-11	c5		
1-12	07		
1-13	09		
1-14	05-236-c2	Auto 1/2	
1-15	05-571-c1		
1-16	c3		
1-17	c5		
1-18	c7		
1-19	c9		
1-20	11		
1-21	05-589-c3	1ml/250	
1-22	DUP 05-596-c1		
2-1	MS 05-596-c1		
2-2	MS 05-426-c2	Auto 1/2	
2-3	LCS		

Analyte	1	2	3
Position			
2-4			
2-5	05-151-c1		
2-6			
2-7			
2-8			
2-9			
2-10			
2-11			
2-12			
2-13			
2-14			
2-15			
2-16			
2-17			
2-18			
2-19			
2-20			
2-21			
2-22			
2-23			
2-24			
2-25			
2-26			
3-1			
3-2			

NOTES: * Run NO2 std on NO3 runs
* LCSD must be run if no MS or Duplicate
* MS(10% sample): NO3, TKN, NH3, PHOS

DCN#118461



SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG568658

Analyte	1	2	3
Position			
3-3			
3-4			
3-5			
3-6			
3-7			
3-8			
3-9			
3-10			
3-11			
3-12			
3-13			
3-14			
3-15			

Analyte	1	2	3
Position			
3-16			
3-17			
3-18			
3-19			
3-20			
3-21			
3-22			
3-23			
3-24			
3-25			
3-26			
3-27			
3-28			

Chloride	EPA 325.2/SM 4500-Cl E-2000
Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F-2000
Alkalinity	EPA 310.2
Sulfate	EPA 375.4/SM 426C (15 th)/ SM4500-504 E-1997

Ammonia	EPA 350.1/SM 4500-NH3 B-1997
TKN	EPA 351.2
Phos	EPA 365.4

Analyte	Notes	Reagents
SOP & Revision	153654 R19	RL 36799
Curve Stock (SC made)		RLT 36837
NO2 STD		RLT 36522
ICV	see Digest	
CCV	log	
LCS		
MS	Dilution	

Comments: _____

Analyst: David Herrick

Date: 5/13/14

DCN#118461



TKN/Phosphorus Digestion Log

TKN WG: _____ Phos WG: _____
 TKN Std: std 76053 Phos Std: std 76053
 TKN CCV: 1/2 (std 76053) Phos CCV: 1/2 (std 76053)
 TKN ICV: std 75844 Phos ICV: std 75944
 TKN LCS: std 75845 Phos LCS: std 75943

MS/MSD: std 74442Daily Dilution: 1123/25 = 1Block Digester Temperature: 380 °CDigest Reagent: RGT 36729

	Sample	Volume	TKN Dilution	Phos Dilution		Sample	Volume	TKN Dilution	Phos Dilution
1	std				26	05-571-c3			✓
2	std				27	05			✓
3	ICVT				28	07			✓
4	ICVP				29	09			✓
5	LST				30	11			✓
6	LSD				31	05-589-c3	1/250		✓
7	05-300-c1		✓	✓	32	Dup 05-596-c1		✓	✓
8	02		✓	✓	33	MS 05-596-c1		✓	✓
9	05-426-c1		✓	✓	34	MS 05-426-c2		✓	✓
10	02		✓	✓	35				
11	05-578-c1		✓		36				
12	05-470-c2	1/50	✓		37				
13	05	1/50	✓		38				
14	05-595-c1		✓		39				
15	02		✓		40				
16	03		✓		41				
17	04		✓		42				
18	05-596-c1		✓	✓	43				
19	05-151-c1			✓	44				
20	03			✓	45				
21	05			✓	46				
22	07			✓	47				
23	09			✓	48				
24	05-230-c2			✓	49				
25	05-571-c1			✓	50				

Analyst: David Meredith Date: 5/12/16

MICROBAC (OVD)
 SMARTCHEM200 INST2 (VER3.1.14)
 NH3, TKN, NO3NO2 (MG/L N)
 ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WTPH -Unit [mg/L] -EPA 365.4 TOTAL PHOSPHORUS

Smp#[/Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.000	0.0274	0.00		10:38:24 AM
DIL-1	RBL	0.000	0.0267	0.00		10:39:19 AM
DIL-1	RBL	0.000	0.0256	0.00		10:40:12 AM
SR5-1	Std-1	0.010	0.0052	0.00		10:40:31 AM
SR5-2	Std-2	0.200	0.0390	0.00		10:41:24 AM
SR5-3	Std-3	0.500	0.0808	0.00		10:41:42 AM
SR5-4	Std-4	1.000	0.1499	0.00		10:43:12 AM
SR5-5	Std-5	1.500	0.2149	0.00		10:43:30 AM
ST-1	Std-6	2.000	0.2903	0.00		10:44:25 AM
ST-3	1CCV (1 mg/L)	0.979	0.1455	97.85		10:44:42 AM
ST-2	2CCB (0 mg/L)	-0.062	-0.0008	0.00	INV,><,LL	10:45:37 AM
1	ICV	1.429	0.2088	0.00		10:45:54 AM
2	WG568658-01 BLK	0.022	0.0110	0.00		10:46:49 AM
3	WG568658-02 LCS	X1.495	0.2181	0.00		10:47:07 AM
4	L16050320-01	0.087	0.0201	0.00		10:48:00 AM
5	L16050320-02	0.065	0.0171	0.00		10:48:55 AM
6	L16050426-01	1.501	0.2189	0.00		10:50:25 AM
7	L16050426-02	X5.591	0.7941	0.00	><,LH	10:50:43 AM
8	L16050596-01	0.969	0.1441	0.00	EPL	10:51:37 AM
9	L16050151-01(2)	X0.252	0.0434	0.00		10:51:55 AM
10	L16050151-03	1.837	0.2662	0.00	EPL	10:53:07 AM
ST-3	1CCV (1 mg/L)	0.963	0.1433	96.28		10:53:25 AM
ST-2	2CCB (0 mg/L)	-0.059	-0.0004	0.00	INV,><,LL	10:54:37 AM
11	L16050151-05	0.172	0.0321	0.00		10:54:55 AM
12	L16050151-07	0.050	0.0149	0.00		10:55:49 AM
13	L16050151-09	-0.029	0.0039	0.00	><,LL	10:56:07 AM
14	L16050236-02	X4.362	0.6213	0.00	EPL,><,LH	10:57:01 AM
15	L16050571-01	0.163	0.0308	0.00		10:57:55 AM
16	L16050571-03	1.900	0.2750	0.00	EPL	10:58:13 AM
17	L16050571-05	0.450	0.0712	0.00	EPL	10:59:07 AM
18	L16050571-07	0.077	0.0188	0.00		10:59:25 AM
19	L16050571-09	0.270	0.0459	0.00		11:00:55 AM

Report Date :05/13/2016 Run Date :5/13/2016 Operator : SMARTCHEM2 Plan # :20160513002

Plan Description : PHOS-A2-05/13/2016

MICROBAC (OVD)
 SMARTCHEM200 INST2 (VER3.1.14)
 NH3, TKN, NO3NO2 (MG/L N)
 ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WTPH -Unit [mg/L] - EPA 365.4 TOTAL PHOSPHORUS

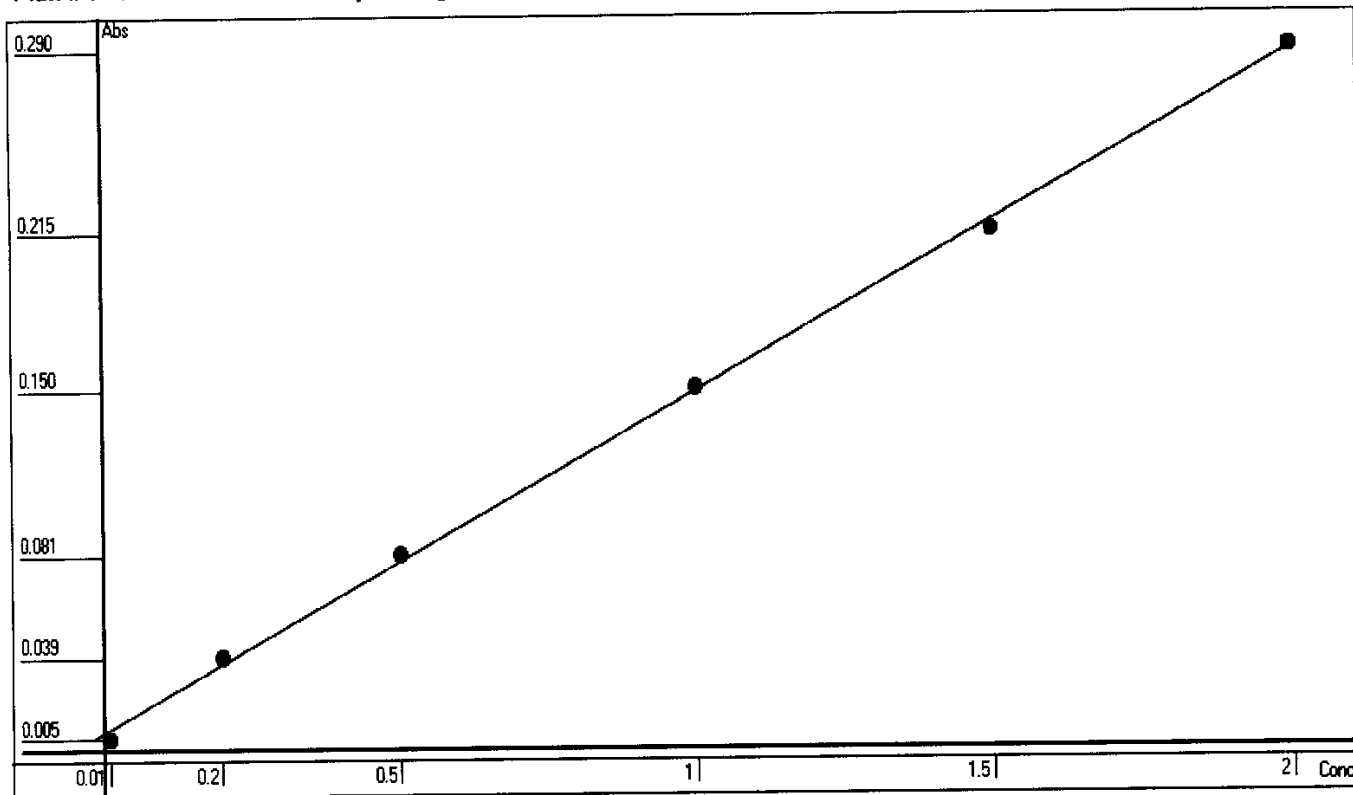
Smp#[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
20	L16050571-11	0.049	0.0148	0.00		11:01:13 AM
ST-3	1CCV (1 mg/L)	0.966	0.1438	96.64		11:02:07 AM
ST-2	2CCB (0 mg/L)	-0.049	0.0011	0.00	><,LL	11:02:25 AM
21	L16050589-03 (250)	1.041	0.1543	0.00		11:03:37 AM
22	WG568658-04 DUP	-0.047	0.0013	0.00	><,LL	11:03:55 AM
23	WG568658-05 MS	X 2.111	0.3047	0.00	><,LH	11:04:49 AM
24	WG568658-07 MS	X 5.811	0.8250	0.00	><,LH	11:05:07 AM
25	ID 25 <i>LCS</i>	0.974	0.1448	0.00		11:06:01 AM
26	ID 26	0.942	0.1404	0.00		11:07:13 AM
27	ID 27 <i>05-151-C1</i>	0.661	0.1008	0.00	EPL	11:07:31 AM
ST-3	1CCV (1 mg/L)	0.957	0.1425	95.71		11:08:25 AM
ST-2	2CCB (0 mg/L)	-0.055	0.0002	0.00	><,LL	11:08:43 AM
7-[1/2]	L16050426-02	2.805	0.2051	0.00	LH	11:17:17 AM
9-[1/2]	L16050151-01	0.014	0.0089	0.00		11:18:29 AM
7-[1/2]	L16050426-02 (2)	2.845	0.2079	0.00	LH	11:19:59 AM
ST-3	1CCV (1 mg/L)	0.964	0.1435	96.42		11:19:59 AM
ST-2	2CCB (0 mg/L)	-0.056	0.0000	0.00	INV,><,LL	11:21:11 AM
14-[1/2]	L16050236-02 (2)	1.199	0.0922	0.00		11:22:41 AM
23-[1/2]	WG568658-05 MS	2.045	0.1517	0.00	LH	11:23:53 AM
24-[1/2]	WG568658-07 MS (2)	3.193	0.2324	0.00	LH	11:25:05 AM
ST-3	1CCV (1 mg/L)	0.971	0.1445	97.13		11:25:05 AM
ST-2	2CCB (0 mg/L)	-0.042	0.0019	0.00	><,LL	11:25:59 AM

Report Date :05/13/2016 Run Date :5/13/2016 Operator : SMARTCHEM2 Plan # :20160513002

Plan Description : PHOS-A2-05/13/2016

Calibrant Report - WTPH -

Calib Lot #:010104 Exp Date:6/18/2020 User:MICROBAC
 Plan #: 20160513002 Description : [PHOS-A2-05/13/2016] Unit



Point	OD	Conc	Recalc Conc	% Error
1	0.0052	0.01	-0.0190	-290.00
2	0.0389	0.2	0.2207	10.35
3	0.0808	0.5	0.5187	3.74
4	0.1498	1	1.0094	0.94
5	0.2148	1.5	1.4717	-1.89
6	0.2903	2	2.0086	0.43

Conc= +7.1121*Abso -0.056 R²=0.9991

RBL
0.027
0

Report Date 5/13/2016 Run Date 5/13/2016

2.4.4 Sulfide Data

2.4.4.1 Summary Data

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-03

PrePrep Method: N/A

Instrument: BURET

Client ID: 50WW14-050316

Prep Method: SM4500-S-(-2)-F-2000

Prep Date: N/A

Matrix: Water

Analytical Method: SM4500-S-(-2)-F-2000

Cal Date:

Workgroup #: WG567923

Analyst: TB

Run Date: 05/06/2016 17:15

Collect Date: 05/03/2016 09:25

Dilution: 1

File ID: ET.1605061715-05

Sample Tag:

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-05	PrePrep Method: N/A	Instrument: BURET
Client ID: 50WW08-050316	Prep Method: SM4500-S-(-2)-F-2000	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-S-(-2)-F-2000	Cal Date:
Workgroup #: WG567923	Analyst: TB	Run Date: 05/06/2016 17:15
Collect Date: 05/03/2016 10:45	Dilution: 1	File ID: ET.1605061715-06
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-07

PrePrep Method: N/A

Instrument: BURET

Client ID: 50WW18-050316

Prep Method: SM4500-S-(-2)-F-2000

Prep Date: N/A

Matrix: Water

Analytical Method: SM4500-S-(-2)-F-2000

Cal Date:

Workgroup #: WG567923

Analyst: TB

Run Date: 05/06/2016 17:15

Collect Date: 05/03/2016 13:10

Dilution: 1

File ID: ET.1605061715-07

Sample Tag:

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050151-09	PrePrep Method: N/A	Instrument: BURET
Client ID: 50WW25-050316	Prep Method: SM4500-S-(-2)-F-2000	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-S-(-2)-F-2000	Cal Date:
Workgroup #: WG567923	Analyst: TB	Run Date: 05/06/2016 17:15
Collect Date: 05/03/2016 14:40	Dilution: 1	File ID: ET.1605061715-08
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500
U	Analyte was not detected. The concentration is below the reported LOD.					

2.4.4.2 QC Summary Data

Example Total Sulfide(Liquid) Calculations

$[\text{mL Iodine} * \text{N Iodide}] - (\text{mL titrant} * \text{N titrant}) * 16000 / (\text{volume} * \text{dilution}) = \text{mg/L Sulfide}$
 where:

mL Iodine = mL of Iodine used

N Iodine = normality of Iodine

mL titrant = mL of titrant used

N titrant = normality of titrant

16000 = factor: 1mL of 0.025 N iodine reacts with 0.4mg sulfide

volume = mL filtered of mL titrated(if not filtered)

dilution = dilution in decimal form (1/5 = 0.2)

Example Total Sulfide(Soil) Calculations

$[(\text{mL Iodine} * \text{N Iodine}) - (\text{mL titrant} * \text{N titrant})] * 16.03 / \text{weight} = \text{mg/kg sulfide}$
 where:

mL Iodine = mL of Iodine used

N Iodine = normality of Iodine

mL titrant = normality of titrant

16.03 = 32.06 grams per 2 equivalents

weight = kg of sample used

Microbac Laboratories Inc.

Data Checklist

Date: 06-MAY-2016
 Analyst: TB
 Analyst: NA
 Method: S
 Instrument: BURET
 Curve Workgroup: NA
 Runlog ID: _____
 Analytical Workgroups: WG567923

Calibration/Linearity	05/06/2016
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	XX
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
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	TB
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
09-MAY-2016

Todd Boyle

Secondary Reviewer:
13-MAY-2016

Denna Johnson



Analytical Method:SM4500-S-(-2)-F-
Login Number:L16050151

AAB#:WG567923

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
50WW13-050316	01	05/03/16					05/06/2016	3.4	7		05/06/16	3.4	7	
50WW14-050316	03	05/03/16					05/06/2016	3.3	7		05/06/16	3.3	7	
50WW08-050316	05	05/03/16					05/06/2016	3.3	7		05/06/16	3.3	7	
50WW18-050316	07	05/03/16					05/06/2016	3.2	7		05/06/16	3.2	7	
50WW25-050316	09	05/03/16					05/06/2016	3.1	7		05/06/16	3.1	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4758433
Report generated 05/12/2016 10:56



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG567923
 Blank File ID: ET.1605061715-01 Blank Sample ID: WG567923-01
 Prep Date: 05/06/16 17:15 Instrument ID: BURET
 Analyzed Date: 05/06/16 17:15 Method: SM4500-S-(-2)-F-
 Analyst: TB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG567923-02	ET.1605061715-02	05/06/16 17:15	
LCS2	WG567923-03	ET.1605061715-03	05/06/16 17:15	
50WW13-050316	L16050151-01	ET.1605061715-04	05/06/16 17:15	
50WW14-050316	L16050151-03	ET.1605061715-05	05/06/16 17:15	
50WW08-050316	L16050151-05	ET.1605061715-06	05/06/16 17:15	
50WW18-050316	L16050151-07	ET.1605061715-07	05/06/16 17:15	
50WW25-050316	L16050151-09	ET.1605061715-08	05/06/16 17:15	

Report Name: BLANK_SUMMARY
 PDF File ID: 4758434
 Report generated 05/12/2016 10:56



Login Number: L16050151 Prep Date: 05/06/16 17:15 Sample ID: WG567923-01
 Instrument ID: BURET Run Date: 05/06/16 17:15 Prep Method: SM4500-S-(-2)-F
 File ID: ET.1605061715-01 Analyst: TB Method: SM4500-S-(-2)-F
 Workgroup (AAB#): WG567923 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: BURET -

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Sulfide	0.500	2.00	0.500	1	U

DL 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: 4758435
 12-MAY-2016 10:56



Login Number: L16050151 Analyst: TB Prep Method: SM4500-S-(-2)-F
 Instrument ID: BURET Matrix: Water Method: SM4500-S-(-2)-F
 Workgroup (AAB#): WG567923 Units: mg/L
 QC Key: DOD4 Lot #: STD76049

Sample ID: WG567923-02 LCS File ID: ET.1605061715-02 Run Date: 05/06/2016 17:15
 Sample ID: WG567923-03 LCS2 File ID: ET.1605061715-03 Run Date: 05/06/2016 17:15

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Sulfide	17.4	17.6	101	17.4	17.6	101	0.00	85 - 115	10	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4758436
 Report generated: 05/12/2016 10:56



2.4.4.3 Raw Data

SULFIDE
(sulfide I)

WORKGROUP: WG567923

Water:
EPA 376.1 / SM4500-S(-2)-F
SOP K3761 Revision #: 16
Soil:
SM846 9030B/9034
SOP K9030 Revision #: _____

Instrument: Buret

LCS: SH 76049

Iodine standardization (0.025N) COA: 18575
mL 0.025N titrant: 10.0
Volume I: 10.0 mL
Normality I: 0.025

(0.1 N I) COA: 18745
mL 0.025 N titrant: 8.0
Volume I: 2.0 mL
Normality I: 0.100

Stock standardization (in duplicate) 5.0 mL stock
mL I 1) 10.0 2) 10.0
NI 1) 0.10 2) 0.10
mL 0.025 titrant 1) 25.5 2) 25.5
LCS daily dilution: 3(10.0)/100 = 17.4 mg/L

1160 = stock conc (mg/L)

Titrant: T- 1775-02-02

SAMPLE	Volume Filtered mL	mL Iodine	N Iodine	0.025 N Sodium Thiosulfate (mL)
BLANK	200	15.0	0.025	15.0
LCS (mL)	200	15.0	0.025	6.2
LCSDUP (mL)	200	15.0	0.025	6.2
<u>5-151-01</u>	450	15.0	0.025	15.0
<u>03</u>	450	15.0	0.025	14.9
<u>05</u>	490 490	15.0	0.025	15.0
<u>07</u>	490	15.0	0.025	15.0
<u>09</u>	490	15.0	0.025	15.0

TB
5/6/16

Analyst: Tom Hough Date/Time: 1715 5/6/16

DCN#118332



Microbac Laboratories Inc.
TITRAMETRIC REPORT

Workgroup (AAB#): WG567923Analyst: TBProduct: EPA 376.1\9034Run Date: 05/06/2016 17:15Analyte: Sulfide

SAMPLE NUMBER	Volume	Vol I	Nor I	Vol T	Nor T	Dil	Analytical	Reported	Units
WG567923-01	200.0	15	.025	15	.025	1	0	0	mg/L
WG567923-02	200.0	15	.025	6.2	.025	1	17.6	17.60	mg/L
WG567923-03	200.0	15	.025	6.2	.025	1	17.6	17.60	mg/L
L16050151-01	450.0	15	.025	15	.025	1	0	ND	mg/L
L16050151-03	450.0	15	.025	14.9	.025	1	0.0889	ND	mg/L
L16050151-05	490.0	15	.025	15	.025	1	0	ND	mg/L
L16050151-07	490.0	15	.025	15	.025	1	0	ND	mg/L
L16050151-09	490.0	15	.025	15	.025	1	0	ND	mg/L

SULFIDE_REPORT - Modified 03/06/2008

Report generated 05/09/2016 16:31



2.4.5 Total Organic Carbon Data

2.4.5.1 Summary Data

Certificate of Analysis

Sample #: L16050151-03	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 50WW14-050316	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 10/30/2015 17:00
Workgroup #: WG568224	Analyst: DCM	Run Date: 05/11/2016 09:08
Collect Date: 05/03/2016 09:25	Dilution: 10	File ID: TC05102016.023
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	71.3		20.0	10.0	5.00

Certificate of Analysis

Sample #: L16050151-05	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 50WW08-050316	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 10/30/2015 17:00
Workgroup #: WG568224	Analyst: DCM	Run Date: 05/10/2016 16:39
Collect Date: 05/03/2016 10:45	Dilution: 5	File ID: TC05102016.009
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	28.6		10.0	5.00	2.50

Certificate of Analysis

Sample #: L16050151-07	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 50WW18-050316	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 10/30/2015 17:00
Workgroup #: WG568224	Analyst: DCM	Run Date: 05/10/2016 17:01
Collect Date: 05/03/2016 13:10	Dilution: 5	File ID: TC05102016.010
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	20.6		10.0	5.00	2.50

Certificate of Analysis

Lab Report #: L16050151

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Sample #: L16050151-09

PrePrep Method: N/A

Instrument: TOC-VWP

Client ID: 50WW25-050316

Prep Method: 415.1

Prep Date: N/A

Matrix: Water

Analytical Method: 415.1

Cal Date: 10/30/2015 17:00

Workgroup #: WG568224

Analyst: DCM

Run Date: 05/11/2016 09:29

Collect Date: 05/03/2016 14:40

Dilution: 10

File ID: TC05102016.024

Sample Tag: DL01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	60.3		20.0	10.0	5.00

2.4.5.2 QC Summary Data

**Total Organic Carbon Example Calculations
(Direct Readout Parameter)**

$$(\text{Readout})/(\text{dilution}) = \text{mg/L}$$

where:

Readout = direct readout from the instrument

dilution = dilution in decimal form (ex. 1/5 dilution = 0.2)

Microbac Laboratories Inc.

Data Checklist

Date: 10-MAY-2016
 Analyst: DCM
 Analyst: NA
 Method: TOC
 Instrument: TOC-VWP
 Curve Workgroup: NA
 Runlog ID: _____
 Analytical Workgroups: WG568224

Calibration/Linearity	10-31-2015
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
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	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
13-MAY-2016



Secondary Reviewer:
13-MAY-2016




Analytical Method: 415.1
Login Number: L16050151

AAB#: WG568224

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
50WW13-050316	01	05/03/16					05/10/2016	7.3	28		05/10/16	7.3	28	
50WW14-050316	03	05/03/16					05/11/2016	8	28		05/11/16	8	28	
50WW08-050316	05	05/03/16					05/10/2016	7.2	28		05/10/16	7.2	28	
50WW18-050316	07	05/03/16					05/10/2016	7.2	28		05/10/16	7.2	28	
50WW25-050316	09	05/03/16					05/11/2016	7.8	28		05/11/16	7.8	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4760467
Report generated 05/13/2016 09:07



METHOD BLANK SUMMARY

Login Number: L16050151 Work Group: WG568224
 Blank File ID: TC05102016.004 Blank Sample ID: WG568224-01
 Prep Date: 05/10/16 14:38 Instrument ID: TOC-VWP
 Analyzed Date: 05/10/16 14:38 Method: 415.1
 Analyst: DCM

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG568224-02	TC05102016.005	05/10/16 14:57	01
LCS2	WG568224-03	TC05102016.006	05/10/16 15:17	01
50WW13-050316	L16050151-01	TC05102016.007	05/10/16 15:56	DL01
50WW08-050316	L16050151-05	TC05102016.009	05/10/16 16:39	DL01
50WW18-050316	L16050151-07	TC05102016.010	05/10/16 17:01	DL01
DUP	WG568224-05	TC05102016.017	05/10/16 19:18	DL01
50WW14-050316	L16050151-03	TC05102016.023	05/11/16 09:08	DL01
50WW25-050316	L16050151-09	TC05102016.024	05/11/16 09:29	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 4760468
 Report generated 05/13/2016 09:07



Login Number: L16050151 Prep Date: 05/10/16 14:38 Sample ID: WG568224-01
 Instrument ID: TOC-VWP Run Date: 05/10/16 14:38 Prep Method: 415.1
 File ID: TC05102016.004 Analyst: DCM Method: 415.1
 Workgroup (AAB#): WG568224 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: TOC-VW-30-OCT-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	2.00	0.500	1	U

DL 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: 4760469
 13-MAY-2016 09:07



Login Number: L16050151 Analyst: DCM Prep Method: 415.1
 Instrument ID: TOC-VWP Matrix: Water Method: 415.1
 Workgroup (AAB#): WG568224 Units: mg/L
 QC Key: DOD4 Lot #: STD74954
 Sample ID: WG568224-02 LCS File ID: TC05102016.005 Run Date: 05/10/2016 14:57
 Sample ID: WG568224-03 LCS2 File ID: TC05102016.006 Run Date: 05/10/2016 15:17

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	27.4	110	25.0	27.5	110	0.437	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4760470
 Report generated: 05/13/2016 09:07



2.4.5.3 Raw Data

Curve

wg545145

Total Organic Carbon

MAKE DAILY

CCV (TOC): $\frac{5}{200}(1000) = 25\text{mg/L}$ LCS (TOC): $\frac{5}{200}(1000) = 25\text{mg/L}$

CCV (TIC): $\frac{5}{200}(1000) = 25\text{mg/L}$ See Below MS (TOC): _____

Calibration Curve Date: _____ Reagent: RGT 34567
RGT 34459

SM5310-C: Matrix 2 WG _____ EPA 415.1/9060A(mod): Matrix 1 WG _____ SOP: K 4151 Rev. 18

Instrument: Shimadza TOC-VWP/ASI

- drain reservoir filled
- ASI water bottle full
- dilution water bottle full

- DAILY CHECK**
- 3rd bottle full
 - sufficient gas
 - sufficient persulfate

- sufficient acid waste container

Position	Sample ID	Dilution	Position	Sample ID	Dilution	Position	Sample ID	Dilution
1	TC Curve		26	TC Curve		51		
2	TIC Curve		27	Std 72133		52	See SOP for point preparation	
3	TC ICV		28			53		
4	TIC ICV		29	TIC Curve		54		
5			30	Std 72165		55		
6			31			56		
7			32			57		
8			33	TOC (TC)		58		
9			34	ICV		59		
10			35	Std 72270		60	$\frac{5}{200}(1000) = 25$	
11			36			61		
12			37	TIC ICV		62		
13	All points analyzed in duplicate		38	Std 72654		63		
14			39			64		
15			40			65		
16			41			66		
17			42			67		
18			43			68		
19			44			69		
20			45			70		
21			46			71		
22			47			72		
23			48			73		
24			49			74		
25			50			75		

Analyst: David Morkle Date/Time: 10/31/15

DCN#114406



10/31/2015 3:38:21 PM

CURVES-10-30-2015.i32

Instr. Information

System TOCVW ASI
 Detector Wet Chemical

Cal. Curve

Sample Name: TCCURVE
 Sample ID:
 Cal. Curve: TCCURVE-10-30-2015.2015_10_30_16_06_37.cal
 Status: Completed

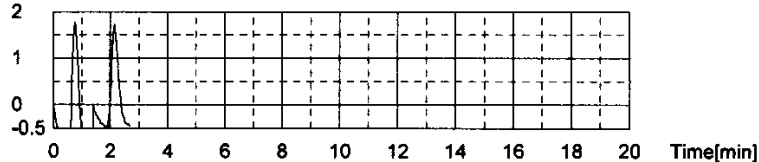
Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.764	500uL	1	*****		10/30/2015 4:10:07 PM
2	3.607	500uL	1	*****		10/30/2015 4:13:33 PM

Acid Add. 0.000%
 Mean Area 4.186

Signal[mV] 2

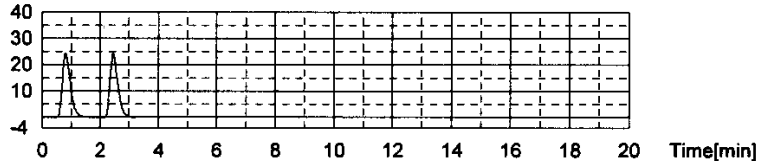


Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	46.19	500uL	1	*****		10/30/2015 4:19:03 PM
2	46.28	500uL	1	*****		10/30/2015 4:22:56 PM

Acid Add. 0.000%
 Mean Area 46.23

Signal[mV] 40

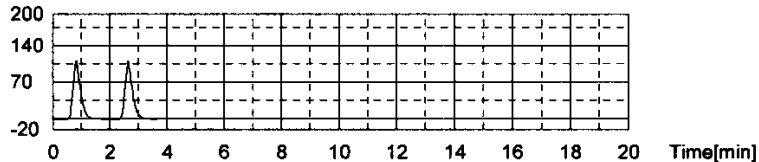


Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	194.3	500uL	1	*****		10/30/2015 4:28:42 PM
2	193.1	500uL	1	*****		10/30/2015 4:32:47 PM

Acid Add. 0.000%
 Mean Area 193.7

Signal[mV] 200



Conc: 10.00mg/L

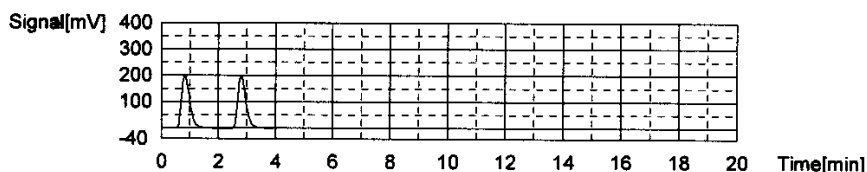
1/5

10/31/2015 3:38:21 PM

CURVES-10-30-2015.t32

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	390.8	500uL	1	*****		10/30/2015 4:38:42 PM
2	391.3	500uL	1	*****		10/30/2015 4:42:54 PM

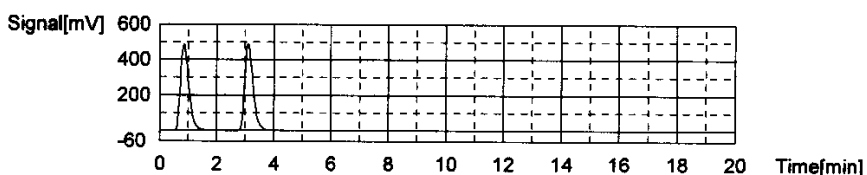
Acid Add. 0.000%
Mean Area 391.1



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	989.0	500uL	1	*****		10/30/2015 4:49:06 PM
2	994.6	500uL	1	*****		10/30/2015 4:53:33 PM

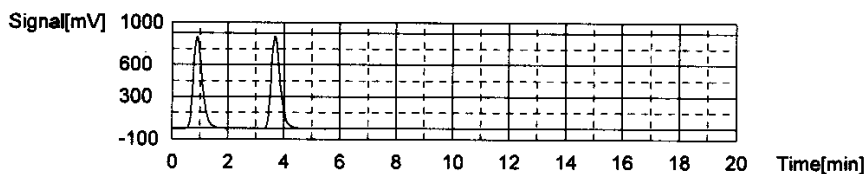
Acid Add. 0.000%
Mean Area 991.8



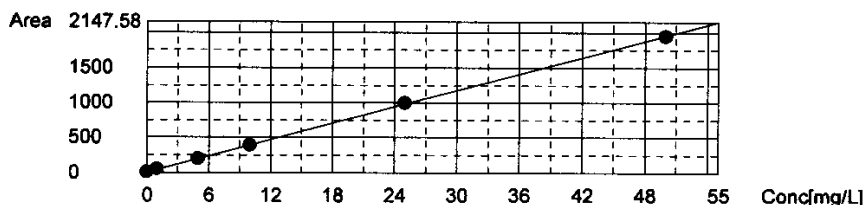
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1946	500uL	1	*****		10/30/2015 5:00:24 PM
2	1948	500uL	1	*****		10/30/2015 5:05:23 PM

Acid Add. 0.000%
Mean Area 1947



Slope: 38.95
Intercept: 4.952
r^2: 0.999910
Zero Shift: No



Sample

Sample Name: TC ICV
Sample ID:
Origin: TCCURVE-10-30-2015.2015_10_30_16_06_37.cal
Status: Completed
Chk. Result:

Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:25.93mg/L

1. Det

= 103.7%

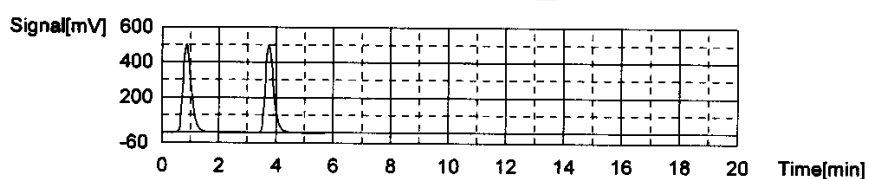
10/31/2015 3:38:21 PM

CURVES-10-30-2015.i32

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1020	26.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/31/2015 9:56:57 AM
2	1010	25.80mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/31/2015 10:02:17 AM

Mean Area 1015
Mean Conc. 25.93mg/L



Cal. Curve

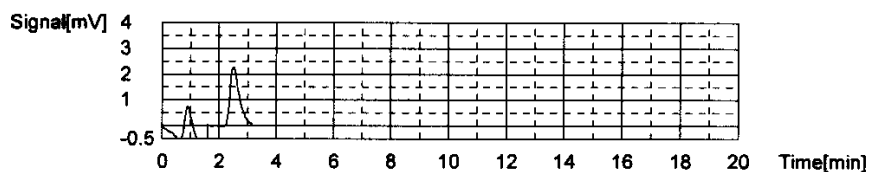
Sample Name: TICCURVE
Sample ID: Untitled
Cal. Curve: TICCURVE-10-30-2015.2015_10_31_11_55_05.cal
Status: Completed

Type	Anal.
Standard	IC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	2.732	500uL	1	*****		10/31/2015 12:00:21 PM
2	5.011	500uL	1	*****		10/31/2015 12:04:52 PM

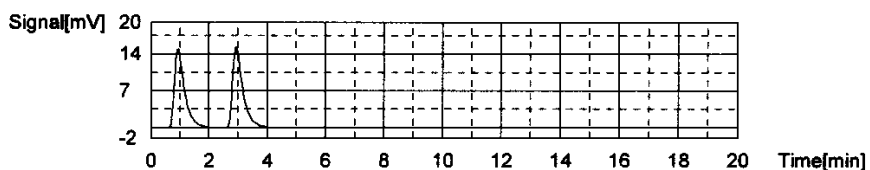
Acid Add. 10.00%
Mean Area 3.872



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	35.96	500uL	1	*****		10/31/2015 12:12:47 PM
2	37.13	500uL	1	*****		10/31/2015 12:17:43 PM

Acid Add. 10.00%
Mean Area 36.55



Conc: 5.000mg/L

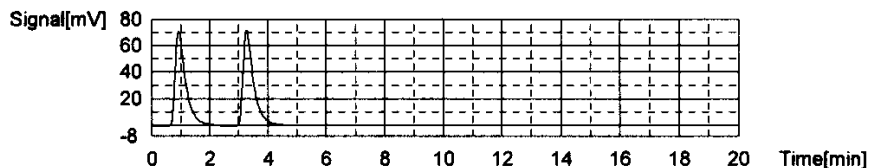
No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	173.6	500uL	1	*****		10/31/2015 12:26:14 PM
2	175.6	500uL	1	*****		10/31/2015 12:31:38 PM

3/5

10/31/2015 3:38:21 PM

CURVES-10-30-2015.i32

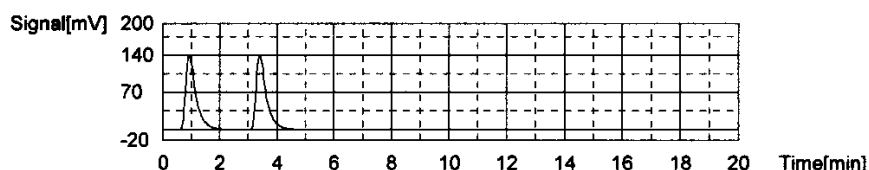
Acid Add. 10.00%
Mean Area 174.6



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	344.8	500uL	1	*****		10/31/2015 12:40:18 PM
2	345.1	500uL	1	*****		10/31/2015 12:45:49 PM

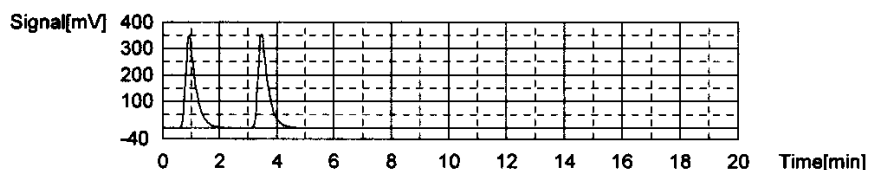
Acid Add. 10.00%
Mean Area 345.0



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	835.5	500uL	1	*****		10/31/2015 12:54:43 PM
2	845.9	500uL	1	*****		10/31/2015 1:00:42 PM

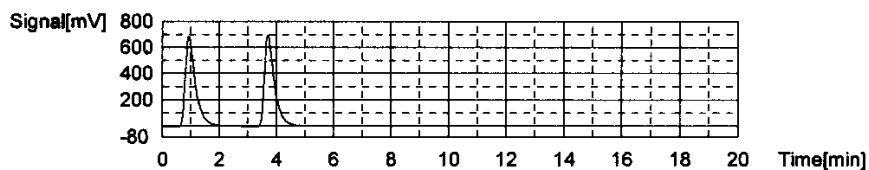
Acid Add. 10.00%
Mean Area 840.7



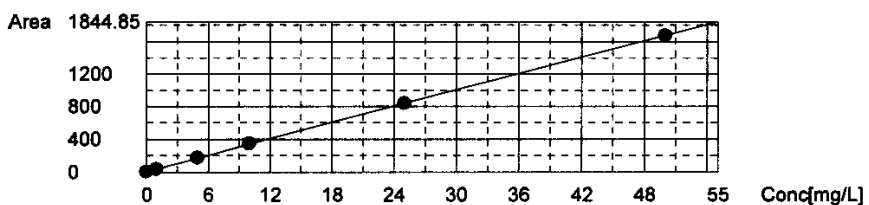
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1676	500uL	1	*****		10/31/2015 1:09:51 PM
2	1677	500uL	1	*****		10/31/2015 1:15:54 PM

Acid Add. 10.00%
Mean Area 1677



Slope: 33.42
Intercept: 5.927
r²: 0.999982
Zero Shift: No



Sample

10/31/2015 3:38:21 PM

CURVES-10-30-2015.132

Sample Name: TIC ICV
 Sample ID: Untitled
 Origin: TICCURVE-10-30-2015.cal
 Status: Completed
 Chk. Result

Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:25.37mg/L

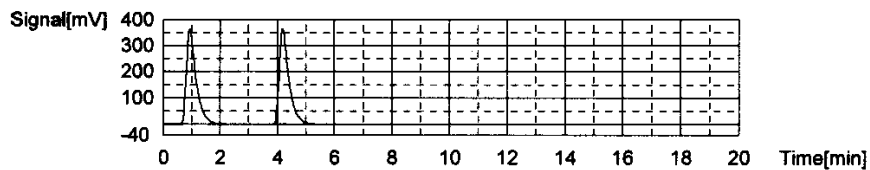
= 101.5%

1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	854.5	25.39mg/L	500uL	1	1	TICCURVE-10-30-2015.2015_10_31_11_55_0	10/31/2015 1:25:27 PM
2	853.1	25.35mg/L	500uL	1	1	TICCURVE-10-30-2015.2015_10_31_11_55_0	10/31/2015 1:31:33 PM

Mean Area 853.8
 Mean Conc. 25.37mg/L



5/5

WORKGROUP: WG568224

Total Organic Carbon

MAKE DAILY

CCV (TOC): Std 7283
 $(5/200)(1000) = 25\text{mg/L}$

LCS (TOC): Std 74954
 $(5/200)(1000) = 25\text{mg/L}$

CCV (TIC): Std 7540
 $(5/200)(1000) = 25\text{mg/L}$

MS (TOC): Std 74954
 $(5/200)(1000) = 25\text{mg/L}$

Calibration Curve Date: 10/31/15

Reagent: PGT 36583
RGA 36105

- SM5310-C : Matrix 2 WG 568224
- EPA 415.1/9060A(mod): Matrix 1 WG _____

SOP: K 4151 Rev. 18
 Instrument: Shimadza TOC-VWP/ASI

- drain reservoir filled
- ASI water bottle full
- dilution water bottle full

- DAILY CHECK**
- 3rd bottle full
 - sufficient gas
 - sufficient persulfate

- sufficient acid waste container

Position	Sample ID	Dilution
1	TIC	
2	TIC/TOC	
3	CCV	
4	Blk	
5	LCS	
6	LSTDUP	
7	05-151-01	1/5
8	03	1/5
9	05	1/5
10	07	1/5
11	09	1/5
12	09-202-04	1/5
13	05-315-01	1/2
14	CCV	
15	CCB	
16	05-405-01	1/5
17	DUP 05-315-01	1/2
18	MS 05-315-01	1/2
19	CCV	
20	CCB	
21	CCV	
22	CCB	
23	05-151-05	1/10
24	09	1/10
25	CCV	

Position	Sample ID	Dilution
26	CCB	
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52		
53		
54		
55		
56		
57		
58		
59		
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61		
62		
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75		

Analyst: Dave McCall

Date/Time: 5/10/16 1434

DCN#118382



C:\TOC3201\Data\05-10-2016-DCM-TOC.t32

	Analysis	Sample Name	Result	Status	Date / Time	Vial
1	TOC	TIC	TOC:4.059mg/L TC:29.53mg/L IC:25.47mg/L	Complete	5/10/2016 1:51:29 PM	1
2	TOC	TIC/TOC	TOC:28.58mg/L TC:37.05mg/L IC:8.472mg/L	Complete	5/10/2016 2:04:06 PM	2
3	TOC	CCV	TOC:27.83mg/L TC:27.83mg/L IC:0.00183mg/L	Complete	5/10/2016 2:16:19 PM	3
4	TOC	WG568224-01 BLK	TOC:0.06173mg/L TC:0.1501mg/L IC:0.08842mg/L	Complete	5/10/2016 2:49:40 PM	0
5	TOC	WG568224-02 LCS	!!Error!! TOC:27.41mg/L TC:27.40mg/L IC:-0.01818	Complete	5/10/2016 3:10:12 PM	5
6	TOC	WG568224-03 LCSDUP	!!Error!! TOC:27.53mg/L TC:27.51mg/L IC:-0.02137	Complete	5/10/2016 3:31:03 PM	6
7	TOC	L16050151-01 (10)	TOC:6.579mg/L TC:26.02mg/L IC:19.44mg/L	Complete	5/10/2016 4:10:02 PM	7
8	TOC		TOC:8.176mg/L TC:53.71mg/L IC:45.54mg/L	Complete	5/10/2016 4:32:08 PM	8
9	TOC	L16050151-05 (5)	TOC:5.717mg/L TC:35.56mg/L IC:29.84mg/L	Complete	5/10/2016 4:53:53 PM	9
10	TOC	L16050151-07 (5)	TOC:4.115mg/L TC:26.78mg/L IC:22.67mg/L	Complete	5/10/2016 5:15:44 PM	10
11	TOC	L16050151-09 (5)	TOC:0.8092mg/L TC:62.17mg/L IC:61.36mg/L	Complete	5/10/2016 5:41:12 PM	11
12	TOC	L16050202-04 (5)	TOC:6.358mg/L TC:19.67mg/L IC:13.32mg/L	Complete	5/10/2016 6:03:22 PM	12
13	TOC	L16050315-01 (2)	TOC:8.647mg/L TC:33.28mg/L IC:24.63mg/L	Complete	5/10/2016 6:26:23 PM	13
14	TOC	CCV	TOC:27.30mg/L TC:27.42mg/L IC:0.1214mg/L	Complete	5/10/2016 6:38:33 PM	14
15	TOC	CCB	TOC:0.04107mg/L TC:0.1432mg/L IC:0.1021mg/L	Complete	5/10/2016 6:47:32 PM	0
16	TOC	L16050465-01 (3)	TOC:9.156mg/L TC:18.31mg/L IC:9.156mg/L	Complete	5/10/2016 7:10:31 PM	16
17	TOC	WG568224-05 (2) DUP	TOC:8.294mg/L TC:27.60mg/L IC:19.31mg/L	Complete	5/10/2016 7:33:40 PM	17
18	TOC	WG568224-06 (2) MS	TOC:13.66mg/L TC:27.58mg/L IC:13.91mg/L	Complete	5/10/2016 7:57:03 PM	18
19	TOC	CCV	TOC:27.46mg/L TC:27.55mg/L IC:0.08647mg/L	Complete	5/10/2016 8:09:22 PM	19
20	TOC	CCB	TOC:0.04423mg/L TC:0.1409mg/L IC:0.09667mg/L	Complete	5/10/2016 8:18:17 PM	0
21	TOC	CCV	TOC:27.18mg/L TC:27.27mg/L IC:0.08955mg/L	Complete	5/11/2016 8:51:52 AM	21
22	TOC	CCB	TOC:0.04601mg/L TC:0.1424mg/L IC:0.09643mg/L	Complete	5/11/2016 9:00:53 AM	0
23	TOC	L16050151-03 (10)	TOC:7.129mg/L TC:21.95mg/L IC:14.82mg/L	Complete	5/11/2016 9:21:56 AM	23
24	TOC	L16050151-09 (10)	TOC:6.028mg/L TC:32.36mg/L IC:26.34mg/L	Complete	5/11/2016 9:44:09 AM	24
25	TOC	CCV	TOC:26.93mg/L TC:27.11mg/L IC:0.1853mg/L	Complete	5/11/2016 9:56:19 AM	25
26	TOC	CCB	TOC:0.03240mg/L TC:0.1412mg/L IC:0.1088mg/L	Complete	5/11/2016 10:05:12 A	0

dem
5/15/16

5/11/2016 11:00:30 AM

1/1

Instr. Information

System TOCVW ASI
 Detector Wet Chemical

Sample

Sample Name: TIC
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status Completed
 Chk. Result

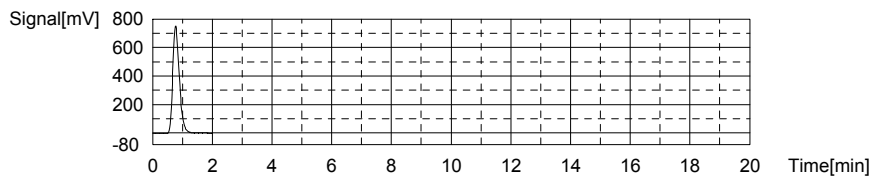
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.059mg/L TC:29.53mg/L IC:25.47mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1155	29.53mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	05/10/2016 1:46:26 PM

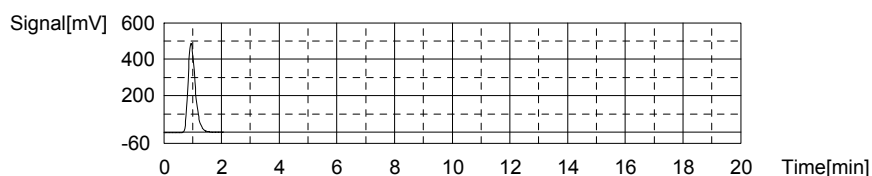
Mean Area 1155
 Mean Conc. 29.53mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	857.2	25.47mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	05/10/2016 1:51:29 PM

Mean Area 857.2
 Mean Conc. 25.47mg/L



Sample

Sample Name: TIC/TOC
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status Completed
 Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:28.58mg/L TC:37.05mg/L IC:8.472mg/L

1. Det

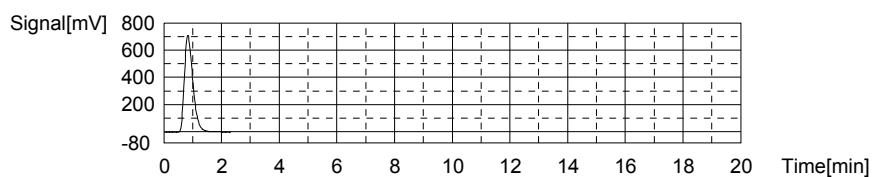
Anal.: TC

5/11/2016 11:00:33 AM

05-10-2016-DCM-TOC.i32

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1448	37.05mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 1:59:14 PM

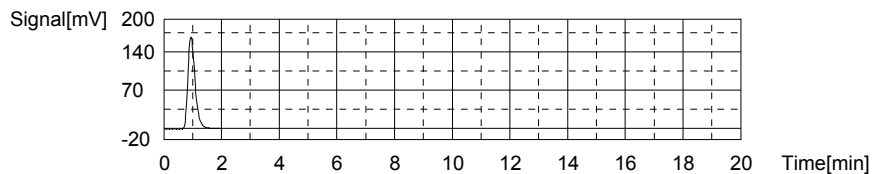
Mean Area 1448
Mean Conc. 37.05mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	289.1	8.472mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	10/2016 2:04:06 PM

Mean Area 289.1
Mean Conc. 8.472mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

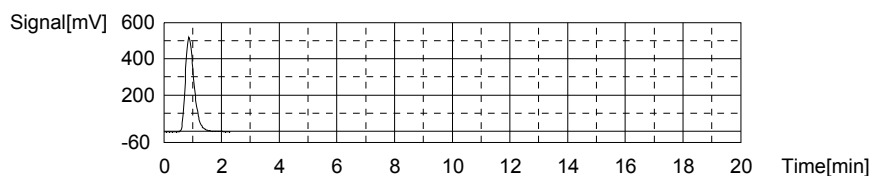
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.83mg/L TC:27.83mg/L IC:0.00183mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1089	27.83mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 2:11:51 PM

Mean Area 1089
Mean Conc. 27.83mg/L



Anal.: IC

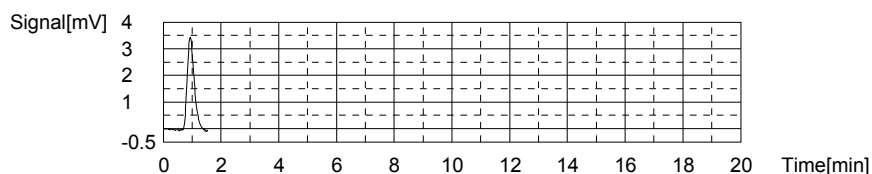
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.988	0.00183mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	10/2016 2:16:19 PM

2/19

5/11/2016 11:00:33 AM

05-10-2016-DCM-TOC.i32

Mean Area 5.988
Mean Conc. 0.00183mg/L



Sample

Sample Name: WG568224-01 BLK
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

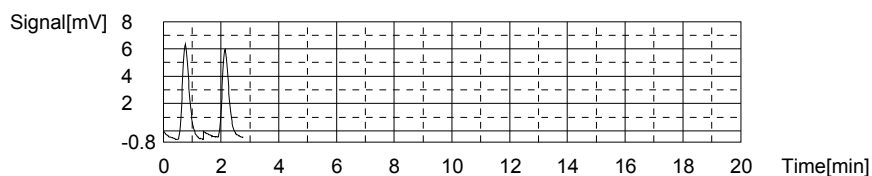
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.06173mg/L TC:0.1501mg/L IC:0.08842mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.37	0.1648mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 2:38:08 PM
2	10.23	0.1355mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 2:41:40 PM

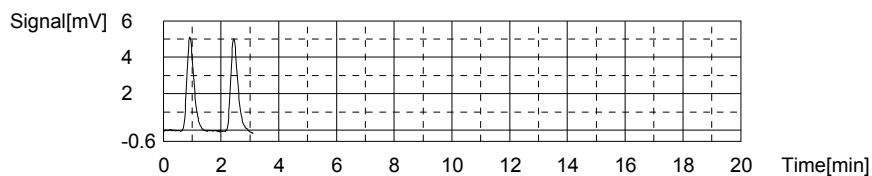
Mean Area 10.80
Mean Conc. 0.1501mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.821	0.08659mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	10/2016 2:45:39 PM
2	8.943	0.09024mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	10/2016 2:49:40 PM

Mean Area 8.882
Mean Conc. 0.08842mg/L



Sample

Sample Name: WG568224-02 LCS
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

3/19

5/11/2016 11:00:33 AM

05-10-2016-DCM-TOC.i32

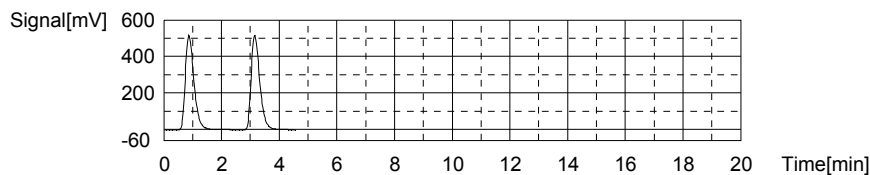
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:27.41mg/L TC:27.40mg/L IC:-0.01818mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1070	27.35mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 2:57:12 PM
2	1074	27.45mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 3:01:47 PM

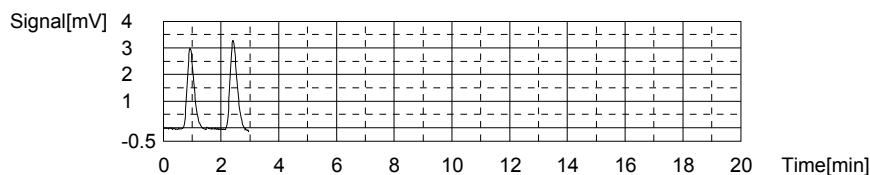
Mean Area 1072
Mean Conc. 27.40mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.005	-0.02758mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	10/2016 3:06:04 PM
2	5.633	-0.00879mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	10/2016 3:10:12 PM

Mean Area 5.319
Mean Conc. -0.01818mg/L



Sample

Sample Name: WG568224-03 LCS DUP
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

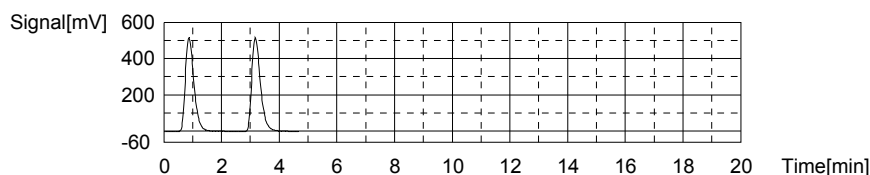
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:27.53mg/L TC:27.51mg/L IC:-0.02137mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1067	27.27mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 3:17:57 PM
2	1086	27.76mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 3:22:35 PM

Mean Area 1077
Mean Conc. 27.51mg/L



Anal.: IC

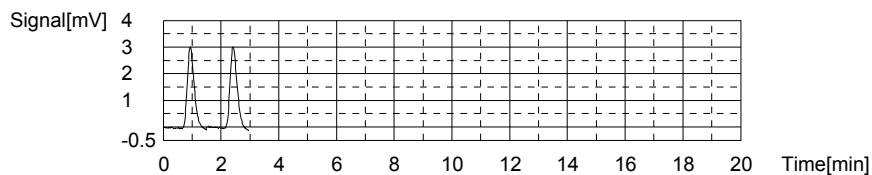
4/19

5/11/2016 11:00:33 AM

05-10-2016-DCM-TOC.i32

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.160	-0.02294mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 3:26:55 PM
2	5.265	-0.01980mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 3:31:03 PM

Mean Area 5.213
Mean Conc. -0.02137mg/L



Sample

Sample Name: L16050151-01 (10)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

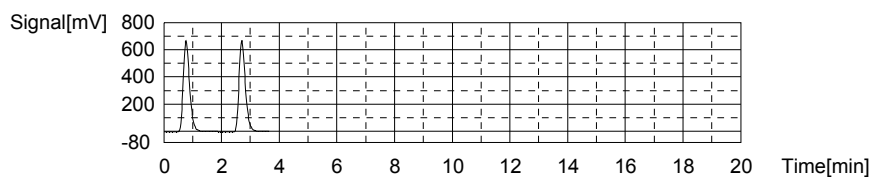
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.579mg/L TC:26.02mg/L IC:19.44mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1013	25.88mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 3:56:19 PM
2	1024	26.16mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 4:00:18 PM

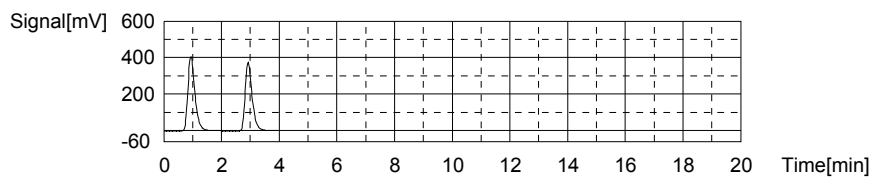
Mean Area 1019
Mean Conc. 26.02mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	685.0	20.32mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 4:05:20 PM
2	626.7	18.57mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 4:10:02 PM

Mean Area 655.9
Mean Conc. 19.44mg/L



Sample

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Sample Name:
 Sample ID: <Untitled>
 Origin: TOC-10-31-2015A.met
 Status: Completed
 Chk. Result

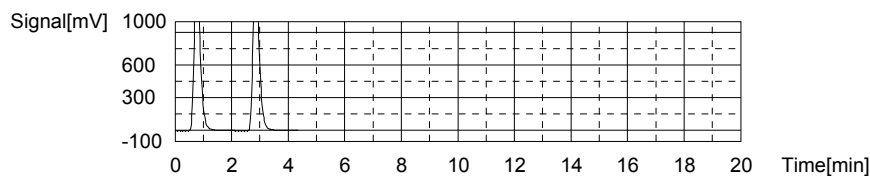
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:8.176mg/L TC:53.71mg/L IC:45.54mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2075	53.15mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 4:17:34 PM
2	2119	54.28mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 4:22:06 PM

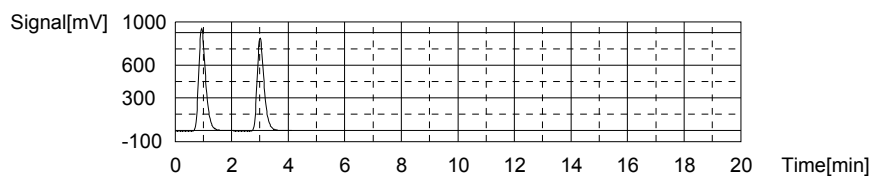
Mean Area 2097
 Mean Conc. 53.71mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1605	47.84mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 05	10/2016 4:27:16 PM
2	1451	43.23mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 05	10/2016 4:32:08 PM

Mean Area 1528
 Mean Conc. 45.54mg/L



Sample

Sample Name: L16050151-05 (5)
 Sample ID: <Untitled>
 Origin: TOC-10-31-2015A.met
 Status: Completed
 Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.717mg/L TC:35.56mg/L IC:29.84mg/L

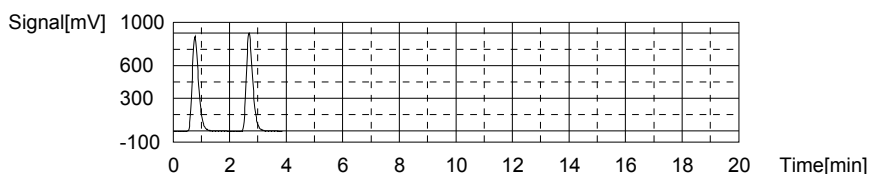
1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1368	35.00mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 4:39:29 PM
2	1412	36.13mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 4:43:45 PM

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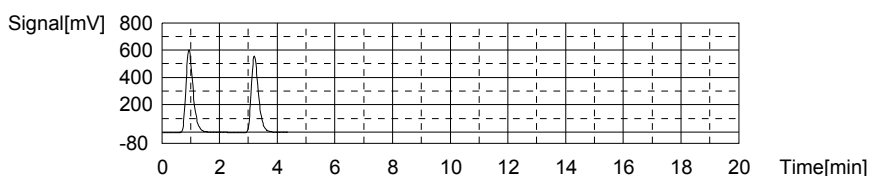
Mean Area 1390
Mean Conc. 35.56mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1042	31.00mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 4:49:01 PM
2	964.9	28.69mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 4:53:53 PM

Mean Area 1003
Mean Conc. 29.84mg/L



Sample

Sample Name: L16050151-07 (5)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

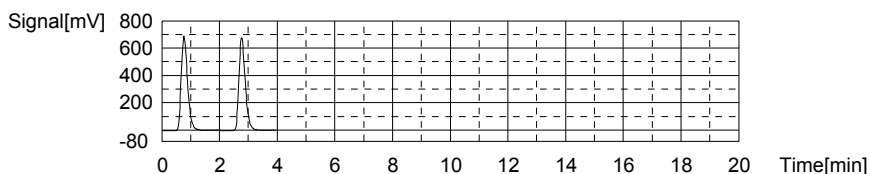
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.115mg/L TC:26.78mg/L IC:22.67mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1051	26.86mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 5:01:20 PM
2	1045	26.70mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 5:05:33 PM

Mean Area 1048
Mean Conc. 26.78mg/L



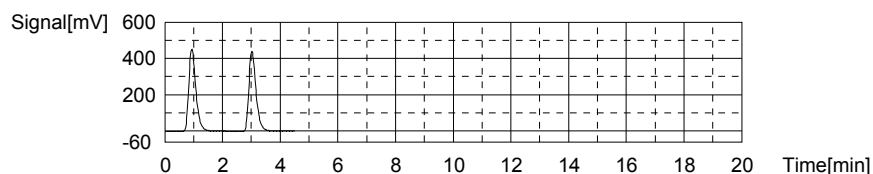
Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	771.3	22.90mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 5:10:35 PM
2	755.7	22.43mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 5:15:44 PM

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Mean Area 763.5
Mean Conc. 22.67mg/L



Sample

Sample Name: L16050151-09 (5)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

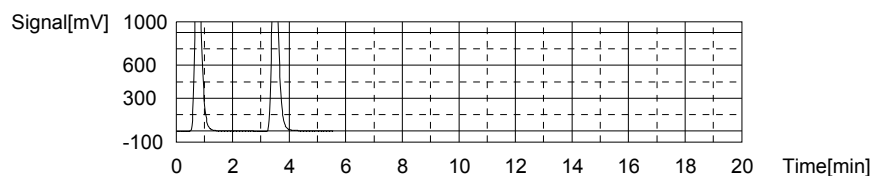
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.8092mg/L TC:62.17mg/L IC:61.36mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2389	61.21mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/10/2016 5:23:54 PM
2	2464	63.14mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/10/2016 5:29:53 PM

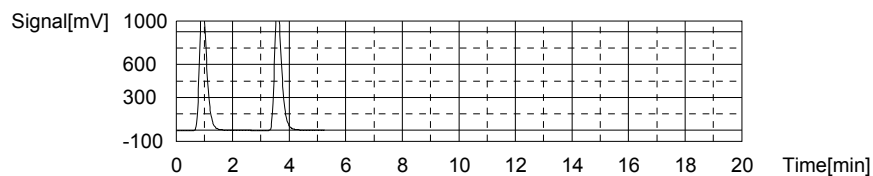
Mean Area 2427
Mean Conc. 62.17mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2112	63.01mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 05	10/10/2016 5:35:36 PM
2	2002	59.72mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 05	10/10/2016 5:41:12 PM

Mean Area 2057
Mean Conc. 61.36mg/L



Sample

Sample Name: L16050202-04 (5)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

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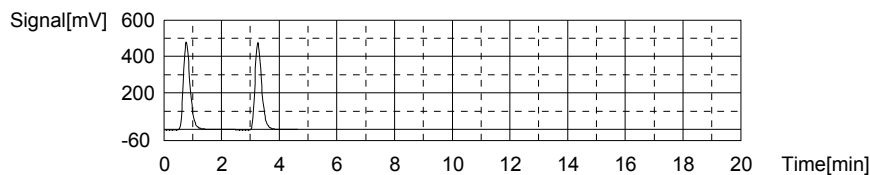
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.358mg/L TC:19.67mg/L IC:13.32mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	778.8	19.87mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 5:49:07 PM
2	763.7	19.48mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 5:53:33 PM

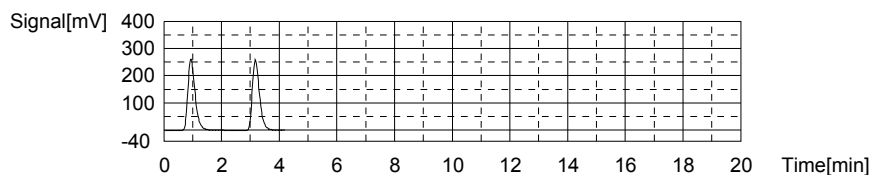
Mean Area 771.3
Mean Conc. 19.67mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	455.4	13.45mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	10/2016 5:58:45 PM
2	446.7	13.19mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	10/2016 6:03:22 PM

Mean Area 451.1
Mean Conc. 13.32mg/L



Sample

Sample Name: L16050315-01 (2)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

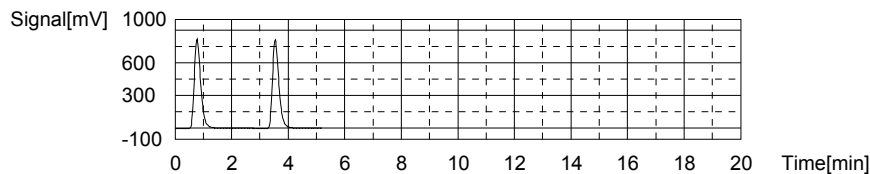
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:8.647mg/L TC:33.28mg/L IC:24.63mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1308	33.46mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 6:11:34 PM
2	1294	33.10mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 6:16:15 PM

Mean Area 1301
Mean Conc. 33.28mg/L



Anal.: IC

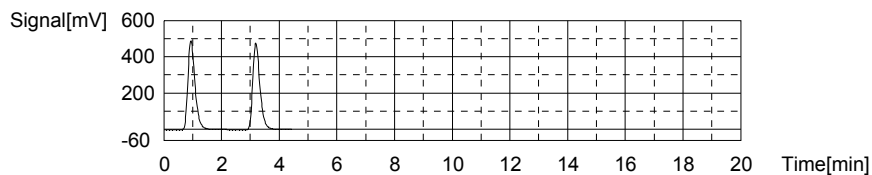
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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	837.9	24.89mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	05/10/2016 6:21:28 PM
2	820.4	24.37mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	05/10/2016 6:26:23 PM

Mean Area 829.2
Mean Conc. 24.63mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

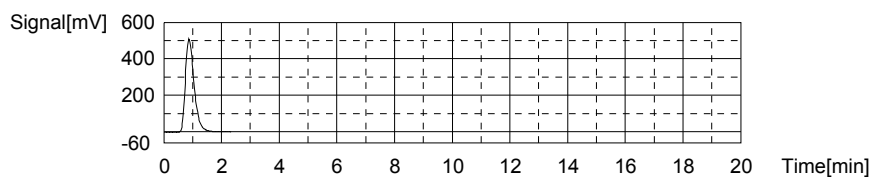
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.30mg/L TC:27.42mg/L IC:0.1214mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1073	27.42mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 30 16 06 35	10/10/2016 6:34:09 PM

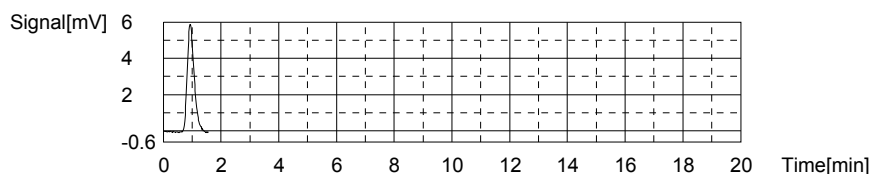
Mean Area 1073
Mean Conc. 27.42mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.984	0.1214mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	05/10/2016 6:38:33 PM

Mean Area 9.984
Mean Conc. 0.1214mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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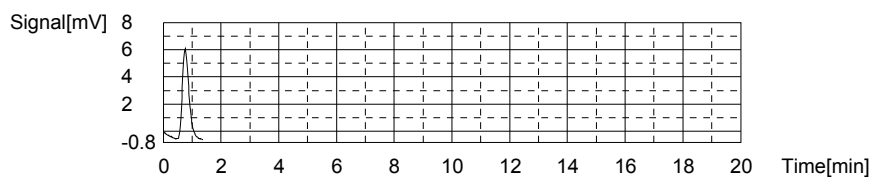
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04107mg/L TC:0.1432mg/L IC:0.1021mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.53	0.1432mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_35	05/10/2016 6:43:33 PM

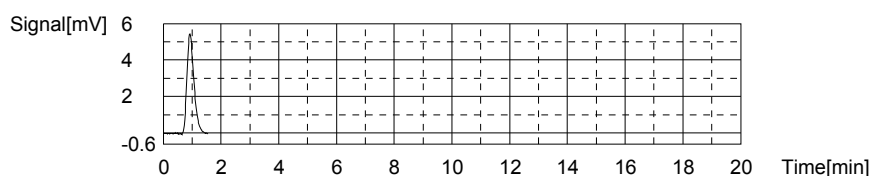
Mean Area 10.53
Mean Conc. 0.1432mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.341	0.1021mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_05	05/10/2016 6:47:32 PM

Mean Area 9.341
Mean Conc. 0.1021mg/L



Sample

Sample Name: L16050465-01 (3)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

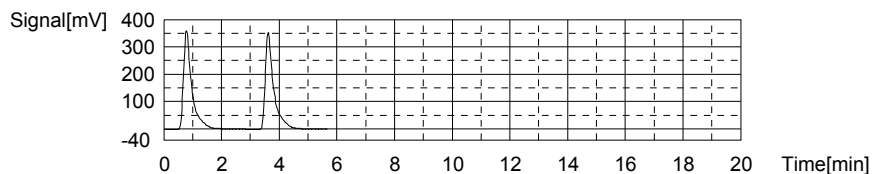
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:9.156mg/L TC:18.31mg/L IC:9.156mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	719.0	18.33mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_35	05/10/2016 6:55:48 PM
2	717.3	18.29mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_35	05/10/2016 7:01:00 PM

Mean Area 718.2
Mean Conc. 18.31mg/L



Anal.: IC

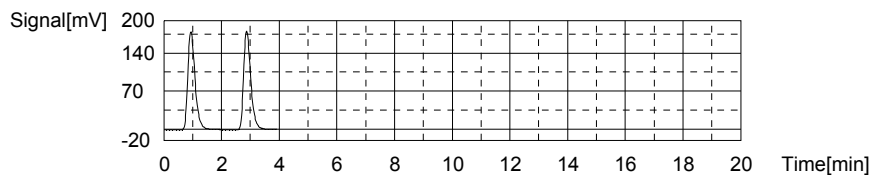
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5/11/2016 11:00:33 AM

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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	311.8	9.151mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 7:05:51 PM
2	312.1	9.160mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 7:10:31 PM

Mean Area 312.0
Mean Conc. 9.156mg/L



Sample

Sample Name: WG568224-05 (2) DUP
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

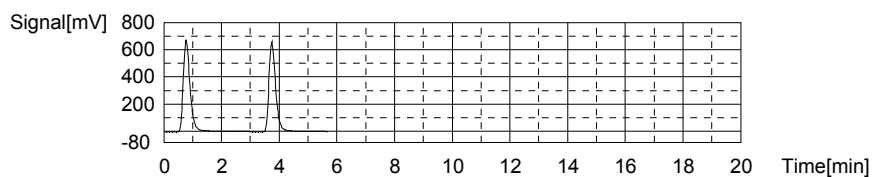
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:8.294mg/L TC:27.60mg/L IC:19.31mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1095	27.99mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/10/2016 7:18:55 PM
2	1065	27.22mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/10/2016 7:23:54 PM

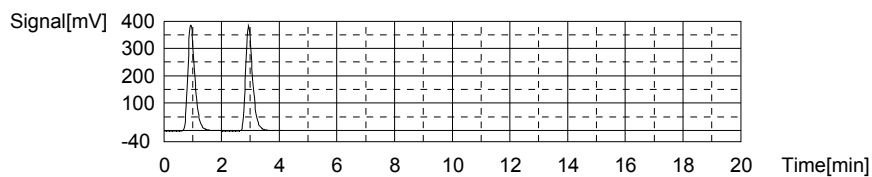
Mean Area 1080
Mean Conc. 27.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	655.5	19.43mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 7:28:50 PM
2	647.1	19.18mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 7:33:40 PM

Mean Area 651.3
Mean Conc. 19.31mg/L



Sample

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05-10-2016-DCM-TOC.i32

Sample Name: WG568224-06 (2) MS
 Sample ID: <Untitled>
 Origin: TOC-10-31-2015A.met
 Status: Completed
 Chk. Result:

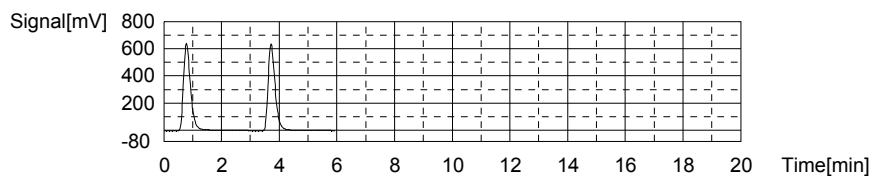
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:13.66mg/L TC:27.58mg/L IC:13.91mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1084	27.70mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 7:42:03 PM
2	1074	27.45mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 7:47:29 PM

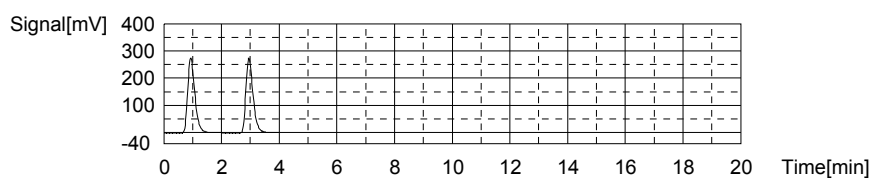
Mean Area 1079
 Mean Conc. 27.58mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	472.0	13.94mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 05	10/2016 7:52:23 PM
2	469.9	13.88mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 05	10/2016 7:57:03 PM

Mean Area 471.0
 Mean Conc. 13.91mg/L



Sample

Sample Name: CCV
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result:

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.46mg/L TC:27.55mg/L IC:0.08647mg/L

1. Det

Anal.: TC

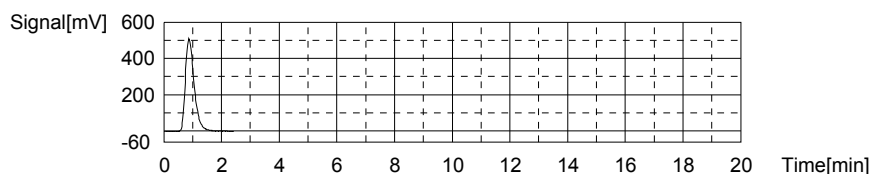
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1078	27.55mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/2016 8:04:54 PM

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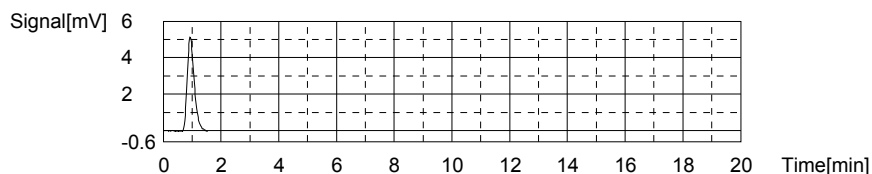
Mean Area 1078
Mean Conc. 27.55mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.817	0.08647mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 8:09:22 PM

Mean Area 8.817
Mean Conc. 0.08647mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

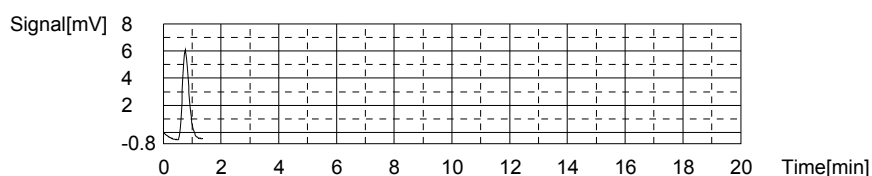
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04423mg/L TC:0.1409mg/L IC:0.09667mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.44	0.1409mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	10/10/2016 8:14:22 PM

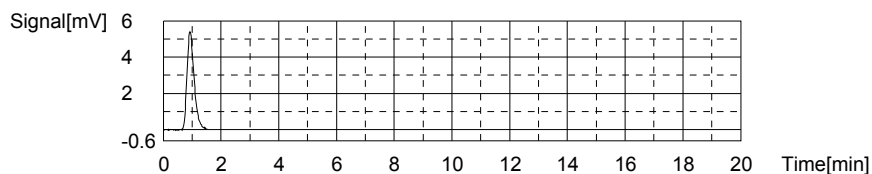
Mean Area 10.44
Mean Conc. 0.1409mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.158	0.09667mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/10/2016 8:18:17 PM

Mean Area 9.158
Mean Conc. 0.09667mg/L



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Sample

Sample Name: CCV
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result

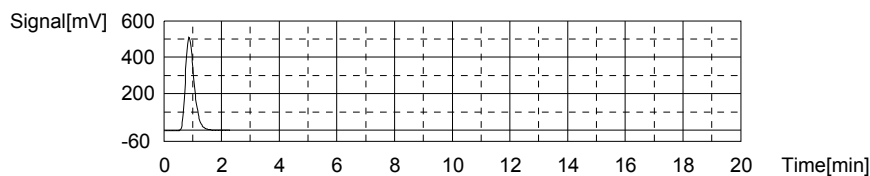
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.18mg/L TC:27.27mg/L IC:0.08955mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1067	27.27mg/L	500uL		1	TCCURVE-10-30-2015.2015_10_30_16_06_35	05/11/2016 8:47:27 AM

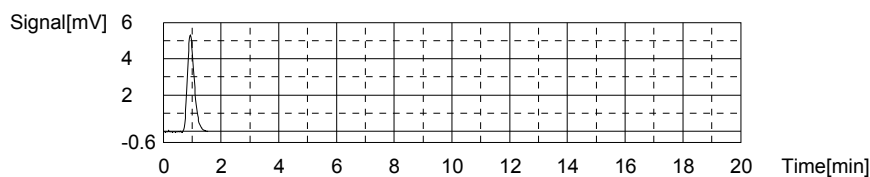
Mean Area 1067
 Mean Conc. 27.27mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.920	0.08955mg/L	500uL		1	TICURVE-10-30-2015.2015_10_31_11_55_05	05/11/2016 8:51:52 AM

Mean Area 8.920
 Mean Conc. 0.08955mg/L



Sample

Sample Name: CCB
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04601mg/L TC:0.1424mg/L IC:0.09643mg/L

1. Det

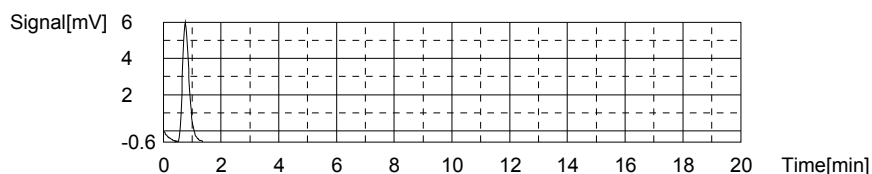
Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.50	0.1424mg/L	500uL		1	TCCURVE-10-30-2015.2015_10_30_16_06_35	05/11/2016 8:56:53 AM

5/11/2016 11:00:33 AM

05-10-2016-DCM-TOC.i32

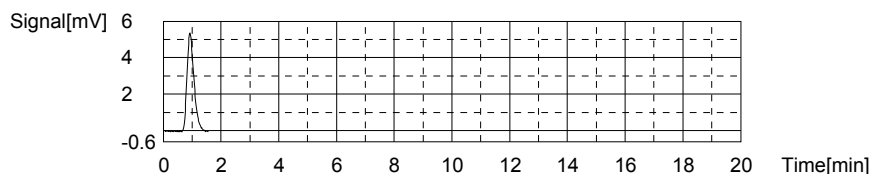
Mean Area 10.50
Mean Conc. 0.1424mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.150	0.09643mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/11/2016 9:00:53 AM

Mean Area 9.150
Mean Conc. 0.09643mg/L



Sample

Sample Name: L16050151-03 (10)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

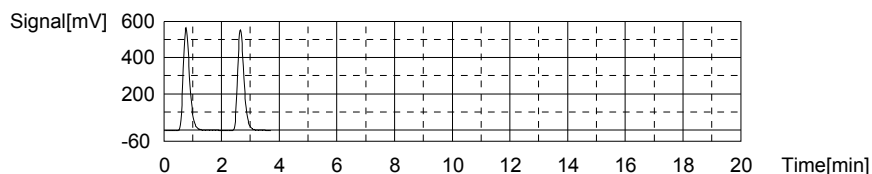
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.129mg/L TC:21.95mg/L IC:14.82mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	868.6	22.17mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	11/2016 9:08:12 AM
2	851.3	21.73mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	11/2016 9:12:17 AM

Mean Area 860.0
Mean Conc. 21.95mg/L

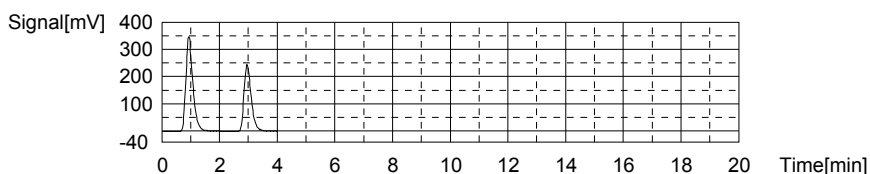


Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	578.3	17.12mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/11/2016 9:17:13 AM
2	424.5	12.52mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	05/11/2016 9:21:56 AM

16/19

Mean Area 501.4
 Mean Conc. 14.82mg/L



Sample

Sample Name: L16050151-09 (10)
 Sample ID: <Untitled>
 Origin: TOC-10-31-2015A.met
 Status: Completed
 Chk. Result

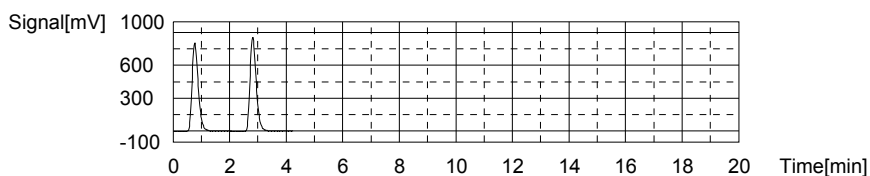
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.026mg/L TC:32.36mg/L IC:26.34mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1228	31.40mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	5/11/2016 9:29:25 AM
2	1303	33.33mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 35	5/11/2016 9:33:52 AM

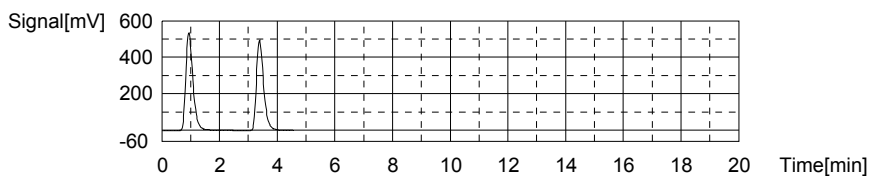
Mean Area 1266
 Mean Conc. 32.36mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	918.7	27.31mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	5/11/2016 9:39:18 AM
2	853.9	25.37mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 05	5/11/2016 9:44:09 AM

Mean Area 886.3
 Mean Conc. 26.34mg/L



Sample

Sample Name: CCV
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result

5/11/2016 11:00:33 AM

05-10-2016-DCM-TOC.i32

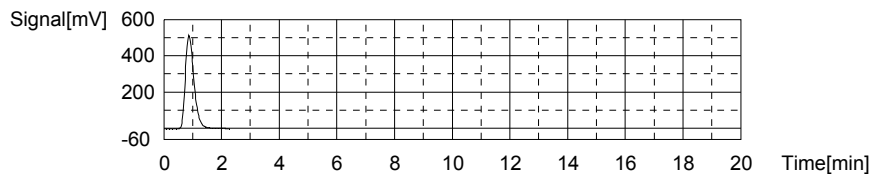
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.93mg/L TC:27.11mg/L IC:0.1853mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1061	27.11mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_35	05/11/2016 9:51:53 AM

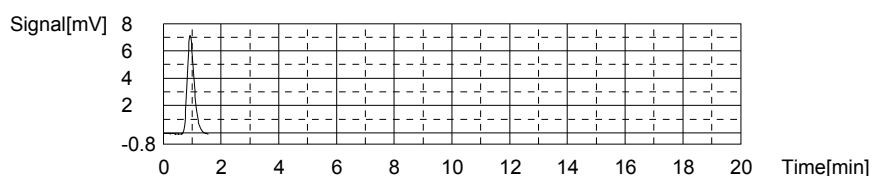
Mean Area 1061
Mean Conc. 27.11mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.12	0.1853mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_05	05/11/2016 9:56:19 AM

Mean Area 12.12
Mean Conc. 0.1853mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

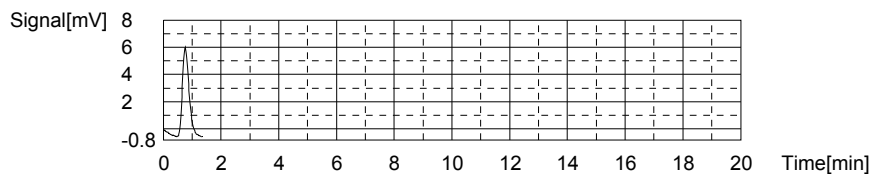
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.03240mg/L TC:0.1412mg/L IC:0.1088mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.45	0.1412mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_35	05/11/2016 10:01:19 AM

Mean Area 10.45
Mean Conc. 0.1412mg/L



Anal.: IC

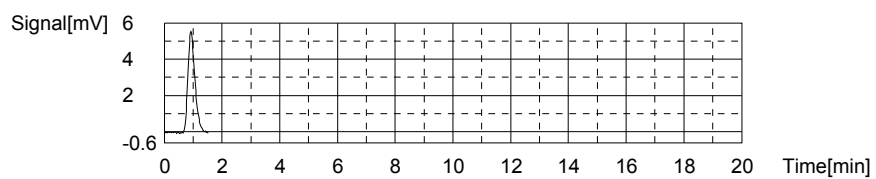
18/19

5/11/2016 11:00:33 AM

05-10-2016-DCM-TOC.i32

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.562	0.1088mg/L	500uL		1	TICCURVE-10-30-2015.2015 10 31 11 55	05/11/2016 10:05:12 AM

Mean Area 9.562
Mean Conc. 0.1088mg/L



19/19

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
May 18, 2016

001 - BIO-CHEM TESTING WVDEP 220	002 - REIC Consultants, Inc. WVDEP 060
003 - Sturm Environmental	004 - MICROBAC PITTSBURGH
005 - ES LABORATORIES	006 - ALCOSAN LABORATORIES
007 - ALS LABORATORIES	008 - BENCHMARK LABORATORIES
010 - MICROBAC CHICAGOLAND	AC - AMBER R. CARMICHAEL
ADC - ANTHONY D. CANTER	ADG - APRIL D. GREENE
AED - ALLEN E. DAVIS	ALS - ADRIANE L. STEED
AMA - ALEXANDRA M. ALFRED	AWE - ANDREW W. ESSIG
AZH - AFTER HOURS	BJO - BRIAN J. OGDEN
BKT - BRENDAN TORRENCE	BLG - BRENDA L. GREENWALT
BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES
CJR - COURTNEY J. REXROAD	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS
CPD - CHAD P. DAVIS	CSH - CHRIS S. HILL
DAK - DEAN A. KETELSEN	DCM - DAVID C. MERCKLE
DEV - DAVID E. VANDENBERG	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE
DLW - DIANA L. WRIGHT	DSM - DAVID S. MOSSOR
ECL - ERIC C. LAWSON	EMW - ERIC M. WILKEN
ENY - EMILY N. YOAK	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	JBK - JEREMY B. KINNEY
JDH - JUSTIN D. HESSON	JDS - JARED D. SMITH
JJS - JOHN J. STE MARIE	JKP - JACQUELINE K. PARSONS
JLD - JESSICA L. DELONG	JLL - JOHN L. LENT
JMW - JEANA M. WHITE	JTP - JOSHUA T. PEMBERTON
JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES
JYH - JI Y. HU	KAJ - KELLIE A. JOHNSON
KAT - KATHY A. TUCKER	KDW - KATHRYN D. WELCH
KEB - KATIE E. BARNES	KHR - KIM H. RHODES
KKB - KERRI K. BUCK	KRA - KATHY R. ALBERTSON
KRB - KAELY R. BECKER	KRP - KATHY R. PARSONS
LEC - LAURA E. CARPENTER	LKN - LINDA K. NEDEFF
LLS - LARRY L. STEPHENS	LSB - LESLIE S. BUCINA
MAP - MARLA A. PORTER	MBK - MORGAN B. KNOWLTON
MDA - MIKE D. ALBERTSON	MDC - MIKE D. COCHRAN
MES - MARY E. SCHILLING	MLB - MEGAN L. BACHE
MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON	PDM - PIERCE D. MORRIS
PIT - MICROBAC WARRENDALE	PRL - PAIGE R. LAMB
PSW - PEGGY S. WEBB	QX - QIN XU
RAH - ROY A. HALSTEAD	REK - BOB E. KYER
RLB - BOB BUCHANAN	RM - RAYMOND MALEKE
RNP - RICK N. PETTY	RST - ROBIN S. TURNER
SAV - SARAH A. VANDENBERG	SCB - SARAH C. BOGOLIN
SDC - SHALYN D. CONLEY	SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF	TB - TODD BOYLE
TGF - TIM G. FELTON	TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS	VC - VICKI COLLIER
WJB - WILL J. BEASLEY	WRR - WESLEY R. RICHARDS
WTD - WADE T. DELONG	XXX - UNAVAILABLE OR SUBCONTRACT

List of Valid Qualifiers

May 18, 2016

Qualkey: DOD

Qualifier	Description
*	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.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B,H1	Analyte present in method blank. Sample analysis performed past holding time.
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
CT1	Cooler temperature at sample receipt exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
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)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
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,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample receipt exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
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, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
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.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. 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
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound
TNTC	Too numerous to count



List of Valid Qualifiers

May 18, 2016

Qualkey: DOD

TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Analyte was not detected. The concentration is below the reported LOD.
U,CT1	Analyte was not detected. The concentration is below the reported LOD. Cooler temperature at sample receipt exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
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





Chain of Custody Record

COC Number:

Laboratory: Microbac POC: Stephanie Mossburg	Project Manager: Debra Richmann	Mail to: Linda Raabe 112 East Pecan STE. 400 San Antonio, TX 78205 210-296-2000
Address: 158 Starlite Drive Marietta, OH 45750	Phone/Fax Number: 210-296-2000	
Phone: 1-800-373-4071	Sampler (print): Scott Beesinger	
Client: AECOM	Signature: <i>Scott Beesinger</i>	Fed Ex Airbill No:
Address: 112 East Pecan Ste. 400 San Antonio, TX 78205	pH:	Program:
Turn Around Time: STANDARD		
Project Name/Location: Longhorn		
Project Number: 60256135.0002GA		

ERPIMS REQUIRED FIELDS

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Compr	Grab	Matrix	Number of Containers	VOC	Perchlorate	Dissolved Gases / Carbon Dioxide	Alkalinity	Sulfide	Chloride / Sulfate Nitrate / Nitrite	TOC / Total Phosphorous	Dissolved Iron / Dissolved Manganese	SA CODE	Cooler ID	LOT CONTROL NUMBERS				
																				ABL	EBL	TBL		
																				ABL	EBL	TBL		
SITE 50	50WW13-050316			5/3/16	0805		✓	W	11	✓	✓	✓	✓	✓	✓	✓	✓							
	50WW13FF-050316			5/3/16	0805		✓	W	1								✓							
	50WW14-050316			5/3/16	0925		✓	W	11	✓	✓	✓	✓	✓	✓	✓								
	50WW14FF-050316			5/3/16	0925		✓	W	1								✓							
	50WW08-050316			5/3/16	1045		✓	W	11	✓	✓	✓	✓	✓	✓	✓	✓							
	50WW08FF-050316			5/3/16	1045		✓	W	1									✓						
	50WW18-050316			5/3/16	1310		✓	W	11	✓	✓	✓	✓	✓	✓	✓	✓							
	50WW18FF-050316			5/3/16	1310		✓	W	1									✓						
	50WW25-050316			5/3/16	1440		✓	W	11	✓	✓	✓	✓	✓	✓	✓	✓							
	50WW25FF-050316			5/3/16	1440		✓	W	1									✓						
	TRIP Blank			5/3/16			✓	W	2	✓														

Comments: STANDARD TAT

Relinquished by: <i>Scott Beesinger</i>	Date: 5/3/16	Time: 1545	Received by: <i>Brenda Gregory</i>	Date: 05/04/2016	Time: 09:48	Relinquished by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	221000085380		Time: Remarks:



Microbac OVD
Received: 05/04/2016 09:48
By: BRENDA GREGORY

Brenda Gregory

nager, Pink QA/QC Manager

-Homogenize all composite samples prior to analysis

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum Container ID Products

L16050151-01 738857

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Samplenum Container ID Products

L16050151-01 738858

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	

Samplenum Container ID Products

L16050151-01 738859

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	04-MAY-2016 11:00	CLS		
2	PREP	L1	SEM	04-MAY-2016 11:06	AED	BRG	
3	STORE	SEM	A1	12-MAY-2016 11:41	CLS	AED	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum Container ID Products

L16050151-01 738860

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	WET	05-MAY-2016 12:59	DCM	BRG	
3	STORE	WET	A1	12-MAY-2016 13:16	CLS	BLR	

Samplenum Container ID Products

L16050151-01 738861

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	SEM	05-MAY-2016 14:26	JWR	CLS	
3	STORE	SEM	A1	06-MAY-2016 15:51	CLS	JWR	

Samplenum Container ID Products

L16050151-01 738862

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		<2
2	ANALYZ	W1	WET	06-MAY-2016 15:09	DCM	CLS	
3	STORE	WET	A1	12-MAY-2016 13:16	CLS	BLR	

Samplenum Container ID Products

L16050151-01 738863

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	WET	06-MAY-2016 12:09	TB	CLS	
3	STORE	WET	A1	09-MAY-2016 11:43	CLS	TB	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum Container ID Products

L16050151-02 738864

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	PREP	W1	DIG	04-MAY-2016 13:34	ERP	BRG	
3	ANALYZ*	DIG	METALS	05-MAY-2016 12:37	KKB	ERP	
4	STORE	DIG	A1	05-MAY-2016 14:32	CLS	ERP	

**Sample extract/digestate/leachate*Samplenum Container ID Products

L16050151-03 738865 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum **Container ID** **Products**
L16050151-03 738866 RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Samplenum **Container ID** **Products**
L16050151-03 738867 9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	04-MAY-2016 11:00	CLS		
2	PREP	L1	SEM	04-MAY-2016 11:06	AED	BRG	
3	STORE	SEM	A1	12-MAY-2016 11:41	CLS	AED	

Samplenum **Container ID** **Products**
L16050151-03 738868 ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	WET	05-MAY-2016 12:59	DCM	BRG	
3	STORE	WET	A1	12-MAY-2016 13:16	CLS	BLR	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum Container ID Products
L16050151-03 738869 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	SEM	05-MAY-2016 14:26	JWR	CLS	
3	STORE	SEM	A1	06-MAY-2016 15:51	CLS	JWR	

Samplenum Container ID Products
L16050151-03 738870 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		<2
2	ANALYZ	W1	WET	06-MAY-2016 15:09	DCM	CLS	
3	STORE	WET	A1	12-MAY-2016 13:16	CLS	BLR	

Samplenum Container ID Products
L16050151-03 738871 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	WET	06-MAY-2016 12:09	TB	CLS	
3	STORE	WET	A1	09-MAY-2016 11:43	CLS	TB	

Samplenum Container ID Products
L16050151-04 738872 FE-D MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	PREP	W1	DIG	04-MAY-2016 13:34	ERP	BRG	
3	ANALYZ*	DIG	METALS	05-MAY-2016 12:37	KKB	ERP	
4	STORE	DIG	A1	05-MAY-2016 14:32	CLS	ERP	

*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



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum **Container ID** **Products**
L16050151-05 738873 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Samplenum **Container ID** **Products**
L16050151-05 738874 RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Samplenum **Container ID** **Products**
L16050151-05 738875 9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	04-MAY-2016 11:00	CLS		
2	PREP	L1	SEM	04-MAY-2016 11:06	AED	BRG	
3	STORE	SEM	A1	12-MAY-2016 11:41	CLS	AED	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum **Container ID** **Products**
L16050151-05 738876 ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	WET	05-MAY-2016 12:59	DCM	BRG	
3	STORE	WET	A1	12-MAY-2016 13:16	CLS	BLR	

Samplenum **Container ID** **Products**
L16050151-05 738877 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	SEM	05-MAY-2016 14:26	JWR	CLS	
3	STORE	SEM	A1	06-MAY-2016 15:51	CLS	JWR	

Samplenum **Container ID** **Products**
L16050151-05 738878 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		<2
2	ANALYZ	W1	WET	06-MAY-2016 15:09	DCM	CLS	
3	STORE	WET	A1	12-MAY-2016 13:16	CLS	BLR	

Samplenum **Container ID** **Products**
L16050151-05 738879 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	WET	06-MAY-2016 12:09	TB	CLS	
3	STORE	WET	A1	09-MAY-2016 11:43	CLS	TB	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum **Container ID** **Products**
L16050151-06 738880 FE-D MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	PREP	W1	DIG	04-MAY-2016 13:34	ERP	BRG	
3	ANALYZ*	DIG	METALS	05-MAY-2016 12:37	KKB	ERP	
4	STORE	DIG	A1	05-MAY-2016 14:32	CLS	ERP	

*Sample extract/digestate/leachate

Samplenum **Container ID** **Products**
L16050151-07 738881 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum **Container ID** **Products**
L16050151-07 738882 RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Samplenum **Container ID** **Products**
L16050151-07 738883 9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	04-MAY-2016 11:00	CLS		
2	PREP	L1	SEM	04-MAY-2016 11:06	AED	BRG	
3	STORE	SEM	A1	12-MAY-2016 11:41	CLS	AED	

Samplenum **Container ID** **Products**
L16050151-07 738884 ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	WET	05-MAY-2016 12:59	DCM	BRG	
3	STORE	WET	A1	12-MAY-2016 13:16	CLS	BLR	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum Container ID Products
L16050151-07 738885 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	SEM	05-MAY-2016 14:26	JWR	CLS	
3	STORE	SEM	A1	06-MAY-2016 15:51	CLS	JWR	

Samplenum Container ID Products
L16050151-07 738886 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		<2
2	ANALYZ	W1	WET	06-MAY-2016 15:09	DCM	CLS	
3	STORE	WET	A1	12-MAY-2016 13:16	CLS	BLR	

Samplenum Container ID Products
L16050151-07 738887 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	WET	06-MAY-2016 12:09	TB	CLS	
3	STORE	WET	A1	09-MAY-2016 11:43	CLS	TB	

Samplenum Container ID Products
L16050151-08 738888 FE-D MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	PREP	W1	DIG	04-MAY-2016 13:34	ERP	BRG	
3	ANALYZ*	DIG	METALS	05-MAY-2016 12:37	KKB	ERP	
4	STORE	DIG	A1	05-MAY-2016 14:32	CLS	ERP	

*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



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum **Container ID** **Products**
L16050151-09 738889 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Samplenum **Container ID** **Products**
L16050151-09 738890 RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG1	05-MAY-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-MAY-2016 07:44	CLS	AWE	

Samplenum **Container ID** **Products**
L16050151-09 738891 9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	04-MAY-2016 11:00	CLS		
2	PREP	L1	SEM	04-MAY-2016 11:06	AED	BRG	
3	STORE	SEM	A1	12-MAY-2016 11:41	CLS	AED	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum **Container ID** **Products**
L16050151-09 738892 ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	WET	05-MAY-2016 12:59	DCM	BRG	
3	STORE	WET	A1	12-MAY-2016 13:16	CLS	BLR	

Samplenum **Container ID** **Products**
L16050151-09 738893 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	SEM	05-MAY-2016 14:26	JWR	CLS	
3	STORE	SEM	A1	06-MAY-2016 15:51	CLS	JWR	

Samplenum **Container ID** **Products**
L16050151-09 738894 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		<2
2	ANALYZ	W1	WET	06-MAY-2016 15:09	DCM	CLS	
3	STORE	WET	A1	12-MAY-2016 13:15	CLS	BLR	

Samplenum **Container ID** **Products**
L16050151-09 738895 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	ANALYZ	W1	WET	06-MAY-2016 12:09	TB	CLS	
3	STORE	WET	A1	09-MAY-2016 11:43	CLS	TB	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16050151

Account: 2551

Project: 2551.096

Samples: 9

Due Date: 13-MAY-2016

Samplenum **Container ID** **Products**
L16050151-10 738896 FE-D MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-MAY-2016 11:00	CLS		
2	PREP	W1	DIG	04-MAY-2016 13:34	ERP	BRG	
3	ANALYZ*	DIG	METALS	05-MAY-2016 12:37	KKB	ERP	
4	STORE	DIG	A1	05-MAY-2016 14:32	CLS	ERP	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L16050151-11 738897 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-MAY-2016 11:00	CLS		
2	ANALYZ	V1	ORG4	04-MAY-2016 12:23	TMB	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



NELAP Addendum - January 4, 2016

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO₃)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS

Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER**OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALSOVD MSS01/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP**SOLID AND HAZARDOUS CHEMICALS**OVD MSV01/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

Laboratory Report Number: L16050571

Kayla Teague
AECOM Technical Services, Inc.
16000 Dallas Parkway
Dallas, TX 75248

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 31 2016



David Vandenberg – Managing Director

State of Origin: TX
Accrediting Authority: Texas Commission on Environmental Quality ID:T104704252-07-TX
QAPP: DOD Ver 4.1



Lab Report #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

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 #	Temp Required?
00110495	I	5.0		J2317165287	X

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	All samples were checked for pH and met the standard. Exceptions are noted above under discrepancy. (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes



Lab Report #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
50WW22-051016	L16050571-01	05/10/2016 07:50	05/11/2016 09:43
50WW22FF-051016	L16050571-02	05/10/2016 07:50	05/11/2016 09:43
50WW11-051016	L16050571-03	05/10/2016 09:00	05/11/2016 09:43
50WW11FF-051016	L16050571-04	05/10/2016 09:00	05/11/2016 09:43
50WW06-051016	L16050571-05	05/10/2016 10:10	05/11/2016 09:43
50WW06FF-051016	L16050571-06	05/10/2016 10:10	05/11/2016 09:43
50WW12-051016	L16050571-07	05/10/2016 11:20	05/11/2016 09:43
50WW12FF-051016	L16050571-08	05/10/2016 11:20	05/11/2016 09:43
50WW24-051016	L16050571-09	05/10/2016 13:20	05/11/2016 09:43
50WW24FF-051016	L16050571-10	05/10/2016 13:20	05/11/2016 09:43
50WW23-051016	L16050571-11	05/10/2016 14:35	05/11/2016 09:43
50WW23FF-051016	L16050571-12	05/10/2016 14:35	05/11/2016 09:43
TRIP BLANK	L16050571-13	05/10/2016 00:01	05/11/2016 09:43

Microbac REPORT L16050571
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

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1.0 Summary Data

1.1 Narratives



Login Number: L16050571
Department: Volatiles - GC
Analyst: Jared Smith

Analysis RSK-175

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/Sample Duplicates: The MS/MSD results were not associated with this sample delivery group (SDG), due to insufficient volume of sample. Microbac Laboratories recommends site specific MS/MSD samples to avoid possible data qualifications.

SAMPLES

Samples: 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.

Narrative ID: 112546

Approved By: Sarah Vandenberg

Sarah Vandenberg



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	8260
Prep Batch Number(s):	569356, 569561, 569736	Reviewer Name:	Franci Bolden
LRC Date:	2016-05-26 00:00:00		

Laboratory Data Package Cover Page

X	R1	Field chain-of-custody documentation;
X	R2	Sample identification cross-reference;
X	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
X	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Franci Bolden		Analyst I	2016-05-26 18:39:45



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	8260
Prep Batch Number(s):	569356, 569561, 569736	Reviewer Name:	Franci Bolden
LRC Date:	2016-05-26 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?	X				
Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	8260
Prep Batch Number(s):	569356, 569561, 569736	Reviewer Name:	Franci Bolden
LRC Date:	2016-05-26 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?		X			1
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	8260
Prep Batch Number(s):	569356, 569561, 569736	Reviewer Name:	Franci Bolden
LRC Date:	2016-05-26 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?		X			2
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	8260
Prep Batch Number(s):	569356, 569561, 569736	Reviewer Name:	Franci Bolden
LRC Date:	2016-05-26 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	8260
Prep Batch Number(s):	569356, 569561, 569736	Reviewer Name:	Franci Bolden
LRC Date:	2016-05-26 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC §25.6 and was last inspection by TCEQ or _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1) 2-Butanone, 2-Hexanone, 4-Methyl-2-pentanone, Acetone, and Carbon disulfide RPD exceeds the limit in LCS2 WG569561-03 analyzed 5/19/16 on HPMS11 due to the LCS2 being spiked at double the amount of the LCS for these compounds only.

2) Bromoform exceeded the UCL in CCV WG569560-02 analyzed 5/19/16 on HPMS11.




Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6850
Prep Batch Number(s):	WG569661	Reviewer Name:	Eric Lawson
LRC Date:	2016-05-24 00:00:00		

Laboratory Data Package Cover Page

X	R1	Field chain-of-custody documentation;
X	R2	Sample identification cross-reference;
X	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
X	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Eric Lawson		Chemist III	2016-05-24 12:57:31



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6850
Prep Batch Number(s):	WG569661	Reviewer Name:	Eric Lawson
LRC Date:	2016-05-24 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?			X		
Were % moisture (or solids) reported for all soil and sediment samples?			X		
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6850
Prep Batch Number(s):	WG569661	Reviewer Name:	Eric Lawson
LRC Date:	2016-05-24 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6850
Prep Batch Number(s):	WG569661	Reviewer Name:	Eric Lawson
LRC Date:	2016-05-24 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6850
Prep Batch Number(s):	WG569661	Reviewer Name:	Eric Lawson
LRC Date:	2016-05-24 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6850
Prep Batch Number(s):	WG569661	Reviewer Name:	Eric Lawson
LRC Date:	2016-05-24 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC §25.6 and was last inspection by TCEQ or _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

There are no exceptions.



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6010
Prep Batch Number(s):	WG568687	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Brendan Torrence		Analyst	2016-05-25 20:04:42



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6010
Prep Batch Number(s):	WG568687	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports	X				
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6010
Prep Batch Number(s):	WG568687	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6010
Prep Batch Number(s):	WG568687	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?					
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?	X				
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
Method detection limit (MDL) studies					



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6010
Prep Batch Number(s):	WG568687	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6010
Prep Batch Number(s):	WG568687	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC §25.6 and was last inspection by TCEQ or _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6020
Prep Batch Number(s):	WG568493	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Brendan Torrence		Analyst	2016-05-25 20:03:34



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6020
Prep Batch Number(s):	WG568493	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports	X				
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6020
Prep Batch Number(s):	WG568493	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6020
Prep Batch Number(s):	WG568493	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?					
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?	X				
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
Method detection limit (MDL) studies					



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6020
Prep Batch Number(s):	WG568493	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	6020
Prep Batch Number(s):	WG568493	Reviewer Name:	Brendan Torrence
LRC Date:	2016-05-25 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC §25.6 and was last inspection by TCEQ or _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	9056
Prep Batch Number(s):	WG568497	Reviewer Name:	Adriane Steed
LRC Date:	2016-05-11 00:00:00		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a. if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Adriane Steed			2016-05-13 13:16:28



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	9056
Prep Batch Number(s):	WG568497	Reviewer Name:	Adriane Steed
LRC Date:	2016-05-11 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?			X		
Were % moisture (or solids) reported for all soil and sediment samples?			X		
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?	X				
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	9056
Prep Batch Number(s):	WG568497	Reviewer Name:	Adriane Steed
LRC Date:	2016-05-11 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					1
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	9056
Prep Batch Number(s):	WG568497	Reviewer Name:	Adriane Steed
LRC Date:	2016-05-11 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?			X		
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
Method detection limit (MDL) studies					



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	9056
Prep Batch Number(s):	WG568497	Reviewer Name:	Adriane Steed
LRC Date:	2016-05-11 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	9056
Prep Batch Number(s):	WG568497	Reviewer Name:	Adriane Steed
LRC Date:	2016-05-11 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC §25.6 and was last inspection by TCEQ or _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1. Fractions -01, -03,-05,-07,-09,-11 were analyzed at dilutions only due to their high analyte concentrations (Cl and/or SO4) which were over 200 ppm. Any sample that has a single anion load greater than 200 ppm (or a total anion load greater than 400 ppm) will be diluted in order to prevent damage to the IC from repeated overloading of the analytical column and oversaturation of the suppressor membranes.



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	ALK-COLOR
Prep Batch Number(s):	WG568685	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson		Conventional Lab Supervisor	2016-05-17 17:58:13



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	ALK-COLOR
Prep Batch Number(s):	WG568685	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	ALK-COLOR
Prep Batch Number(s):	WG568685	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	ALK-COLOR
Prep Batch Number(s):	WG568685	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	ALK-COLOR
Prep Batch Number(s):	WG568685	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	ALK-COLOR
Prep Batch Number(s):	WG568685	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC §25.6 and was last inspection by TCEQ or _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	PHOS
Prep Batch Number(s):	WG568658	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson		Conventional Lab Supervisor	2016-05-17 17:57:08



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	PHOS
Prep Batch Number(s):	WG568658	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	PHOS
Prep Batch Number(s):	WG568658	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	PHOS
Prep Batch Number(s):	WG568658	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	PHOS
Prep Batch Number(s):	WG568658	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	PHOS
Prep Batch Number(s):	WG568658	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC §25.6 and was last inspection by TCEQ or _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	S
Prep Batch Number(s):	WG568300	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a. if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson		Conventional Lab Supervisor	2016-05-17 17:57:38



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	S
Prep Batch Number(s):	WG568300	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	S
Prep Batch Number(s):	WG568300	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	S
Prep Batch Number(s):	WG568300	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?			X		
Were percent differences for each analyte within the method-required QC limits?			X		
Was the ICAL curve verified for each analyte?			X		
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	S
Prep Batch Number(s):	WG568300	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	S
Prep Batch Number(s):	WG568300	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC §25.6 and was last inspection by TCEQ or _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	TOC
Prep Batch Number(s):	WG568487	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson		Conventional Lab Supervisor	2016-05-17 17:56:28



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	TOC
Prep Batch Number(s):	WG568487	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	TOC
Prep Batch Number(s):	WG568487	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	TOC
Prep Batch Number(s):	WG568487	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	TOC
Prep Batch Number(s):	WG568487	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16050571
Project Name:		Method:	TOC
Prep Batch Number(s):	WG568487	Reviewer Name:	Deanna Hesson
LRC Date:	2016-05-17 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC §25.6 and was last inspection by TCEQ or _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1.2 Certificate of Analysis

Certificate of Analysis

Sample #: L16050571-01	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 50VW22-051016	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 05/13/2016 19:26
Workgroup #: WG569356	Analyst: JDS	Run Date: 05/18/2016 21:24
Collect Date: 05/10/2016 07:50	Dilution: 1	File ID: 11M11940
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	2.78	J	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	111	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-01	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW22-051016	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG568586	Analyst: JDS	Run Date: 05/12/2016 18:57
Collect Date: 05/10/2016 07:50	Dilution: 1	File ID: 16G49891
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	2.00	U	5.00	2.00	1.00
ethene	74-85-1	2.00	U	5.00	2.00	1.00
ethane	74-84-0	2.00	U	5.00	2.00	1.00
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-01	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW22-051016	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG568761	Analyst: JDS	Run Date: 05/13/2016 16:47
Collect Date: 05/10/2016 07:50	Dilution: 5	File ID: 16G49901
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	549000		50000	25000	12500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-01	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW22-051016	Prep Method: 6850	Prep Date: 05/20/2016 11:30
Matrix: Water	Analytical Method: 6850	Cal Date: 05/03/2016 17:18
Workgroup #: WG569661	Analyst: JWR	Run Date: 05/20/2016 16:13
Collect Date: 05/10/2016 07:50	Dilution: 1	File ID: 1LM.LM34992
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	1.46		0.400	0.200	0.100

Certificate of Analysis

Sample #: L16050571-01	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW22-051016	Prep Method: 9056	Prep Date: 05/11/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG568497	Analyst: AED	Run Date: 05/11/2016 22:52
Collect Date: 05/10/2016 07:50	Dilution: 3	File ID: 11_051116-18
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	0.600	U	1.20	0.600	0.300
Nitrite	14797-65-0	0.600	U	1.20	0.600	0.300

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-01	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW22-051016	Prep Method: 9056	Prep Date: 05/11/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG568497	Analyst: AED	Run Date: 05/11/2016 23:09
Collect Date: 05/10/2016 07:50	Dilution: 50	File ID: I1_051116-19
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	956		20.0	10.0	5.00
Sulfate	14808-79-8	577		100	50.0	25.0
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-01	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW22-051016	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 05/13/2016 10:25
Workgroup #: WG568685	Analyst: TB	Run Date: 05/13/2016 10:34
Collect Date: 05/10/2016 07:50	Dilution: 2	File ID: SC160513001.023
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	359		80.0	40.0	20.0

Certificate of Analysis

Sample #: L16050571-01	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW22-051016	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 05/13/2016 10:44
Workgroup #: WG568658	Analyst: DCM	Run Date: 05/13/2016 10:57
Collect Date: 05/10/2016 07:50	Dilution: 1	File ID: S2160513002.025
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.163	J	0.400	0.200	0.100
J	Estimated value ; the analyte concentration was less than the LOQ.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-01	PrePrep Method: N/A	Instrument: BURET
Client ID: 50WW22-051016	Prep Method: SM4500-S-(-2)-F-2000	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-S-(-2)-F-2000	Cal Date:
Workgroup #: WG568300	Analyst: TB	Run Date: 05/11/2016 10:15
Collect Date: 05/10/2016 07:50	Dilution: 1	File ID: ET.1605111015-16
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-01	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 50WW22-051016	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 10/30/2015 17:00
Workgroup #: WG568487	Analyst: EPT	Run Date: 05/12/2016 12:09
Collect Date: 05/10/2016 07:50	Dilution: 10	File ID: TC05122016.009
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	65.9		20.0	10.0	5.00

Certificate of Analysis

Sample #: L16050571-02	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW22FF-051016	Prep Method: 3015	Prep Date: 05/13/2016 09:46
Matrix: Water	Analytical Method: 6010C	Cal Date: 05/16/2016 09:59
Workgroup #: WG568955	Analyst: JYH	Run Date: 05/16/2016 18:06
Collect Date: 05/10/2016 07:50	Dilution: 1	File ID: T3.051616.180601
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	0.122	J	0.200	0.100	0.0500
J	Estimated value ; the analyte concentration was less than the LOQ.					

Lab Report #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-02	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW22FF-051016	Prep Method: 3015	Prep Date: 05/12/2016 08:34
Matrix: Water	Analytical Method: 6020A	Cal Date: 05/12/2016 11:45
Workgroup #: WG568537	Analyst: JYH	Run Date: 05/12/2016 12:29
Collect Date: 05/10/2016 07:50	Dilution: 1	File ID: NI.051216.122953
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0259		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #: L16050571-03	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 50WW11-051016	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 05/13/2016 19:26
Workgroup #: WG569561	Analyst: JDS	Run Date: 05/19/2016 20:26
Collect Date: 05/10/2016 09:00	Dilution: 1	File ID: 11M11968
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	Q	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.372	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	1.84		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.50	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	5.35		1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.417	J	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	254		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500

Lab Report #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500
Surrogate	Recovery	Lower Limit	Upper Limit	Q		
Dibromofluoromethane	105	85	115			
1,2-Dichloroethane-d4	110	70	120			
Toluene-d8	103	85	120			
4-Bromofluorobenzene	102	75	120			
J	Estimated value ; the analyte concentration was less than the LOQ.					
Q	One or more quality control criteria failed. See narrative.					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-03	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW11-051016	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG568586	Analyst: JDS	Run Date: 05/12/2016 19:09
Collect Date: 05/10/2016 09:00	Dilution: 1	File ID: 16G49892
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	4.98	J	5.00	2.00	1.00
ethene	74-85-1	2.00	U	5.00	2.00	1.00
ethane	74-84-0	2.00	U	5.00	2.00	1.00

J	Estimated value ; the analyte concentration was less than the LOQ.
J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-03	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW11-051016	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG568761	Analyst: JDS	Run Date: 05/13/2016 16:58
Collect Date: 05/10/2016 09:00	Dilution: 5	File ID: 16G49902
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	592000		50000	25000	12500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-03	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW11-051016	Prep Method: 6850	Prep Date: 05/20/2016 11:30
Matrix: Water	Analytical Method: 6850	Cal Date: 05/03/2016 17:18
Workgroup #: WG569661	Analyst: JWR	Run Date: 05/20/2016 16:32
Collect Date: 05/10/2016 09:00	Dilution: 1000	File ID: 1LM.LM34993
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	1300		400	200	100

Certificate of Analysis

Sample #: L16050571-03	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW11-051016	Prep Method: 9056	Prep Date: 05/11/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG568497	Analyst: AED	Run Date: 05/11/2016 23:27
Collect Date: 05/10/2016 09:00	Dilution: 3	File ID: I1_051116-20
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	0.600	U	1.20	0.600	0.300
Nitrite	14797-65-0	0.600	U	1.20	0.600	0.300

J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-03	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW11-051016	Prep Method: 9056	Prep Date: 05/11/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG568497	Analyst: AED	Run Date: 05/11/2016 23:45
Collect Date: 05/10/2016 09:00	Dilution: 20	File ID: I1_051116-21
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	267		8.00	4.00	2.00
Sulfate	14808-79-8	272		40.0	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
 Lab Project #: 2551.096
 Project Name: Longhorn Army Ammunition
 Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-03	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW11-051016	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 05/13/2016 10:25
Workgroup #: WG568685	Analyst: TB	Run Date: 05/13/2016 10:34
Collect Date: 05/10/2016 09:00	Dilution: 1	File ID: SC160513001.024
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	274		40.0	20.0	10.0

Certificate of Analysis

Sample #: L16050571-03	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW11-051016	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 05/13/2016 10:44
Workgroup #: WG568658	Analyst: DCM	Run Date: 05/13/2016 10:58
Collect Date: 05/10/2016 09:00	Dilution: 1	File ID: S2160513002.026
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	1.90		0.400	0.200	0.100

Certificate of Analysis

Sample #: L16050571-03	PrePrep Method: N/A	Instrument: BURET
Client ID: 50WW11-051016	Prep Method: SM4500-S(-2)-F-2000	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-S(-2)-F-2000	Cal Date:
Workgroup #: WG568300	Analyst: TB	Run Date: 05/11/2016 10:15
Collect Date: 05/10/2016 09:00	Dilution: 1	File ID: ET.1605111015-17
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-03	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 50WW11-051016	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 10/30/2015 17:00
Workgroup #: WG568487	Analyst: EPT	Run Date: 05/12/2016 13:20
Collect Date: 05/10/2016 09:00	Dilution: 10	File ID: TC05122016.010
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	34.6		20.0	10.0	5.00

Certificate of Analysis

Sample #: L16050571-04	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW11FF-051016	Prep Method: 3015	Prep Date: 05/13/2016 09:46
Matrix: Water	Analytical Method: 6010C	Cal Date: 05/16/2016 09:59
Workgroup #: WG568955	Analyst: JYH	Run Date: 05/16/2016 18:09
Collect Date: 05/10/2016 09:00	Dilution: 1	File ID: T3.051616.180958
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	0.0563	J	0.200	0.100	0.0500
J	Estimated value ; the analyte concentration was less than the LOQ.					

Lab Report #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW11FF-051016	Prep Method: 3015	Prep Date: 05/12/2016 08:34
Matrix: Water	Analytical Method: 6020A	Cal Date: 05/12/2016 11:45
Workgroup #: WG568537	Analyst: JYH	Run Date: 05/12/2016 12:49
Collect Date: 05/10/2016 09:00	Dilution: 1	File ID: NI.051216.124906
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.103		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #: L16050571-05	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 50WW06-051016	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 05/13/2016 19:26
Workgroup #: WG569356	Analyst: JDS	Run Date: 05/18/2016 21:56
Collect Date: 05/10/2016 10:10	Dilution: 1	File ID: 11M11941
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	U	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.388	J	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	29.5		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500

Lab Report #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500
Surrogate	Recovery	Lower Limit	Upper Limit	Q		
Dibromofluoromethane	108	85	115			
1,2-Dichloroethane-d4	111	70	120			
Toluene-d8	104	85	120			
4-Bromofluorobenzene	101	75	120			
J	Estimated value ; the analyte concentration was less than the LOQ.					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-05	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW06-051016	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG568586	Analyst: JDS	Run Date: 05/12/2016 16:50
Collect Date: 05/10/2016 10:10	Dilution: 1	File ID: 16G49880
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	1.30	J	5.00	2.00	1.00
ethene	74-85-1	2.00	U	5.00	2.00	1.00
ethane	74-84-0	2.00	U	5.00	2.00	1.00

J	Estimated value ; the analyte concentration was less than the LOQ.
J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-05	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW06-051016	Prep Method: 5021	Prep Date: N/A
Matrix: Water	Analytical Method: RSK175	Cal Date: 03/25/2016 12:34
Workgroup #: WG568761	Analyst: JDS	Run Date: 05/13/2016 17:10
Collect Date: 05/10/2016 10:10	Dilution: 5	File ID: 16G49903
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	670000		50000	25000	12500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-05	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW06-051016	Prep Method: 6850	Prep Date: 05/20/2016 11:30
Matrix: Water	Analytical Method: 6850	Cal Date: 05/03/2016 17:18
Workgroup #: WG569661	Analyst: JWR	Run Date: 05/20/2016 16:51
Collect Date: 05/10/2016 10:10	Dilution: 1000	File ID: 1LM.LM34994
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	2140		400	200	100

Certificate of Analysis

Sample #: L16050571-05	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW06-051016	Prep Method: 9056	Prep Date: 05/11/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG568497	Analyst: AED	Run Date: 05/12/2016 00:02
Collect Date: 05/10/2016 10:10	Dilution: 2	File ID: 11_051116-22
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	0.400	U	0.800	0.400	0.200
Nitrite	14797-65-0	0.400	U	0.800	0.400	0.200
Sulfate	14808-79-8	199		4.00	2.00	1.00
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-05	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW06-051016	Prep Method: 9056	Prep Date: 05/11/2016 15:00
Matrix: Water	Analytical Method: 9056	Cal Date: 04/29/2016 12:41
Workgroup #: WG568497	Analyst: AED	Run Date: 05/12/2016 00:20
Collect Date: 05/10/2016 10:10	Dilution: 20	File ID: I1_051116-23
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	246		8.00	4.00	2.00
U	Analyte was not detected. The concentration is below the reported LOD.					